DRAFT

Environmental Impact Report

for the

Zayo Group, LLC Prineville to Reno Fiber Optic Line Modoc, Lassen, and Sierra Counties

SCH No 2021030143

May 2023

Lead Agency:

California Public Utilities Commission
505 Van Ness Avenue
San Francisco, California 94102

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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EXECUTIVE SUMMARY

S.1 Introduction

This Draft Environmental Impact Report (DEIR) evaluates the potential environmental effects of the proposed construction and operation of the Prineville to Reno Fiber Optic Project (Proposed Project) that extends 193.9 miles across portions of Modoc, Lassen, and Sierra counties in California. The California Public Utilities Commission (CPUC) is the Lead Agency responsible for preparation of this DEIR. This DEIR was prepared in accordance with the requirements of the California Environmental Quality Act (CEQA; Public Resources Code Section 21000 et. seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Sections 15000 et seq). CEQA requires that the Lead Agency, in this case CPUC, consider the information contained in the Environmental Impact Report (EIR) prior to taking any discretionary action on the Project. The Lead Agency is the agency with primary responsibility for approval of a project. Other public agencies may also use this EIR to inform discretionary actions related to the Proposed Project.

This Executive Summary has been prepared in accordance with the CEQA Guidelines Section 15123, which states that an EIR should contain a brief summary of the Proposed Project and its consequences, and should identify:

- each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect;
- areas of public controversy known to the lead agency, including issues raised by the agencies and the public; and
- issues to be resolved, including the choice among alternatives and how to mitigate the significant effects.

S.2 Project Location and Setting

The Proposed Project would connect data centers in Prineville, Oregon, to data centers in Reno, Nevada, and would include a 192-mile segment that crosses the northeastern corner of California. The Proposed Project alignment enters California near the town of New Pine Creek, Oregon, and travels south through Modoc County (59.8 miles), including through the City of Alturas (1.6 miles), then through Lassen County (129.6 miles), and across the northeastern corner of Sierra County (3.1 miles) into Nevada at the town of Cold Springs (Figure 1.2-1 in Section 1.0). The Proposed Project alignment crosses through unincorporated communities in Modoc County, including New Pine Creek, Davis Creek, Ramsey, and Likely, as well as the City of Alturas. Within Lassen County, the Project alignment traverses the communities of Sage Hen, Pinnio, Madeline, Brockman, Moran, Termo, Litchfield, Standish, Buntingville, Milford, and Doyle. In Sierra County, the Project alignment does not pass through any cities or census-designated communities.

The majority of the Proposed Project alignment (185.6 miles) would be within the U.S. Highway 395 (US 395) right-of-way, which is managed by the California Department of transportation (Caltrans). A portion of the line between the communities of Standish and Buntingville in Lassen County would follow

the country roads Standish Buntingville Road (Lassen County Road A3) for 7.35 miles and Cummings Road for 1.15 miles before returning to the right-of-way parallel to US 395. Staging areas, materials storage areas, and Inline Amplifiers (ILAs) would be located on private land outside of the rights of way.

Approximately 46 miles of the Project alignment would pass through lands managed by a federal government agency, 8.8 miles would be on California state lands, and the remaining 139.4 miles would pass through private or local municipal landholdings. All of the Project alignment would be within the Caltrans right-of-way for US 395 (185.6 miles) or Lassen County roads (8.5 miles).

Table 2.1-1 in Section 2.0 summarizes the jurisdictions crossed by the Proposed Project alignment.

S.3 Description of Proposed Project

Zayo Group, LLC (Zayo or Applicant), a California telephone corporation, proposes the construction and operation of an underground fiber optic network from Prineville, Oregon, to Reno, Nevada, spanning a total of 433.8 miles. Prineville and Reno are both network hubs and thus were considered as the end points, or logical termini, of the route for installing fiber optic cable and conduit. The CPUC has determined that the request from Zayo to install a new underground fiber optic cable would require the CPUC to undertake a discretionary action via the granting a petition to modify Zayo's existing Certification of Public Convenience and Necessity (CPCN), which was issued to Zayo's predecessor company in 1998 and authorizes the company to operate as a Facilities-based Competitive Local Exchange Carrier, and to offer resold local exchange services and/or interLATA and intraLATA interexchange services. The modification to the existing CPCN considered by the CPUC covers only the portion of the Proposed Project within the State of California.

The Proposed Project would connect data centers in Prineville to data centers in Reno and would include a 192-mile segment that crosses the northeastern corner of California. The Proposed Project alignment would enter California near the town of New Pine Creek, Oregon and travel south through Modoc County (59.8 miles), including through the City of Alturas (1.6 miles), then through Lassen County (129.6 miles), and across the northeastern corner of Sierra County (3.1 miles) into Nevada at the town of Cold Springs (Figure 1.2-1 in Section 1.0). The Proposed Project alignment crosses through unincorporated communities in Modoc County, including New Pine Creek, Davis Creek, Ramsey, and Likely, as well as the City of Alturas. Within Lassen County, the Project traverses the communities of Sage Hen, Pinnio, Madeline, Brockman, Moran, Termo, Litchfield, Standish, Buntingville, Milford, and Doyle. In Sierra County, the Project does not pass through any cities or census-designated communities.

Along the majority of the route, conduit to house the new fiber optic cable would be buried 36 to 42 inches deep using a combination of plowing or trenching construction techniques. Alternatively, horizontal directional drilling would be used to cross under water bodies and roads, and where necessary to avoid existing infrastructure or biological or cultural resources. For some water- or road-crossing locations, the conduit may be affixed to the side or underside of bridges. Ancillary equipment would be installed at three small buildings that would serve as ILA sites. Fiberglass vaults would be installed flush to the ground along the Proposed Project alignment to provide maintenance access and at splice locations. Construction staging areas would be located within the right-of-way adjacent to the Proposed Project alignment, and materials storage yards would be located at existing industrial or commercial space in

Alturas, Madeline, Termo, and Standish. All construction activities would be conducted in compliance with Caltrans requirements and county longitudinal utility encroachment permit procedures. Zayo plans to install conduit beyond the immediate need of the current Project to ensure future capacity.

S.4 Project Objectives

The objectives of the Project are as follows:

- Provide connectivity for major California business between regional hubs in Nevada and Oregon, for which connectivity is of major importance to a significant number of the largest employers in California.
- Provide opportunities for improved quality of rural broadband in Nevada, California, and Oregon.
- Provide affordable broadband services to currently underserved communities.
- Remain within existing road rights-of-way to reduce impacts to undisturbed areas and to limit the number of necessary contract parties to a feasible number.
- Install a fiber optic trunk line cable buried underground to provide a secure and protected route.
- Avoid or minimize impacts to environmental resources.

S.5 Project Alternatives

The CEQA Guidelines Section 15126.6 specifies that an EIR must describe and evaluate a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic project objectives, but would avoid or substantially lessen any of the significant effects of the project. Section 5.0 of this DEIR describes the alternatives to the Proposed Project in detail. Several alternatives were considered but were ultimately eliminated from further evaluation because they either would not accomplish the objectives established for the Project, as listed above, or would not avoid or substantially lessen any of the significant environmental effects of the Project. Alternatives considered but eliminated from further evaluation were:

- Oregon/Nevada Only Alternative
- Private Land Alternative
- Co-location/Above-ground Infrastructure Alternative
- US 395-Only Alternative
- Co-location with Alturas-Reno Transmission Project Alternative

Three alternatives were carried forward for detailed evaluation:

- No Project Alternative
- Proposed Project
- Pavement Alternative

S.5.1 No Project

Under the No Project Alternative, the Project would not be built. All potential impacts associated with construction or operation of the Project would be avoided, but none of the Project's basic objectives would be satisfied. Areas along the Proposed Project route would not benefit from the increased internet connectivity or speed offered by the Proposed Project, and connectivity between major hubs in Reno and Prineville would not improve.

S.5.2 Proposed Project

Under the Proposed Project, a 433.8-mile fiber optic line would be installed between Prineville, Oregon, through the northeastern corner of California and into Reno, Nevada. In California, the Proposed Project alternative would extend across Modoc County (59.8 miles) and the City of Alturas (1.6 miles), through Lassen County (129.6 miles), and into the eastern edge of Sierra County (3.1 miles) for a total of 194 miles in the State. The majority of the Project would follow US 395, but a portion of the line between the communities of Standish and Buntingville in Lassen County, California, would follow Standish Buntingville Road (Lassen County Road A3) for 7.35 miles, and Cummings Road for 1.15 miles before returning to the US 395 right-of-way. This is the Project submitted by the Applicant and is discussed in detail in Section 2.0.

S.5.3 Pavement Alternative

The Project alignment would be identical for this Alternative compared to the Proposed Project, but rather than installing the conduit and fiber optic cable away from the highway pavement at the edge of the highway or road right of way, the fiber optic line would be installed in a trench dug either in or immediately adjacent to the existing pavement, as is proposed for the portions of the Proposed Project alignment in Oregon. Installation would generally involve cutting the pavement near the edge of the highway and installing the conduit using conventional trenching methods. The installation could also be immediately adjacent to the existing pavement. Small portions of the fiber optic line may be installed using directional boring under this alternative to avoid known sensitive resources.

S.6 Summary of Proposed Project Impacts and Mitigation Measures

Table S.6-1 presents a summary of the Proposed Project's environmental impacts analyzed and identified in this DEIR, the mitigation measures proposed for those impacts (if required), and the level of significance after mitigation. The analysis in this DEIR concludes that, although certain impacts are considered significant or potentially significant, the majority of these impacts under the Proposed Project could be avoided or reduced to less than significant with implementation of mitigation measures. All impacts would be less than significant after the implementation of mitigation measures, with the exception of Project-specific impacts and cumulative impacts to special status plants, Project-specific and cumulative impacts to sensitive natural communities, and Project-specific and cumulative impacts to wetlands and Waters of the U.S. or State. These impacts would remain significant even after all feasible mitigation is implemented. Therefore, the Proposed Project would result in significant and unavoidable impacts to special status plants, sensitive natural communities, and wetlands and Waters of the U.S. or State.

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
AESTHETICS		
AES-1: Would the Project have a substantial adverse effect on a scenic vista? The only officially-designated scenic vista is the Goose Lake scenic vista point in Modoc County. Lake views are oriented to the west, away from Project construction activities. After construction, Project elements in the Goose Lake area would be underground and not visible. Impact Determination: *Less than Significant*	None.	NI
AES-2: Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? US 395 is not an officially designated or eligible state scenic highway. However, it is a local scenic highway in Modoc, Lassen, and Sierra counties. The majority of Project elements would be below ground and areas disturbed by construction would be revegetated. Impact Determination: *Less than Significant*	None.	NI
AES-3: Would the Project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? Construction activities would occur mostly within the existing roadway right-of-way and are expected to only last for a few days at each location. As required by Mitigation Measure AES-1, the Applicant would maintain	**AES-1: Staging Area Maintenance.** All Project sites shall be maintained in a clean and orderly state. Construction staging areas shall be located away from public view. Upon completion of Project construction, Project staging areas and temporary work areas shall be returned to pre-project conditions. **AES-2: Aboveground Ancillary Equipment.** All aboveground ancillary equipment, including the ILA huts and line markers shall use paints, materials, and finishes that are earth-toned (in color),	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
the Project Site and staging areas in a clean and orderly state. Additionally, the proposed construction staging areas would be located away from public views where possible. Upon completion of construction, the Project site and staging areas would be returned to pre-Project conditions. Once construction is completed, the Project would be mostly underground and would not be visible to highway travelers or residents located along the Project alignment. Three proposed ILAs and vaults and line markers would be the only aboveground elements. AES-2 requires paint, materials, and finishes on these aboveground elements that would reduce their visual contrast with the surrounding landscape. Impact Determination: *Less than Significant with Mitigation*	non-reflective, and do not contrast existing coloration of surrounding areas.	
AES-4: Would the Project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? No nighttime construction would occur. The Project would add exterior security lighting on the three ILA buildings. All lighting would be low wattage, shielded, and directed downward to reduce light spillover onto nearby properties and residential areas. All aboveground equipment would be finished with non-reflective materials as required by AES-2 to reduce the potential for glare. Impact Determination: *Less than Significant with Mitigation*	**AES-2: Aboveground Ancillary Equipment.** All aboveground ancillary equipment, including the ILA huts and line markers shall use paints, materials, and finishes that are earth-toned (in color), non-reflective, and do not contrast existing coloration of surrounding areas.	LTS
AGRICULTURE AND FORESTRY RESOURCES		
AG-1: Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps	**AG-1: Coordination with Agricultural Landowners.** For the staging area located on prime farmland, or any subsequent staging areas identified that would be located on Prime Farmland, Unique Farmland, or Farmland of Local or Statewide	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural land? The majority of the Project would be constructed and operated within the roadway right-of-way and would not result in any permanent conversion of any Farmland Mapping and Monitoring Program agricultural lands to non-agricultural use. One staging area in Modoc County (0.23 acre) would be located on land mapped as Prime Farmland and one material storage yard in Modoc County would be located on land mapped as Farmland of Statewide Importance (15.75 acres). Mitigation Measure AG-1 would be implemented to notify the landowner(s) of construction activities and revegetate any temporarily affected areas to pre-Project conditions after construction activities are complete. None of the ILAs would be located on Farmland. Impact Determination: *Less than Significant with Mitigation*	Importance, prior to construction the Applicant will provide written notice to the landowner(s) outlining construction activities, preliminary schedule, and estimated timing of restoration efforts. The Applicant will coordinate with the landowner(s) to minimize construction-related disruptions to seasonal farming operations. Upon completion of construction, project work areas will be returned to pre-project conditions.	
AG-2: Would the Project conflict with current zoning for agricultural use, or a Williamson Act contract? The majority of the Project would be located in the right-of way of US 395 and would not affect Williamson Act contracted lands. However, some proposed ILA locations, staging areas, and material storage yards located directly adjacent to the US 395 right-of-way would be located on Williamson Act contracted lands. All staging areas and material storage yards would be temporary and would not permanently affect any Williamson Act contracted lands. In addition, Section 51238 of the Public Resources Code states that the construction and maintenance of gas, electric, water, communication, or agricultural laborer housing facilities would be considered a compatible use with agricultural preserves, including Williamson Act contracted lands. Therefore, there would be no conflicts with Williamson Act contracts.	None.	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
Impact Determination: *Less than Significant*		
AG-3: Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined by Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? The Project Area includes areas that are surrounded by timberlands and forest lands, particularly near Modoc National Forest and Plumas National Forest. Construction activities associated with the Project would occur directly adjacent to some of these areas, which could result in a possible temporary disturbance to timber operations if timber harvesting activities were to occur at the same time as construction of the Project. Because construction of the Project would occur directly within or adjacent to the existing roadway right-of-way and would not be in any one area for an extended period of time, it is unlikely that construction activities would interfere with any timber harvesting activities in a way that would conflict with existing zoning or cause rezoning of timberland or forest land. After construction, the aboveground ancillary facilities would not be located in forest lands or timberlands. Impact Determination: *Less than Significant*	None.	NI
AG-4: Would the Project result in the loss of forest land or conversion of forest and to non-forest use? The Project would not result in any loss of forest land or conversion of forestland to non-forest use. No forestland is present within the Project area of direct impact.	None.	NI

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
Impact Determination: *No Impact*		
AG-5: Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use? Construction or operation of the Project would not convert Farmland to non-agricultural use or forest land to non-forest use. The majority of the Project would be underground. Impact Determination: *No Impact*	None.	NI
AIR QUALITY		
AIR-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan? The Project would emit fugitive dust during construction earth-disturbing activities. AIR-1 would minimize emissions of fugitive dust during construction and would meet the requirements of the local air districts. Impact Determination: *Less than Significant with Mitigation*	**AIR-1: The Applicant shall implement measures to control fugitive dust in compliance with applicable local air district(s) standards**. Dust control measures shall include the following at a minimum: • All exposed surfaces with the potential of dust-generating shall be watered or covered with coarse rock or similar material to reduce the potential for airborne dust from leaving the site. • The simultaneous occurrence of more than two ground disturbing construction phases on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. • Cover all haul trucks entering/leaving the site and trim their loads, as necessary. • Use wet power vacuum street sweepers to sweep all	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
	paved access road, parking areas, staging areas, and public roads adjacent to Project Sites on a daily basis (at minimum) during construction. The use of dry power sweeping is prohibited. • All trucks and equipment, including their tires, shall be washed off prior to leaving Project Sites. • Apply gravel or non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at Project Sites. • Water and/or cover soil stockpiles daily. • Vegetative ground cover shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established. • All vehicle speeds shall be limited to fifteen (15) miles per hour or less on unpaved areas. • Implement dust monitoring in compliance with the standards of the local air district. • Halt construction during any periods when wind speeds are in excess of 50 mph.	
AIR-2: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? Project construction would generate short-term emissions of criteria pollutants from fugitive dust and construction equipment exhaust. Project operations would be limited to the intermittent use of emergency generators and intermittent repair visits. Criteria air pollutant emissions would be below significance thresholds for both construction and operation.		LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
Impact Determination: *Less than Significant*		
AIR-3: Would the Project expose sensitive receptors to substantial pollutant concentrations? The Project would not emit pollutant concentrations above significance thresholds. Therefore, the Project's emissions are not expected to cause any increase in regional health effects. Impact Determination: *Less than Significant*	None.	LTS
AIR-4: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? The Project does not include land uses that are associated with odors, such as wastewater treatment plants or landfills. Impact Determination: *No Impact*	None.	NI
BIOLOGICAL RESOURCES		
BIO-1: Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service? While directional boring would avoid some populations of special status plants, up to 20 special status plant species identified during special status plant surveys would still be removed by the Proposed Project's construction activities Additionally, native habitat that is habitat for sensitive plant species would be removed for construction. Mitigation Measures BIO-1, BIO-2, BIO-6, BIO-8, BIO-9, BIO-15, BIO-17, and BIO-18	**BIO-1: Worker Environmental Awareness Training.** California Department of Fish and Wildlife (CDFW)-approved biological monitor(s) shall prepare a Worker Environmental Awareness Training to be presented by CDFW-approved biological monitor(s) to all onsite personnel prior to commencing construction activities (i.e., including staging vehicles or equipment), and, subsequently, to all new workers. The biological monitor(s) shall document training for all workers. Training shall instruct personnel how to identify sensitive resources and the required protection measures for sensitive resources. Personnel shall be instructed about the roles and responsibilities in protecting sensitive biological resources,	S (Permanent Impacts and Cumulative Impacts to Special Status Plants) LTS (Temporary Impacts to Special Status Plants and Temporary and

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Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
would minimize impacts to special status plants, but effects would remain significant due to the limited availability of seed banks and long time-frame and limited expected success in restoring these special status plant species populations. The Proposed Project construction would result in the direct loss of native habitat for special status wildlife species. Impacts would be less than significant after implementation of Mitigation Measure BIO-6. Temporary construction impacts to special status plant and wildlife species include increased sensory disturbances (noise and light), increased predation, increased wildfire risk, introduction of invasive species and potential herbicide use for weed control, and water quality impacts from directional bore activities during construction. With implementation of Mitigation Measures BIO-1 through BIO-18, these impacts would be less than significant. Impact Determination: *Significant and Unavoidable for Permanent Impacts to Special Status Plants; Less than Significant for Temporary Impacts to Special Status Plants and Temporary and Permanent Impacts to Special Status Wildlife*	including penalties for violations, requirements for stopping work immediately and notifying onsite biological monitors if sensitive resources are encountered, and instructed that handling and relocating special status species by non-approved personnel shall be prohibited. **BIO-2: Work Areas and Access Routes.** Prior to mobilization of construction equipment and supplies, the Applicant shall delineate the Area of Direct Impact (ADI) for the Project. comprising the fiber optic line route and 20 feet on either side of the fiber optic line, staging areas, and the In Line Amplifiers, with flagging, lathe stakes, or wildlife exclusion fencing. The access routes to the ADI and staging areas and material storage areas shall also be delineated with flagging, lathe stakes, or wildlife exclusion fencing prior to mobilization or construction equipment or supplies. The Applicant shall confine all equipment, vehicles, and construction work within these areas. Signage shall be used to clearly direct construction traffic to and from approved access routes work areas. No work, staging, or ground disturbance shall occur outside of these approved access routes and work areas. CDFW-approved biological monitor(s) shall oversee installation of the flagging, staking, or fencing, and shall ensure that the flagging, stakes, or fencing is maintained throughout the duration of construction activities. **BIO-3: Speed Limit.** Vehicles and equipment shall adhere to a 15 mile- per-hour speed limit on all unpaved project access roads and routes. **BIO-4: General Project Area Use.** The Applicant shall prohibit trash dumping, firearms, hunting, open fires (those not required	Permanent Impacts Wildlife)

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
	for project activities), smoking outside designated areas, and pets in Project Areas. **BIO-5: Site Stabilization.** Ground disturbance and vegetation clearing shall be limited to the minimum extent practicable. Open excavations shall be backfilled and recompacted after installation of the conduit with native soils. At locations where the excavated material is not adequate to use for backfilling, construction crews shall remove it from the project workspaces and dispose of it at a suitable location within the Project Area. In areas where backfill material must be imported (e.g., areas were excavated material has high rock content), the Applicant shall obtain soils from weed-free, commercially available sources. After completion of project activities, all temporarily disturbed work areas shall be restored to their pre-construction contours, and areas of exposed soils in natural habitats shall either be stabilized or re-seeded with native seed mixes appropriate to the habitat type. **BIO-6: Restoration.** A CDFW-approved biologist(s) with expertise in northern California ecosystems and native plant revegetation techniques shall prepare and implement a Revegetation and Restoration Plan (RRP) for review and approval by the CPUC, Caltrans, CDFW, the Bureau of Land Management (BLM), and United States Forest Service (USFS), with detailed specifications for restoring all disturbed native habitat. The restoration location(s) could be offsite or onsite as approved by the resource agencies. Native habitat disturbed by the Project shall be restored on-site on a 1:1 basis, with the exception of impacts on wetlands, riparian habitat, and waters, which shall be restored at a minimum of a 2:1 basis and also in accordance with any required project permits. The RRP shall	

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Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
	specify the location of the restoration site(s), plants and seed mixes that shall be used for restoration, plant container sizes and appropriate planting methods, and maintenance requirements, including irrigation needs and design plans that shall show the specific plant species and planting locations. The RRP shall include required performance standards, timing of implementation, methods for controlling invasive species, monitoring methods, monitoring frequency and duration, contingency plans if restoration is not successful, and provisions for long-term conservation of mitigation site(s). Review and approval of the RRP shall be completed prior to commencement of construction activities. Implementation of the RRP shall commence within one year of the conclusion of construction. Annual monitoring reports shall be prepared by the Applicant and submitted to CPUC, Caltrans, CDFW, the BLM, and USFS. **BIO-7: Invasive Species.** To prevent the introduction and spread of invasive plants during construction, the Applicant and construction contractor shall ensure that all construction equipment and vehicles are cleaned inside and out prior to arrival onsite. Incoming vehicles and wheeled or tracked equipment shall be inspected by a biological monitor prior to deployment onsite. If invasive plants are observed within a work area, vehicles, equipment, and personnel clothing and boots shall be swept or cleaned prior to deployment to a different construction site. If application of herbicides is needed to control designated noxious weeds, only CDFW-approved weed control contractors would apply herbicides in adherence with all State and manufacturer's guidelines. Integrate invasive species	

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	management methods and protocols developed by USFS, where applicable. **BIO-8: Biological Monitors.** The Applicant shall appoint a CDFW-approved Lead Biologist and at least one biological monitor per construction spread operating under the supervision of the Lead Biologist. However, the Lead Biological Monitor shall have the authority to adjust the number of monitors required per spread based on the geographic extent of the spread and the resources present within the spread to ensure effective monitoring. A construction spread refers to the group of construction workers, vehicles, and equipment necessary to install and backfill the fiber optic cable and restore the ground surface in a particular location. A construction spread will also be located in areas being established and used as materials storage areas and/or staging areas, or areas where ILAs are being constructed if those areas are outside an active fiber optic cable construction spread location. The CDFW-approved biologist(s) shall perform pre-construction surveys for sensitive wildlife and plant species prior to commencing construction along each segment of the fiber optic line. The CDFW-approved biologists shall also be onsite daily during project activities to minimize incidental impacts to sensitive biological resources by conducting daily morning sweeps of construction areas, parking areas and equipment and material storage areas prior to commencement of construction activities; ensuring compliance with all avoidance and minimization measures; demarcating sensitive biological resource exclusion areas (e.g., active dens or nests, special status plant occurrences, sensitive natural communities, or the boundaries of wetlands or waters) with flagging or signage; and	

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	ensuring that flagging and signage remain intact and that project activities remain outside of exclusion areas. If a special status species is encountered in the work areas, construction in the immediate vicinity shall cease, and personnel shall notify the biological monitors. Biological monitors shall establish a buffer to restrict work near the species. If it is a wildlife species, a biological monitor shall observe the behavioral responses of the species to the work occurring in proximity to them. The biological monitors shall halt work if a wildlife species exhibits an adverse response to nearby project work activities. The species shall be allowed to move offsite on their own. If the species is in danger of injury or does not leave the work area, the biological monitor shall relocate the species to adjacent suitable habitat and with prior approval and authorization under the federal Endangered Species Act [ESA], the California ESA, and California Fish and Game Code (i.e., Scientific Collecting Permit) granted by the CDFW and/or the United States Fish and Wildlife Service (USFWS), or the biological monitor shall consult with these agencies for further guidance. **BIO-9: Protection of Botanical Resources.** Pre-construction surveys for special status plant species shall be conducted by a CDFW-approved biologist within the ADI of the fiber optic line. The locations of the special status plants identified during previous surveys and the pre-construction survey shall be marked as additional avoidance areas where possible both in the field using flagging, staking, fencing, or similar devices; and on construction plans. Special status plant species populations shall be avoided using directional drilling under populations where feasible.	

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
	BIO-10: Work Timing. Construction activities shall be restricted to daylight hours. The project shall follow seasonal restriction work windows and limitations for any special-status species potentially affected by project construction or operations. **BIO-11: Nesting Birds.** CDFW-approved biological monitors shall conduct pre-construction nesting bird surveys during the nesting season (January 1 to September 30) within 100 feet of the construction workspaces for non-raptors, within 500 feet for greater sandhill cranes, and within 0.5 mile for raptors. If work is scheduled during the breeding season for Swainson's hawk (i.e., late March to mid-August), protocol-level surveys in accordance with 2010 protocol for the species (CEC and CDFW 2020) or in accordance with alternate protocol as approved by CDFW shall be conducted for the species. Pre-construction surveys for non-raptors would be valid for one week, and surveys for raptors would be valid for the full season if conducted after May 1. Biological monitors shall establish exclusionary buffers, in which no activity would be permitted, around active nests until young have fledged or it has been determined that the nest has failed, which would be 100 feet for non-raptors, 500 feet for greater sandhill cranes, and 0.25 mile for raptors, increasing to 0.5 mile for bald eagles, golden eagles, ferruginous hawks (*Buteo regalis*), Swainson's hawks (*Buteo swainsoni*), American peregrine falcons (*Falco peregrinus anatum*), and prairie falcons (*Falco mexicanus*) when nests are in line-of-sight. In addition, no vegetation clearing would be permitted within 300 feet of an active non-raptor nest. Project activities shall be prohibited within the exclusionary buffer until the nest fledged or failed. To the extent possible, work will be scheduled during the non-	

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
	breeding season or in construction spreads that lack active nests. **BIO-12: Greater Sage-grouse Leks.** The Applicant shall avoid construction activities within 4 miles of active or pending greater sage-grouse leks from 6 PM to 9 AM between March 1 and May 15. **BIO-13: Open Excavations.** The Applicant shall backfill or cover open excavations at the end of each workday to avoid wildlife entrapment. When this is not possible, the Applicant shall install escape ramps overnight to allow wildlife to escape (2:1 slope ratio or less), and a CDFW-approved biological monitor shall inspect excavations that remained open overnight before construction activities begin each morning. **BIO-14: Minimum Bore Depth.** The Applicant shall ensure that each boring is planned at a sufficient depth to prevent draining of the wetland or drainage and to minimize the risk of a frac-out. The Applicant shall otherwise impose minimum bore depths when boring under sensitive natural communities and special status plant occurrences to prevent root damage and plant mortality. The minimum boring depths shall be 30 feet for tree-dominated communities or occurrences, 23 feet for shrub-dominated communities or occurrences, and 15 feet for herbaceous-dominated communities or occurrences. The results of the geotechnical investigations shall be included in the Surface Spill and Hydrofracture Contingency Plan prepared for the project (under HAZ-3, Section 3.10, Hazards and Hazardous Materials) which shall address the risk of a frac out during directional boring and contingency measures to take in the event of a frac out. The CDFW shall review and approve of	

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
	the Surface Spill and Hydrofracture Contingency Plan prior to commencement of any directional drilling activities. **BIO-15: Wetland and Waters Impacts.** The Applicant shall avoid directly impacting wetlands, Waters of the U.S., and Waters of the State using directional boring under the resource. If wetlands or waters cannot be fully avoided, the following measures shall be implemented to minimize impacts: • Construction activities within wetlands and waters shall be performed during the dry season only between May 1 through October 15. • All construction in and near wetlands or waters shall utilize temporary matting or other protection measure (e.g., rig mats, timber roads, plating, or tracked vehicles [preferably rubber tracked]) to avoid soil compaction or mixing. • No construction shall occur within a flowing stream or waterbody. • All impacted wetlands or waters shall be restored at least at a 2:1 ratio. **BIO-16: Bats.** Prior to attaching fiber optic cables to bridges or prior to any trimming or removal of trees, a CDFW-approved biological monitor shall conduct pre-construction surveys for roosting bats, and if present, the construction activities shall not be permitted on the bridge or trimming or removal of trees permitted until the biological monitor determines that the roost is no longer active. **BIO-17: Compliance with Other Laws, Regulations, and Permits.** The Applicant shall obtain required permits under the Clean Water Act and/or Porter-Cologne Water Quality Control	

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
	Act for any Project impacts on Waters of the U.S. or Waters of the State and shall abide by all permit requirements prior to, during, and after construction. The Applicant shall obtain any required coverage for incidental take of state or federally listed species in compliance with the federal and/or California ESAs. The Applicant shall copy the CPUC and Caltrans on all correspondences with responsible resource agencies and landowners (i.e., BLM, USFS) regarding compliance with CPUC's CPCN Conditions of Approval or other permit conditions and requirements. **BIO-18: Field Changes to the Project.** Any proposed modifications to the Project components within the Area of Direct Impact (ADI), including the ADIs for the fiber optic line, ILAs, staging areas, and materials storage yards, shown in Appendix F2 of the environmental document can be reviewed and approved by CPUC staff. Changes to the boundaries of the ADIs shown in Appendix F2 of the environmental document may require a re-evaluation of the permit conditions by CPUC and Caltrans and other resource agencies or landowners. Any proposed revisions to the requirements of the Project's conditions of approval/mitigations, including the plans required by these conditions/mitigations, shall be reviewed and approved by the CPUC and Caltrans, and may require a re-evaluation of the permit conditions by these agencies and other resource agencies or landowners.	
BIO-2: Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	**BIO-2: Work Areas and Access Routes** **BIO-5: Site Stabilization** **BIO-6: Restoration**	S (Permanent Impacts and Cumulative Impacts)

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
The Project would have a permanent direct impact on several CDFW sensitive natural communities from the permanent removal of or disturbance to those communities. In addition to sensitive natural communities, the proposed fiber optic line alignment crosses through portions of three biological resource management areas managed by either the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service. Mitigation Measures BIO-2, BIO-6, BIO-15 BIO-17, and BIO-18 would help avoid or offset the loss of sensitive natural vegetation communities, however, due to the rare nature of each vegetation community and the uncertainty of the success in restoring each sensitive natural vegetation community, impacts would remain significant and unavoidable. Temporary impacts from potential introduction of invasive species, herbicide use, and impacts on water quality. Impacts would be potentially adverse and significant. However, as discussed in Impact BIO-1, implementation of Mitigation Measures BIO-2, BIO-5, BIO-7, BIO-14, and BIO-15 would ensure that impacts would be reduced to less than significant levels. Impact Determination: *Significant and Unavoidable (Permanent Impact); Less than Significant with Mitigation (Temporary Impacts)*	**BIO-7: Invasive Species** **BIO-14: Minimum Bore Depth** **BIO-15: Wetland and Waters Impacts** **BIO-17: Compliance with Other Laws, Regulations, and Permits** **BIO-18: Field Changes to the Project**	LTS (Temporary Impacts)
BIO-3: Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? The Project would have a permanent direct impact on wetlands and potential Waters of the U.S. or State. Mitigation Measures BIO-2, BIO-6, BIO-15, BIO-17, and BIO-18 would minimize or offset this impact. However, due to the rare nature of wetlands and waters and the	**BIO-2: Work Areas and Access Routes** **BIO-5: Site Stabilization** **BIO-6: Restoration** **BIO-7: Invasive Species** **BIO-14: Minimum Bore Depth** **BIO-15: Wetland and Waters Impacts**	S (Permanent Impacts and Cumulative Impacts) LTS (Temporary Impacts)

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
uncertainty of the success in restoring each, impacts would be permanent and adverse and would remain significant and unavoidable. Temporary impacts to wetlands and waters could occur from the potential introduction of invasive species, herbicide use, and impacts on water quality. Mitigation Measures BIO-7, BIO-14, and BIO-15 would avoid, minimize, or offset these impacts and reduce them to a less than significant level. Impact Determination: *Significant and Unavoidable (Permanent Impacts); Less than Significant with Mitigation (Temporary Impacts)*	**BIO-17: Compliance with Other Laws, Regulations, and Permits** **BIO-18: Field Changes to the Project**	
BIO-4: Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? The Proposed Project has the potential to adversely affect greater sage-grouse leks. However, Mitigation Measure BIO-12 would restrict construction hours within 4 miles of active or pending greater sage-grouse leks to avoid impacts on this species. Impact Determination: *Less than Significant with Mitigation*	**BIO-12: Greater Sage-Grouse Leks**	LTS
BIO-5: Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? The Proposed Project has the potential to significantly adversely impact biological resources protected by local policies. However, implementation of Mitigation Measures BIO-1 through BIO-18 would ensure that the Project is generally consistent with these policies and that these potential impacts are reduced to less than significant levels.	**BIO-1: Worker Environmental Awareness Training** **BIO-2: Work Areas and Access Routes** **BIO-3: Speed Limit** **BIO-4: General Project Area Use** **BIO-5: Site Stabilization** **BIO-6: Restoration**	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
Impact Determination: *Less than Significant with Mitigation*	**BIO-7: Invasive Species** **BIO-8: Biological Monitors** **BIO-9: Protection of Botanical Resources** **BIO-10: Work Timing** **BIO-11: Nesting Birds** **BIO-12: Greater Sage-Grouse Leks** **BIO-13: Open Excavations** **BIO-14: Minimum Bore Depth** **BIO-15: Wetland and Waters Impacts** **BIO-16: Bats** **BIO-17: Compliance with Other Laws, Regulations, and Permits** **BIO-18: Field Changes to the Project**	
BIO-6: Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? The Project does not occur within any areas covered under a Habitat Conservation Plan, Natural Community Conservation Plan. Impact Determination: *No Impact*	None	NI
BIO-7: Would the Project create a substantial collision or electrocution risk for birds or bats?	**BIO-1: Worker Environmental Awareness Training** **BIO-2: Work Areas and Access Routes**	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
During construction, there is the potential for vehicle and equipment collisions with wildlife, which would be avoided or minimized with Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-8. The Project does not include aboveground facilities that would provide risk for electrocution. Impact Determination: *Less than Significant with Mitigation*	**BIO-3: Speed Limit** **BIO-8: Biological Monitors**	
CULTURAL RESOURCES		
CUL-1: Would the Project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5? Sixty-eight sites that are considered historical resources are in the Area of Potential Effects or Project Area Limits (PAL) and would be avoided entirely. Seventy-four historical resources have been determined to be significant outside of the ADI only and the project will not have an effect on their significance. Mitigation Measure CUL-1d would avoid or minimize impacts in event of the discovery of unknown subsurface deposits associated with these sites. Seventy sites are historical resources that would be avoided by the Project; however, they are close enough to Project activities that Project construction could result in inadvertent damage. Additionally, unknown subsurface deposits could be associated with these sites that might be disturbed by Project construction. Mitigation Measures CUL-1a, CUL-b, and CUL-1d would avoid or minimize impacts to these resources. Three sites are historical resources that will be impacted by the Proposed Project as a result of trenching, plowing, or boring through them. The proposed construction activities at these sites will result in the disturbance and dislocation of archaeological materials and will diminish	**CUL-1a: Installation of Temporary Exclusionary Fencing.** Prior to ground-disturbing activities commencing within 1,000 feet of the sites listed in Tables 3.6-6 and 3.6-7 of the Exemption Report, the contractor shall install high-visibility temporary exclusionary fencing or flagging to separate site boundaries from Project construction activity. For large or linear sites, the entire site boundary may not require fencing or flagging, if the monitoring archaeologist, using professional judgement, determines that fencing between the activity area and the site is sufficient. Fence or flagging installation shall be monitored and documented by a qualified professional archaeologist and inspected at least once per month during active construction to ensure the integrity of the fencing or flagging. Once all construction equipment and personnel have vacated the Project Area and have been moved at least 1,000 feet away, the exclusionary fencing or flagging may be removed. **CUL-1b: Design Standards for Depth Control.** The sites listed in Table 3.6-8 of the Exemption Report require vertical depth controls to ensure preservation of the archaeological deposits. The following depth controls shall be clearly expressed on all	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
the integrity of location, materials, and association of these historical resources. This materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in or eligibility for inclusion in the California Register of Historical Resources. Mitigation Measure CUL-1c will reduce the impact to less than significant because it will recover and preserve the significant information that would have otherwise been lost as a result of construction activities. Excavations during Project construction could affect unknown and unrecorded cultural resources, which may meet the criteria for historical resources. Mitigation Measure CUL-1d would avoid or minimize impacts to unknown resources. Impact Determination: *Less than Significant with Mitigation*	Project engineering drawings and site plans. The prime contractor shall be responsible for ensuring that equipment does not exceed these thresholds. • P-18-000156 / CA-LAS-156: Boring shall be deeper than 2 m to ensure sufficient vertical separation between the bore and the deepest known level of the site. • P-18-001951 / CA-LAS-001951: Boring shall be deeper than 2.5 meters from existing ground. • P-18-004116 / CA-LAS-4116: Boring shall be deeper than 1.5 meters from existing ground. • P-18-004118: A licensed engineer shall calculate the depth under which the bore should occur to avoid vibration and loss of integrity of the historic railroad bridge. • P-25-001325: All work must be within the existing road fill. • P-25-004102 / CA-MOD-004102: Boring shall only occur within the top 6.5 meters of existing ground. • P-25-007266 / CA-MOD-007266: Boring shall be deeper than 2.5 meters from existing ground. • P-18-001391 / CA-LAS-001391/H: Boring shall be deeper than 1.5 meters to ensure sufficient vertical separation between the bore and the deepest known level of the site. • P-18-001734 / CA-LAS-1734H / 33.14.02.05: A licensed engineer shall calculate the depth under which the bore should occur to avoid loss of integrity of the railroad grade. • P-18-001723 / CA-LAS-1723/H / 32.15.15.B: All work	

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
	must be within the existing road fill. **CUL-1c: Develop and Implement a CPUC-Approved Treatment Plan.** The Project Proponent shall submit to CPUC a brief Historical Resources Treatment Plan (HRTP) for the sites listed in Table 3.6-9 of the Exemption Report. The HRTP shall be prepared under the direction of a professional archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology and in consultation with culturally affiliated Native American tribes and other cooperating agencies. The HRTP shall be revised in response to CPUC comment and approved by CPUC, following consultation with consulting tribes, prior to the mobilization of construction-related activities within 1,000 feet of the sites subject to this condition. The HRTP shall meet, at a minimum, the following performance standards: 1. Brief site descriptions for each of the historical resources requiring treatment. Sites may be grouped into site types and summarized in tabular format for ease in reporting, so long as at treatment is proposed for each specific site. 2. Brief research design with appropriate themes or topics, and associated data needs, following guidance from the Office of Historic Preservation. 3. Proposed method of in-field data recovery, collection, and/or documentation, as well as final disposition of material culture (e.g., curation, reburial, or repatriation) for each site that mitigates the effects that the Project	

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
	activity would have on each specific resource, in light of each site's constituents and aspects of integrity. 4. Schedule for implementing the proposed treatment in terms of the phases of fieldwork, analysis, and reporting. Project construction-related activities cannot commence within 500 feet of a historical resource subject to this mitigation measure until CPUC has determined that the fieldwork has been completed and has accepted a schedule for the completion of the remaining analysis, reporting, and disposition. Implementation of the HRTP can occur in phases that coincide with construction phasing, if necessary. 5. The HRTP shall not reverse the findings of eligibility or effect presented in the Exemption Report either during development or implementation. **CUL-1d: Archaeological Monitoring and Unanticipated Discovery Procedures.** Prior to the start of construction, the Project Proponent shall retain a qualified professional archaeologist to monitor all ground-disturbing activities associated with Project construction. Monitoring is also required where specified in Mitigation Measure CUL-1a. Monitoring is not required for placement of equipment or fill inside excavations that were monitored, above-ground construction activities, or redistribution of soils that were previously monitored (such as the return of stockpiles to use in backfilling). The Monitoring Archaeologist shall meet or work under the direct supervision of a qualified individual meeting the Secretary of the Interior's professional qualifications standards	

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
	for prehistoric and historic archaeology. The Monitoring Archaeologist shall have the authority to temporarily halt ground-disturbing or construction-related work within 50 feet of any discovery of potential historical or archaeological resources to implement the following procedures. If the Monitoring Archaeologist (in coordination with implementation of Mitigation Measure TCR-1) determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required. If the Monitoring Archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, or determines that the discovery represents new significant information about a resource previously determined to be not significant, they shall immediately notify CPUC. CPUC shall consult with cooperating agencies and consulting tribes, as appropriate, on a finding of eligibility. CPUC shall determine and require implementation of appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines. Work may not resume within the no-work radius until CPUC, through consultation as appropriate, determines that the site either: 1) is not a Historical Resource under CEQA; or 2) that the treatment measures have been completed to CPUC's satisfaction. If the find includes human remains, or remains that are potentially human, the procedures in Mitigation Measure CUL-2 shall be implemented.	

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
CUL-2: Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5? Impacts to archaeological resources pursuant to Section 15064.5 are discussed under CUL-1. Impact Determination: *Less than Significant with Mitigation*	**CUL-1a: Installation of Temporary Exclusionary Fencing** **CUL-1b: Design Standards for Depth Control** **CUL-1c: Develop and Implement a CPUC-Approved Treatment Plan** **CUL-1d: Archaeological Monitoring and Unanticipated Discovery Procedures**	LTS
CUL-3: Would the Project disturb any human remains, including those interred outside of formal cemeteries? No human remains have been identified in the Project Area, and the geoarchaeological assessment performed for the Project does not suggest that there is a high potential for encountering human remains. However, implementation of the Proposed Project would include ground-disturbing construction activities that could result in the inadvertent disturbance of previously undiscovered human remains, and if so, this would result in a significant impact. Mitigation Measure CUL-2 would ensure that procedures of conduct required by state law are followed. Impact Determination: *Less than Significant with Mitigation*	**CUL-2 Human Remains Discoveries**. If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the applicable County Coroner (as per California Health and Safety Code Section 7050.5). The provisions of California Health and Safety Code Section 7050.5, Public Resources Code (PRC) Section 5097.98, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the Native American Heritage Commission (NAHC), which then will designate a Native American Most Likely Descendant (MLD) for the Project (PRC Section 5097.98). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, then the NAHC can mediate (PRC Section 5097.94). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (PRC Section 5097.98). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
	reinternment document with the county in which the property is located (AB 2641). Work cannot resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.	
ENERGY		
ENERGY-1: Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? The Project would use diesel fuel and electricity during construction and natural gas and electricity during operations. The consumption would be minimal and would have a nominal effect on local and regional energy supplies. Impact Determination: *Less than Significant*	None.	LTS
ENERGY-2: Would the Project conflict with or obstruct a state or local energy plan for renewable energy or energy efficiency? The Project would be designed in a manner that is consistent with relevant energy conservation plans. Impact Determination: *Less than Significant*	None.	LTS
ENERGY-3: Would the Project add capacity for the purpose of serving a non-renewable energy resource? The Project does not include the addition of capacity for a non-renewable energy resource.	None.	NI

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
Impact Determination: *No Impact*		
GEOLOGY AND SOILS		
GEO-1: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides? Known faults exist located along the Project alignment. However, because Project infrastructure primarily consists of underground fiber optic cable and unmanned ancillary equipment, any surface fault rupture, strong seismic ground shaking or seismic-related ground failure would not expose people or structures present to potential substantial adverse effects as a result of the Project, or increase the risk of loss, injury or death. Additionally, the risk of soil instability, landslide, lateral spreading, subsidence, liquefaction, or collapse resulting from the Project is considered to be low. Impact Determination: *Less than Significant*	None.	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
GEO-2: Would the Project result in substantial soil erosion or the loss of topsoil? Project construction would involve ground-disturbing activities such as vegetation clearing, minor grading, trenching, plowing, and directional drilling. These activities would have the potential to exacerbate erosion or contribute to the loss of topsoil if soil were improperly contained during trenching or drilling, or if the construction contractor failed to adequately isolate and reapply topsoil during backfilling of excavations. However, because the extent of earth-moving activities would be limited, and most of the Project Area is relatively flat, substantial erosion or loss of topsoil is not expected to occur. Impacts would be avoided or minimized with Mitigation Measure HYDRO-1. Impact Determination: *Less than Significant with Mitigation*	**HYDRO-1: Prepare and Implement a Storm Water Pollution Prevention Plan (SWPPP).** See Hydrology.	LTS
GEO-3: Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? The conditions in the Project Area and the construction techniques proposed by the Project would result in a low risk of landslide, lateral spreading, subsidence, liquefaction, or collapse. Impact Determination: *Less than Significant*	None.	LTS
GEO-4: Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? Soils along the Project alignment include expansive soils with a low to high shrink-swell potential. However, all aboveground structures would	None.	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
be built in accordance with the California Building Code, and all construction activities would be conducted according to applicable grading codes and best practices associated with compaction and treatment of soils. In addition, no habitable structures are included as part of the Project, and therefore, there would be no direct or indirect risks to life or property as a result of project construction or operations. Impact Determination: *Less than Significant*		
GEO-5: Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative waste-water disposal systems where sewers are not available for the disposal of wastewater? No septic tanks are proposed; Project elements will be unmanned. Impact Determination: *No Impact*	None.	NI
GEO-6: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? Portions of the fiber optic line alignment and some staging areas are located in areas that have moderate or unknown potential for buried paleontological resources. Impacts would be avoided with Mitigation Measures PALEO-1 and PALEO-2. Impact Determination: *Less than Significant with Mitigation*	**PALEO-1: Paleontological Mitigation Plan.** Prior to construction, the Applicant shall prepare a Paleontological Mitigation Plan (PMP). It shall provide detailed recommended monitoring locations; a description of a worker training program; detailed procedures for monitoring, fossil recovery, laboratory analysis, and museum curation; and notification procedures in the event of a fossil discovery by paleontological monitor or other project personnel. Any subsurface bones or fossils that are unearthed during construction shall be evaluated by a professional paleontologist as described in the PMP. **PALEO-2: Paleontological Resource Monitoring.** Construction excavations which disturb geologic units with moderate paleontological potential (Potential Fossil Yield Classification [PFYC] 3) shall be monitored by a professional	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
	paleontologist in conjunction with worker environmental training to reduce potential adverse impacts on scientifically important paleontological resources to a less than significant level. The timing and frequency (e.g., part-time vs. full-time) of monitoring should be determined by the professional paleontologist based on initial field observations and excavation activities. Additionally, excavations which disturb geologic units with unknown paleontological potential (PFYC U) should be initially monitored in order to inspect for the presence of sensitive sediments and any resources that may be harbored within. In the event that highly fossiliferous facies is encountered, full time monitoring should occur until excavations within those facies are complete. Environmental training of construction personnel is recommended for excavations impacting sedimentary geologic units with low paleontological potential (PFYC 2). No additional measures are recommended for excavations impacting volcanic and plutonic rock units with very low paleontological potential (PFYC 1) or very low to low potential (PFYC 2 to 1).	
GREENHOUSE GAS		
GHG-1: Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? Emissions of greenhouse gases would be below thresholds for both construction and operation. Mitigation Measure GHG-1 would be implemented as best management practices to minimize greenhouse gas emissions during construction.	**GHG-1: Greenhouse Gas Emissions Reduction During Construction.** The following measures shall be implemented as best management practices to avoid or minimize greenhouse gas emissions from all construction sites wherever possible: • If suitable park-and-ride facilities are available in the Project vicinity, construction workers shall be encouraged to carpool to the job site. • The Applicant shall develop a carpool program to the	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
Impact Determination: *Less than Significant with Mitigation*	job site, consistent with state and federal requirements. • On-road and off-road vehicle tire pressures shall be maintained to manufacturer specifications. • Tires shall be checked and re-inflated at regular intervals. • Demolition debris shall be recycled for reuse, consistent with applicable law. • The contractor shall use line power instead of diesel or other portable generators at all construction sites where line power is available. • The contractor shall maintain construction equipment per manufacturing specifications.	
GHG-2: Would the Project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases? The Project would generate greenhouse gas emissions during operations from equipment and vehicle use during maintenance and repair activities. Mitigation Measure GHG-2 would ensure compliance with plans and policies. Impact Determination: *Less than Significant with Mitigation*	**GHG-2: Greenhouse Gas Emissions Reduction During Operations.** The following measures shall be implemented as best management practices to minimize greenhouse gas emissions during operations wherever possible: • On-road and off-road vehicle tire pressures shall be maintained to manufacturer specifications. • Tires shall be checked and re-inflated at regular intervals. • Battery power will be used as back-up in place of generators where feasible.	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
HAZARDS AND HAZARDOUS MATERIALS		
HAZ-1: Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? Temporary construction activities and ongoing maintenance and repair activities associated with the Project would involve the transport and use of gasoline, diesel fuel, hydraulic fuel, solvents, and oils typically associated with operation of construction equipment and vehicles. Accidental release of potentially hazardous materials during construction could cause a potentially significant impact if not properly managed. Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and HYDRO-1 would avoid or minimize these impacts. Impact Determination: *Less than Significant with Mitigation*	**HAZ-1: Hazardous Materials Management Plan.** The Applicant shall create and implement a hazardous materials management plan to govern the use and handling of hazardous materials during construction, operation, and maintenance. The plan shall identify control measures to prevent the release of hazardous materials, as well as a detailed action plan to respond to an incidental spill in compliance with all local, state, and federal regulations relating to the handling of hazardous materials. These plans shall be implemented in conjunction with the Stormwater Pollution and Prevention Plan (SWPPP). All drilling muds, slurries, oils, oil-contaminated water, and other waste materials removed from the Project or otherwise used during the Project shall be disposed of at a permitted landfill, other appropriately permitted site, or at an upland site approved in advance by the Regional Water Quality Control Board. Specific measures of these plans shall include the following: • Hazardous Materials Inventory and Safety Data Sheet (SDS) recordkeeping. • Site-specific buffers to be used if work occurs adjacent to any hazardous sites, and remediation or containment efforts to be taken if construction activities occur in a hazardous site. • Analytical testing of soil within and adjacent to known hazardous materials sites prior to the start of construction activities. • Development of a Lead Compliance Plan outlining procedures to be implemented should aerially deposited lead be discovered.	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***

	• Emergency response and reporting procedures.
	• Proper disposal of potentially hazardous materials.
	• Containment of spills from construction equipment and vehicles (also required through the preparation of a Spill Prevention, Control, and Countermeasure [SPCC] Plan), which would include the following:
	  o Maintenance and inspection of all construction vehicles.
	  o Refueling and parking restrictions to prevent fuel from entering adjacent waterbodies.
	  o Secondary containment for stationary diesel generators.
	  o Specifications for the availability of spill containment and response equipment.
	  o Designation of responsibilities and communication and reporting procedures in the event of a spill.
	  o Spill response procedures.
	
	HAZ-2: Worker Environmental Awareness Program for Hazardous Materials. Prior to commencing construction activities, the Applicant shall prepare a Worker Environmental Awareness Program (WEAP) for Hazardous Materials. The purpose of the WEAP is to educate personnel (i.e., construction workers) about the existing onsite and surrounding resources, measures required to protect these resources, and to avoid potential hazards within these sites. The WEAP shall include materials and information on potential hazards resulting from construction within the Project area, and applicable precautions personnel shall take to reduce potential impacts.	

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
	The WEAP presentation shall be given to all personnel who enter the Project construction area. The WEAP presentation shall be given prior to the start of construction and as necessary throughout the life of the Project as new personnel arrive onsite. Zayo and the contractor are responsible for ensuring that all onsite personnel attend the WEAP presentation, receive a summary handout, and sign a training attendance acknowledgement form to indicate that the contents of the program are understood and to provide proof of attendance. Each participant of the WEAP presentation shall be responsible for maintaining their copy of the WEAP reference materials and making sure that other onsite personnel are complying with the recommended precautions. The contractor shall keep the sign-in sheet onsite and submit copies of the WEAP sign-in sheet to Zayo's Project Manager, who shall keep it on file at their offices. The following information and implementation steps shall be prepared, presented, and executed prior to and during construction to prevent exposure and raise awareness of potential site hazards: • Inform personnel about potentially hazardous sites within the Project areas and how to identify hazardous materials sites. • Signs of potential contamination within soils may include stained soils, discolored or oily water, previously unknown underground storage tanks, etc. • Work shall be stopped if any of these signs are identified within the Project area, and HAZ-1 shall be implemented before work shall resume.	

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
	HAZ-3: Surface Spill and Hydrofracture Contingency Plan. Construction of the Project may involve drilling under water bodies. To minimize the potential for an accidental release of bentonite drilling fluid caused by a fracture in the rock underlying a water body (an event known as a *frac-out*), prior to commencing drilling operations the Applicant shall prepare a Surface Spill and Hydrofracture Contingency Plan. The Applicant shall monitor drill mud pressure and volume at all times during drilling to ensure that hydrofracture or other loss of drill muds has not occurred. In the event of sudden loss in pressure or volume, the Applicant shall take appropriate steps described in the plan to ensure that drilling muds are not discharged. At a minimum, the plan shall include the following preventative measures: • Visual inspection of the bore path at all times during drilling operations. • Personnel stationed upstream and downstream of the bore path to monitor water conditions when water is flowing. • When boring is necessary adjacent to wetlands and waters, the bore rigs shall be located as specified in the Surface Spill and Hydrofracture Contingency Plan. • Specifications for availability of containment and cleanup equipment in the event of a frac-out. • Designation of responsibilities, communication protocols, and reporting procedures in the event of a frac-out. **HYDRO-1**: **Prepare and Implement a Stormwater Pollution Prevention Plan (SWPPP).** See Hydrology.	

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
HAZ-2: Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? The potential for release of hazardous materials into the environment could result from discovery of hazardous materials in soil excavated during construction or from spills related to construction equipment and construction, maintenance and repair activities. The Project would not create a significant hazard to the public or environment with implementation of Mitigation Measures HAZ-1 through HAZ-3 and HYDRO-1, which would avoid or minimize these impacts. Impact Determination: *Less than Significant with Mitigation*	**HAZ-1: Hazardous Materials Management Plan.** **HAZ-2: Worker Environmental Awareness Program for Hazardous Materials.** **HAZ-3: Surface Spill and Hydrofracture Contingency Plan.** **HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan (SWPPP).** See Hydrology.	LTS
HAZ-3: Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? Five schools are located within 0.25 mile of the Project. Construction, maintenance, and repair activities associated with the Project would use hazardous materials in the form of gasoline, diesel fuel, and hydraulic oil. Mitigation Measure HAZ-1 would avoid or minimize this impact. Impact Determination: *Less than Significant with Mitigation*	**HAZ-1: Hazardous Materials Management Plan.**	LTS
HAZ-4: Would the Project 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? Several potentially hazardous materials sites are located within and adjacent to the construction work area. A significant hazard could	**HAZ-1: Hazardous Materials Management Plan.** **HAZ-2: Worker Environmental Awareness Program for Hazardous Materials.**	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
potentially occur if construction activities were to result in the release of hazardous materials or spread of existing contamination associated with these potentially hazardous materials sites. Impacts would be avoided or minimized with implementation of Mitigation Measures HAZ-1 and HAZ-2. Impact Determination: *Less than Significant with Mitigation*		
HAZ-5: Would the Project 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? Three airports are located within 2 miles of the Project alignment. During construction, maintenance, and repair activities, workers may be exposed to periodic minor noise levels from nearby airports. However, linear projects entail short work duration at any given location. Workers would not remain in one site for extended periods of time, and thus would not be exposed to excessive noise while working in the Project Area. Impact Determination: *Less than Significant*	None.	LTS
HAZ-6: Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? The majority of the Project would be located within the roadway right-of-way, which could potentially interfere with emergency personnel accessing local or regional emergencies. Additionally, if there were a larger emergency in the area, such as a fire or earthquake, the public and emergency personnel would likely use US 395 as a major exit	**TRA-1: Traffic Management Plan.** See Transportation.	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
highway to the north or south. Mitigation Measure TRA-1 would avoid or reduce impacts to emergency response or evacuation. Impact Determination: *Less than Significant with Mitigation*		
HAZ-7: Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? The Project is unmanned and largely underground, and would not add people or structures that would result in significant risk of loss, injury, or death involving wildland fires. All electrical components would be grounded, preventing the potential for electrical shorts or arcing. Use of machinery or "hot work" (e.g., welding) during high wind conditions or personnel smoking at a worksite could result in wildfire ignition. Additionally heated mufflers near or in contact with vegetation or equipment strikes on rocks or metal objects could ignite wildfires. Mitigation Measure WILD-1 would avoid or reduce wildfire potential during Project activities. Impact Determination: *Less than Significant with Mitigation*	**WILD-1: Construction Fire Prevention Plan.** See Wildfire.	LTS
HAZ-8: Would the Project create a significant hazard to air traffic from the installation of new power lines and structures? The majority of Project elements would be below ground (fiber optic cable and vaults) or at or slightly above grade (vault covers and line markers). Three ILAs would be approximately 11 feet high. Therefore, there would be no significant hazards to air traffic. Impact Determination: *No Impact*	None.	NI

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
HAZ-9: Would the Project create a significant hazard to the public or environment through the transport of heavy materials using helicopters? The use of helicopters is not proposed. Impact Determination: *No Impact*	None.	NI
HAZ-10: Would the Project expose people to a significant risk of injury or death involving unexploded ordnance? The Project Area is not located in an area of known unexploded ordnance and there is little to no potential for any undiscovered ordnance to occur. Impact Determination: *No Impact*	None.	NI
HAZ-11: Would the Project expose workers or the public to excessive shock hazards? Fiber optic cable is not a shock hazard. Power to the ILAs would not be accessible to the public. Impact Determination: *No Impact*	None.	NI
HYDROLOGY AND WATER QUALITY		
HYD-1: Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? Installation of the fiber optic cable will require crossing several wetlands and water bodies, resulting in the potential to adversely affect water quality from erosion and sedimentation, as well as frac-out via bentonite used during directional boring. Impacts would be avoided or minimized	**HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan (SWPPP).** The Applicant shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) to prevent construction-related erosion, sediment runoff, and discharge of pollutants into adjacent waterways and onto neighboring properties. Because project activities would result in ground disturbance of more than one (1) acre, the Applicant will obtain coverage under the State Water Resources Control	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
through implementation of Mitigation Measures HYDRO-1, BIO-14, HAZ-1, and HAZ-3. Impact Determination: *Less than Significant with Mitigation*	Board General Permit for Storm Water Discharges Associated with Construction Activity Order No. 2009-0009-DWQ (and as amended by 2010-0014-DWQ and 2012-006-DWQ). To obtain coverage under the permit, the Applicant will develop and submit permit registration documents, including a Notice of Intent, SWPPP, risk assessment, site map, construction drawings, certification by a Legally Responsible Person, contractor contact information, and annual fee, to the State of California's Storm Water Multiple Application and Report Tracking System (SMARTS) database. The contractor will also obtain a Waste Discharge Identification (WDID) number prior to initiating construction activities. The SWPPP shall outline implementation of best management practices (BMPs) for each activity that has the potential to impact neighboring properties or degrade surrounding water quality through erosion, sediment runoff, dewatering, and discharge of other pollutants. BMPs to be part of the project-specific SWPPP may include but are not limited to the following control measures. • Implementing temporary erosion control measures (such as silt fences, staked straw bales and wattles, silt and sediment basins and traps, check dams, geofabric, sandbag dikes, grass buffer strips, high-infiltration substrates, grassy swales, and temporary revegetation or other ground cover) to control erosion from disturbed areas. • Protecting drainage facilities in downstream offsite areas from sediment using BMPs acceptable to Modoc, Lassen, and Sierra counties and the Lahontan and Central Valley Regional Water Quality Control	

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
	Boards (RWQCB). • Protecting the quality of surface water from non-stormwater discharges such as equipment leaks, hazardous materials spills, and discharge of groundwater from dewatering operations. SWPPP requirements shall be coordinated with the Section 401 Water Quality Certification issued for the project under the Clean Water Act and/or Streambed Alteration Agreement issued under Fish and Game Code Section 1602, as applicable. **BIO-14: Wetland Impacts.** See Biological Resources. **BIO-15: Wetlands and Waters Impacts.** See Biological Resources. **BIO-17: Compliance with Other Laws, Regulations, and Permits.** See Biological Resources. **HAZ-1: Hazardous Materials Management Plan.** See Hazards and Hazardous Materials. **HAZ-3: Surface Spill and Hydrofracture Contingency Plan.** See Hazards and Hazardous Materials.	
HYD-2: Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? Water would be used to support Project construction activities and dust suppression. This negligible water use would not substantially decrease groundwater supplies. New impervious surface for ILAs and vaults/markers would be less than 2 acres and would not substantially interfere with groundwater recharge.	None.	NI

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
Impact Determination: *No Impact*		
HYD-3: Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site; (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows? Ground disturbance during construction would result in erosion or siltation. Mitigation Measure HYDRO-1 would avoid or minimize this impact. After construction, the amount of new impervious surface from ILAs and vaults/markers would be less than 2 acres and would not substantially increase the rate or amount of surface runoff or cause flooding. Impact Determination: *Less than Significant with Mitigation*	**HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan.**	LTS
HYD-4: Would the Project, if located in a flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation? The Project is not located in an area subject to tsunami or seiche, and would not increase flood hazards. Impact Determination: *No Impact*	None.	NI

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
HYD-5: Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? Water quality impacts during construction could occur from ground disturbance and use of heavy equipment. This impact would be avoided or minimized with Mitigation Measure HYDRO-1. The Project would use negligible amounts of water during construction for dust control and would not conflict with or obstruct a sustainable groundwater management plan. Impact Determination: *Less than Significant with Mitigation*	**HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan.**	LTS
LAND USE AND PLANNING		
LU-1: Would the Project physically divide an established community? Project elements would be located within or adjacent to existing rights-of-way. The majority of the Project elements would be underground with the exception of three ILAs and vaults/line markers, which would cover less than 2 acres, combined. There would be no permanent division of established communities. Impact Determination: *No Impact*	None.	NI
LU-2: Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? The Project would cross multiple jurisdictions and would be consistent with all relevant plans, policies, and goals. Easements from federal, state, and local agencies are required to construct within roadway rights-of-	**LU-1: Obtain Necessary Permits and Permissions.** Prior to construction, the Applicant shall obtain all necessary permits and permissions from California State Lands Commission, BLM, USFS, Bureau of Indian Affairs, Caltrans, Modoc, Lassen and Sierra Counties and the City of Alturas.	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
way. Mitigation Measure LU-1 would avoid or minimize conflicts with the requirements of these agencies. Impact Determination: *Less than Significant with Mitigation*		
MINERAL RESOURCES		
MIN-1: Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? No designated Mineral Resource Zones or existing mines are located in the Project Area. Impact Determination: *No Impact*	None.	NI
MIN-2: Would the Project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? No locally important mineral resource recovery sites are located within the Project Area. Impact Determination: *No Impact*	None.	NI
NOISE		
NOI-1: Would the Project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	None.	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
Project construction, maintenance, and repair would have short-term effects on ambient noise levels. Modeled noise levels would be below thresholds established by the local general plans. Impact Determination: *Less than Significant*		
NOI-2: Would the Project result in the generation of excessive groundborne vibrations or groundborne noise during construction? Project construction, maintenance, and repair activities would not use impact equipment, such as pile drivers. The heavy equipment that would be used for Project activities would not result in vibration impact above thresholds. Impact Determination: *Less than Significant*	None.	LTS
NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels? The Project would not include manned facilities. During construction, workers would be exposed to noise from three nearby airports along the alignment; however, these airports are not heavily used and construction crews would not be in one area for an extended period of time. Therefore, workers would not be exposed to excessive noise levels. Impact Determination: *Less than Significant*	None.	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
POPULATION AND HOUSING		
POP-1: Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? No new homes or businesses are part of the Project, and the Project would not require large numbers of construction workers sufficient to generate substantial population growth. The Project would extend fiber optic broadband infrastructure into the area, but this would not be sufficient to induce substantial unplanned population growth. Impact Determination: *Less than Significant*	None.	LTS
POP-2: Would the Project displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere? The Project would not displace existing housing or people. Impact Determination: *No Impact*	None.	NI
PUBLIC SERVICES		
PUB-1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: • Fire protection?	None.	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
• Police protection? • Schools? • Parks? • Other public facilities? The Project would not result in new residents or otherwise affect acceptable service ratios, response times, or other performance objectives. A temporary increase in workers and activity along the Project alignment would occur for approximately 6 months. Impact Determination: *Less than Significant*		
RECREATION		
REC-1: Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? A temporary increase in workers would occur, many of which would be hired from the local area but some may travel from outside areas. This would not represent a substantial increase in population that would affect the use of parks or other recreational facilities. Impact Determination: *Less than Significant*	None.	LTS
REC-2: Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? The Project does not include recreational facilities or require the construction or expansion of recreational facilities. Impact Determination: *No Impact*	None	NI

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
REC-3: Would the Project reduce or prevent access to a designated recreation facility or area? The Project alignment would be placed within existing Caltrans- and county-maintained roadway rights-of-way, with the exception of some ancillary facilities that would be placed immediately adjacent to the existing roadway in several locations. Multiple trails cross or are accessed via US 395; however, it is unlikely that construction activities would impact access beyond minor delays. Any closures that are required for public safety during Project construction would be temporary and short-term. Mitigation Measure REC-1 would minimize access restrictions to these trails during construction. Impact Determination: *Less than Significant with Mitigation*	**REC-1: Coordination with BLM.** The Applicant shall coordinate closely with the BLM Northern California District Office to communicate potential disruptions of trail access during project construction activities, including Shaffer Mountain Trail near Litchfield (Post Mile 77.3), Belfast Petroglyphs Off-Highway Vehicle Trail near Litchfield (Post Mile 93.4), Buckhorn Backcountry Byway (Post Mile 115.2), and California Historic Trail (Post Miles 21.9, 29.2, 29.5, 30.2, 31.1, 34, 42.8, 42.9, 43.1, 43.9, 50.6, 72.5, 76.4, 77.6). Signs advising recreational facility users of construction activities and potential trail closures will be posted at access points to trails identified by BLM. Information on trail closures and any temporary displacement will be made available on the project website. The Applicant will document preconstruction conditions at the trail locations and will repair or replace facilities inadvertently damaged during construction activities.	LTS
REC-4: Would the Project substantially change the character of a recreational area by reducing the scenic, biological, cultural, geologic, or other important characteristics that contribute to the value of recreational facilities or areas? The Project alignment would be placed within existing Caltrans- and county-maintained roadway rights-of-way, with the exception of some ancillary facilities that would be placed immediately adjacent to the existing roadway in several locations. Multiple trails cross or are accessed via US 395, but impacts to these trails are anticipated to be limited to access delays during construction, which is not anticipated to substantially change the character of these recreational facilities. Impact Determination: *Less than Significant*	None.	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
REC-5: Would the Project damage recreational trails or facilities? Damage to the trails that cross or are accessed via US 395 is not anticipated. REC-1 requires repair or replacement of any damaged facilities. Impact Determination: *Less than Significant with Mitigation*	**REC-1: Coordination with BLM**	LTS
TRANSPORTATION		
TR-1: Would the Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities? The Project will generate vehicle trips during construction and would not result in long-term trip generation. Bicycle and pedestrian facilities are limited along the Project alignment. Construction activity may affect traffic flow and these impacts would be avoided or minimized with Mitigation Measure TRA-1. Impact Determination: *Less than Significant with Mitigation*	**TRA-1: Traffic Management Plan.** Prior to commencing construction activities, the Applicant shall prepare a Traffic Management Plan (TMP) to address heavy equipment and building material deliveries, potential street or lane closures, signing, lighting, and traffic control device placement. The Applicant will obtain any necessary transportation and encroachment permits from Caltrans and the local jurisdictions, as required, and will implement temporary traffic controls as required to prevent congestion or traffic hazards, maintain emergency access, provide accommodations for pedestrians and bicyclists when applicable, and provide locations for alternate transit stops when applicable. Construction activities that are in, along, or cross local roadways will follow BMPs and local jurisdictional encroachment permit requirements, such as traffic controls in the form of signs, cones, and flaggers, to minimize impacts on traffic and transportation in the Project Area. When working on state highways, the Applicant shall follow traffic control guidelines outlined in the California Manual on Uniform Traffic Control Devices.	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
TR-2: Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)? The Project does not include new housing, businesses, or other land use changes that would increase Vehicle Miles Traveled (VMT). The Project would also not add capacity to an existing or proposed roadway. Construction of the Project could result in a temporary increase in local traffic as a result of construction-related workforce traffic and material deliveries and construction activities occurring within the public right-of-way; however, these short-term construction-related changes in VMT are not the subject of CEQA Guidelines Section 15064.3, subdivision (b). Impact Determination: *Less than Significant*	None.	LTS
TR-3: Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment)? The Project would not modify the geometric design of any roadways or intersections or add an incompatible use. Impact Determination: *No Impact*	None.	NI
TR-4: Would the Project result in inadequate emergency access? Emergency access during construction would be maintained with Mitigation Measure TRA-1. Impact Determination: *Less than Significant with Mitigation*	**TRA-1: Traffic Management Plan.**	LTS
TR-5: Would the Project create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations?	**TRA-1: Traffic Management Plan.**	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
Construction could affect local sidewalks, bikeways, or public transit in the limited areas where those features exist along the Project alignment. Mitigation Measure TRA-1 would ensure accommodations for pedestrians, bicyclists, and access to transit, where applicable. Impact Determination: *Less than Significant with Mitigation*		
TR-6: Would the Project interfere with walking or bicycling accessibility? Construction could affect local sidewalks and bikeways in the limited areas where those features exist along the Project alignment. Mitigation Measure TRA-1 would ensure accommodations for pedestrians and bicyclists, where applicable. Impact Determination: *Less than Significant with Mitigation*	**TRA-1: Traffic Management Plan.**	LTS
TR-7: Would the Project substantially delay public transit? Construction could affect public transit in the limited areas where transit is available along the Project alignment. Mitigation Measure TRA-1 would ensure access to transit, where applicable. Impact Determination: *Less than Significant with Mitigation*	**TRA-1: Traffic Management Plan.**	LTS
TRIBAL CULTURAL RESOURCES		
TCR-1a: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of	None.	NI

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
historical resources as defined in Public Resources Code section 5020.1(k)? Tribal consultation under AB 52 and CPUC's tribal consultation policy resulted in general comments about a possible battle site north of Doyle (Washoe Tribe), botanical resources (Klamath Tribe), view sheds (Klamath Tribe), and burials (Maidu Summit Consortium). Because none of these resources have been defined geographically in terms of their size and scope, and their locations are unknown, none of these resources are listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources as defined in the PRC. There would be no impact. Impact Determination: *No Impact*		
TCR-1b: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe? If previously unknown, buried tribal cultural resources are encountered during Project construction, trenching and excavation activities could result in a substantial adverse change in the significance of a tribal cultural resource. Mitigation Measure TCR-1 would ensure that tribal	**TCR-1: Tribal Monitoring.** One tribal monitor from a Consulting Tribe (defined herein as those tribes that consulted with CPUC for this Project) shall be retained to monitor all ground-disturbing activities associated with Project construction. Monitoring is also required when stipulated by Mitigation Measures CUL-1a and CUL-1b (such as, but not limited to, the placement or removal of temporary exclusionary fencing). Monitoring is not required for placement of equipment or fill inside excavations that were monitored, above-ground construction activities, or redistribution of soils that were previously monitored (such as the return of stockpiles to use in backfilling). In the event that more than one Consulting Tribe requests to provide a monitor for activities subject to this measure, CPUC will allow for the interested tribes to develop a rotating schedule that alternates monitoring between the tribes on a daily or weekly basis. In the event that none of the Consulting	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
cultural resources, if encountered, are treated with care and in a culturally appropriate manner. Impact Determination: *Less than Significant with Mitigation*	Tribes choose to enter into a monitoring contract, or otherwise fail to respond to the offer to do so, CPUC shall allow construction to proceed without a tribal monitor present as long as the offers to all Consulting Tribes were extended and documented. No later than five business days prior to the start of ground disturbing activities, the construction supervisor or their designee shall notify the contracted Consulting Tribe(s) of the construction schedule. Should the contracted Consulting Tribe(s) choose not to provide a tribal monitor for any given day, or if the monitor does not report to the Project location at the scheduled time, or if the monitor is present but not actively observing activity, work may proceed without a monitor as long as the notification was made and documented. Unless there is a hiatus of construction activity that exceeds 14 days, daily updates to construction schedules can be made through email, text, phone, or other methods and frequencies agreed upon between the monitor(s) and construction supervisor. If a hiatus in ground disturbance of more than 14 days occurs, then notice of at least five business days before resuming work will be required to be given and documented. The tribal monitor shall have the authority to temporarily pause ground disturbance within 25 feet of the discovery for a duration long enough to examine potential tribal cultural resources that may become unearthed during the activity. If no tribal cultural resources are identified at the discovery location, then construction activities shall proceed, and no agency notifications are required. In the event that a tribal cultural resource is identified, the monitor shall flag off the discovery location and notify CPUC immediately to consult with tribal	

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
	representatives and cooperating agencies on appropriate and respectful treatment. Work cannot resume at the stop-work location until authorized to do so by an authorized representative of CPUC.	
UTILITIES AND SERVICE SYSTEMS		
UTIL-1: Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? The Project is the construction and operation of a new fiber optic broadband line. Impacts related to the construction and operation of the line are discussed in this EIR. The Project would not require the construction of new or expanded water, stormwater drainage, electrical power, or natural gas facilities. Although Project construction would require the use of water and wastewater facilities by construction workers, this use would be temporary and short-term. The Project includes excavation and trenching, which could affect existing buried utilities. Mitigation Measure UTIL-1 would avoid impacts to buried utilities. Impact Determination: *Less than Significant with Mitigation*	**UTIL-1: Utility Company Coordination.** The Applicant shall notify all utility companies with utilities located within or crossing the project right-of-way to locate and mark existing underground utilities along the entire length of the project at least 30 days prior to construction. No subsurface work shall be conducted that would conflict with (i.e., directly impact or compromise the integrity of) a buried utility. In the event of a conflict, areas of subsurface excavation or pole installation shall be realigned vertically and/or horizontally, as appropriate, to avoid other utilities and provide adequate operational and safety buffering. In instances where separation between third-party utilities and underground excavations is less than 5 feet, the Applicant shall satisfy the requirements of California Government Code Section 4216. Construction methods shall be adjusted as necessary to assure that the integrity of existing utility lines is not compromised.	LTS
UTIL-2: Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years? Project construction would use minimal water for dust control and fire response during construction. The Project's water demand would not	None.	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
affect the ability of local water suppliers to provide water during normal, dry, and multiple dry years. Impact Determination: *Less than Significant*		
UTIL-3: Would the Project result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? No wastewater would be discharged to the local wastewater treatment providers. Wastewater from directional boring would be recycled or disposed of at local landfills. Construction workers would be provided portable toilets. Impact Determination: *No Impact*	None.	NI
UTIL-4: Would the Project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? Construction activities would generate non-hazardous solid waste that would be disposed of in nearby landfills with sufficient capacity. Mitigation Measure UTIL-2. would reduce the waste disposed of at local landfills. Impact Determination: *Less than Significant with Mitigation*	**UTIL-2: Recycling of Construction Materials.** During construction activities, the contractor shall use recycling centers for materials that can be recycled, rather than hauling all materials to landfills. Materials that could be recycled may include plastics, paper, and cans and bottles. At each construction site, a designated container or vessel shall be set up at the beginning of construction activities with appropriate signage indicating where construction workers shall place recyclable materials.	LTS
UTIL-5: Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	**UTIL-2: Recycling of Construction Materials.**	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
The Project would generate solid waste during construction. Mitigation Measure UTIL-2 would ensure compliance with management and reductions statutes and regulations related to solid waste. Impact Determination: *Less than Significant with Mitigation*		
UTIL-6: Would the Project increase the rate of corrosion of adjacent utility lines as a result of alternating current impacts? The Project does not provide a source for alternating current. The fiber optic line would be shielded and would be located away from any utility lines. Impact Determination: *No Impact*	None.	NI
WILDFIRE		
WILD-1: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project substantially impair an adopted emergency response plan or emergency evacuation plan? The majority of construction activities would occur within existing road rights-of-way. Although no evacuation routes have been formally designated in local general plans, US 395 would likely be used if a large fire in the area required evacuation. Mitigation Measure TRA-1 would ensure that emergency access is maintained during construction. Impact Determination: *Less than Significant with Mitigation*	**TRA-1: Traffic Management Plan.** See Transportation.	LTS
WILD-2: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby	None.	NI

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? None of the Project facilities would be manned and there would be no risk to Project occupants. Impact Determination: *No Impact*		

WILD-3: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
 	
The Project's main fire risk would be during construction. Use of machinery or "hot work" (e.g., welding) during high wind conditions or personnel smoking at a worksite could result in the ignition of a wildfire. Heavy equipment or passenger vehicles could drive through vegetated areas, which could also result in an increased risk of wildfire from heated mufflers or undercarriage near or in contact with vegetation. Additionally, mowers or plows have the potential to ignite wildfires if the equipment blades strike rocks or metal objects. Improper disposal of cigarettes or bottles with solar magnifying properties (such as glass) could potentially ignite surrounding vegetation. Mitigation Measures BIO-4 and WILD-1 would avoid or minimize activities that could cause a fire and WILD-1 provides procedures for fire reporting and response.
 	
Impact Determination: *Less than Significant with Mitigation*
	WILD-1: Construction Fire Prevention Plan. A project-specific Construction Fire Prevention Plan for construction of the project shall be submitted for review to the CPUC and state and local fire agencies at least 90 days before the start of any construction activities in areas designated as Very High or High Fire Hazard Severity Zones. Plan reviewers shall also include federal, state, or local agencies with jurisdiction over areas where the project is located. The final Plan shall be approved by the CPUC at least 30 days prior to the initiation of construction activities. The Plan shall be fully implemented throughout the construction period and include the following at a minimum:
	
	• The purpose and applicability of the Plan
	• Responsibilities and duties of the Applicant
	• Preparedness training and drills
	• Procedures for fire reporting, response, and prevention that include:
	  o Identification of daily site-specific risk conditions
	  o The tools and equipment needed on vehicles and to be on hand at sites
	  o Reiteration of fire prevention and safety considerations during tailboard meetings
	  o Daily monitoring of the red-flag warning system with appropriate restrictions on types and levels
		LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures

Summary of Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
	of permissible activity o Coordination procedures with federal and local fire officials o Crew training, including fire safety practices and restrictions o Method(s) for verifying that all Plan protocols and requirements are being followed A project Fire Marshal or similar qualified position shall be established to enforce all provisions of the Construction Fire Prevention Plan as well as perform other duties related to fire detection, prevention, and suppression for the project. Construction activities shall be monitored to ensure implementation and effectiveness of the Plan.	
WILD-4: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? The majority of Project elements would be underground within existing road rights-of-way. The primary aboveground Project component would be the ILAs, which would also be within existing roads rights-of-way or commercial areas that are maintained clear of vegetation and other fire hazards. The proposed construction area is relatively flat, and in instances where topography precludes burial of the conduit, it would be strung on existing bridges. Thus, Project installation would not permanently affect drainage or topography in the Project Area. Therefore, the Proposed Project would not affect the potential for people or structures to be exposed to significant risks or changes in baseline risk including downslope or downstream flooding or landslides	**BIO-4: General Project Area Use.** See Biological Resources. **WILD-1: Construction Fire Prevention Plan.**	LTS

Table S.6-1. Summary of Proposed Project Impacts and Mitigation Measures		
Summary of Environmental Impacts	**Mitigation Measures**	**Residual Impact (with Mitigation)***
as a result of runoff, post-fire slope instability, or drainage changes should a wildfire occur in the vicinity of the Project. Mitigation Measures BIO-4 and WILD-1 would avoid or minimize the risk of wildfire ignition from construction activities. Impact Determination: *Less than Significant with Mitigation*		

Notes: NI = No Impact, LTS = Less than Significant, S = Significant, Unavoidable

S.7 Comparison of Alternatives and Environmentally Superior Alternative

S.7.1 Comparison of Alternatives

A comparison of the environmental impacts of the Proposed Project, the No Project Alternative, and the Pavement Alternative is provided in Table S.7-1. The Pavement Alternative would avoid significant and unavoidable impacts to sensitive plant populations, sensitive natural communities, and wetlands and Waters of the U.S. or State that were identified for the Proposed Project. These resources are found between the edge of pavement and the edge of the right-of-way, as described in Section 3.5, Biological Resources. Impacts would be less than significant after implementation of similar mitigation measures as those required for the Proposed Project.

The Pavement Alternative would result in greater impacts to air quality, public services, and transportation when compared to the Proposed Project; however, these impacts would be less than significant after implementation of the same mitigation required for the Proposed Project.

- The Pavement Alternative would result in similar air quality impacts from most construction activities when compared to the Proposed Project because the location, length, and construction techniques for the route would be identical. Cutting the pavement and trenching activities associated with this alternative may result in somewhat increased particulate emissions compared to the Proposed Project, but with implementation of standard dust control measures, as described in Mitigation Measure AIR-1 of Table S.6-1 and the Section 3.4 of this EIR, impacts would be less than significant.
- The Pavement Alternative would result in greater public services and transportation impacts than the Proposed Project because more extensive lane closures would be required during construction. This alternative would require traffic control measures during construction to ensure safety of workers and motorists and to ensure access for emergency vehicles and the availability of US 395 as an evacuation route; however, these impacts are temporary and can be mitigated to less than significant with the implementation of a Traffic Control Plan as described in Mitigation Measure TRA-1 of Table S.6-1 and Section 3.18 of this EIR.

Table S.7-1 Comparison of Impacts

Environmental Topic	Proposed Project	No Project	Pavement Alternative
Aesthetics	LTSM	NI	LTSM (Similar)
Agriculture and Forestry	LTSM	NI	LTSM (Similar)
Air Quality	LTSM	NI	LTSM (Greater)
Biological Resources	SU	NI	LTSM (Less)
Cultural Resources	LTSM	NI	LTSM (Less)
Energy	LTS	NI	LTS (Similar)
Geology, Soils and Paleontology	LTSM	NI	LTSM (Less)

Table S.7-1 Comparison of Impacts

Environmental Topic	Proposed Project	No Project	Pavement Alternative
Greenhouse Gas	LTSM	NI	LTSM (Similar)
Hazards and Hazardous Materials	LTSM	NI	LTSM (Similar)
Hydrology and Water Quality	LTSM	NI	LTSM (Less)
Land Use and Planning	LTSM	NI	LTSM (Similar)
Mineral Resources	LTS	NI	LTS (Similar)
Noise	LTS	NI	LTS (Similar)
Population and Housing	LTS	NI	LTS (Similar)
Public Services	LTS	NI	LTS (Greater)
Recreation	LTSM	NI	LTSM (Similar)
Transportation and Circulation	LTSM	NI	LTSM (Greater)
Tribal Cultural Resources	LTSM	NI	LTSM (Less)
Utilities and Service Systems	LTSM	NI	LTSM (Similar)
Wildfire	LTSM	NI	LTSM (Similar)
Meet Project Objectives?	Yes	No	Yes

Impact Status:
NI=No Impact;
LTS = Less than Significant Impact
LTSM = Less than Significant Impact with Mitigation
SU = Significant, Unavoidable

S.7.2 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) indicates that an analysis of alternatives to a project shall identify an Environmentally Superior Alternative among the alternatives evaluated in an EIR. The CEQA Guidelines also state that should it be determined that the No Project Alternative is the Environmentally Superior Alternative, the EIR shall identify another Environmentally Superior Alternative among the remaining alternatives.

The No Project Alternative would be the environmentally superior alternative, as it would result in no new environmental impacts and would avoid the Proposed Project's significant and unavoidable impacts identified for the Proposed Project related to biological resources. However, this alternative would not feasibly attain the basic objectives of the Project, including the benefit of internet service to nearby communities. The Pavement Alternative would avoid sensitive biological resources and cultural resources that are abundant within the buffer area (i.e., the distance between the outside edge of the shoulder and the outside edge of the right-of-way) for the roads involved. The Pavement Alternative would meet all Project objectives and would reduce potentially significant, unavoidable impacts to sensitive plants, sensitive habitats, and wetland/Waters of the U.S. or State. The Pavement Alternative would require added

traffic control measures to ensure safety of workers and motorists during construction along the route, but these impacts are temporary and can be mitigated to less than significant as described in the Traffic and Transportation section of this EIR (Section 3.18). It is therefore identified as the environmentally superior alternative among the action alternatives.

S.8 Areas of Controversy/Issues to be Resolved by Lead Agency

CEQA Guidelines Section 15123(b)(2) requires an EIR to identify areas of controversy or public interest. Prior to the preparation of this EIR, a Notice of Preparation (NOP) was prepared for the Project (Appendix A) and distributed for review and comment to Responsible and Trustee Agencies, the State Clearinghouse, and other interested parties during the 30-day scoping period from March 8 to April 8, 2021. The CPUC also held a virtual public scoping meeting on March 8, 2021 to provide information about the Proposed Project and to take comments from attendees. All comments letters received in response to the NOP are included in Appendix A of this DEIR.

Based on information and comments received in response to the NOP, the following issues are considered to be either controversial or require further analysis in this DEIR to allow CPUC to make an informed decision on the Proposed Project:

- concerns regarding the extent that service will be guaranteed to rural communities;
- impacts to the rural scenic value of the Project area, especially due to potential visual impacts of the ILAs;
- impacts to tribal cultural resources;
- impacts to biological resources;
- impacts to water quality; and
- ensuring that alternatives will be adequately addressed.

CEQA requires an EIR to identify issues to be resolved. Issues to be resolved by the Lead Agency include:

- whether the EIR adequately describes the environmental impacts of the Project;
- whether the recommended mitigation measures should be modified/adopted;
- whether the benefits of the Proposed Project override the significant impacts to biological and cultural resources; and
- which among the Project and alternatives should be selected for approval.

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
AADT	Average Annual Daily Traffic
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ADI	Area of Direct Impact
ADT	Average Daily Traffic
ANSI	American National Standards Institute
AP	Alquist-Priolo
APE	Area of Potential Effect
APSA	Above-ground Petroleum Storage Act
AST	Above-ground Storage Tank
BCC	USFWS Bird of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practice
BRSA	Biological Resources Survey Area
BRTR	Biological Resource Technical Report
CA	California
CAA	Clean Air Act
CAL FIRE	California Department of Forestry and Fire Protection
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDOF	California Department of Finance
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERS	California Environmental Reporting System
CERS	California Environmental Reporting System
CFC	California Fire Code
CFR	Code of Federal Regulations
CGP	Construction General Permit
CGS	California Geological Survey
CHP	California Highway Patrol

Term	Definition
CIWQS	California Integrated Water Quality System
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalence Levels
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CPCN	Certification of Public Convenience and Necessity
CPS	Cleanup Program Sites
CPS-SLIC	Cleanup Program Sites – Spills, Leaks, Investigations, and Cleanups
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CSLC	California State Lands Commission
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
CWPP	Community Wildfire Protection Plans
DEIR	Draft EIR
DOC	California Department of Conservation
DOD	Department of Defense
DOD	United States Department of Defense
DOF	California Department of Finance
DOSH	Division of Occupational Safety and Health
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
DWQ	Department of Water Quality
DWR	California Department of Water Resources
ECORP	ECORP Consulting, Inc.
EDD	Employment Development Department
EDR	Environmental Data Resources, Inc.
EGP	Enterprise Geospatial Portal
EIR	Environmental Impact Report
EMFAC	Emission Factor model
EO	Executive Order
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FC	Federal Candidate
FE	Federal Endangered
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FINDS	Facility Index System/Facility Registry System
FLPMA	Federal Land Policy and Management Act
FMMP	Farmland Mapping and Monitoring Program

Term	Definition
FP	Fully Protected
FPE	Federal Proposed Endangered
FPPA	Farmland Protection Policy Act
FPT	Federal Proposed Threatened
FRA	Federal Responsibility Area
FT	Federal Threatened
GHG	Greenhouse Gas
GIS	Geographic Information System
GP	General Plan
GPS	Global Positioning System
GWh	Gigawatt-hours
HAZNET	Facility and Manifest Data
HCD	California Department of Housing and Community Development
HCP	Habitat Conservation Plan
HDPE	High-density Polyethylene
HIST	Historical
HMTA	Hazardous Materials Transportation Act
HRTP	Historical Resources Treatment Plan
HVAC	Heating, ventilation, and air conditioning
HWTS	Hazardous Waste Tracking System
ILA	Inline Amplifier
IPCC	Intergovernmental Panel On Climate Change
ISO	International Organization for Standardization
kV	Kilovolt
kWh	Kilowatt-hours
LCAPCD	Lassen County Air Pollution Control District
LF	Landfill
LI	Low Intensity
LOS	Level of Service
LQG	Large Quantity Generator
LRA	Local Responsibility Area
LRMP	Land and Resource Management Plan
LTS	Less than Significant Impact
LTSM	Less than Significant Impact with Mitigation
LU	Land Use
LUST	Leaking Underground Storage Tank
MBTA	Migratory Bird Treaty Act
MC	Managed Care Overlay District
MCAB	Mountain Counties Air Basin
MCAPCD	Modoc County Air Pollution Control District
MJUSD	Modoc Joint Unified School District
ML	Local Magnitude
MLD	Most Likely Descendant
MP	mile post

Term	Definition
MRZ	Mineral Resource Zone
MSL	Mean Sea Level
MWh	Megawatt-hours
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Planning
NCO	Nevada, California, Oregon Railway
NE	Northeast
NEIC	Northeast Information Center
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NI	No Impact
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOA	Notice of Approval or Naturally Occurring Asbestos
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NO_X	nitric oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSAQMD	Northern Sierra Air Quality Management District
NWR	National Wildlife Refuge
O_3	ozone
OFG	Open Space Forestry and Grazing
OHP	California Office of Historic Preservation
OHV	Off-Highway Vehicle
OHWM	Ordinary High-Water Mark
OPR	Office of Planning and Research
OS	Open Space
OSHA	Occupational Safety and Health Administration
PAL	Project Area Limits
PBDB	Paleo Biology Database
PCAPCD	Placer County Air Pollution Control District
PCB	Polychlorinated Biphenyl
PCE	Passenger Car Equivalent
PEA	Proponent's Environmental Assessment
PFYC	Potential Fossil Yield Classification
PI	Plasticity Index
PM	Particulate Matter

Term	Definition
PM_{10}	Coarse particulate matter
$PM_{2.5}$	Fine particulate matter
PMP	Paleontological Mitigation Plan
PPV	Peak particle velocity
PRC	Public Resources Code
PRPA	Paleontological Resources Preservation Act
PS	Public Service
PSAP	Public Safety Answering Point
QSP	Qualified Stormwater Practitioner
RCNM	Roadway Construction Noise Model
RCRA	Resource Conservation and Recovery Act
RCRA-LQG	Resource Conservation and Recovery Act – Large Quantity Generator
ROG	Reactive Organic Gases
RR	Regulatory Requirements
RRP	Revegetation and Restoration Plan
RTESD	Ravendale-Termo Elementary School District
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RV	recreational vehicle
RWQCB	Regional Water Quality Control Board
SAID	United States Army Depot Fire Department
SB	Senate Bill
SCE	State Candidate Endangered
SCT	State Candidate Threatened
SDS	Safety Data Sheet
SE	State Endangered
SGMA	Sustainable Groundwater Management Act
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLIC	Spills, Leaks, Investigations, and Cleanups
SMARA	Surface Mining and Reclamation Act
SMARTS	Storm Water Multiple Application and Report Tracking System
SMGB	State Mining and Geology Board
SO_2	sulfur dioxide
SO_X	sulfur dioxides
SPCC	Spill Prevention, Control, and Countermeasure Plan
SR	State Route
SRA	State Responsibility Area
SSC	California State Species of Special Concern
ST	State Threatened
STP	Shovel Test Probes
SU	Significant, Unavoidable
SWEEPS	Statewide Environmental Evaluation and Planning System
SWF	Solid Waste Information System

Term	Definition
SWF/LF	Solid Waste Information System/Landfill
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWRCY	Recycling Facilities in California Database
TAC	toxic air contaminant
TCR	Tribal Cultural Resource
TMDL	total maximum daily load
TMP	Traffic Management Plan
TPZ	Timberland Production Zone
TU	Test Units
UCMP	University of California Museum of Paleontology
US	United States Highway
USACE	United States Army Corps of Engineers
USC	United States Code
USCD	United States Climate Data
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
WBWG	Western Bat Working Group Priority High and/or Medium
WDID	Waste Discharge Identification
WEAP	Worker Environmental Awareness Program
WL	State Watch List
WRP	Wetlands Reserve Program

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1.0 INTRODUCTION

1.1 Purpose of the Draft EIR

This Draft Environmental Impact Report (DEIR) identifies and evaluates the potential environmental impacts associated with the implementation of the Prineville to Reno Fiber Optic Project (Project), which entails construction and operation of an approximately 194-mile fiber optic line and associated infrastructure within Modoc, Lassen, and Sierra counties, California. The Project is the California portion of a 433.8-mile fiber optic line from Prineville, Oregon to Reno, Nevada.

As described in California Environmental Quality Act (CEQA) Guidelines Section 15121(a), an EIR is an informational document that informs agency decision makers and the general public of the potentially significant environmental impacts of a project, identifies ways to minimize the potentially significant impacts, and describes and analyzes a reasonable range of alternatives to the project. CEQA requires that an EIR be prepared by the agency with primary responsibility over the approval of a project (the Lead Agency). As Lead Agency, the California Public Utilities Commission (CPUC) has prepared this DEIR in accordance with CEQA (Public Resources Code [PRC] Sections 21000 et. seq.) and the Guidelines for the Implementation of CEQA (California Code of Regulations (CCR), Title 14, Sections 15000 et seq.).

This DEIR is intended to provide information to the CPUC, other public agencies, and the general public regarding the potential direct, indirect, and cumulative environmental impacts associated with the Proposed Project. Public agencies are charged with the duty to consider and avoid or minimize environmental impacts of proposed development, where feasible, and are obligated to balance a variety of public objectives including economic, environmental, and social factors in their decision-making. The CPUC has determined that an EIR is the appropriate CEQA documentation due to the potential for significant environmental impacts that could result from approval of the requested actions and development of the Proposed Project.

This DEIR evaluates the existing environmental conditions in the area, analyzes potential environmental impacts caused by the implementation of the Project, and identifies feasible mitigation measures that would avoid or minimize potentially significant impacts. CEQA requires a Lead Agency neither approve nor implement a project unless significant environmental impacts have been reduced to less than significant, or, in the alternative, if a Lead Agency approves the project even though significant impacts identified in the DEIR cannot be fully mitigated, the Lead Agency must state in writing the reasons for its action by adopting a Statement of Overriding Considerations (CEQA Guidelines Section 15091).

Other public agencies may use this DEIR to issue approvals and permits related to the Proposed Project. A list of the anticipated agency approvals required to implement the Proposed Project is provided in Table 1.1-1. The types of actions that these agencies, as well as other agencies not included on this list, may take in connection with the Proposed Project include, but may not be limited to the following:

- Approve, adopt, or amend applicable plans, policies, or programs
- Make findings of consistency

- Approve and issue permits
- Approve agreements
- Provide authorization and approval of funding
- Provide service

Table 1.1-1. Anticipated Agency Approvals and Reviews

Agency	Permit or Approval
CPUC	• Certification of the EIR • Approval of a Certification of Public Convenience and Necessity
U.S. Army Corps of Engineers (USACE)	• Section 404 Clean Water Act (CWA) Permit
Bureau of Land Management	• Easement • National Environmental Policy Act (NEPA) approval (NEPA Lead Agency)
Bureau of Indian Affairs (BIA)	• Easement
U.S. Forest Service (USFS)	• Easement
U.S. Fish and Wildlife Service (USFWS)	• Section 7 consultation
California Department of Transportation (Caltrans)	• Encroachment permit
California State Lands Commission (CSLC)	• Easement
California Department of Fish and Wildlife (CDFW)	• Easement • Incidental Take Permit • Streambed Alteration Agreement
California Regional Water Quality Control Board (CRWQCB)	• Construction general permit • Clean Water Act Section 401 Water Quality Certification
Modoc County	• Encroachment permit
Lassen County	• Encroachment permit
Sierra County	• Encroachment permit
City of Alturas	• Encroachment permit

1.2 Project Overview

Zayo Group, LLC (Applicant or Zayo), a California telephone corporation, proposes the construction and operation of an underground fiber optic network from Prineville, Oregon, to Reno, Nevada (Project, Proposed Project), spanning a total of 433.8 miles. Prineville, Oregon and Reno, Nevada are both network hubs and thus were considered as the end points, or logical termini, of the proposed fiber optic line. The CPUC has determined that the request from Zayo to install a new underground fiber optic cable would require the CPUC to undertake a discretionary action via the consideration of a Certification of Public

Convenience and Necessity (CPCN). The CPCN considered by the CPUC only covers the portion of the Proposed Project within the State of California. The portion of the Proposed Project that crosses California would extend approximately 194 miles through Modoc County (59.8 miles), including through the City of Alturas (1.6 miles), then through Lassen County (129.6 miles), and into the eastern edge of Sierra County (3.1 miles) (Figure 1.2-1). The Proposed Project crosses through unincorporated communities in Modoc County, including New Pine Creek, Davis Creek, Ramsey, and Likely, as well as the City of Alturas. Within Lassen County, the Project traverses the communities of Sage Hen, Pinnio, Madeline, Brockman, Moran, Termo, Litchfield, Standish, Buntingville, Milford, and Doyle. In Sierra County, the Project does not pass through any cities or census-designated communities.

Along the majority of the route, conduit to house the new fiber optic cable would be buried using a combination of plowing or trenching construction techniques. Alternatively, horizontal directional drilling or other trenchless technology would be used to cross under water bodies and roads, and where necessary to avoid existing infrastructure or biological or cultural resources. For some water- or road-crossing locations, the conduit may be affixed to the side or underside of bridges. Ancillary equipment would be installed at three small buildings that would serve as Inline Amplifier (ILA) sites. Fiberglass vaults would be installed flush to the ground along the Project alignment to provide maintenance access and at splice locations. Construction staging areas would be located within the right-of-way adjacent to the Proposed Project alignment, and materials storage yards would be located at existing industrial or commercial space in Alturas, Madeline, Termo, and Standish. All construction activities would be conducted in compliance with Caltrans requirements and county longitudinal utility encroachment permit procedures. Zayo intends to install conduit beyond the immediate need of the current Project to ensure future capacity.

The fiber optic cable and associated ancillary equipment would be placed within existing Caltrans- and county-maintained roadway rights-of-way, and on private property. These existing rights-of-way range from 60 to 1,500 feet wide. No new or modified rights-of-way would be required to accommodate construction of the Project. Additionally, the Project would not change any existing land uses or displace any properties, and no temporary rights-of-way would be required. Easements will be obtained for underlying rights, including the CSLC, the Bureau of Land Management (BLM), the USFS, CDFW, and the BIA. Leases would be obtained for components located on private land.

1.3 Project Background

Zayo Group, LLC. has submitted Application (A.) 20-10-008 to the CPUC to modify an existing an existing CPCN. Because modification to an CPCN Certification is a discretionary action by the CPUC, review of the Project under CEQA is required. The CPUC reviews permit applications under two concurrent processes: (1) an environmental review pursuant to CEQA, and (2) the review of the project pursuant to Public Utilities Code Sections 1001 et seq. The CPUC is the CEQA Lead Agency for the Project because a discretionary approval will be required for issuance of a CPCN.

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Map Date: 9/24/2021
Base Sourtce: Streetmap USA (ESRI)

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Figure 1. Project Location

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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The CPUC granted Zayo a CPCN in 1998 (D.98-12-083). and documented compliance with CEQA with an Initial Study and Mitigated Negative Declaration (MND), referred to as Negative Declaration. . Because the Negative Declaration requires the CPCN-holder to petition CPUC for modification of its CPCN in the event that its proposed project extends beyond the existing utility ROW into other rights of way, such as roads, in which the fiber optic cable is to be laid, Zayo submitted an application in October 2020 for modification of its CPCN (Petition for Modification), per the CPUC's Rules of Practice and Procedure Rule 16.4, to authorize construction of the Proposed Project.

1.4 Environmental Review Process

In accordance with the CEQA Guidelines, CPUC, as Lead Agency, prepared a Notice of Preparation (NOP) for an EIR for the Proposed Project. A copy of the NOP is provided in Appendix A. CPUC distributed the NOP for review and comment to the State Clearinghouse and interested parties for a 30-day comment period from March 8 to April 8, 2021. Letters received from agencies and the public during the scoping period are provided in Appendix A. During the scoping period, a virtual scoping meeting was held via Zoom on March 24, 2021.

Based on the analysis contained in the Initial Study, this DEIR analyzes in detail the environmental impacts of the Proposed Project on the following environmental factors:

- Aesthetics
- Agriculture and Forestry
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology, Soils, Paleontology
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

1.5 Draft EIR Organization

This DEIR is organized as follows:

- The **Summary** provides summary information on the Project location and setting, Project characteristics, areas of controversy and issues to be resolved, Project alternatives, and a summary of impacts and mitigation measures.

- **Section 1.0** of the DEIR provides an introduction to the Proposed Project, the purpose of the DEIR, a description of the organization of the DEIR, the intended uses of the PEIR, and a description of the public review process.
- **Section 2.0** provides a description of the Project location, Project objectives, and the elements of the Proposed Project.
- **Section 3.0** provides the environmental analysis of the Proposed Project. This includes the description of the regulatory background, environmental setting (existing conditions), the analysis of environmental impacts, and a discussion of mitigation measures to reduce or eliminate any significant environmental impacts.
- **Section 4.0** addresses other aspects of compliance with CEQA including a description of significant and unavoidable adverse impacts, effects found not to be significant, significant irreversible environmental changes, and growth-inducing impacts.
- **Section 5.0** discusses the alternatives considered and rejected, alternatives considered and analyzed, and potential environmental impacts of implementing alternatives to the Proposed Project, including the No Project Alternative. This chapter also identifies the Environmentally Superior Alternative in accordance with CEQA Guidelines Section 15126.6(e)(2).
- **Section 6.0** provides the references used to prepare the EIR.
- **Section 7.0** provides a list of the DEIR preparers.
- **Appendices** contain information that supplements or supports the DEIR.

1.6 Documents Incorporated by Reference

An EIR may incorporate all or portions of any publicly available document by reference (CEQA Guidelines Section 15150). The following documents are available for public review at https://ia.cpuc.ca.gov/environment/info/ecorp/prineville/index.html and are hereby incorporated by reference into this EIR:

- Proponent's Environmental Assessment (PEA), Zayo Prineville to Reno Fiber Optic Line Project, September 2020, revised April 2021
- Application of Zayo Group, LLC (U-6102-C) for Modification of Its Existing Certificate of Public Convenience and Necessity, October 2020

2.0 PROJECT DESCRIPTION

2.1 Project Location and Setting

2.1.1 Project Location

Zayo Group, LLC (Applicant), a California telephone corporation, proposes to construct and operate the Prineville to Reno Fiber Optic Project (Project). The Proposed Project segments located within California subject to the jurisdiction of the California Public Utilities Commission (CPUC) would extend approximately 194 miles from the California-Oregon border, across Modoc County (59.8 miles) and the City of Alturas (1.6 miles), through Lassen County (129.6 miles), and into the eastern edge of Sierra County (3.1 miles) before crossing into Nevada (Figure 1.2-1 in Chapter 1.0). The Proposed Project would cross through unincorporated communities in Modoc County, including New Pine Creek, Davis Creek, Ramsey, and Likely, as well as the City of Alturas. Within Lassen County, the Project would traverse the communities of Sage Hen, Pinnio, Madeline, Brockman, Moran, Termo, Litchfield, Standish, Buntingville, Milford, and Doyle. In Sierra County, the Project would not pass through any cities or census-designated communities.

The majority of the Proposed Project alignment (185.6 miles) would be within the U.S. Highway 395 (US 395) right-of-way, which is managed by Caltrans. A portion of the line between the communities of Standish and Buntingville in Lassen County, California, would follow the county roads Standish Buntingville Road (Lassen County Road A3) for 7.35 miles and Cummings Road for 1.15 miles before returning to the right-of-way parallel to US 395. Staging areas, materials storage areas, and Inline Amplifiers (ILAs) would be located on private land outside of the rights-of-way.

Approximately 46 miles of the Project alignment would pass through lands managed by a federal government agency; 8.8 miles would be on California state lands and the remaining 139.4 miles would pass through private or local municipal landholdings. All of the Project alignment would be within the right-of-way for US 395 (185.6 miles) or Lassen County roads (8.5 miles). Table 2.1-1 summarizes the jurisdictions crossed by the Project alignment.

Table 2.1-1. Jurisdictions Crossed by the Fiber Optic Line

Jurisdiction	Linear Miles of Fiber Optic Line
Federal	
Bureau of Indian Affairs	6.5
Bureau of Land Management	38.5
U.S. Fish and Wildlife Service	1.0
Subtotal Federal Jurisdiction	*46.0*
State*	
California Department of Fish and Wildlife	6.2

Table 2.1-1. Jurisdictions Crossed by the Fiber Optic Line	
Jurisdiction	**Linear Miles of Fiber Optic Line**
California State Lands Commission	2.6
Subtotal State Jurisdiction	*8.8*
Local (not Federal or State)	
Unincorporated Modoc County	46.8
Unincorporated Lassen County	89.6
Unincorporated Sierra County	1.3
City of Alturas	1.6
Subtotal Local Jurisdiction	*139.3*
Total	**194.1**

Note: *The portion of the Project alignment within US 395 (185.6 miles) is owned or managed by Caltrans. US 395 crosses multiple jurisdictions, as summarized on this table. Approximately 8.5 miles of the alignment in Lassen County is within County roads.

2.1.2 Land Use Setting

As described above, the Project traverses Modoc, Lassen, and Sierra counties, mostly within existing roadway rights-of-way. The land uses in the vicinity of the Proposed Project within each county are described below and shown on Figures 2.1-2 through 2.1-5.

2.1.2.1 Modoc County

Beginning at the Oregon- and California state boundary, the Project alignment traverses nearly 60 miles through adjacent lands designated as very-low- and low-density residential, agricultural, open space and public lands, and urban reserve (in the City of Alturas and the community of Likely) (Figures 2.1-1 through 2.1-3). The Modoc National Forest, which covers the majority of Modoc County, borders the Project alignment on both the east and west. Additionally, the Project alignment passes east of and adjacent to Goose Lake near the northern portion of the county and the California Historic Trail. US 395 passes directly through the center of the City of Alturas, where land uses include smaller rural and farming residences as well as businesses and commercial structures closer to downtown.

The Project would be located entirely within existing roadway right-of-way within Modoc County. One In-Line Amplification (ILA), one staging area, and one potential material storage yard location would be located outside of the existing roadway right-of-way. The ILA and staging area would be located in the City of Alturas on land within a generalized land use designation of low density residential. The material storage yard location would be located in the unincorporated community of Likely on land designated as urban reserve.

2.1.2.2 Lassen County

Most of the Project alignment (approximately 130 miles) is within Lassen County. The majority of Lassen County is characterized by forest-covered mountains and plateaus roughly covering the western one third of the county, and rangeland and foothill environments covering the eastern two thirds of the county. Generalized land uses near the Project are shown on Figures 2.1-3 through 2.1-5.

As it enters Lassen County the Project alignment crosses adjacent to agricultural lands and smaller areas zoned as very-low-residential- and medium-residential-designated land until just before reaching the community of Standish, which includes lands designated as planned development, very-low-residential, and low-residential. These designations continue until reaching the community of Milford, which contains some medium-residential land, but then turns back into agricultural lands. The Project alignment would pass to the west of Honey Lake between Janesville and Milford.

The northern portion of Lassen County also contains some of the Modoc National Forest lands, which borders US 395 on both the east and the west, and the Plumas National Forest that borders Lassen County in the south, starting near the community of Janesville. The community of Doyle also contains some medium-residential, very-low-residential and low-residential designated lands. Land uses near the southern border of Lassen County mostly consist of agricultural lands. Additionally, several recreational trails are adjacent to US 395, including the Shaffer Mountain and Belfast Petroglyphs off-highway vehicle (OHV) trail near Litchfield and the California Trail, which passes through Susanville through to Nevada.

As with Modoc County, the Project alignment would be located entirely within existing roadway right-of-way within Lassen County, with the exception of two ILAs (Spanish Springs ILA and Herlong ILA), nine staging areas, and two material storage yard locations. The Spanish Springs ILA is within the road-right-of-way and therefore is within the highway commercial district. Additionally, nine staging areas in Lassen County would be located within planned development, low-density residential/planned development, and agricultural land uses. The material storage yard location would be placed within areas considered to be agriculture and very low-density residential land uses.

2.1.2.3 Sierra County

The smallest part of the Project alignment, approximately 3 miles, is within Sierra County. In general, Sierra County spans a wide variety of environments, including foothill areas in the west and high Sierra and mountainous environments in the east (near the Project). Few developed areas occur within the County, with the nearest city to the Project alignment, the City of Loyalton, located more than 11 miles west of the Project alignment. Similarly, the land uses adjacent to the Project within Sierra County are mostly open space and public lands. No communities are along the Sierra County portion of the Project alignment. Additionally, the Humboldt-Toiyabe National Forest is located south and west of US 395, before the Project enters into Nevada. Further, no ILA locations, staging areas, or material storage yards are proposed within Sierra County. Figure 2.1-5 displays the generalized land uses in Sierra County within 1 mile of the Project.

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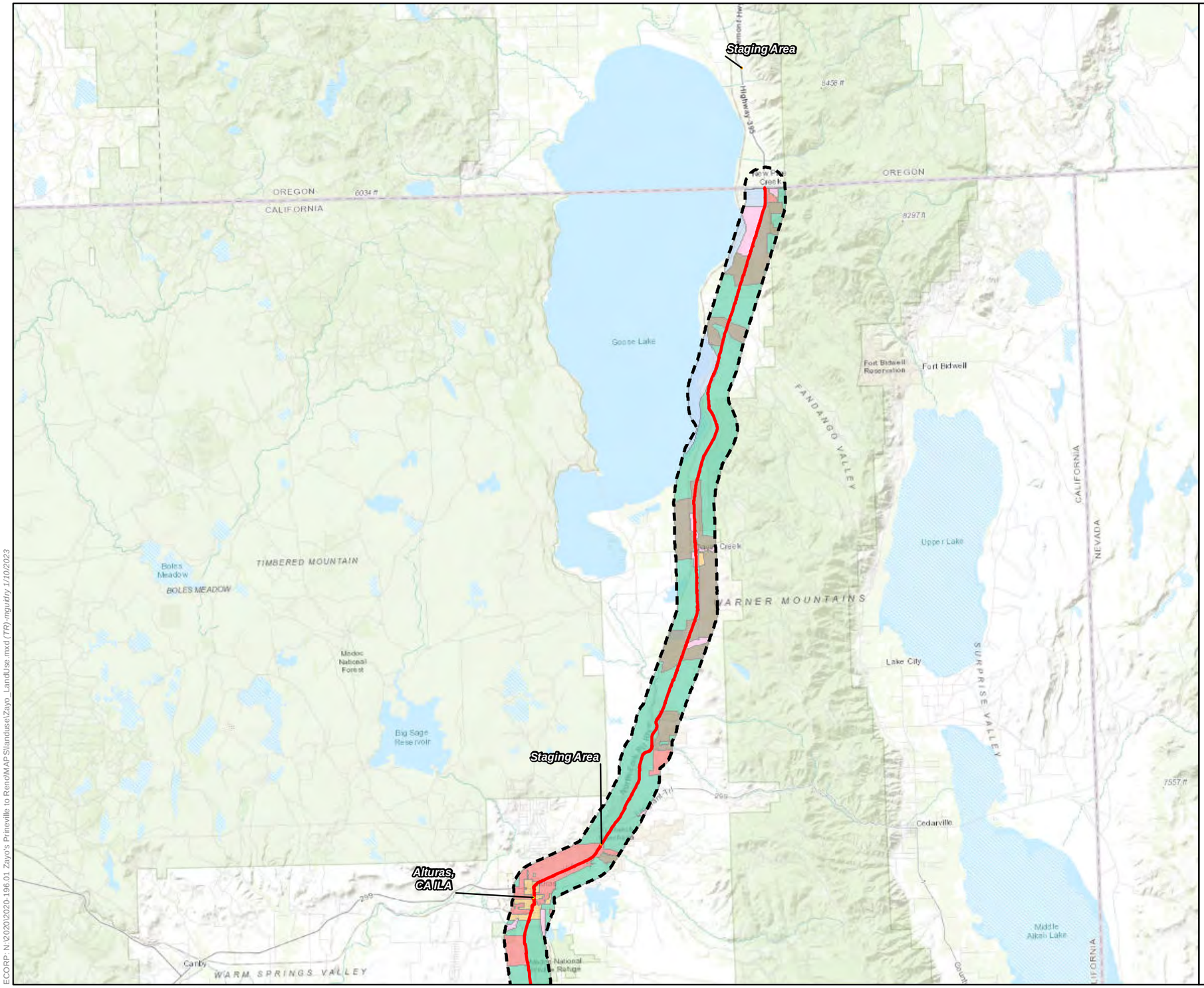

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Figure 2.1-1. Generalized Land Uses Map 1

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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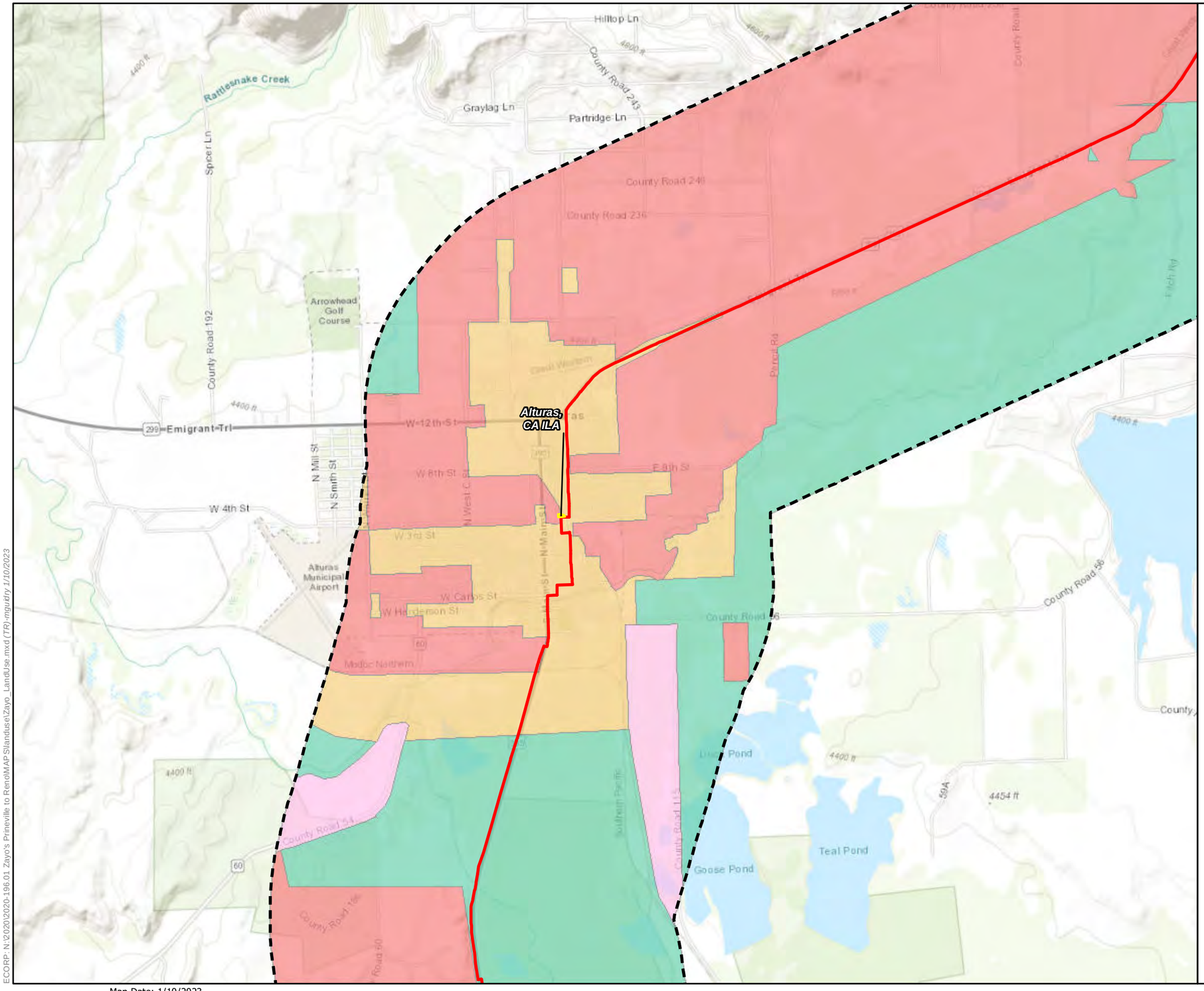

Map Features

- Alignment
- ILA Location
- 1-mile Buffer

Generalized Land Use

- Low Density Residential
- Medium Density Residential
- Open Space and Public Lands
- Urban Reserve

Source: Stantec
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong),

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Figure 2.1-2. Generalized Land Uses Map 2

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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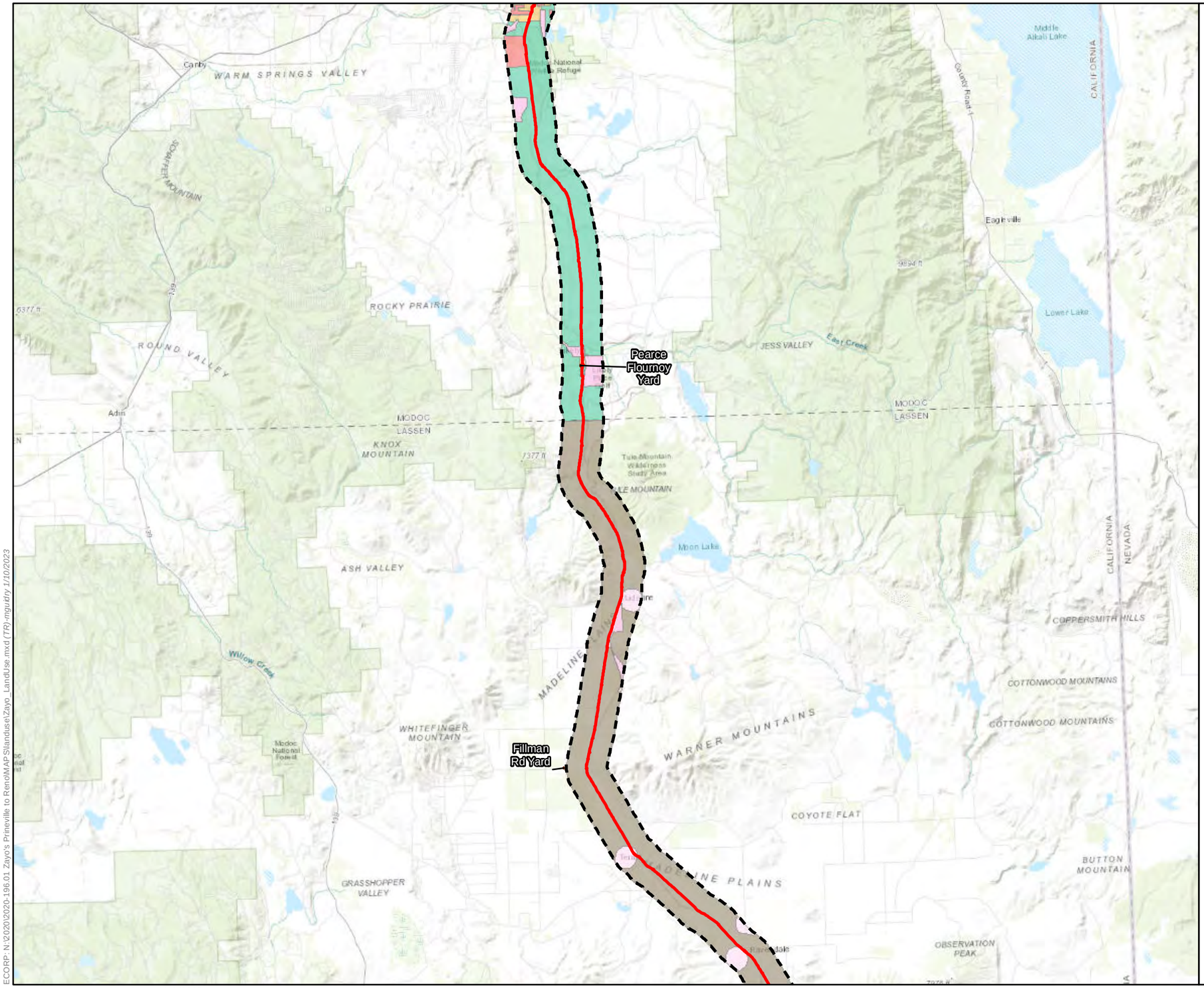


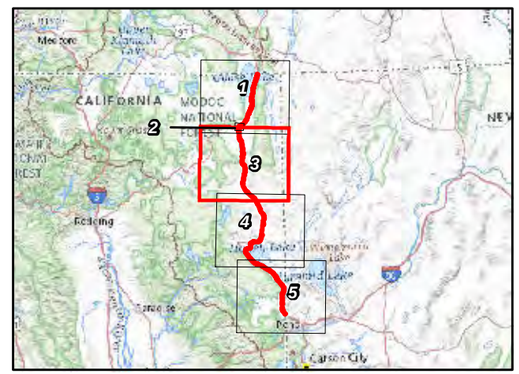
Map Features

- Alignment
- Laydown Yard
- 1-mile Buffer

Generalized Land Use

- Agriculture
- Low Density Residential
- Medium Density Residential
- Open Space and Public Lands
- Urban Reserve
- Very Low Density Residential

Source: Stantec
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong),



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Map Date: 1/10/2023

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Figure 2.1-3. Generalized Land Uses Map 3

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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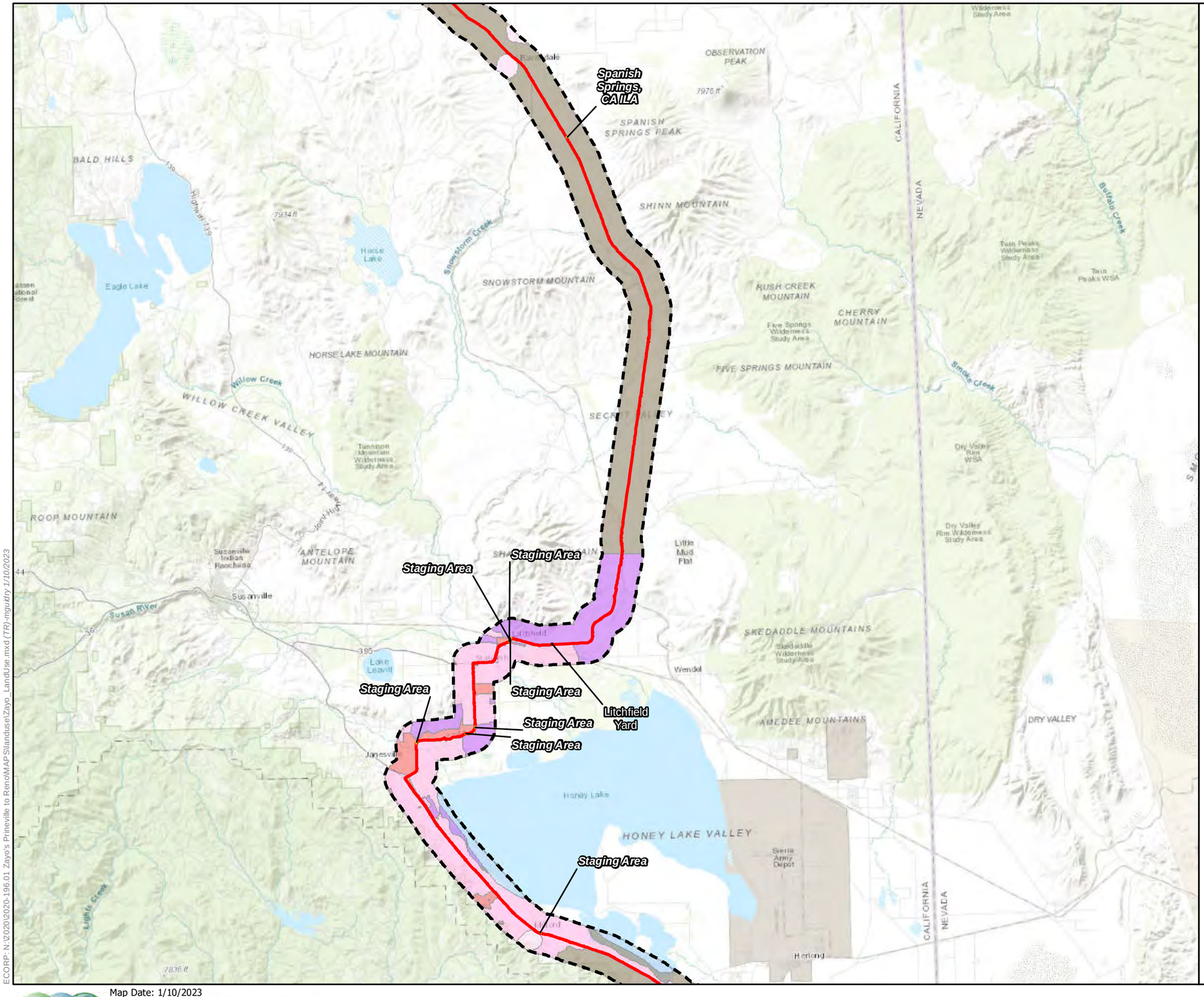

Map Features

- Alignment
- Staging Area
- Laydown Yard
- ILA Location
- 1-mile Buffer

Generalized Land Use

- Agriculture
- Low Density Residential
- Medium Density Residential
- Planned Development
- Very Low Density Residential
- Water

Source: Stantec
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong),

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Figure 2.1-4. Generalized Land Uses Map 4

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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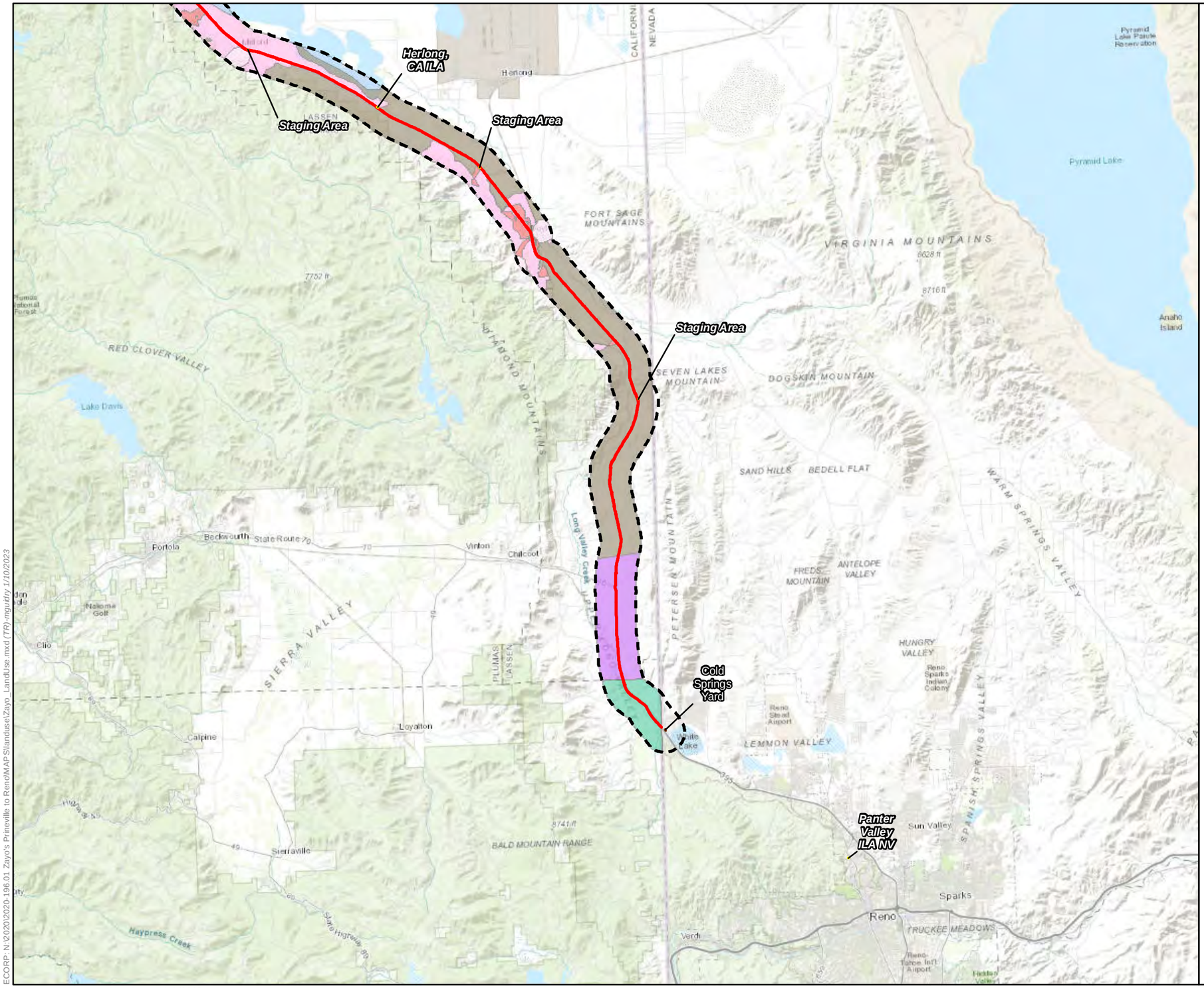

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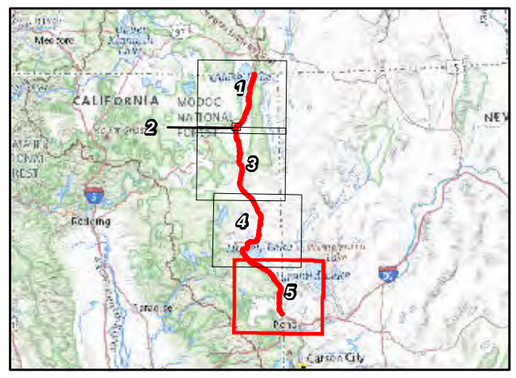

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Figure 2.1-5. Generalized Land Uses Map 5

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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2.2 Project Objectives

Project objectives are required to be provided in an EIR. CEQA Guidelines Section 15124(b) states that "[a] clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the Project and may discuss the Project benefits."

The objectives of the Project are as follows:

- Provide connectivity for major California business between regional hubs in Nevada and Oregon, for which connectivity is of major importance to a significant number of the largest employers in California.
- Provide opportunities for improved quality of rural broadband in Nevada, California, and Oregon.
- Provide affordable broadband services to currently underserved communities.
- Remain within existing road rights-of-way to avoid or minimize impacts to undisturbed areas.
- Install a fiber optic trunk line cable buried underground to provide a secure and protected route.
- Avoid or minimize potentially significant impacts to environmental resources.

2.3 Project Description

The Project would involve construction of approximately 194 miles of underground, shielded fiber optic telecommunications cable and associated ancillary facilities in Modoc, Lassen, and Sierra counties in California (Figures 2.3-1 to 2.3-4). Section 2.3.1 briefly describes the Project components. Construction methods are described in Section 2.3-2, Project operations and maintenance is described in Section 2.4, and decommissioning activities are described in Section 2.5.

2.3.1 Project Components

2.3.1.1 Fiber Optic Cable

The fiber optic cable would be constructed within three protective 3.2-centimeter(cm) -diameter (1.25-inch-diameter) high-density polyethylene (HDPE) standard dimension ratio 11 conduits (the outside diameter is 11 times the thickness of the conduit wall). An additional conduit would be installed from the Oregon-California border to Davis Creek for a total of four conduits. A fifth and sixth conduit would be added from Davis Creek to Alturas, for a total of six. There would be five conduits total from Alturas to Standish. These additional conduits would remain empty and could receive cable at some point in the future; however, no expansions are currently planned. The Project would be constructed in one phase that would occur over six months. Construction methods are described in Section 2.3-2. The fiber optic network would be capable of a range of upload and download speeds depending on the customers and providers.

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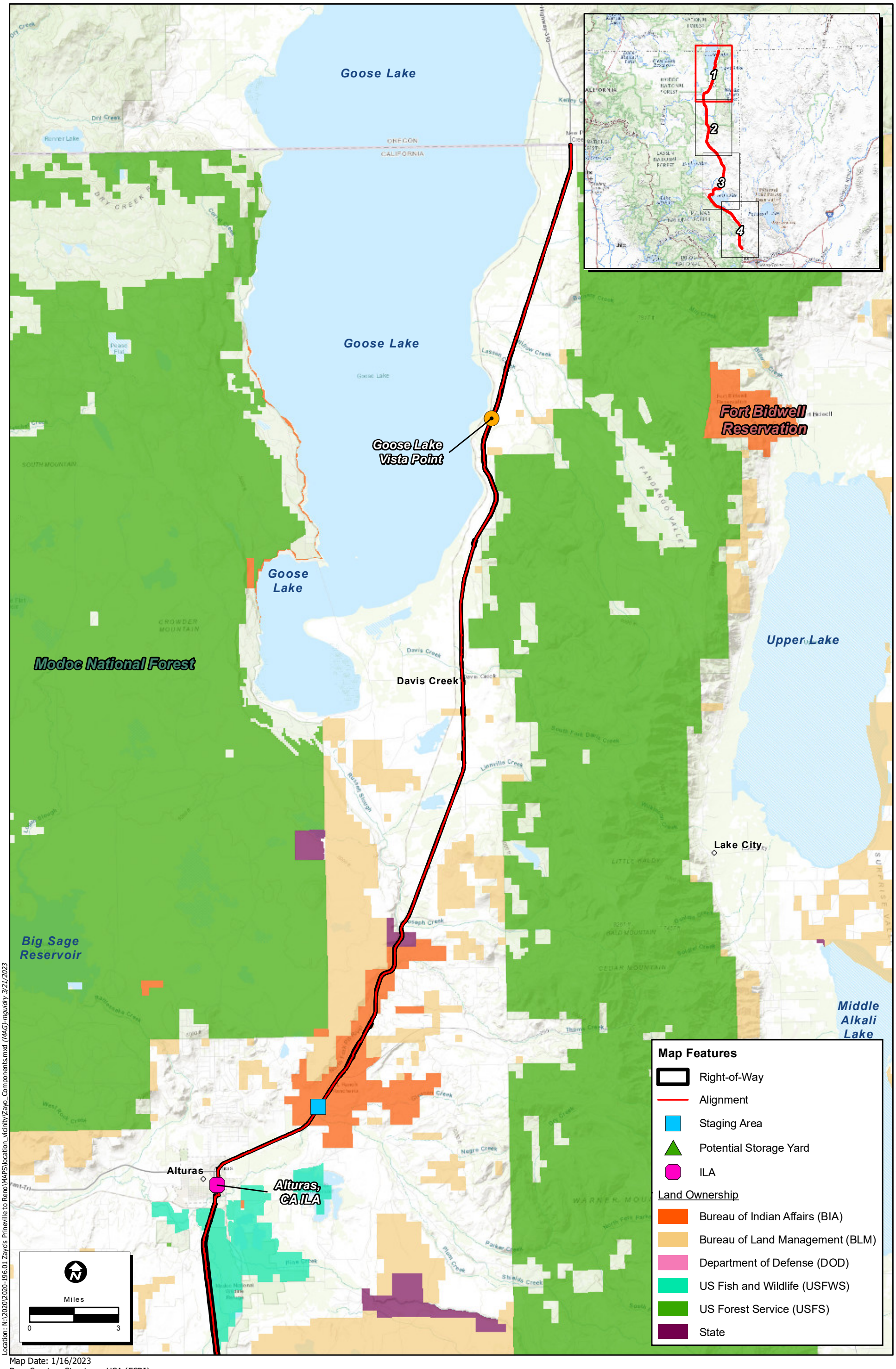

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USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natual Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June, 2022.

Map Date: 1/16/2023
Base Sourtce: Streetmap USA (ESRI)

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Figure 2.3-1. Project Components - Map 1

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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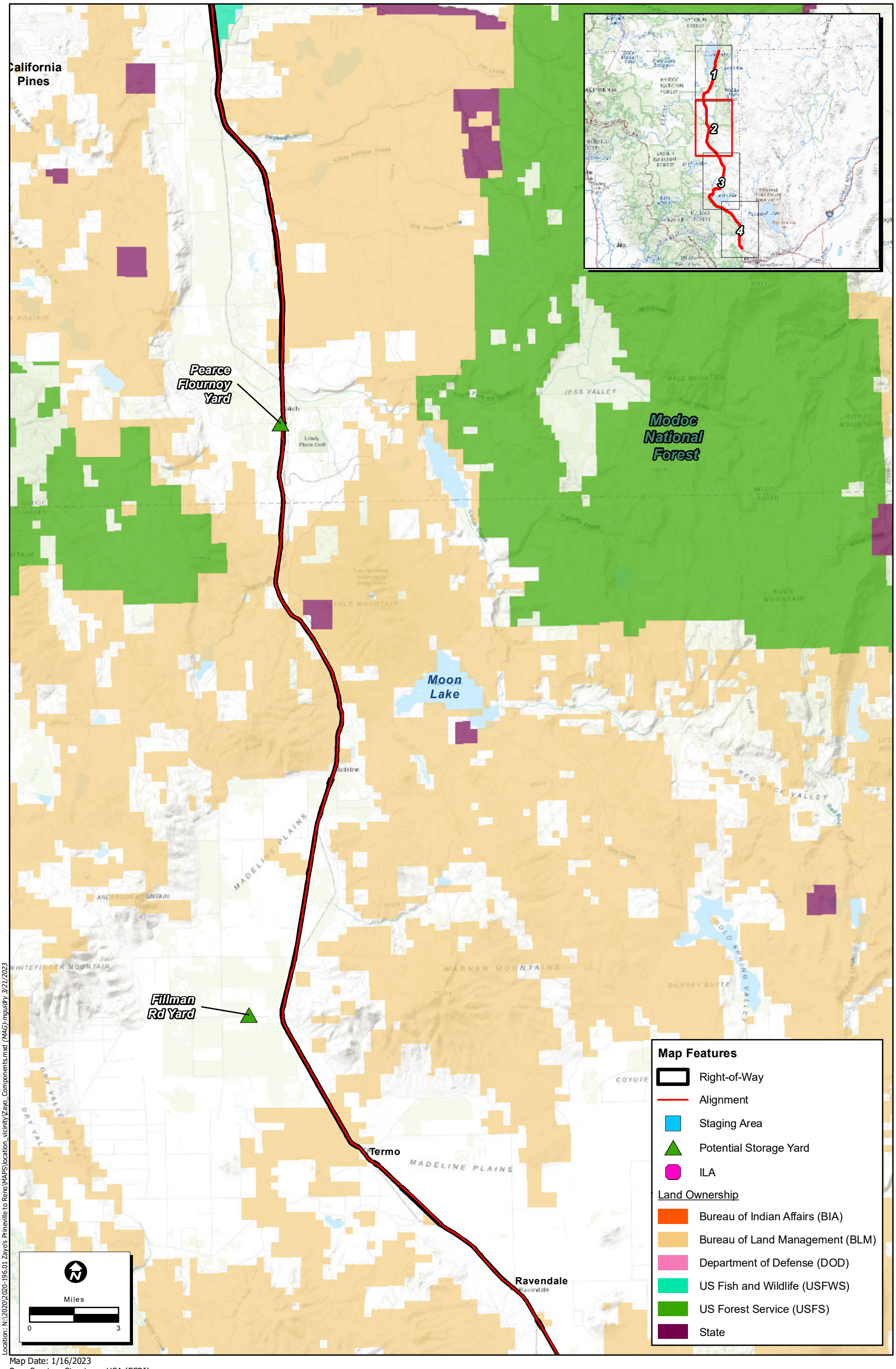

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USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June, 2022.

Figure 2.3-2. Project Components - Map 2

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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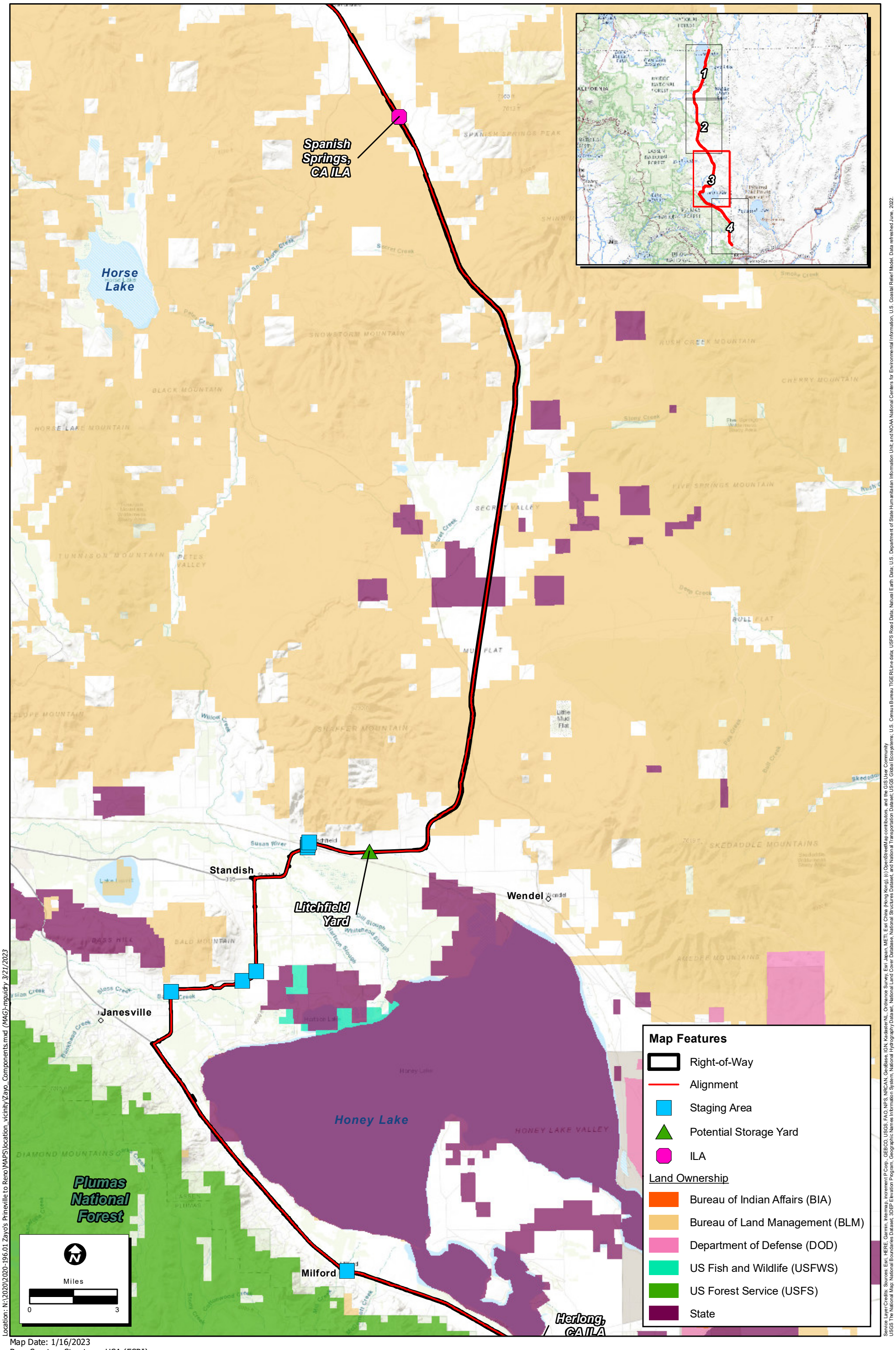

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Base Sourtce: Streetmap USA (ESRI)

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Figure 2.3-3. Project Components - Map 3

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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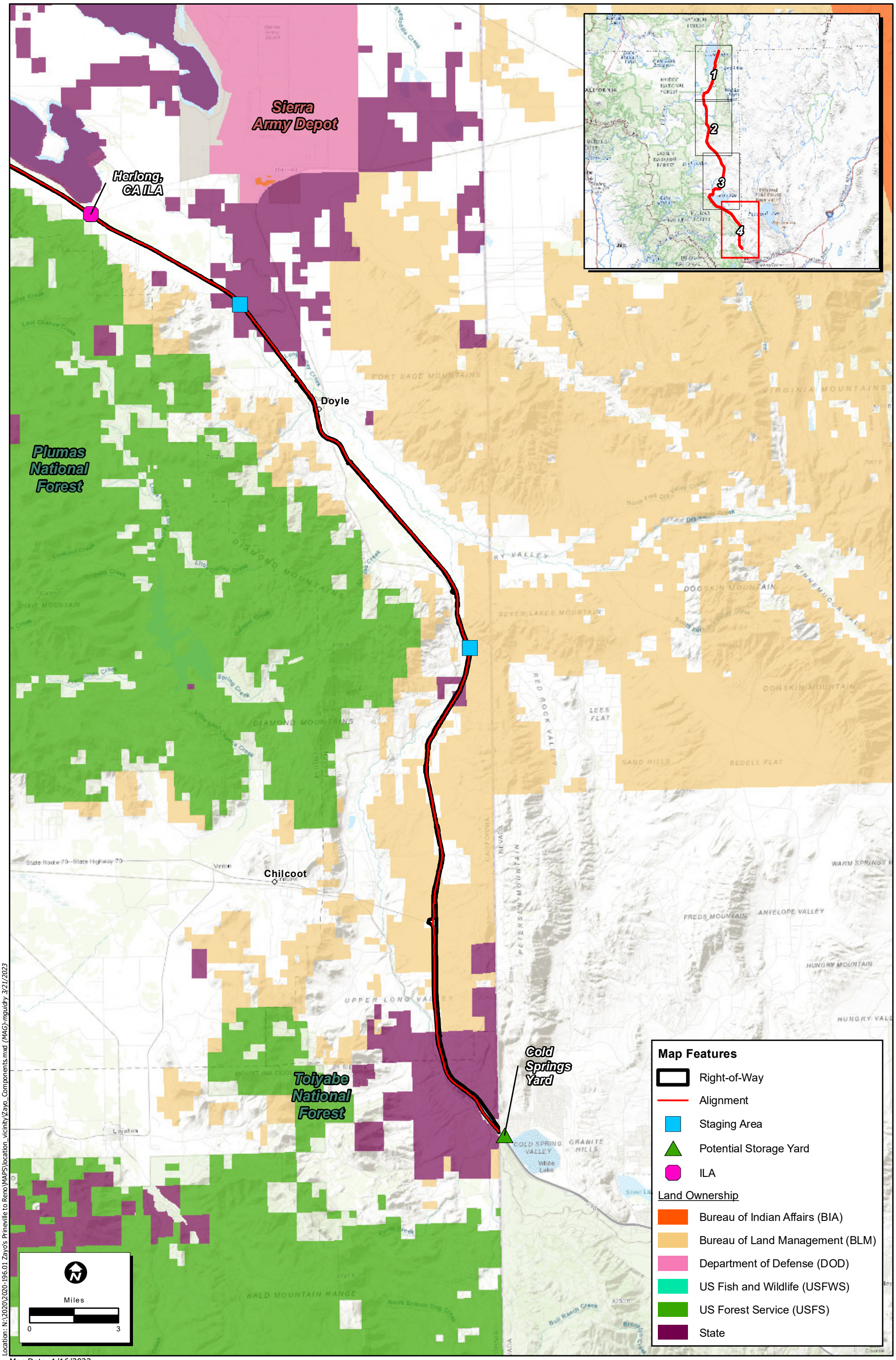

Map Date: 1/16/2023
Base Sourtce: Streetmap USA (ESRI)

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 2.3-4. Project Components - Map 4

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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2.3.1.2 In-Line Amplifiers

ILAs are the primary aboveground infrastructure related to the fiber optic line. ILAs consist of a collection of equipment that regenerates signals and provides tie-ins to regional wireless service providers. ILAs are currently planned to occupy properties in Herlong (0.78 acre), Spanish Springs (0.12 acre), and Alturas (0.25 acre). Each ILA would consist of a prefabricated concrete or steel regeneration hut erected on a concrete pad with a surrounding perimeter fence. The regeneration hut structure would be set back from the fence line, would measure approximately 420 square feet (0.01 acre), and would be approximately 11 feet in height

Each ILA would be equipped with an exterior motion-sensor floodlight, an air conditioner, and 100-kilowatt (kW) backup power generator. The interior of the ILA would house an electrical cabinet with control cabling and surge suppressor; a heating, ventilation, and air conditioning (HVAC) control panel; an exhaust fan; a security alarm, HVAC and generator fail alarms; and emergency exit lighting. All electrical components would be grounded, and a wired smoke detector would also be installed inside. Electrical power would be obtained through an underground tie-in to existing distribution lines. Tie-ins would occur at vaults. Figure 2.3-5 shows an example ILA. Figures 2.3-1, 2.3-3, and 2.3-4 provide locations of the three ILAs and Section 2.3-2 describes construction methods for the ILAs.

Figure 2.3-5. Example Regeneration Hut Housing an In-Line Amplifier

2.3.1.3 Vaults and Line Markers

A vault provides maintenance access to the underground fiber optic cable conduit and connections. Each vault would be flush to the ground and covered with a secure access door. The vaults would be spaced approximately every 2,500 to 3,500 feet along the fiber optic line. Vaults would be approximately 30 x 48 inches and would be installed in sets of three. The dimensions of each three-vault excavation area would be 15 feet long x 3 feet wide x 4 feet deep. The excavation area would be backfilled and compacted. Additional excavation space may be needed at splice locations or when transitioning from one installation method to another. Splice boxes (i.e., small, rectangular plastic or HDPE enclosures) would be installed within the vaults to hold splice connections.

Line markers, which would be co-located with the vaults along the Proposed Project corridor, are 4-foot-tall flexible fiberglass posts used to mark the location of the buried conduit. The exact location of the marker posts would vary depending on the environmental site conditions and vegetation. Figure 2.3-6 depicts a typical vault and line marker.

Figure 2.3-6. Typical Vault and Line Marker

2.3.2 Project Construction

2.3.2.1 Construction Timeline

The duration of construction activity would be approximately six months and is anticipated to begin in mid- to late-2023. Construction crews would typically work 8- to 10-hour days, 5 days per week during daylight hours. Saturday work may be required in some areas, as needed, but approval would be obtained from the appropriate regulatory agency in advance of the work, if necessary. No work is anticipated to be conducted on federal holidays and no work would be conducted at night or during Red Flag conditions.

Based on the proposed schedule, up to 11 crews would be working concurrently along the Proposed Project corridor. During construction, various activities would be occurring simultaneously, including conduit plowing, trenching, cable blowing or pulling, splicing, marker pole installation, and site cleanup and restoration. Work phases would be staggered such that cable installation crews would follow conduit

installation crews and site cleanup and restoration crews would follow marker pole crews. Staging areas and materials storage yards would be intermittently active as crews move through each work location.

2.3.2.2 Construction Access

The Proposed Project would be accessible using existing roadways and local arterials generally limited to US 395 and along small portions of Standish Buntingville Road and Cummings Road. No new access roads would be constructed, and no road or bridge modifications or stabilization activities would be required to accommodate Project construction. No overland access would be needed during construction or operation of the Project.

Emergency access routes would be maintained throughout Project construction. Construction vehicles and equipment are anticipated to access Project construction areas by using existing roadways and work would generally occur within the roadway right-of-way. Construction vehicles and equipment are expected to be staged or parked within Project Area rights-of-way, approved temporary construction easements, or alongside access roads. During and after construction, roads would continue to operate at the same acceptable level of service, with similar travel speeds and no capacity deficiencies.

2.3.2.3 Construction Staging Areas and Materials Storage Yards

Staging areas would be established within or close to the road rights-of-way in previously disturbed areas along the proposed construction route and would average approximately 130 x 75 feet in area. The vegetation may be mown in locations that contain sparse vegetation that could cause a fire hazard for parked vehicles or equipment. No grading, or extensive vegetation removal would be conducted; and no fencing, temporary electrical power lines, or lighting would be installed. There would be one staging area in Modoc County and nine staging areas in Lassen County (Figures 2.3-1 to 2.3-4).

Offsite materials storage yards would be located at existing, leased industrial or commercial space in Alturas, Madeline, Termo, and Standish, California. These yards would be used for storing materials and equipment; equipment fueling and maintenance; worker parking and training; and emergency muster points. The materials storage yards may also house temporary construction trailers and bathrooms. Locations chosen would be paved or well graded; the storage sites would ideally be fenced and spaced approximately 60 miles apart as shown on Figures 2.3-1 to 2.3-4. The maximum distance between the daily construction site and the closest material storage yard each way would be approximately 30 miles. The active Project construction location would continuously move, but trucks are not expected to travel more than 30 miles each way to get to the active construction site from the nearest material storage yard.

2.3.2.4 Construction Workforce and Equipment

The number of construction workers present on the Project alignment would vary each day. Construction activities would occur simultaneously across three construction spreads or locations. It is assumed that each construction spread would have the ability to mobilize a crew for each of the different fiber optic installation methods as described in Section 2.3.3 (e.g., plowing in, open trenching, directional boring, bridge attachments, or blowing and splicing). Therefore, up to 11 crews of six people (or a maximum of 66 construction workers) may be working at various locations at the same time. Onsite construction workers

would be supplemented by construction supervisors, construction managers, and trailer-based administrative personnel, maintenance and cleaning staff, and security guards.

Equipment would be operating 10 hours per day, 5 days per week. Table 2.3-1 summarizes construction equipment that would be used, assuming up to 11 crews would be constructing segments of the Project simultaneously. Descriptions of the construction methods are provided in Section 2.3.3.

Table 2.3-1. Summary of Construction Equipment

Construction Method (number of crews working simultaneously)	Equipment Type[1]	Equipment Number	Horsepower	Load Factor	Work Days[2]
Plowing In (3 crews)	Crawler Tractors	3	212	0.43	139
	Excavators	6	158	0.38	
	Off-Highway Trucks	3	402	0.38	
	Tractors/Loaders/Backhoes	3	97	0.37	
Open Trenching (2 crews)	Excavators	4	158	0.38	39
	Tractors/Loaders/Backhoes	4	97	0.37	
Directional Boring (4 crews)	Bore/Drill Rigs	4	221	0.5	150-200
	Tractors/Loaders/Backhoes	4	97	0.37	
Bridge Attachment (1 crew)	Excavators	1	158	0.38	150
Blowing/Splicing (1 crew)	Air Compressors	6	78	0.48	102

Notes: [1]All construction equipment would be diesel-powered.
[2]Work days may occur simultaneously throughout construction because it is assumed that each construction spread would have the ability to mobilize a crew for plowing in, open trenching, directional boring, bridge attachment, or blowing/splicing. Upper limit of 200 days for directional boring may be needed to avoid sensitive resources.

2.3.2.5 Site Preparation

Surveying and Staking

Environmentally sensitive areas adjacent to planned work areas would be staked or identified as exclusion areas prior to construction. The proposed placement for conduit may be marked ahead of installation with washable spray paint or other temporary markers to serve as an installation guide.

Utilities

Prior to mobilization, the contractor would call DigAlert in compliance with utility regulations to confirm the locations of existing utilities that may be within work areas. Prior to conduit installation, the contractor would locate existing utilities using a vacuum truck or hand tools to safely expose their location. The Project would not involve the relocation of any existing underground or overhead utilities.

Vegetation Clearing and Tree Trimming or Removal

In areas within the right-of-way that contain vegetation that could cause a fire hazard for parked vehicles or equipment, the vegetation would be mown or grubbed prior to conduit installation. No grading, tree removal or trimming, or extensive vegetation removal is anticipated to be required for conduit installation.

Work Area Stabilization

Prior to cable installation, sloped areas would be track-walked where treads from heavy equipment run parallel to the contours of the slope and act as mini terraces, reducing soil movement. Side-cast from trenching installation methods would be shaped into berms with wattles or covered should the spoils remain in place for more than one workday.

Grading

No grading would occur along the Proposed Project corridor. Minor grading may be required to provide a level surface for regeneration huts at ILA sites.

2.3.3 Fiber Optic Line Installation

Construction of the fiber optic line would primarily be performed using plowing or trenching. Alternatively, horizontal directional drilling would be used to cross water bodies and roads and where necessary to avoid sensitive or protected biological or cultural resources. For some water- or road-crossing locations, the conduit may be affixed to the side or underside of bridges.

Installation of the fiber optic line would involve four main steps:

1. *Conduit installation*: Protective conduit for the fiber optic cable would be installed by plowing, trenching, or directional boring, or by affixing conduit onto an existing bridge. The Area of Direct Impact (ADI) for the Proposed Project alignment would include a 20-foot buffer (10 feet on either side of the fiber optic line), but would not exceed the roadway right-of-way.
2. *Conduit proofing*: The conduit would be prepared to receive the fiber optic cable by a process known as proofing. This process involves forcing a cleaning sponge or plug through the conduit using compressed air to clean and lightly lubricate the inside of the conduit. The lubricant used during the conduit proofing process is a mineral-based oil containing silicone.
3. *Cable pulling and blowing*: The fiber optic cable would be blown into and pulled through the conduit using a pulling tape that is blown through the conduit. The cable pulling tape would be attached to the leading end of the fiber and pulled, while compressed air would be used to blow the cable into the conduit.
4. *Ancillary facility construction*: Construction of vaults and ILAs would occur concurrently with conduit installation.

The construction method used to install conduit would include a combination of plowing, trenching, boring, and bridge hanging. It is anticipated that the majority of the conduit would be installed using plowing or trenching (approximately 186 miles). Approximately 7.6 miles of conduit would be installed using directional boring, and less than 0.5 mile would be attached to bridges. The Project construction sequence would include several construction locations, or spreads, operating concurrently, each with its own team or teams of construction workers and equipment. The fiber optic line would be placed as far away from the roadway edge of pavement as practicable to minimize possible disturbance to highway operations. Construction would result in up to 400 cubic yards (cy) of spoils (e.g., dirt or rock that results from excavation) related to the displacement of soil for installation of the vaults; however, soil would be balanced onsite wherever possible.

2.3.3.1 Conduit Installation

Plowing

In areas where soils are relatively free of rocks and directional boring is not required to avoid sensitive resources on or near the surface, *plowing in* construction techniques would be used for the conduit installations. This method would insert a plow shank into the ground to loosen soil at depths of approximately 36 to 42 inches. Soil disturbance from the plow shank would be approximately 12 inches wide. This method would simultaneously excavate and place the conduit in a single operation. As the plow shank moves forward, the conduit would be fed into the space created by the plow shank. Figure 2.3-7 depicts an example of the fiber optic conduit plowing method.

Figure 2.3-7. Typical Fiber Optic Conduit Plow

After the conduit is installed, a mid-size excavator would follow directly behind the plow shank to restore the ground surface to its original contour. A static road roller or a dozer would follow behind to ensure that

ground is sealed and compacted. As described above, each work area would be restored to pre-Project topography immediately following cable installation. Dewatering would likely not be needed because conduit would be installed at a depth shallower than the groundwater table. This method is the preferred installation method because it is fast and results in the least amount of ground disturbance; however, it requires soils to be relatively free of rocks or other obstructions. Based on preliminary field reconnaissance, this method would be appropriate in only small segments of the Project alignment. This method would not be used within any paved areas. If pre-treatment (e.g., ripping hard soil, removal of boulders) is required prior to plowing, temporary soil disturbance may extend to a width of 6 feet.

Trenching

In areas where soils are rocky, trenching techniques may be used for the conduit installation. Trenching would use an excavator to dig a trench from 36 to 42 inches deep for placement of the conduit. Excavated soil would temporarily be placed adjacent to the trench until the conduit is placed. If needed, a bulldozer equipped with a specialized single ripper would loosen the soil and rocks along the installation path ahead of the trenching excavator. Where soils are extremely rocky or bedrock is present, a rock hammer or rock saw may be required to prepare the ground before trenching. Conduit would be fed from a truck-mounted reel and laid directly in the bottom of the trench. The trench would then be backfilled by an excavator using the native soil that was excavated onsite, followed by a compaction machine that would restore the ground surface to its original contour. Material would be provided by an offsite source where native soil is not conducive for backfill. Excess or inadequate fill would be disposed of under the appropriate permit at a licensed offsite facility. Each work area would be restored to pre-Project topography immediately following cable installation. Dewatering would likely not be needed because conduit would be installed at a depth shallower than the groundwater table.

Each crew could typically install 500 linear feet of conduit per day using the trenching method. The total width of the Project alignment construction corridor (ADI) would be no more than 20 feet. The trench would be backfilled with native soil soon after conduit installation. Dust control measures would be implemented during both plowing and trenching to reduce fugitive dust.

Directional Boring

Directional boring is conducted by specialized drill equipment that places conduit by an underground drill-and-push method, which allows placement of conduit with minimal ground disturbance. This method is commonly used to install utility lines under waterbodies and beneath roads and in other areas where the avoidance of surface disturbance is desirable. For this Project, directional boring would be used to avoid or minimize encroachment into certain sensitive surface resources such as wetlands, waterbodies, and cultural sites. Figure 2.3-8 provides an example of directional boring equipment.

Directional boring machines are essentially horizontal drilling rigs with a steerable drill bit. Each directional bore begins with the creation of a pilot hole through which the drill bit is guided by the operator as it progresses along the desired boring path. After the pilot hole has been bored, conduit is attached to the end of the drill string and is pulled back through the bore. Bores would be of sufficient diameter to accommodate the 1.25-inch-diameter conduit, and the conduit would be generally placed at a depth of 36

to 42 inches below ground, except for in areas where greater depth is needed to avoid sensitive resources, where depths could be up to 30 feet below the ground.

Small launch (entry) and exit pits are needed on either side of the bore. The entry and exit pits would be 4 feet long x 1 foot wide x 1 foot deep (4 cubic feet) and would be accompanied by a ground-level setup area. The shorter the bore, the smaller the setup area (440 square feet for short bores, up to 3,600 square feet for large bores). Based on initial assessments of the geology along the Proposed Project corridor, the maximum length of the bore would be 1,250 feet, but the typical bore length would be 750 feet. Bores in excess of 1,250 feet would be split—one bore would originate from the northern side of the avoidance area and head south toward an exit pit. A second bore originating from the southern side of the avoidance area would head north and would use the same exit pit, effectively meeting in the middle. This exit pit would become a vault at which the two segments of cable would be joined so that the total bore length could be up to 2,500 feet long.

Figure 2.3-8. Example of Horizontal Drilling Rig and Conduit

Bores are accomplished using a nontoxic bentonite clay drill slurry, or mud, which serves several purposes: it lubricates the passage of the drill, cools and insulates the electronics in the drill head and rods, supports the walls of the bore to prevent collapse, and captures and transports excess soil (cuttings) to the exit pits. Entry and exit pits would catch drill slurry, groundwater ingress, and any rainfall that may occur during drilling. Straw wattle would be installed around the entry pit as secondary containment, and a vacuum truck and/or tank would be available onsite for clearing the pits post-bore. Following the installation of the conduits, the bore pits would be filled and compacted or converted to vaults.

Depth of bores beneath roads would depend on permit requirements but would typically be located 4 feet below the lowest point of the roadbed. Bores beneath water bodies would average between 4 and 10 feet but up to 15 feet below the water body bed. Bores beneath culverts would average 2 to 3 feet below the bed or approximately 4 feet below the water's surface. A potential frac-out can occur when there is an inadvertent release of drilling fluid. Such a release would be a potential concern when directional boring would occur under sensitive habitats or waterways. Frac-out would be prevented via best management practices (BMPs) such as using a thicker bentonite solution, which both better supports the bore walls during the bore and is less likely to escape through a fissure into the water body. In addition, Mitigation Measure HAZ-3, would require preparation of an accidental release prevention plan that would establish monitoring for a potential frac-out such as visual inspection of the bore path at all times during drilling operations and personnel stationed upstream and downstream of the bore path to monitor water conditions when water is flowing. Barriers can also be erected between the bore site and nearby sensitive resources prior to drilling, as appropriate to prevent potentially released material from reaching the resource. The plan would also establish protocols for reporting and clean-up in the event of a frac-out. Dewatering is not anticipated to be needed because conduit would be installed at a depth that is shallower than the groundwater table. A single crew can typically install 600 linear feet of conduit per day using the boring method in rock-free conditions and 300 linear feet of conduit per day for cobble or rocky conditions.

Bridge Attachment

Boring is the preferred method proposed for water body crossings. However, in areas where boring is not feasible, conduit would be attached to existing bridges. Prior to bridge work, the contractor would establish safe access points and traffic control measures to protect workers on the bridge. Anchors would be drilled and installed onto the side or underside of the bridge, and conduit would be placed into hangers at each of the anchor locations. Conduit would then be connected with couplers or would tie in at each end of the bridge. Alternatively, cable would be placed within existing conduit. Measures would be put into place to prevent construction debris (e.g., drillings, fasteners) from falling onto underlying roads or railroads, or into water bodies. Figure 2.3-9 provides examples of bridge attachment and Table 2.3-2 lists the bridges anticipated to be used for this construction method.

Figure 2.3-9. Examples of Bridge Attachment

Table 2.3-2. Locations of Conduit Bridge Attachments				
Location	**Length of Attachment (feet)**	**County**	**Post Mile**	**Caltrans Bridge Number**
Long Valley Creek	356	Lassen	28	07 0056
Long Valley Creek	211	Lassen	26.19	07 0057
Long Valley Creek	104	Lassen	15.87	07 0023
Long Valley Creek Overflow	135	Lassen	R21.34	07 0052
Dill Slough	341	Lassen	R71.17	07 0080
Susan River Overflow	310	Lassen	R71.92	07 0081
Susan River	268	Lassen	72.29	07 0034
South Fork Pit River	134	Modoc	3.73	03 0019
Juniper Overcrossing	205	Modoc	R15.06	03 0055
South Fork Pit River	268	Modoc	R16.52	03 0052
North Fork Pit River	121	Modoc	21.88	03 0023

2.3.3.2 Conduit Proofing

Conduit must be prepared prior to fiber optic cable insertion through a process called proofing. Proofing removes blockages or debris and enables the fiber optic cable to be inserted more smoothly, reducing potential damage to the cable. In some areas, major conduit blockages may require excavating the conduit and cutting and replacing the blocked section. Proofing also involves pulling a mandrel (a small metal or wooden device) through the conduit on a line to clear debris. Once the conduit is proofed, a pull and splice crew would pull in the fiber optic cable from vault locations.

2.3.3.3 Fiber Optic Cable Blowing and Pulling

Typically, fiber optic cable is installed into the conduit through a combination of pulling and blowing it through conduit via existing vaults. Cable may be pulled unidirectionally (e.g., from one vault to another in sequence) or bidirectionally (e.g., from a central vault to two other vaults in opposite directions). The method would be chosen based on site-specific variables related to the section of cable being pulled. To reduce friction between the cable and the conduit, a non-toxic mineral-based lubricant may be applied to the conduit interior and the cable itself.

Cable blowing is an alternative technique of fiber optic cable installation involving use of a blowing machine. This machine, consisting of a trailer-mounted compressor and 3-x-2-foot blower, is placed at a vault at the beginning or middle of the cable segment to be installed. The machine uses compressed air to blow the cable through the conduit. A lubricant may be applied to the inside of the conduit via a sponge prior to cable installation.

2.3.3.4 Ancillary Facility Construction

In-Line Amplifiers

In order to support wireless signal transmittal, three ILAs would be constructed along the Project alignment to serve as points of interconnection for local service providers. Each would consist of a prefabricated concrete or steel regeneration hut erected on a concrete pad. Vegetation clearing and minor grading may be required to level the site for the concrete slab, and soil stabilization would be achieved via track walking or plate compaction. ILAs would be placed on private property. ILA sites are currently planned in Herlong (0.78 acre), Spanish Springs (0.12 acre), and Alturas (0.25 acre). Electrical power would be supplied to each ILA by local carriers and backed up by batteries and/or an emergency generator. The huts would not be crewed but would be visited periodically to check on equipment and service parts. On such visits, maintenance workers would park on existing roadways.

Vaults

Vaults would be spaced approximately every 2,500 to 3,500 feet along the Project alignment, for a total of approximately 410 vaults. Vaults would be approximately 30 x 48 inches and would be installed in sets of three. The dimensions of each three-vault excavation area would be 15 feet long x 3 feet wide x 4 feet deep. The excavation area would be backfilled and compacted. Additional excavation space may be needed at splice locations or when transitioning from one installation method to another. Construction is estimated to result in up to 400 cy of spoils related to the displacement of soil for installation of the vaults; however, soil would be balanced onsite wherever possible. Splice boxes (i.e., small, rectangular plastic or HDPE enclosures) would be installed within the vaults to hold splice connections. Vaults would be covered by a secure hatch laid flush with the ground.

Line Markers

Line markers, which would be co-located with the vaults along the Project corridor, are 4-foot-tall, flexible fiberglass posts used to mark the location of the buried conduit. The marker posts would be placed above the buried conduit or can be offset as necessary to avoid sensitive resources or topographical limitations (e.g., rocks). Markers would be placed, to the extent possible, in unvegetated areas.

2.3.3.5 Construction Work Areas

Construction work areas would primarily occur within or adjacent to the existing right-of-way and would vary based on conduit installation method. Overall, all conduit installation activities would be encompassed within a work area with an average width of 20 feet. Soil disturbance on the surface from the plowing-in method is anticipated to be approximately 4 to 6 inches wide but may be slightly wider, and to a depth of up to 42 inches. If pre-treatment (e.g., ripping hard soil, removal of boulders) is required prior to plowing, temporary soil disturbance may extend to a width of 6 feet. Soil disturbance associated with trenching installation is anticipated to be approximately 12 inches wide and at a depth of up to 42 inches, and would require a work area approximately 8 feet wide along the alignment, based on terrain type and accounting for side-cast soils.

Work areas for directional boring would vary based on topography and environmental factors. Each bore would require excavation of a launch (entry) pit and exit pit approximately 3 feet wide by 10 feet long to allow for the entrance and exit of the bore. Directional bores can extend from approximately 50 feet to more than 2,500 feet. The minimum depth of the bore would be in compliance with requirements of the regulatory agencies. Following conduit installation, all temporary work areas would be restored to original conditions. Table 2.3-3 summarizes the temporary and permanent disturbance by project component and Table 2.3-4 describes the Project components by location. Power would be provided to the work areas via diesel generators if needed. No temporary power lines would be installed.

Table 2.3-3. Temporary and Permanent Disturbance Areas by Project Component

Component	Temporary Impact Area (Acres)	Permanent Impact Area (Acres)
Staging Areas	3.69	0
Material Storage Yards[1]	40.60	0
ILAs	0	1.15
Vaults/Markers[2]	0.20	0.42
Fiber Optic Line	463.34	0
Total	**507.83**	**1.57**

Notes: [1]Actual disturbance area would be less. Additional material storage yards have been evaluated to provide flexibility should any of the proposed yards prove impractical.
[2]Vaults and markers are located within the fiber optic line impact area, but the vaults and markers impact area has been calculated separately here and are not included in the fiber optic line disturbance area.

Table 2.3-4. Temporary and Permanent Disturbance Areas (Acres) for Project Components by Location

Location	Staging Areas (Temporary)	Material Storage Yards (Temporary)	ILAs (Permanent)	Vaults/Markers[1]		Fiber Optic Line (Temporary)
				Temporary	Permanent	
Roadway Right-of-Way (US 395 or Lassen County Roads)	0	0	0	0.20	0.42	470.22
Unincorporated Modoc County[2]	0.23	0	0	0	0	0
Unincorporated Lassen County[2]	3.46	20.77	0.90	0	0	0
Unincorporated Sierra County[2]	0	0	0	0	0	0

Table 2.3-4. Temporary and Permanent Disturbance Areas (Acres) for Project Components by Location

Location	Staging Areas (Temporary)	Material Storage Yards (Temporary)	ILAs (Permanent)	Vaults/Markers[1]		Fiber Optic Line (Temporary)
				Temporary	Permanent	
City of Alturas[2]	0	19.83	0.25	0	0	0
Total	**3.69**	**40.60**	**1.15**	**0.20**	**0.42**	**463.34**

Notes: [1] Vaults and markers are located within the fiber optic line disturbance area, but the vaults and markers impact area has been calculated separately here and are not included in the fiber optic line disturbance area.
[2] Areas located outside of a roadway right-of-way on private land.

2.3.4 Post-Construction Activities

2.3.4.1 Configuring and Testing

Project infrastructure would be configured, tested, and monitored remotely from the Applicant's system operations headquarters in Tulsa, Oklahoma. Routine maintenance checks would be performed by local contractors or Applicant staff, as appropriate. Maintenance staff would access Project infrastructure via existing roads. Routine maintenance activities would include checking aboveground infrastructure and stopping to open vault hatches.

2.3.4.2 Landscaping

Construction-related track-out would be removed from public roads via a street sweeper or by manually sweeping. No new landscaping would be required, but any private property such as fencing, landscaping, or driveways that is affected during construction would be restored or compensated in coordination with the property owner. No additional landscaping is proposed surrounding ILAs or ancillary features.

2.3.4.3 Demobilization

Construction debris would be loaded onto vehicles at the end of each workday and temporarily stored at materials staging yards or hauled directly to local waste management or recycling centers. Staging areas and materials storage yards would become inactive and demobilized as work progresses beyond them. Staging areas in the right-of-way that are being decommissioned would be cleaned of debris and fluid drips and lightly recontoured or recompacted if necessary. Materials, equipment, vehicles, and trailers would be removed from materials staging yards along with construction debris, trash, and construction-related signage. Yards would be cleaned, swept, and lightly recontoured or recompacted if necessary. If fencing were erected as part of the Project, the Applicant would coordinate its removal or preservation with the property owner.

2.3.4.4 Site Restoration

Construction activities and sequencing would occur such that cable would be laid, backfilled, compacted, and restored in a single pass, leaving no disturbed ground, open trenches, or loose sediments in each work area. Each work area would be restored to pre-Project topography immediately following cable installation. No changes to existing drainage patterns are anticipated, and thus no new permanent erosion control measures would be needed.

2.4 Operations and Maintenance

Operation and maintenance activities would be implemented along the Project alignment over the life of the Project (35 years). Project infrastructure would be monitored remotely from the Applicant's system operations headquarters in Tulsa, Oklahoma. Routine maintenance checks would be performed by local contractors or Applicant staff as appropriate. Maintenance staff would access Project infrastructure via existing roads. Routine maintenance activities would include checking aboveground infrastructure and stopping to open vault hatches. Ground disturbance during routine maintenance would typically be minor if it occurred at all and would center upon repair of cable conduits in the event of storm damage, landslides, or other emergencies. Most maintenance activities would take place within the right-of-way. The appropriate agencies would be contacted if maintenance activities are required outside previously authorized areas. No long-term vegetation disturbance, trimming, or maintenance is anticipated to be required during operations.

2.5 Decommissioning

After the end of the Project's expected lifespan (35 years), the Project would be decommissioned. During decommissioning, underground Project infrastructure would be abandoned in place. Above-ground components, such as regeneration huts, would be excavated to below ground level, disconnected from the underground conduit, backfilled, compacted, and restored to pre-construction conditions. Concrete pads would be broken up and removed and the areas restored to pre-construction conditions. Vaults would be cleared of equipment, backfilled, and compacted or paved, as appropriate. Marker poles would be removed or abandoned in place. Decommissioning work would be performed consistent with then-existing laws, ordinances, regulations, and standards.

2.6 Applicant Proposed Measures

The Applicant proposed many measures to minimize or avoid environmental impacts in its Proponent's Environmental Assessment filed with the CPUC (Stantec 2020). These measures were largely adopted as CPUC-mandated mitigation measures in the applicable resource sections in Chapter 3, with some additions and modifications. The mitigation measures provided in Chapter 3 of this DEIR supersede the Applicant-provided mitigation measures from the Proponent's Environmental Assessment.

3.0 ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION

3.1 Introduction

Chapter 3 of this DEIR provides separate sections for each environmental topic. Each section describes the environmental setting (existing conditions) and regulatory setting; direct, indirect, and cumulative impacts from the Proposed Project; and mitigation measures to reduce or avoid significant impacts.

As part of the scoping process described in Section 1.4, the CPUC prepared an NOP for an EIR on the Proposed Project and received comments on the scope of the EIR from interested agencies, organizations, and individuals (Appendix A). As a result of the scoping process, the CPUC determined that the environmental issue areas to be evaluated in the DEIR are:

- Aesthetics
- Agriculture and Forestry
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology, Soils, Paleontology
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Greenhouse Gas Emissions
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

3.1.1 Environmental Baseline

Pursuant to the State CEQA Guidelines (Section 15125(a)), the environmental setting used to determine the impacts associated with the Project normally is based on the environmental conditions that existed in the Project Area at the time the NOP was published. However, the CEQA Guidelines (Section 15125(a)) also says that where existing conditions change or fluctuate over time, a lead agency may define existing conditions by referencing historic conditions, conditions expected when a project becomes operational, or

projected future conditions beyond the date of initial project operations, if doing so would meet CEQA's objective of giving the public and decisionmakers the most accurate and understandable picture practically possible of the project's likely near-term and long-term impacts.

For purposes of this EIR, environmental baseline is generally defined as conditions that existed within the Project Study Area at the time of NOP circulation, or March 8, 2021. This provides the basis for the determination of the majority of Project impacts, i.e., the changes to those conditions brought about by Project construction and operation either directly or indirectly. When environmental baseline for an individual discipline is other than described above, the specific conditions and assumptions relied on for the issue area the treatment of that discipline are described.

3.1.2 Impact and Mitigation Measure Terminology

This DEIR analyzes the potential direct, indirect, and cumulative environmental impacts of the proposed Project. The determination of whether an impact is considered significant is based on specific significance criteria. Under CEQA, these criteria (also called thresholds of significance) are used to make a determination of significance for each environmental impact evaluated.

An adverse impact that exceeds the significance criteria is considered significant, and an impact that does not exceed the criteria is considered less than significant. The CEQA significance criteria used in this DEIR are based on CEQA's mandatory findings of significance (as summarized in State CEQA Guidelines Section 15065); the checklist presented in Appendix G of the State CEQA Guidelines in effect when the Draft EIR was prepared; and where appropriate, factual or scientific data and regulatory standards of federal, state, and local agencies as described in this DEIR. Impacts in this DEIR are classified as:

- *No Impact* – There would not be any change to the environment as a result of the project.
- *Less than Significant Impact* - A project impact is considered less than significant if it would not exceed the threshold of significance and therefore would not cause a substantial adverse change in the environment. No mitigation is required for a less-than-significant impact.
- *Less than Significant Impact with Mitigation* - A project impact is considered significant if it results in a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the comparison of the project's effects to the established thresholds of significance. Mitigation measures are identified, where feasible, to avoid, minimize, rectify, reduce, or compensate for significant impacts of the project, in accordance with the State CEQA Guidelines (Section 15126.4). If project impacts would be reduced to a less-than-significant level after the implementation of mitigation, the impact is classified as less-than-significant with mitigation.
- *Significant and Unavoidable Impact* - A project impact is considered significant and unavoidable if it would result in a substantial adverse change in the environment and if that impact would remain significant even after the implementation of mitigation. A lead agency can approve a project with significant unavoidable impacts if the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse effects. In this case, the

lead agency must adopt a statement of overriding considerations describing the specific reasons to support its action (State CEQA Guidelines Section 15093(b)).

3.1.3 Cumulative Impact Scenario

Section 15130(a) of the CEQA Guidelines requires a discussion of cumulative impacts of a project "when the project's incremental effect is cumulatively considerable." The 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." Cumulatively considerable impacts are defined in Section 15065(a)(3) of the CEQA Guidelines as 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."

Section 15130(b) of the CEQA Guidelines states

> "[t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided of the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact."

To analyze the cumulative impacts of the Project in combination with other expected projects, the amount and location of development expected to occur must be predicted. Section 15130(b) of the CEQA Guidelines allows two methods of prediction:

"Either:

(A) A list of relevant past, present and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

(B) A summary of projections contained in adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect…"

For this DEIR, the project list approach was used. A list of relevant past, present, and reasonably foreseeable future projects in the vicinity of the Project alignment is provided in Table 3.1-1.

Table 3.1-1. Past, Present, and Reasonably Foreseeable Projects within 2 Miles of the Project

Project Name	Approximate Location and Distance from the Project	Project Description	Project Status
Federal Projects			
Zayo Prineville-Reno Fiber Optic Project (portion within Oregon) Planning Agency: Oregon Department of Transportation	225.3 miles of the Zayo fiber optic line that runs through Oregon from Prineville to the California state line within the US 395 right-of-way.	Zayo is proposing to construct and operate an underground fiber optic network from Prineville, Oregon, to Reno, Nevada, spanning a total of 433.8 miles. The fiber optic cable would improve the quality of rural broadband in south-central Oregon, northeast California, and northwest Nevada. The project is spilt into three segments: the Oregon fiber optic line, the California fiber optic line, and the Nevada fiber optic line. The Oregon portion of the project would extend from Prineville, Oregon to the California State line and is approximately 225.3 total miles.	Project in environmental analysis phase as of January 2022. Construction timeline is unknown at this time; anticipated 2022 timeframe.
Zayo Prineville-Reno Fiber Optic Project (portion within Nevada) Planning Agency: Nevada Department of Transportation	14.6 miles of the Zayo fiber optic line that runs through Nevada from the California state line to Reno within the US 395 right-of-way.	Zayo is proposing to construct and operate an underground fiber optic network from Prineville, Oregon, to Reno, Nevada, spanning a total of 433.8 miles. The fiber optic cable would improve the quality of rural broadband in south-central Oregon, northeast California, and northwest Nevada. The project is split into three segments: the Oregon fiber optic line, the California fiber optic line, and the Nevada fiber optic line. The Nevada fiber optic line portion of the project would extend from the California State line to Reno, Nevada and is approximately 14.6 total miles.	Project in environmental analysis phase as of January 2022. Construction timeline is unknown at this time; anticipated 2022 timeframe

Table 3.1-1. Past, Present, and Reasonably Foreseeable Projects within 2 Miles of the Project

Project Name	Approximate Location and Distance from the Project	Project Description	Project Status
State Projects			
None			
Local Projects			
Class II and III Bikeway Improvements on US 395 Planning Agency: Lassen County	US 395 in Lassen County from Modoc County line to Sierra County line Adjacent to Project, within US 395 right-of-way	The Lassen County Bikeway Master Plan includes a proposed Class III bikeway facility from the Modoc County line to the Sierra County line as a regional and multi-modal bikeway connection. Improvements along US 395 would include improved signage and minor to moderate roadway improvements (i.e., widening).	Planning phase. No environmental analysis conducted for the project as of January 2022. Construction timeline unknown.
Woodcrest Real Estate Ventures Planning Agency: Lassen County	US 395 and Old Highway Road (also known as Carol Drive) Within 100 feet from US 395	Proposal to construct a 9,100-square-foot retail store off of Old Highway Road near Doyle. The subject parcels are zoned A-1 (General Agricultural District) and have *Extensive Agriculture* and *Scenic Corridor* land use designations in the Lassen County General Plan (1999). The Technical Advisory Committee conditionally approved Merger #2019- 008 on January 2, 2020, to merge the subject parcels. If this use permit is ultimately approved, the Applicant will cause a Certificate of Merger to be recorded in the Official Records of Lassen County in order to finalize the merger.	Project approved by Lassen County. Notice of Intent to Adopt a Negative Declaration circulated April 24, 2020. Public Review period ended May 25, 2020. Construction timeline unknown/unavailable as of January 2022.

Table 3.1-1. Past, Present, and Reasonably Foreseeable Projects within 2 Miles of the Project

Project Name	Approximate Location and Distance from the Project	Project Description	Project Status
Janesville Main Street Planning Agency: Lassen County Transportation Commission	Janesville Main Street, County Road 235 from the intersection of US 395 to the intersection of SR 36 Within 1 mile of the Project	In Janesville, along Main Street from the intersection of US 395 to the intersection of SR 36: • Construct class 1 bike path • Capital rehabilitation and overlay Main Street	Planning phase. No environmental analysis conducted for the project as of January 2022. Construction timeline unknown/unavailable.
30-space RV Park Planning Agency: Lassen County	Hallelujah Junction (just north of the intersection of Highways 395 and State Route [SR] 70) Approximate Distance from Project: Adjacent to US 395	Proposal to construct and operate a 30-space recreational vehicle park located at the intersections of US 395 and SR 70 in southern Lassen County, or just north of the Chevron gas station at said intersection. The subject parcels are zoned C-H (Highway Commercial District) and have a *Commercial* land use designation per the Hallelujah Junction Area Plan, 1984	Planning phase. Construction timeline unknown/unavailable.
Proposed Surface Mining Project Planning Agency: Lassen County	Highway 395, in the southern portion of Lassen County, approximately 6 miles north of the intersection of US 395 and SR 70	Geofortis Minerals, LLC submitted two Plans of Operation for the Ironclad and Cal Minerals Projects located within close proximity of one another, on the east and west side of US 395 approximately 5.5 miles north of the intersection of US Highway 395 and California SR 70 in Lassen County, California.	Planning phase. Construction timeline unknown/unavailable.

3.2 Aesthetics

This section describes the existing visual resources in the Project Area and assesses the visual impacts that could occur as a result of the Project's construction and operation. Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Scenic resources generally refer to natural landscapes that are valued by the general public for their beauty and grandeur. Depending on the extent to which a Project's presence will alter the perceived visual character and quality of the environment, visual or aesthetic impacts may occur. This section discusses the environmental setting for aesthetics, including the existing site conditions and regulatory setting, impacts that would result from the Proposed Project, and, if significant impacts are identified, the mitigation measures that would reduce these impacts. This section was based on information provided in the PEA (Stantec 2020).

3.2.1 Environmental Setting

The Project would install 194 miles of fiber-optic cable underground in California across Modoc County, including the City of Alturas, then through Lassen County, and into the eastern edge of Sierra County. The Proposed Project would cross through unincorporated communities in Modoc County, including New Pine Creek, Davis Creek, Ramsey, and Likely, as well as the City of Alturas. Within Lassen County, the project would traverse the communities of Sage Hen, Pinnio, Madeline, Brockman, Moran, Termo, Litchfield, Standish, Buntingville, Milford, and Doyle. In Sierra County, the Project would not pass through any cities or census-designated communities. The proposed alignment would mostly be within the existing Caltrans right-of-way of US 395, a major north-south highway that traverses northeastern California and ultimately connects to Oregon and Nevada. The Proposed Project alignment generally follows US 395 but also county roads between the communities of Standish and Buntingville in Lassen County, California, where it follows Standish Buntingville Road (Lassen County Road A3) for 7.35 miles and Cummings Road for 1.15 miles before returning to the Caltrans right-of-way parallel to US 395.

In this part of California, US 395 extends along the Modoc Plateau, a high, flat terrain that is bordered by the eastern slopes of the Cascade and Sierra Nevada mountain ranges and the western edge of the Great Basin PEA (Stantec 2020). The Modoc Plateau is characterized by arid basins and uplands, forested mountain ranges, alkaline lakes, and streams. These landscape features are visible from the highway throughout much of the Project Area. The separation of the Project Area into discrete landscape units is therefore not necessary. Specific landscape features include the forested mountain ranges of the Modoc and Plumas National Forests, Goose Lake, Honey Lake Basin, and the eastern Sierra Valley. Vegetation in the Project Area is typical of the high-desert landscape and mostly consists of sagebrush steppe, grasslands, and juniper woodlands. Elevations within the Project Area generally range from 4,000 to 6,000 feet above mean sea level (MSL).

The area immediately surrounding US 395 is sparsely populated and contains agricultural lands and open space. Existing aboveground transmission and distribution lines parallel either side of the highway. Development appears sparse throughout most of the Proposed Project area, outside of the comparatively concentrated communities along US 395, including the City of Alturas in Modoc County and the

unincorporated communities of Standish and Buntingville in Lassen County. Figure 1.2-1 shows the location of the Proposed Project alignment and provides the context of the regional and local landscapes.

3.2.2 Scenic Resources

The scenic resources in the area primarily consist of varying natural landscape features. While not officially designated as a state scenic highway by Caltrans, US 395 provides intermittent views of these features and is identified as a local scenic roadway by Modoc, Lassen, and Sierra Counties. The highway also provides locations to view these features at both designated scenic vista points, such as the one overlooking Goose Lake, and informal overlooks (e.g., pull-outs along US 395). In general, views from along the Project corridor show a foreground of grasslands and low-lying vegetation with a background of mountain ranges; however, a few areas of the Proposed Project alignment go through areas with dense trees. Figures 3.2-2 to 3.2-5 provide representative photographs of the various landscape features and scenic resources that are seen from along US 395 (Stantec 2020).

Figure 3.2-2. View from Northbound US 395 in Central Lassen County

Figure notes:
Capture time and date: September 17, 2019, 04:14 PM
Camera body and lens model: iPad (5th Generation) ISO 25
Camera height when taken: approximately 5-5.5 feet
GPS Coordinates: 40.53547, -120.26135
Lassen County Mile Post (MP) 89.4, facing northeast, within project right-of-way

Figure 3.2-3. View from Northbound US 395 in Northern Lassen County

Figure notes:
Capture time and date: September 17, 2019. 04:32 PM
Camera body and lens model: iPad (5th Generation) ISO 25
Camera height when taken: approximately 5-5.5 feet
GPS Coordinates: 40.68454, -120.29045
Lassen County MP 100.1, facing north, within project right-of-way

Figure 3.2-4. View from Northbound US 395 in Southeast Lassen County toward Honey Lake

Figure notes:
Capture time and date: September 17, 2019, 02:14 PM
Camera body and lens model: iPad (5th Generation) ISO 25
Camera height when taken: approximately 5-5.5 feet
GPS Coordinates: 40.13538, -120.26624 Lassen County MP 46, facing northeast, within project right-of-way

Figure 3.2-5. View from Southbound US 395 in Central Modoc County Near the Modoc National Wildlife Refuge

Figure notes:
Capture time and date: September 18, 2019, 11:38 AM
Camera body and lens model: iPad (5th Generation) ISO 25
Camera height when taken: approximately 5-5.5 feet
GPS Coordinates: 41.45451, -120.5498
Modoc County MP 19.2, facing east, within project right-of-way

3.2.2.1 Viewers and Viewer Response

Accepted visual impact assessment methods, including those adopted by the U.S. Department of Transportation, Federal Highway Administration (FHWA), establish sensitivity levels as a measure of public concern for changes to scenic quality. Viewer sensitivity, one of the criteria for evaluating visual impact significance, can be divided into high, moderate, and low categories. Factors considered in assigning a sensitivity level include viewer activity, view duration, viewing distance, adjacent land use, and special management or planning designation. Research suggests that certain activities tend to heighten viewer awareness of visual and scenic resources, while others tend to be distracting (Stantec 2020).

Aboveground Project structures, where present, would generally be aligned with US 395. Three ILAs are currently planned to occupy properties in Herlong (0.78 acre), Spanish Springs (0.12 acre), and Alturas (0.25 acre), California. Other aboveground components include line markers, which would be about 4 feet tall within the fiber optic line alignment. Therefore, the Project's area of potential visibility, or its viewshed, is the US 395 corridor. Because most of the Project would be underground, and the aboveground components are small, no formal viewshed analysis is necessary for this Project.

Viewer groups in the Project area include highway travelers and residential neighbors. Highway travelers, the largest viewer group, include people traveling on US 395 and county roadways, including Standish Buntingville Road (Lassen County Road A3) and Cummings Road. Highway travelers have views from the highway and include both local and regional travelers. Local travelers are familiar with the visual setting,

whereas regional travelers are less familiar as they do not use the roadway on a regular basis. As shown in Figures 3.2-2 to 3.2-5, views from US 395 consist of the varied landscape features that characterize this region, such as the arid basins and uplands, forested mountain ranges, alkaline lakes, and streams. Views of specific landscape features are brief, as drivers are travelling at highway speeds. Additionally, drivers are more focused on the road and views directly in front of the vehicle compared to passengers, who are more likely to view the surrounding landscape. Therefore, roadway traveler sensitivity to visual change is considered low to moderate.

Several residences are located along US 395, as are several established communities, including the City of Alturas in Modoc County and the unincorporated communities of Standish and Buntingville in Lassen County. Views of US 395 from residential areas vary throughout the Project area. In more rural areas, views consist of the agricultural lands and open space areas that are adjacent to US 395. In more developed areas, US 395 passes through commercial, residential, and industrial areas. Views of US 395 from residential areas may be of long duration. Therefore, residential neighbors' sensitivity to visual change is considered moderate to high.

3.2.3 Regulatory Setting

3.2.3.1 Federal

There are no applicable federal regulations or policies related to aesthetics.

3.2.3.2 State

California Scenic Highway Program

California's Scenic Highway Program, a provision of the Streets and Highways Code, was established by the Legislature in 1963 to preserve and enhance the natural beauty of California. The State Scenic Highway Program includes highways that are either eligible for designation as scenic highways or have been designated as such. The status of a state scenic highway changes from eligible to officially designated when the local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives the designation from Caltrans. A city or county may propose to add routes with outstanding scenic elements to the list of eligible highways; however, state legislation is required for a highway to be officially designated.

According to the Caltrans list of eligible and officially designated state scenic highways, US 395 is not designated a state scenic highway or an eligible state scenic highway in Modoc, Lassen, or Sierra Counties (Stantec 2020).

3.2.3.3 Local

The CPUC has exclusive discretionary authority over this project's siting, design, and construction. However, a summary of local standards or ordinances that describe the visual character of the Project Area is provided for informational purposes and to assist with the CEQA review process.

Modoc County General Plan

The Modoc County 1988 General Plan does not contain any goals or policies related to aesthetics and scenic resources. No officially designated state scenic highways are within Modoc County (Stantec 2020). However, the Modoc County General Plan recognizes that every highway in the county, including US 395, is a scenic highway because they are located in highly scenic areas (Modoc County 1988, as amended). Additionally, SR 139, about 18 miles west of the Proposed Project alignment, is an eligible state scenic highway (Caltrans 2020).

Lassen County General Plan

No officially designated or eligible state scenic highways are within Lassen County (Caltrans 2020; Lassen County 2000 General Plan [Lassen County 1999]). However, the Lassen County 2000 General Plan recognizes all state highways, including US 395, as scenic corridors. The Lassen County General Plan defines scenic corridors as areas bordering major highways that have significant or sensitive scenic values due to the existence of significant scenic features and the level of public exposure to those areas (Lassen County 1999).

The Natural Resources Element of the Lassen County General Plan includes the following goals and policies related to scenic resources:

Goal N-23: *Scenic resources of high quality which will continue to be enjoyed by residents and visitors and which will continue to be an asset to the reputation and economic resources of Lassen County.*

> ***NR78 Policy:*** *The County has identified areas of scenic importance and sensitivity along state highways and major County roads and has designated those areas as Scenic Corridors. (Refer to the General Plan land use map and related designations in various area plans, which may also be regarded as "scenic highway corridors.") The County will develop and enforce policies and regulations to protect areas designated as scenic corridors from unjustified levels of visual deterioration.*
>
> ***NR79 Policy:*** *The County shall continue to use "Design Review Combining Districts" to review the visual impacts of development in designated areas to minimize significant adverse impacts.*
>
> ***NR80 Policy:*** *In the course of adopting policies pertaining to scenic resources in other general plan elements and area plans, the County may consider additional and more particular policies and measures to protect scenic resources and prevent or reduce the adverse visual impacts of development in visually sensitive areas.*

Goal N-24 *Protection of the scenic qualities of the county's night sky.*

> ***NR81 Policy:*** *The County shall maintain and enforce policies, development standards and mitigation measures to control lighting generated by development and to*

minimize the unnecessary adverse impacts of such lighting in the vicinity of the development and on the general scenic qualities of the night sky in the area.

NR82 Policy: *The County will encourage projects within Lassen County but outside the County's jurisdictional authority to include provisions to minimize the adverse intrusion of lighting on the surrounding area and the night sky in general.*

Sierra County General Plan

The scenic quality of Sierra County is defined by its natural scenery as well as its historic communities (Sierra County 2012). Important scenic features in Sierra County include the Sierra Crest, lakes and reservoirs, Sierra Valley, Sierra Buttes, mountain meadows, rivers and streams, the Lakes Basin area, and historic communities (Sierra County 2012). The Sierra County General Plan also recognizes that views from the county's more heavily travelled routes, as well as those that pass through recreational areas or visually unique or highly scenic areas, are of particular importance to protect. A portion of SR 49 from the Yuba County line to the Yuba Pass Summit about 20 miles west of the project is the only officially designated state scenic highway in Sierra County (Stantec 2020)).

The Visual Resources Element of the Sierra County 2012 General Plan contains the following goals and policies related to visual resources:

Goal 1: *Protect and preserve important scenic resources in the County.*

Goal 2: *Protect visually sensitive areas by promoting and providing for aesthetic design in new development which reflects the customs and culture of the County.*

Policy 1: *Protect the visual quality of the County's scenic corridors (local and State).*

Policy 2: *Limit encroachments onto scenic highways to maintain safety and quality of driving and viewing experience through scenic corridors.*

Policy 4: *Seek official State Scenic Highway Status for all State highways and I-80 in the County (except in community areas).*

Policy 5: *Consider scenic values as a component of roadway construction, reconstruction, and maintenance on State and County highways and roads, with or without Scenic designation status.*

Policy 6: *Strive for a built environment that reflects the County's rural and historic qualities.*

Policy 7: *Protect the visual integrity of the County's living historic communities.*

Policy 8: *Protect important scenic resources.*

3.2.4 Environmental Impacts

3.2.4.1 Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines. For purposes of this EIR, implementation of the Proposed Project would have a significant adverse impact on aesthetics if it would result in 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. Public views are those that are experienced from a publicly accessible vantage point. In urbanized areas, conflict with applicable zoning and other regulations governing scenic quality.
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

3.2.4.2 Methods of Analysis

The visual impact analysis starts with a review of technical data, including project maps and drawings, aerial imagery of the Project Area, and local planning documents. The impact analysis methodology is based, in part, on methods adopted by FHWA's guidance and other accepted visual analysis techniques. In determining the extent and implications of the visual changes that would attend construction and operation of the project, consideration was given to:

- the existing visual quality of the affected environment,
- specific changes in the visual character and quality of the affected environment,
- the extent to which the affected environment contains places or features that provide unique visual experiences or that have been designated in plans and policies for protection or special consideration, and
- the sensitivity of viewers and their activities and the extent to which these activities are related to the aesthetic qualities affected by the Project.

The Project would mostly be undergrounded within the existing roadway right-of-way and, once operational, would not be visible to any viewer groups; therefore, visual simulations of the project were not prepared. However, the project would include aboveground structures, such as ILAs and line markers. Representative photographs of these features are included to support the impact analysis findings. The conclusions are discussed in more detail below.

3.2.4.3 Project Impacts and Mitigation Measures

Impact AES-1	**Would the Project have a substantial adverse effect on a scenic vista?**
Impact Determination	*Less than Significant*

Impact Discussion

The Proposed Project alignment is near one officially designated scenic vista point, the Goose Lake scenic vista point, which is a designated pull-off area on the west side of US 395 in Modoc County. From this vista point, views of Goose Lake are oriented to the west and would be directed away from Project construction activities within the existing Caltrans right-of-way on the east side of US 395. Therefore, temporary construction activities would not obstruct views of Goose Lake from this designated scenic vista.

Once construction is completed, Project elements would mostly be underground and would not be visible to highway travelers or from the Goose Lake scenic vista. In addition to the underground fiber optic line, the Project would include certain other above- and belowground equipment, such as the three ILAs, line markers, and vaults. As shown on Figures 2.3-1 through 2.3-4, the three ILAs are mainly proposed in developed commercial and residential areas, and not located near the Goose Lake scenic vista. The line markers would be about 4 feet tall, placed mostly within the existing roadway right-of-way on the east side of the highway at roughly 500-foot intervals, and would be visible to highway travelers only for a short duration and in the foreground only. Views of the middle ground, background, and surrounding areas will remain unchanged. Additionally, the line markers would not obstruct views including those of Goose Lake or other surrounding landscape features visible by travelers along US 395. Therefore, the Project would not have a substantial adverse effect on a scenic vista, and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact AES-2	**Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?**
Impact Determination	*Less than Significant*

Impact Discussion

US 395 is not an officially designated state scenic highway, nor is it an eligible state scenic highway (Stantec 2020). However, it is considered a local scenic highway by Modoc, Lassen, and Sierra counties. The proposed fiber-optic line and aboveground ancillary equipment would mostly be installed within the

existing roadway right-of-way of US 395 or immediately adjacent within developed commercial or residential areas. These areas do not contain scenic resources, such as rock outcroppings or historic buildings. In areas within the right-of-way that contain vegetation that could cause a fire hazard for parked vehicles or equipment, the vegetation would be mown or grubbed prior to conduit installation. No grading, tree removal or trimming, or extensive vegetation removal is anticipated to be required for the Project. Once construction of the Project is completed, the disturbed areas would be restored to pre-Project conditions. As described in Section 3.5, Biological Resources, the Applicant would revegetate areas in accordance with the Revegetation and Restoration Plan. Therefore, the Project would not substantially damage scenic resources within a state scenic highway, and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact AES-3	**Would the Project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

During construction, the presence of construction equipment, materials, and vehicles in staging areas and material storage yards would be temporarily visible to highway travelers and residents located along US 395 and in the communities of Standish and Buntingville in Lassen County, and the City of Alturas.

Construction activities would occur mostly within the existing roadway right-of-way and are expected to only last for a few days at each location. As required by Mitigation Measure AES-1, the Applicant would maintain the Project Site and staging areas in a clean and orderly state. Additionally, the proposed construction staging areas would be located away from public views where possible. Upon completion of construction, the Project site and staging areas would be returned to pre-Project conditions. Therefore, temporary construction activities would not permanently or substantially degrade the existing visual character or quality of the Project Area, and impacts would be less than significant.

Once construction is completed, the Project would be mostly underground and would not be visible to highway travelers or residents located along the Project alignment. The Project would remove some vegetation to reduce construction fire hazards and prepare for conduit installation. However, no grading, tree removal or trimming, or extensive vegetation removal is anticipated to be required. As described in Section 3.5, Biological Resources, the Applicant would revegetate areas in accordance with the revegetation and restoration plan.

In addition to the underground fiber optic line, the Project would include other above- and belowground equipment, such as three ILAs, vaults, and line markers. As shown in Figure 3.2-6, the ILAs would consist of a prefabricated metal and concrete regeneration hut constructed on a concrete pad. Figure 3.2-1 shows the proposed locations of the individual ILAs in the communities of Herlong, Alturas, and Spanish Springs. The ILAs proposed in Herlong and Alturas would be located in developed commercial and residential areas, and appear similar in size to existing development. The ILA proposed in Spanish Springs would be located in an undeveloped area, but set back about 200 feet from the highway and only visible to vehicles for a short duration while driving along US 395.

Figure 3.2-6. Example of a Typical Regeneration Hut

The proposed vaults and line markers would be constructed of fiberglass and placed mostly within the existing Caltrans right-of-way. The vaults would be approximately 30 by 48 inches and would be installed in sets of three and would not be visible to highway travelers as they would be installed flush to the ground. Figure 3.2-7 provides an example of a typical line marker that would be placed along US 395 as part of the Project to mark the location of the buried fiber optic line. The line markers would be about 4 feet tall and would be visible to highway travelers. Views of linear features are not uncommon in this area. The ILAs and line markers would also be finished with earth-toned paints as required by Mitigation Measure AES-2. The use of earth-toned paints, materials, and finishes would reduce visibility of the ILAs and line markers along the highway and reduce visual contrast with the surrounding landscape. Therefore, the Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Impacts would be less than significant with mitigation.

Figure 3.2-7. Example of a Typical Line Marker

Mitigation Measures

AES-1: **Staging Area Maintenance.** All Project sites shall be maintained in a clean and orderly state. Construction staging areas shall be located away from public view. Upon completion of Project construction, Project staging and temporary work areas shall be returned to pre-project conditions.

AES-2: **Aboveground Ancillary Equipment**. All aboveground ancillary equipment, including the ILA huts and line markers shall use paints, materials, and finishes that are earth-toned (in color), non-reflective, and do not contrast existing coloration of surrounding areas.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact AES-4	**Would the Project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

During construction, light and glare may be produced from construction vehicles, construction materials, site construction trailers, and other temporary construction elements placed within the existing right-of-way. However, the presence of construction equipment and materials would be temporary as construction activities would move along the highway corridor and would last for a few days at each location. No nighttime construction work would occur. Construction crews would typically work up to 5 days per week from 7:00 AM to 7:00 PM. The overall project construction phase is expected to take approximately 6 months. Once construction of the Project is completed, all construction equipment, vehicles, and materials would be removed. Therefore, due to their temporary nature, construction activities would not create substantial light or glare, and impacts would be less than significant.

The Project would add exterior security lighting on the three ILA buildings. This lighting would be similar to that of surrounding properties. All lighting would be low wattage, shielded, and directed downward to reduce light spillover onto nearby properties and residential areas. The proposed ILA buildings would be constructed from metal and concrete. The line markers would be made of fiberglass and would stand about 4 feet tall. All aboveground equipment would be painted and finished earth-toned in color as required by AES-2 that are non-reflective to reduce the potential for glare. Otherwise, the project would be underground and would not be visible to highway travelers or residents located along the fiber-optic line. As such, the project would not create a new source of substantial light or glare, and impacts would be less than significant.

Mitigation Measures

AES-2: **Aboveground Ancillary Equipment**. All aboveground ancillary equipment, including the ILA huts and line markers shall use paints, materials, and finishes that are earth-toned (in color), non-reflective, and do not contrast existing coloration of surrounding areas.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

3.2.5 Cumulative Impacts

The geographic area evaluated for cumulative visual quality analysis is the local project vicinity. Past, present, and reasonably foreseeable future projects include those proposed near the Project site within the unincorporated county. As discussed in the 2035 General Plan EIR, cumulative project development would be subject to county general plan policies and implementation programs that address visual quality and mitigate potential cumulative visual quality impacts. As discussed in the setting section above, this would include Policy NCF-7.7: Reducing Glare and Light Pollution. Therefore, consistent with the 2035 General Plan EIR, the Proposed Project would result in a less than cumulatively considerable contribution to aesthetic resource impacts.

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3.3 Agriculture and Forestry Resources

This section describes the environmental setting for agriculture and forestry resources, including the existing site conditions, regulatory setting, and potential impacts that would result from the Proposed Project, and, if significant impacts are identified, the mitigation measures that would reduce these impacts.

3.3.1 Environmental Setting

3.3.1.1 Agriculture Resources

The majority of the Project would be located along US 395 within the right-of-way managed by Caltrans. The California segment of the Project spans approximately 194 miles, starting at the northern edge of Modoc County (59.8 miles), through the City of Alturas (1.6 miles), through Lassen County (129.6 miles), and into the eastern edge of Sierra County (3.1 miles). The Project crosses through unincorporated communities in Modoc County, including New Pine Creek, Davis Creek, Ramsey, and Likely, as well as the City of Alturas. Within Lassen County, the Project traverses the communities of Sage Hen, Pinnio, Madeline, Brockman, Moran, Termo, Litchfield, Standish, Buntingville, Milford, and Doyle. In Sierra County, the Project does not pass through any cities or census-designated communities. US 395 is the main defining feature along the entire length of the Project. An 8-mile segment of the Proposed Project alignment would deviate from US 395 and would run along Standish Buntingville Road (Lassen County Road A3) and Cummings Road between the communities of Standish and Buntingville in Lassen County, California. Generally, agriculture within this area of California includes alfalfa hay, cattle, potatoes, and other types of hay (California Department of Food and Agriculture 2019).

Agriculture resources in each county are discussed below. California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) data was available for both Modoc and Sierra Counties; however, FMMP data is unmapped for Lassen County (Stantec 2020). Therefore, with the lack of FMMP data for Lassen County, generalized land use designations were used to determine potential conflicts with agricultural land within Lassen County. Figure 3.3-1 shows the agricultural land in the Project Area, as designated by the FMMP, as well as Williamson Act parcels. General Plan land use designations for Modoc, Lassen, and Sierra County are shown in Figure 3.12-1 in Section 3.12, Land Use and Planning. Overall, the Project would be located within the existing roadway right-of-way, with the exception of several ancillary facilities that are discussed below.

Modoc County

According to the Modoc County General Plan, agricultural land is the economic base for much of Modoc County (Modoc County 1988, as amended). The Modoc County Department of Agriculture develops an annual crop report of agricultural crop data for the county. According to the *2019 Annual Crop Report*, gross agricultural receipts within the County in 2019 totaled $182,983,461, which was an approximate 14 percent increase from the 2018 growing season (Modoc County 2019). However, multiple fires within Modoc County during the 2018 fire season destroyed many federal and state grazing allotments (Modoc County 2019).

Within Modoc County, agricultural resources within 1 mile of the Proposed Project alignment include land designated as Prime Farmland, Farmland of Local Importance, Farmland of Statewide Importance, Unique Farmland, Grazing Land, Urban and Built-up Land, and other land as mapped by the FMMP (Stantec 2020). The Project would be located entirely within existing roadway right-of-way within Modoc County. One ILA, one staging area, and one potential material storage yard location would be located outside of the existing roadway right-of-way. The ILA and staging area would be located in the City of Alturas on land within a generalized land use designation of low density residential. Both the staging area and material storage yard are proposed on Farmland of Local Importance.

Lassen County

Lassen County considers agricultural resources as an important economic resource within the county. According to the 2017 Census of Agriculture for Lassen County, the County's total market value for agricultural products sold was $45,964,000, and the average farm size was 1,256 acres (USDA 2017a).

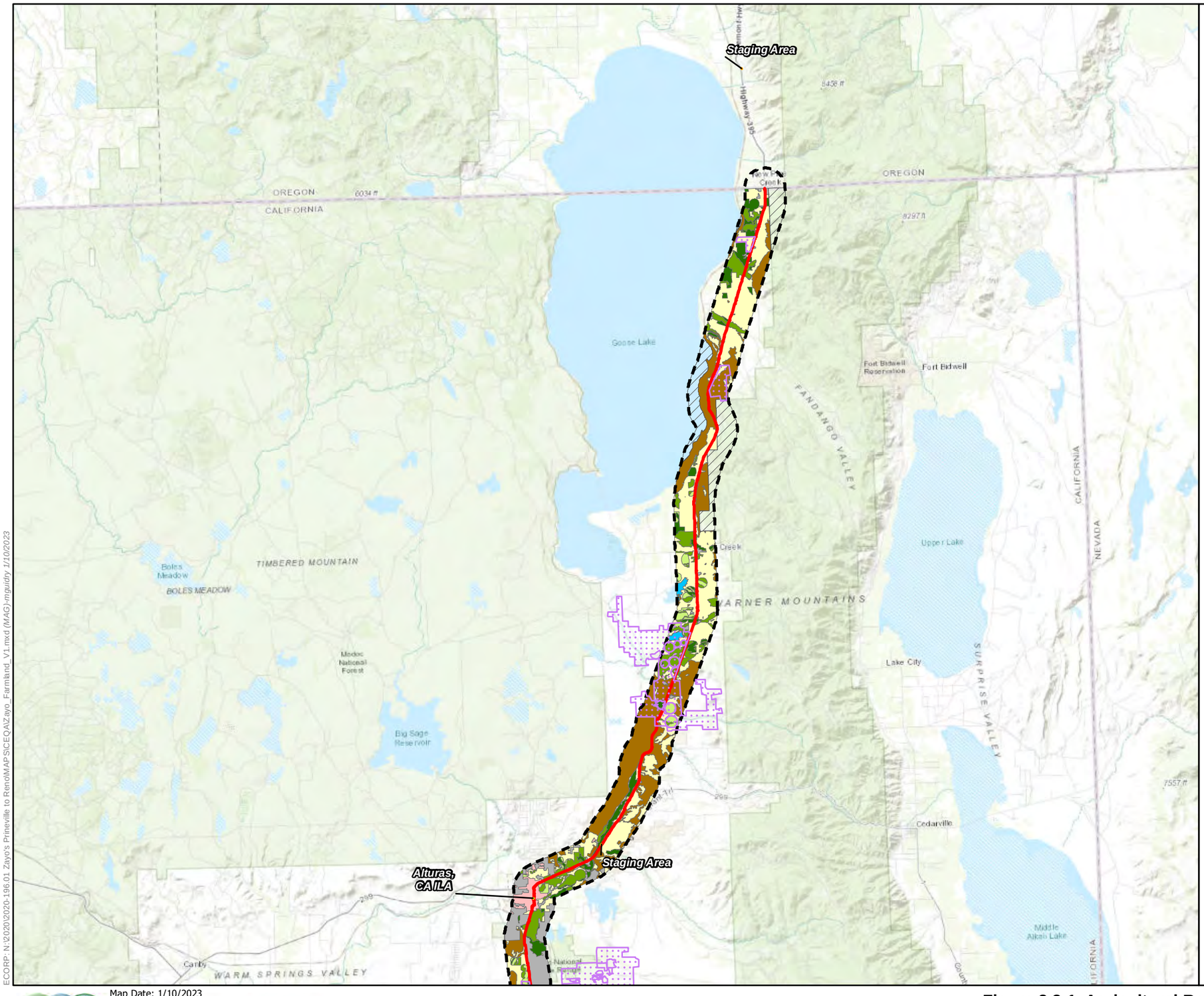
According to the Department of Conservation and Lassen County Planning Department, Lassen County does not have mapped farmland per the FMMP. Therefore, the FMMP status for land adjacent to the Proposed Project alignment is unknown. The Lassen County General Plan land use designation for much of the land adjacent to the Project alignment through Lassen County is *agricultural*, which includes intensive agriculture, extensive agriculture, general agriculture, and grazing lands.

As with Modoc County, the Project alignment would be located entirely within existing roadway right-of-way within Lassen County, with the exception of two ILAs (Spanish Springs ILA and Herlong ILA), nine staging areas, and two material storage yard locations. The Spanish Springs ILA is within the road-right-of-way and therefore is within the highway commercial district. Additionally, staging areas in Lassen County would be located within planned development, low-density residential/planned development, and agricultural land uses. The two material storage yard locations would be placed within areas considered to be agriculture and very low-density residential land uses.

Sierra County

Agriculture resources, such as farming and crop production, are not as prevalent in Sierra County because of elevation. Sierra County relies more on grazing and livestock production. According to the 2017 Census of Agriculture for Sierra County, the County's total market value for livestock and crop production was $4,028,000, and the average farm size was 815 acres (USDA 2017b).

Within Sierra County, agricultural resources within 1 mile of the Proposed Project alignment include mostly land designated grazing land, with smaller portions of land designated as Farmland of Local Importance and other land as designated by the FMMP (Stantec 2020). As shown on this Figure 3.3-1, Sierra County does not have designated agricultural land adjacent to the Proposed Project alignment. Further, no ILA locations, staging areas, or material storage yards would be located within Sierra County.



Map Features

- Alignment
- 1-mile Buffer
- Williamson Act Parcel

FMMP Category

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Farmland of Local Importance
- Grazing Land
- Urban and Built-up Land
- Other Land
- Water
- Not Inventoried

Source: Stantec
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong),

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Figure 3.3-1. Agricultural Resources within One Mile of Proposed Project
Page 1 of 4

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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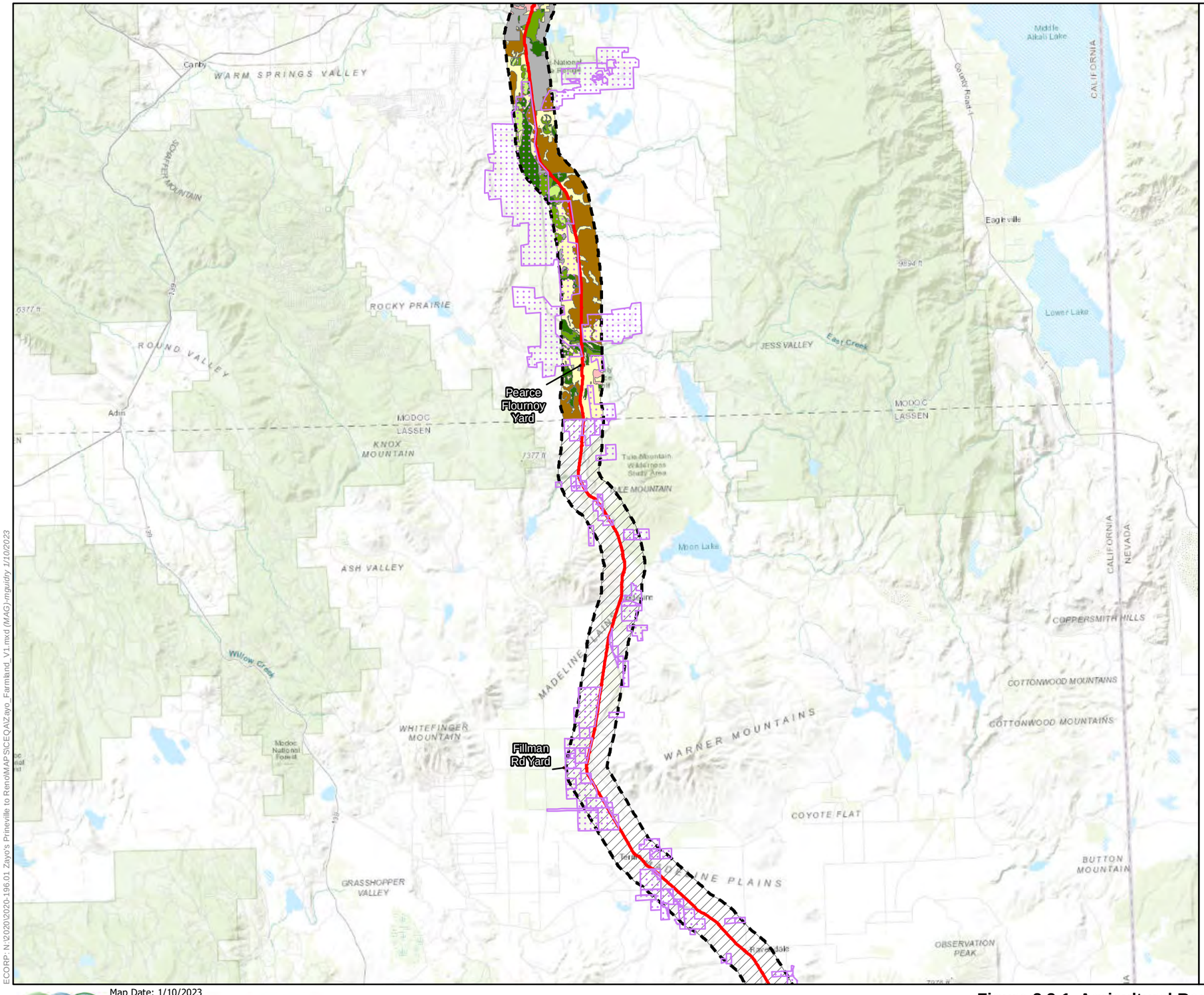

Map Features

- Alignment
- 1-mile Buffer
- Williamson Act Parcel

FMMP Category

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Farmland of Local Importance
- Grazing Land
- Urban and Built-up Land
- Other Land
- Not Inventoried

Source: Stantec
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong),

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Map Date: 1/10/2023

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Figure 3.3-1. Agricultural Resources within One Mile of Proposed Project

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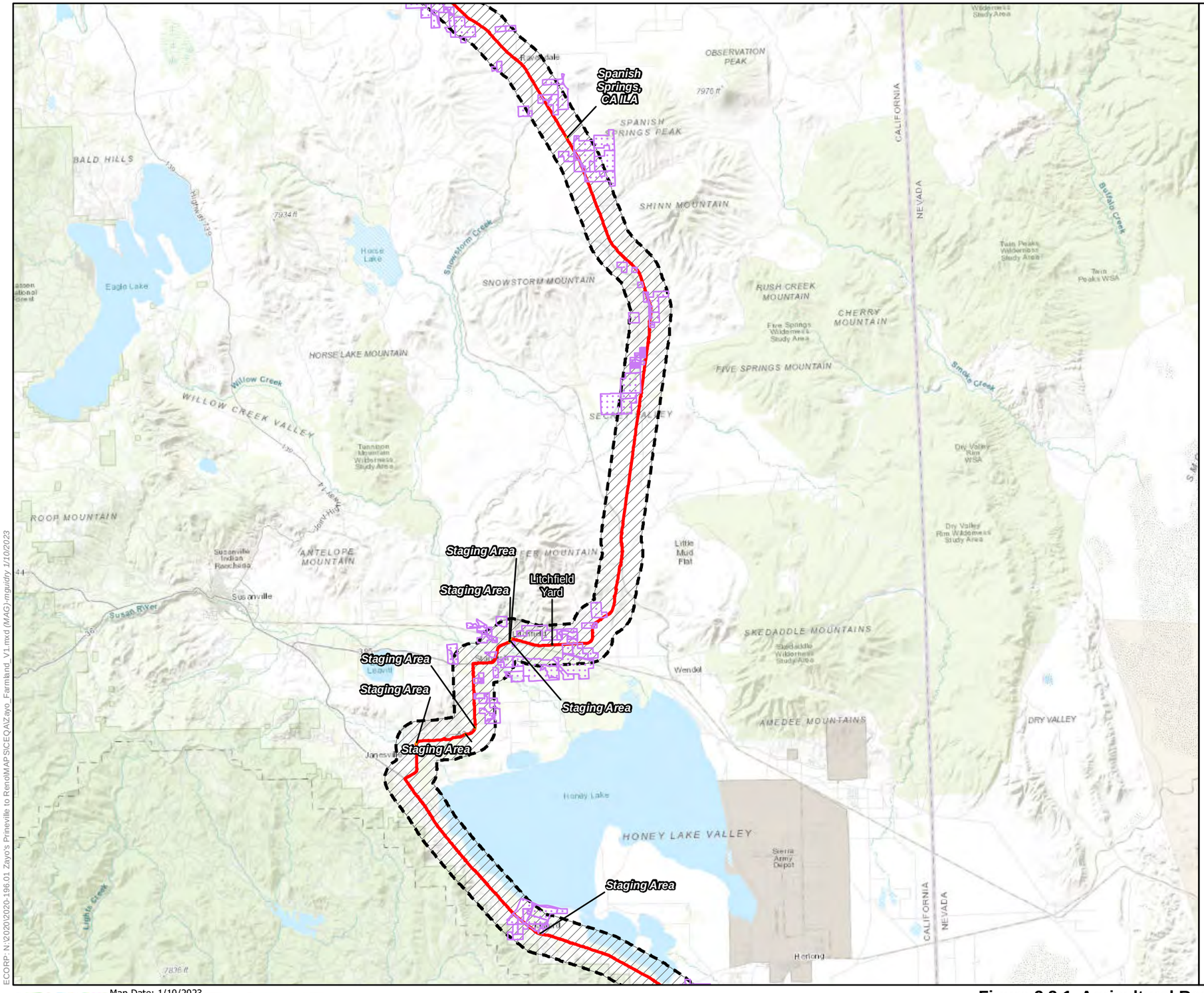

Map Features

- Alignment
- 1-mile Buffer
- Williamson Act Parcel

FMMP Category

- Not Inventoried

Source: Stantec
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong),

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Figure 3.3-1. Agricultural Resources within One Mile of Proposed Project

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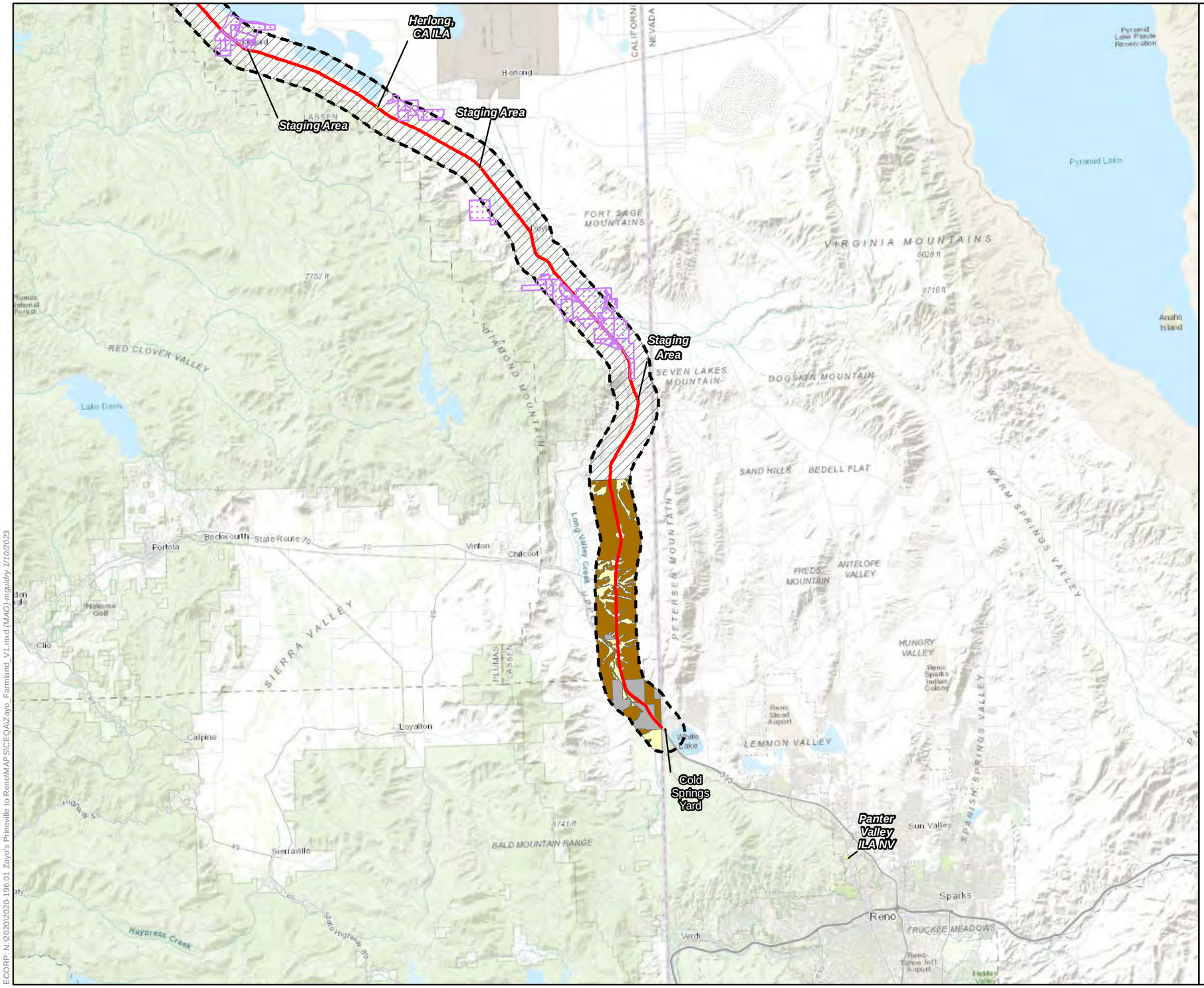

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Figure 3.3-1. Agricultural Resources within One Mile of Proposed Project
Page 4 of 4

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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3.3.1.2 Forestry Resources

Portions of US 395 pass through lands with forest resources, particularly in Modoc County and the southern edge of Lassen County. The Lassen County Road A3 segment and Cummings Road portions of the Project alignment would not pass through any lands with forest resources. The state definitions for forest land, timberland, and timberland production zones (TPZs) are included under Section 5.2.2, Regulatory Setting. Lands meeting the definition of forestland (i.e., land that can support 10 percent native tree cover), occur within 1 mile of US 395 and include lands within the Modoc National Forest in Modoc and Lassen Counties as well as the edge of Plumas National Forest in Lassen County. The staging areas and ILA sites do not occur on or near any lands meeting the definition of forest land.

3.3.2 Regulatory Setting

3.3.2.1 Federal

Farmland Protection Policy Act

The National Agricultural Land Study of 1980-1981 found that millions of acres of farmland were being converted out of agricultural production in the United States each year. The 1981 Congressional report, "Compact Cities: Energy-Saving Strategies for the Eighties" (Compact Cities report), identified the need for Congress to implement programs and policies to protect farmland and to combat urban sprawl and the waste of energy and resources that accompanies sprawling development. The Compact Cities report indicated that much of the sprawl was the result of programs funded by the federal government. With this in mind, Congress passed the Agriculture and Food Act of 1981 (Public Law 97-98) containing the Farmland Protection Policy Act (FPPA)—Subtitle I of Title XV, Section 1539-1549. The final rules and regulations in the Federal Register on June 17, 1994.

3.3.2.2 State

California Farmland Mapping and Monitoring Program

The FMMP, which monitors the conversion of the state's farmland to and from agricultural use, relies on information from the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) soils surveys, NRCS land inventory and monitoring criteria, and land use and water availability. Topography, climate, soil quality, and available irrigation water all factor into the FMMP farmland classifications.

The FMMP was established by the California Department of Conservation, under the Division of Land Resource Protection. Important farmland maps are compiled by the FMMP pursuant to Section 65570 of the California Government Code. Under the FMMP, *Important Farmland Categories* were established based on soil characteristics that have significant agricultural production values. Categories mapped by the FMMP are as follows:

- Prime Farmland. Prime Farmland is land that has been used for irrigated agricultural production and meets the physical and chemical criteria for Prime Farmland as determined by the NRCS. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- Farmland of Statewide Importance. Farmland of Statewide Importance is similar to Prime Farmland but generally includes steeper slopes or reduced ability to store soil moisture. In order to be classified as Farmland of Statewide Importance, the land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- Unique Farmland. Unique Farmland is farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards. Land must have been cropped at some time during the 4 years prior to the mapping date.
- Farmland of Local Importance. Farmland of Local Importance is land important to the local economy as determined by the County Board of Supervisors and a local advisory committee. This land includes dryland grain producing lands and farmlands that are presently irrigated but do not meet the soil characteristics of Prime Farmland or Farmland of Statewide Importance.
- Grazing Land. Grazing Land is land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.
- Urban and Built-up Land. Urban and Built-up Land is land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 7 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- Other Land. Other Land is land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres.
- Water. This category includes perennial water bodies with an extent of at least 40 acres.

California Public Resources Code

The following PRC sections are set forth in the thresholds of significance for this section and discussed in the impact analysis below.

PRC Section 12220(g): *"Forest land" is land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.*

PRC Section 4526: *"Timberland" means land, other than land owned by the federal government, that is designated by the board as experimental forest land, which is available for and capable of growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.*

PRC Section 54404(g): *"Timberland production zone" or "TPZ" means an area that has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h). With respect to the general plans of cities and counties, "timberland preserve zone" means "timberland production zone."*

PRC Section 21060.1: *"Agricultural land" means Prime Farmland, Farmland of Statewide Importance, or Unique Farmland as defined by the United States Department of Agriculture land inventory and monitoring criteria, as modified for California.*

PRC Section 51238: *The following guidelines for Williamson Act contracted land and allowable uses is included in Section 51238:*

"(a)(1) Notwithstanding any determination of compatible uses by the county or city pursuant to this article, unless the board or council after notice and hearing makes a finding to the contrary, the erection, construction, alteration, or maintenance of gas, electric, water, communication, or agricultural laborer housing facilities are hereby determined to be compatible uses within any agricultural preserve."

Williamson Act

The California Land Conservation Act of 1965, commonly known as the Williamson Act, was established based on numerous State legislative findings regarding the importance of agricultural lands in an urbanizing society. Policies emanating from those findings discourage premature and unnecessary conversion of agricultural land to urban uses and discourage discontinuous urban development patterns, which unnecessarily increase the cost of community services to community residents. The Williamson Act authorizes each County to establish an agricultural preserve. Land within the agricultural preserve is eligible to be placed under a contract between the property owner and County that would restrict the use

of the land to agriculture in exchange for a tax assessment that is based on the yearly production yield. The contracts have a 10-year term that is automatically renewed each year, unless the property owner requests a non-renewal or the contract is cancelled. If the contract is cancelled, the property owner is assessed a fee of up to 12.5 percent of the property value.

3.3.2.3 Local

Modoc County General Plan

The Modoc County General Plan was adopted in September 1988 and includes the following policies related to agricultural and forestry resources that are relevant to the project (Modoc County 1988, as amended):

Goal: *Protect and support the agricultural economy of Modoc County.*

Policy 1 *Preserve and protect valuable agricultural lands in the county.*

Policy 3: *Support compatible, mixed, or alternative uses of agricultural land, including hunting and fishing clubs, and recreational ranches.*

Policy 12: *Power transmission line corridors should not be located in any productive agricultural area, including exclusive and general agricultural land or near airports.*

Lassen County General Plan

The Lassen County General Plan was adopted in September 1999 and includes the following goals related to agriculture and forestry resources that are relevant to the Project (Lassen County 1999, as amended):

Goal A-1: *Conservation of productive agricultural lands and lands having substantial physical potential for productive agricultural use, and the protection of such lands from unwarranted intrusion of incompatible land uses and conservation to uses which may obstruct or contain agricultural use and value.*

Policy AG-1: *The County recognizes that land having the physical characteristics (e.g., soil) for production of agricultural crops and livestock is a resource of significant value which needs to be protected for its economic value, its contribution to the character of the community, and its environmental and scenic values.*

Policy AG-5: *In order to minimize the disruption and displacement of agricultural operations and lands by non-agricultural development, non-agricultural development in agricultural areas should be directed to: sites where soils do not have significant potential for productive agricultural use; sites least likely to impact productive agricultural uses in the vicinity; sites where, or which are*

adjacent to where similar non-agricultural uses already exist; and sites where adequate community services are or will be available.

Policy AG-12: *Subject to case-by-case review (including review for compatibility with surrounding agricultural uses), and in compliance with relevant area plan, zoning, permitting and environmental review requirements, the development and operation of the following land uses will typically be deemed to be consistent with the Extensive and Intensive Agriculture land use designations and will not require zoning to an "Industrial" zoning district, nor will they be interpreted by the County to constitute an "agricultural conversion" pursuant to this General Plan:*

a) Processing plants for the production of agricultural products;

b) Processing plants for the production of natural resource products where the location of the resource is fundamental to the location of processing and packaging facilities (e.g., water bottled at the source, etc.);

c) Mines, the extraction of minerals, and the ancillary processing of mineral materials generated on-site, including the production of asphalt, ready-mix concrete and similar products;

d) Sawmills and related timber processing operations;

e) Geothermal and natural gas wells, hydroelectric projects, and ancillary facilities for the production of energy; and

f) Uses of similar character as may be determined by the Board of Supervisors.

Goal A-4: *Support for the economic viability and continuation of agricultural operations and the protection of agricultural resource lands.*

Sierra County General Plan

The Sierra County General Plan was first adopted in 1996 and includes the following goals and policies related to agriculture and forestry resources that are relevant to the Project (Sierra County 2012, as amended):

Timber Resources Element Goal 1: *It is the goal of the County to support the prudent management of timber and to maintain the timber industry as a valuable part of the County economy.*

Timber Resources Element Policy 7: *Promote compatible secondary timber land uses.*

Agricultural Resources Element Goal 1: *Protect and defend agriculture as a priority land use, one of those which give the County its essential character.*

Alturas General Plan

The City of Alturas General Plan was first adopted in June 1987 (City of Alturas 1987, as amended). There are no agricultural or forestry goals or policies in the Alturas General Plan that are relevant to the Project.

3.3.3 Environmental Impacts

3.3.3.1 Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines. For the purposes of this EIR, implementation of the Proposed Project may result in a potentially significant impact on agriculture or forestry resources if it would do any of the following:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).
- Result in the loss of forest land or conversion of forest land to non-forest use.
- Involve other changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

3.3.3.2 Methods of Analysis

This impact analysis considers Project consistency with applicable laws, regulations, ordinances, permits, and other legal requirements pertaining to agriculture and forestry, as discussed in Section 3.3.3.

3.3.3.3 Project Impacts and Mitigation Measures

Impact AG-1	**Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural land?**
Impact Determination	*Less than Significant with Mitigation Incorporated*

Impact Discussion

As discussed in Section 3.3.1 Environmental Setting, the Project would traverse areas designated by the FMMP as Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, Unique Farmland, Grazing Land, Urban Built-up Land, and Other Land.

The majority of the Project would be constructed and operated within the roadway right-of-way and would not result in any permanent conversion of any FMMP agricultural lands to non-agricultural use. The Project may result in temporary disruptions adjacent to these lands and within adjacent staging areas and material storage yard locations as construction vehicles and equipment are moved through the Project alignment; however, these disruptions would be temporary and would not result in any conversions of farmlands or preclude adjacent agricultural activities. One staging area in Modoc County (0.23 acre) would be located on land mapped by the FMMP as Prime Farmland and one material storage yard would be located on land mapped as Farmland of Statewide Importance (15.75 acres) in Modoc County. As such, Mitigation Measure AG-1 would be implemented to notify the landowner(s) of construction activities and revegetate any temporarily affected areas to pre-Project conditions after construction activities are complete. No other Project elements would be located on Prime, Unique, or Farmland of Local or Statewide importance. Therefore, construction related impacts from conversion of Prime Farmland, Unique Farmland, or Farmland of Local or Statewide Importance would be less than significant with mitigation incorporated.

Once operational, the fiber optic cable would be largely located underground within the existing right-of-way and would not result in any permanent conversions of Farmlands. Aboveground features would include three ILA locations (one in Modoc County and two in Lassen County) that would be located outside of the right-of-way. The ILA location in Modoc County would be located within the City of Alturas in Urban and Built-up Land; therefore, this ILA location would not result in any conversion of agricultural uses. The other two ILA locations are located in Lassen County, which shows FMMP data as *unmapped*. Because of the FMMP *unmapped* designation, the generalized land use designations were used for analytical purposes to determine if any possible agricultural lands would be converted as a result of these two ILA locations. One of the ILA locations is located on land designated as Very Low Density Residential and therefore would not result in any conversion of agricultural land. The other ILA location has a zoning designation of general agriculture; however, this ILA is located directly adjacent to US 395 right-of-way on a gravel pull-out and is vacant. The site does not include adequate soil that could sustain agricultural uses or substantial amounts of crops. It is unlikely that this site is currently used or would be used for agricultural uses in the future. Further, under the Lassen County municipal code, utilities are considered an allowable use with a conditional use permit. Therefore, there would be a less than significant impact to conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as a result of the Project.

Mitigation Measures

AG-1: **Coordination with Agricultural Landowners.** For the staging area located on Prime Farmland, or any subsequent staging areas identified that would be located on Prime Farmland, Unique Farmland, Farmland of Local or Statewide Importance, or Williamson Act

parcels, the Applicant will provide written notice to the landowner(s) outlining construction activities, preliminary schedule, and estimated timing of restoration efforts prior to construction. The Applicant will coordinate with the landowner(s) to minimize construction-related disruptions to seasonal farming operations. Upon completion of construction, project work areas will be returned to pre-project conditions.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation because temporary impacts to farm operations would be minimized and no permanent conversion of Farmland would occur.

Impact AG-2	**Would the Project conflict with current zoning for agricultural use, or a Williamson Act contract?**
Impact Determination	*Less than Significant*

Impact Discussion

As discussed in Impact AG-1, the majority of the Project would be located in the right-of way of US 395 and would not affect Williamson Act contracted lands in the area. However, some proposed ILA locations, staging areas, and material storage yards located directly adjacent to the US 395 right-of-way would be located on Williamson Act contracted lands (see Figure 3.3-1). There are no ILA locations, staging areas, or material storage yards proposed in Williamson Act contracted parcels in Modoc County or Sierra County. Within Lassen County, the Filman Road Yard is proposed on the edge of a Williamson Act contracted parcel. A staging area in Milford in also proposed on the edge of a Williamson Act parcel. All staging areas and material storage yards would be temporary and would not permanently affect any possible Williamson Act contracted lands. As described in Impact AG-1, one ILA site is located on land with a zoning designation of general agriculture. However, this location is located directly adjacent to the US 395 right-of-way on a gravel pull-out and is vacant. The site does not include adequate soil that could sustain agricultural uses or substantial amounts of crops. This site is not currently subject to Williamson Act uses, and it is unlikely that this site would be used for agricultural or Williamson Act uses in the future. In addition, Section 51238 of the PRC (see Section 3.3.3 Regulatory Setting) states that the construction and maintenance of gas, electric, water, communication, or agricultural laborer housing facilities would be considered a compatible use with agricultural preserves, including Williamson Act contracted lands. Further, under the Lassen County municipal code, utilities are considered an allowable use with a conditional use permit. Therefore, pursuant to PRC Section 51238 and the Lassen County Municipal Code, there would be no conflicts with Williamson Act contracts, and the impact that would occur from installation of the Project would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact AG-3	**Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined by Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**
Impact Determination	*Less than Significant*

Impact Discussion

The Project Area includes areas that are surrounded by timberlands and forest lands, particularly near Modoc National Forest and Plumas National Forest. Construction activities associated with the Project would occur directly adjacent to some of these areas, which could result in a possible temporary disturbance to timberland and TPZ operations if timber harvesting activities were to occur at the same time as construction of the Project. Because construction of the Project would occur directly within or adjacent to the existing roadway right-of-way, it is unlikely that construction activities would interfere with any timber harvesting activities. Additionally, because the Project is linear, construction activities would not occur in one area for an extended period of time with the rate of installation proposed at an approximate 500 feet per day. Therefore, the Project would have a less than significant impact related to confliction with forest land, timberland, and TPZs during construction.

Once constructed, the Project would largely be located underground and within the existing right-of-way, with the exception of several ancillary facilities that would be located adjacent to the existing right-of-way. The Proposed Project alignment does not include any forest lands, timberlands, or TPZs. Therefore, there would be no impact related to operational confliction with zoning of forestlands, timberlands, or TPZs.

Mitigation Measures

No mitigation measures are required.

Impact AG-4	**Would the Project result in the loss of forest land or conversion of forest and to non-forest use?**
Impact Determination	*No Impact*

Impact Discussion

Although some land meeting the definition of forestland (as defined by PRC 12220(g)) is within the Project Area, the Project would be constructed and operated within the existing roadway right-of-way, with the exception of several ancillary facilities that would be located adjacent to the existing right-of-way. The Project would not result in any loss of forest land or conversion of forestland to non-forest use. The most heavily forested areas within the Project Area include the areas near Modoc National Forest and

Plumas National Forest. The Project would not result in any removal of trees in these areas. Therefore, there would be no impact related to loss of forest and or conversion or forestland to non-forest use from implementation of the Project.

Mitigation Measures

No mitigation measures are required.

Impact AG-5	**Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?**
Impact Determination	*No Impact*

Impact Discussion

The Project, once constructed, would consist of an underground fiber optic line and associated infrastructure used for broadband internet services. As discussed in the impact analyses above for questions a through d, the construction and operation of this fiber optic line would not result in conversion of agricultural lands or forest lands nor would it preclude adjacent agricultural activities. Therefore, there would be no impact related to conversion of farmland or forest lands to non-agricultural or non-forest use.

Mitigation Measures

No mitigation measures are required.

3.3.4 Cumulative Impacts

The geographic area evaluated for cumulative agricultural and forestry resources analysis is the local Project vicinity. Past, present, and reasonably foreseeable future projects include those proposed near the Project Area within the unincorporated areas within each county and the City of Alturas. Cumulative project development would be subject to County general plan policies and implementation programs that address agriculture and forestry resources and mitigate potential cumulative impacts to these resources. This would include the Modoc County, Lassen County, and Sierra County General Plan Goals and Policies discussed in Section 3.3.2 Regulatory Setting. Therefore, consistent with these General Plan EIRs, the Proposed Project would result in a less than cumulatively considerable contribution to agriculture and forestry resource impacts.

3.4 Air Quality

This section evaluates the Project-related effects on air quality. Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, together with the current regulatory structure that applies to the Mountain Counties Air Basin (MCAB), in which the Project site is located. The Project spans multiple counties and multiple local air quality districts within the MCAB. Modoc County Air Pollution Control District (MCAPCD) has jurisdiction over Modoc County, Lassen County Air Pollution Control District (LCAPCD) has jurisdiction over Lassen County, and the Northern Sierra Air Quality Management District (NSAQMD) has jurisdiction over Sierra County. All three of these air districts are located in rural areas with good air quality. The purpose of the assessment is to estimate Project-generated air emissions and to determine the level of impact the Project would have on the environment. Modeling outputs are provided in Appendix B.

3.4.1 Environmental Setting

3.4.1.1 Mountain Counties Air Basin

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. The MCAB is over 11,000 square miles and is comprised of the following counties: Plumas, Sierra, Nevada, Placer (the middle portion), El Dorado (the western portion), Amador, Calaveras, Tuolumne, and Mariposa. Within the MCAB, the topography is variable; with extreme differences in altitude between the mountain peaks and valleys.

Climate and Meteorology

Ambient air quality is commonly characterized by climatological conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that influence the potential for regional and local air pollutants. The following section describes pertinent characteristics of the MCAB and provides an overview of the physical conditions affecting pollutant dispersion along the linear Project Area.

The MCAB lies along the northern Sierra Nevada range, close to or contiguous with the Nevada border. The western slope of the County, from Lake Tahoe on the east to the Sacramento County boundary on the west, lies within the MCAB. Elevations range from over 10,000 feet at the Sierra crest down to several hundred feet above sea level at the Sacramento County boundary. Throughout the MCAB, the topography is highly variable and includes rugged mountain peaks and valleys with extreme slopes and differences in altitude in the Sierras, as well as rolling foothills to the west. The general climate of the MCAB varies considerably with elevation and proximity to the Sierra ridge. In many areas of the MCAB, winter temperatures usually dip below freezing only at night, and precipitation is mixed as rain or light snow. In the summer, temperatures can routinely exceed 100 degrees Fahrenheit.

From an air quality perspective, the topography and meteorology of the MCAB combine such that local conditions predominate in determining the effect of emissions in the basin. Regional airflows are affected by the mountains and hills, which direct surface airflows, cause shallow vertical mixing, and create areas of

high pollutant concentrations by hindering dispersion. Inversion layers, where warm air overlays cooler air, frequently occur and trap pollutants close to the ground. During summer's longer daylight hours, stagnant air, high temperatures, an abundance of sunshine provides the conditions and energy for the photochemical reaction between Reactive Organic Gases (ROGs) and oxides of nitrogen that results in the formation of ozone. In the summer, the strong upwind valley air flowing into the basin from the Central Valley to the west is an effective transport medium for ozone (O_3) precursors and O_3 generated in the Bay Area and the Sacramento and San Joaquin valleys. These transported pollutants predominate as the cause of ozone in the MCAB.

3.4.1.2 Criteria Air Pollutants

The CARB and the U.S. Environmental Protection Agency (USEPA) focus on criteria pollutants to determine air quality. Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. O_3, coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. PM is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 3.4-1.

Table 3.4-1. Criteria Air Pollutants- Summary of Common Sources and Effects

Pollutant	Major Manufactured Sources	Human Health & Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (N2O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM_{10} & $PM_{2.5}$	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).

Table 3.4-1. Criteria Air Pollutants- Summary of Common Sources and Effects		
Pollutant	**Major Manufactured Sources**	**Human Health & Welfare Effects**
SO_2	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association 2013

Carbon Monoxide

CO, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations of CO are typically found near crowded intersections and along heavy roadways with slow moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances (i.e., up to 600 feet or 185 meters) of the source. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973.

Nitrogen Oxides

Nitrogen gas comprises about 80 percent of the air and is naturally occurring. At high temperatures and under certain conditions, nitrogen can combine with oxygen to form several different gaseous compounds collectively called nitric oxides (NO_x). Motor vehicle emissions are the main source of NO_x in urban areas. NO_x is very toxic to animals and humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membrane, and skin. In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, and lowers resistance to such diseases as pneumonia and influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations can suffer from lung irritation or possible lung damage. Precursors of NO_x, such as nitrogen oxide and NO_2, are attributed to the formation of O_3 and $PM_{2.5}$. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

Ozone

O_3 is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOCs) or ROG and NO_x undergo photochemical reactions that occur only in the presence of sunlight. The primary source of ROG emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust. NO_x forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level O_3 to form. Ground-level O_3 is the primary constituent of smog. Because O_3 formation occurs over extended periods of time, both

O_3 and its precursors are transported by wind and high O_3 concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when O_3 levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level O_3 exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

Particulate Matter

Particulate matter includes both aerosols and solid particulates of a wide range of sizes and composition. Of concern are those particles smaller than or equal to 10 microns in diameter size (PM_{10}) and smaller than or equal to 2.5 microns in diameter ($PM_{2.5}$). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles. PM_{10} is generally emitted directly as a result of mechanical processes that crush or grind larger particles or form the resuspension of dust, typically through construction activities and vehicular travel. PM_{10} generally settles out of the atmosphere rapidly and is not readily transported over large distances. $PM_{2.5}$ is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including NO_x, sulfur oxides (SO_x) and VOCs. $PM_{2.5}$ can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne PM are on the respiratory system. Short-term exposure of high $PM_{2.5}$ and PM_{10} levels are associated with premature mortality and increased hospital admissions and emergency room visits. Long-term exposure is associated with premature mortality and chronic respiratory disease. According to the USEPA, some people are much more sensitive than others to breathing PM_{10} and $PM_{2.5}$. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

3.4.1.3 Toxic Air Contaminants

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Additionally, diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The solid emissions in diesel exhaust

are known as Diesel Particulate Matter (DPM). In 1998, California identified DPM as a TAC based on its potential to cause cancer, premature death, and other health problems (e.g., asthma attacks and other respiratory symptoms). Those most vulnerable are children (whose lungs are still developing) and the elderly (who may have other serious health problems). Overall, diesel engine emissions are responsible for the majority of California's known cancer risk from outdoor air pollutants. Diesel engines also contribute to California's $PM_{2.5}$ air quality problems. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

Diesel Exhaust

Most recently, CARB identified DPM as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (e.g., heavy-duty, light-duty), engine operating conditions (e.g., idle, accelerate, decelerate), fuel formulations (e.g., high/low sulfur fuel), and the year of the engine (USEPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs; due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

3.4.2 Regulatory Setting

3.4.2.1 Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the National Ambient Air Quality Standards (NAAQS), with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide (CO_2) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO_2.

NAAQS are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those sensitive receptors most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If the USEPA has designated an area as unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation.

3.4.2.2 State

California Clean Air Act

The California Clean Air Act (CCAA) allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards (NAAQS). CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the California Ambient Air Quality Standards. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California State Implementation Plan (SIP)

The CCAA (and its subsequent amendments) requires the state to prepare an air quality control plan referred to as the SIP. The SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over the air basins. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA. State law designates CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register.

Local air districts prepare air quality attainment plans or air quality management plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

Tanner Air Toxics Act and Air Toxics *Hot Spots* Information and Assessment Act

CARB's statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics *Hot Spots* Information and

Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, AB 2588 was amended by Senate Bill 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

3.4.3 Environmental Impacts

3.4.3.1 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, air quality impacts are considered significant if implementation of the Proposed Project would:

- conflict with or obstruct implementation of an applicable air quality plan;
- result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- expose sensitive receptors to substantial pollutant concentrations; or
- result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. As previously stated, the Project spans multiple counties and multiple local air quality districts including the MCAPCD, LCAPCD and NSAQMD. In the absence of established significance thresholds from these air quality districts, Project emissions would be compared to thresholds established by the Placer County Air Pollution Control District (PCAPCD) order to evaluate criteria pollutant impacts. The use of these thresholds is appropriate for the purposes of this analysis because the PCAPCD regulates air quality in the MCAB, which encompasses the Project Site, and because Placer County has similar geomorphic and urban patterns as Modoc, Sierra, and Lassen counties.

The PCAPCD has established thresholds of significance for air quality for construction and operational activities of land use development projects such as that proposed, as shown in Table 3.4-2.

Table 3.4-2. PCAPCD Significance Thresholds – Pounds per Day

Air Pollutant	Construction Activities	Operations
ROG	82	55
NO_x	82	55

Table 3.4-2. PCAPCD Significance Thresholds – Pounds per Day		
Air Pollutant	**Construction Activities**	**Operations**
CO	–	–
SO_x	–	–
PM_{10}	82	82
$PM_{2.5}$	–	–

Source: PCAPCD 2017

3.4.3.2 Methods of Analysis

Emissions were modeled by Stantec using the California Emissions Estimator Model (CalEEMod), version 2022.1.1.5. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults in combination with the provided Project specific information contained in Chapter 2.0. Potential operational air pollutant emissions associated with the Project are addressed qualitatively.

3.4.3.3 Project Impacts and Mitigation Measures

Impact AIR-1	**Would the Project conflict with or obstruct implementation of the applicable air quality plan?**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. CARB is the lead agency for developing the SIP in California. Local air districts prepare air quality attainment plans or air quality management plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis. All three air districts which encompass the Project Site are located in rural areas with what is generally considered good air quality due to few air quality standard exceedances and have not adopted clean air plans or SIP. However, there are regions in the Project Area that are designated as nonattainment for the state standard for PM_{10}. PM emissions, primarily PM_{10}, could

result in fugitive dust emissions during construction earth-disturbing activities. During construction, exhaust and fugitive dust emissions would be generated from equipment delivery, construction personnel commutes, and operation of various types of equipment and vehicles. As such, the implementation of Mitigation Measure AIR-1 during Project construction is required to control fugitive dust and reduce the nuisance of PM_{10} emissions. Therefore, the Project would not conflict with or obstruct implementation of the applicable air quality plan, and the impacts would be less than significant with mitigation.

Mitigation Measures

The following mitigation measures shall apply to the Proposed Project.

AIR-1: The Applicant shall implement measures to control fugitive dust in compliance with all applicable local air district(s) standards. Dust control measures shall include the following at a minimum:

- All exposed surfaces with the potential of dust-generating shall be watered, or covered with coarse rock or similar materials to reduce the potential for airborne dust from leaving the site.
- The simultaneous occurrence of more than two ground disturbing construction phases on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- Cover all haul trucks entering/leaving the site and trim their loads as necessary.
- Use wet power vacuum street sweepers to sweep all paved access road, parking areas, staging areas, and public roads adjacent to Project Sites on a daily basis (at minimum) during construction. The use of dry power sweeping is prohibited.
- All trucks and equipment, including their tires, shall be washed off prior to leaving Project Sites.
- Apply gravel or non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at Project Sites.
- Water and/or cover soil stockpiles daily.
- Vegetative ground cover shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- All vehicle speeds shall be limited to fifteen (15) miles per hour or less on unpaved areas.
- Implement dust monitoring in compliance with the standards of the local air district.
- Halt construction during any periods when wind speeds are in excess of 50 mph.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation because fugitive dust emissions during construction would be avoided or minimized.

Impact AIR-2	**Would the Project result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is non-attainment under an applicable federal or state ambient are quality standard?**
Impact Determination	*Less than Significant*

Impact Discussion

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulatively considerable.

Implementation of the Proposed Project could result in air quality impacts during Project Construction. Once construction of the Proposed Project is complete it would not be a source of criteria air pollutants.

Project Construction Emissions

Construction associated with the Proposed Project would generate short-term emissions of criteria air pollutants, including ROGs, CO, NO_x, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions would occur from fugitive dust (due to earthwork and excavation) and from construction equipment exhaust. Exhaust emissions from construction related activities include emissions associated with the transport of machinery and supplies to and from the Project Site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to and from the site. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but have the potential to represent a significant air quality impact.

Construction-generated emissions associated with the Proposed Project were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Appendix B provides more information regarding the construction assumptions, including construction equipment and duration, used in this analysis. Table 3.4-3 shows the daily construction emissions, which includes construction activities located at different areas along the installation route but that could potentially occur simultaneously. Construction-generated emissions are short-term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the PCAPCD significance thresholds.

Table 3.4-3. Project Construction-Related Emissions			
Source	**Daily Emissions (Pounds per Day)**		
	ROG	**NO_x**	**PM_{10}**
Project Construction	64.4	39.9	21.6
PCAPCD Significance Threshold	*82*	*82*	*82*
Exceeds Threshold?	**No**	**No**	**No**

Source: CalEEMod version 2022.1.1.5. Refer to Appendix B for Model Data Outputs.
Notes: Emissions taken from the season (summer or winter) with the highest output. Building construction, paving, and painting assumed to occur simultaneously. Emissions account for the cut of 400 cubic yards of soil.

As shown in Table 3.4-3, emissions generated during Project construction would not exceed PCAPCD thresholds of significance. Therefore, criteria pollutant emissions generated during Project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard. Construction air quality impacts would be less than significant.

Project Operations

Operations of the Project would be predominately limited to the intermittent use of backup, emergency generators that would be used on an as-needed basis and repair visits in the event of an emergency. Automobile trips are also expected in the instances of an emergency or repair. A conservative estimate of two average daily trips per day was assumed, when in reality, the trip rate is likely to be much lower. The intermittent use of emergency generator and repair visits may generate operational emissions of criteria air pollutants such as PM_{10}, $PM_{2.5}$, CO, and SO_2 as well as O_3 precursors such as ROG and NO_X. Long-term operational emissions attributable to the Project are identified in Table 3.4-4 and compared to the operational significance thresholds promulgated by the PCAPCD.

As shown in Table 3.4-4, the Proposed Project's emissions would not exceed the PCAPCD thresholds of significance for any criteria air pollutants during operation. As such, the impact would be less than significant.

Table 3.4-4. Operational-Related Criteria Air Pollutant Emissions						
Construction Year	**Pollutant (pounds per day)**					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Summer/Winter Emissions						
Mobile	0.01	<0.005	0.02	<0.005	<0.005	<0.005
Area	0.03	-	-	-	-	-
Energy	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Table 3.4-4. Operational-Related Criteria Air Pollutant Emissions						
Construction Year	**Pollutant (pounds per day)**					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Stationary	3.52	9.83	12.8	0.02	0.52	0.52
Total:	**3.56**	**9.84**	**13.0**	**0.02**	**0.52**	**0.52**
Significance Threshold	*55*	*55*	*N/A*	*N/A*	*82*	*N/A*
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2022.1.1.5. Refer to Appendix B for Model Data Outputs.
Notes: Summer and Winter emissions are identical. Operational emissions were calculated using a combination of model defaults for Lassen County and a conservative assumption of two repair trips per day. Refer to Appendix B for Model Data Outputs.

Mitigation Measures

No mitigation measures are required.

Impact AIR-3	**Would the Project expose sensitive receptors to substantial pollutant concentrations?**
Impact Determination	*Less than Significant*

Impact Discussion

Project Construction

Construction-related activities would result in temporary, short-term Project-generated emissions of DPM, ROG, NO_x, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment for material extraction; soil hauling truck traffic; and other miscellaneous activities. As shown in Table 3.4-3 the Project would not exceed the significance thresholds for Project construction.

The health effects associated with O_3 are generally associated with reduced lung function. Because the Project would not involve construction activities that would result in O_3 precursor emissions (ROG or NO_x) in excess of Project significance thresholds, the Project is not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

CO tends to be a localized impact associated with a large number of idling automobiles at congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The Project would not involve activities that would result in substantial amounts of CO emissions. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM_{10} and $PM_{2.5}$) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For implementation activity, DPM is the primary TAC of concern. PM_{10} exhaust is considered a surrogate for DPM as PM_{10} exhaust includes emissions of exhaust $PM_{2.5}$ and all diesel exhaust are considered to be DPM. DPM derives from combustion, such as use of gasoline and diesel fuels by motor vehicles. As with O_3 and NO_x, the Project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed the thresholds. Additionally, the Project would be required to comply with Mitigation Measure AIR-1, which limits the amount of fugitive dust generated during construction activities. Accordingly, the Project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

In summary, the Project would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. A less than significant impact would occur.

Project Operations

Upon Project completion, there would not be a source of air toxics because there are no stationary or regular mobile sources associated with the Project. The Project is proposing the use of emergency generators, but they would be used on an as-needed, intermittent basis. The Project also may result in emergency or repair trips. As shown in Table 3.4-4, operations would not result in the generation of any criteria air pollutants above the PCAPCD significance thresholds for Project operations. As such, the impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact AIR-4	**Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**
Impact Determination	*No Impact*

Impact Discussion

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity, but may have

sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the words *strong* or *pungent* to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average person.

Project Construction

During Project construction, the Proposed Project presents the potential for the generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the point of emission. However, these emissions are short term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. As such, no impact would occur.

Project Operations

Land uses that are associated with odors include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project would not include any of the land uses that have been identified as odor sources. Thus, there would be no impact associated with operational odors.

Mitigation Measures

No mitigation measures are required.

3.4.4 Cumulative Impacts

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulatively considerable. As identified in the analysis above, the Project would not exceed significance thresholds. Thus, the Project is considered less than cumulatively considerable in terms of air quality-related impacts.

3.5 Biological Resources

This section describes the environmental setting for biological resources, including the existing site conditions and regulatory setting, impacts that would result from the Proposed Project, and, if significant impacts are identified, the mitigation measures that would reduce these impacts. This section was based on information provided in the PEA (Stantec 2020), including a Biological Resource Technical Report (BRTR) (Stantec 2020) contained as Appendix C of this document. The BRTR contains details regarding the desktop and field analyses conducted to identify vegetation communities and special status species occurring within, and potentially affected by, the Project segment in California. The BRTR also contains a delineation of jurisdictional Waters of the U.S. and the results of rare plant surveys contained in a Botanical Resources Report as appendices to the BRTR.

3.5.1 Environmental Setting

3.5.1.1 Study Area

The Study Area for this analysis comprises 6,011 acres and is titled the *Biological Resources Survey Area* or *Study Area* in Stantec's BRTR (Appendix C). The Study Area for the Project includes the entire Caltrans right-of-way along United States Route 395 (US 395) and the Lassen County rights-of-way along County Route A3 and Cummings Road, plus ancillary facilities, staging areas, and materials storage yards outside of these rights-of-way (Appendix F1). The Caltrans and Lassen County rights-of-way vary in width from 20 to 250 feet measured from the edge of pavement to the edge of the right-of- way boundaries. The Study Area includes both private and public lands. Public lands include land owned by Bureau of Indian Affairs, Bureau of Land Management (BLM), United States Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and California State Lands Commission (CSLC). The portion of the new fiber optic line that would run along Standish Buntingville Road (Lassen County Road A3) and Cummings Road is within land owned by Lassen County. Private lands in the Study Area occur within the jurisdictions of the counties of Modoc, Lassen, and Sierra, and within the City of Alturas.

The Study Area overlaps three ecoregions of California: the Eastern Cascade Slopes and Foothills, the Northern Basin and Range, and the Central Basin and Range (Stantec 2020). Elevations range from approximately 4,006 to 5,570 feet along the route. The topography varies from level to moderately sloped foothills and high mountain passes. The surrounding landscape has similar topography as well as some high mountain peaks, with Eagle Peak (9,895 feet) being the highest mountain near the Study Area.

The Study Area extends through California's Modoc bioregion as it follows US 395 from the Oregon border south to the Nevada border. The Modoc bioregion's climate is characterized as dry, cold, and continental. The average annual rainfall as reported from the City of Alturas is approximately 12 inches, and the average annual snowfall is 30 inches (Stantec 2020). Air temperatures range from an average January high of 42 degrees Fahrenheit to an average July high of 88 degrees Fahrenheit (Stantec 2020).

The Modoc bioregion is further separated into the Modoc Plateau and Basin and Range geomorphic provinces. The Modoc Plateau is a volcanic table landscape that generally occurs at elevations from 4,000 to 6,000 feet above sea level (Stantec 2020). The primary watershed of the Modoc Plateau is the Pit River

watershed, which drains in a westerly direction into the Sacramento River. The plateau supports many high desert plant communities, including juniper woodlands, sagebrush steppes, sagebrush scrub, and perennial and annual grasslands. Several wetland plant communities are also present in the region, including riparian wetlands, marshes, seasonal wetlands, and vernal pools. In addition to natural vegetation communities, numerous cattle ranches and agricultural fields occur, particularly along the US 395 right-of-way.

The Basin and Range portion of the Modoc bioregion is the westernmost part of the much larger Great Basin and is characterized by fault-bounded mountain ranges that are separated by broad basins or valleys (Stantec 2020). Basins within the Modoc bioregion generally occur at elevations greater than 3,000 feet above sea level. Most streams and rivers of the Basin and Range drain into lakes and playas in the interior of the continent. The Basin and Range is dominated by sagebrush and salt-desert scrub communities. Wetlands and alkali flats are present and generally occur at lower elevations in the basins. Most of the Basin and Range portion of the Project segment is undeveloped, with some agricultural lands bordering prominent streams. Free range cattle grazing is a common land use where water sources are available.

3.5.1.2 Vegetation Communities

Natural vegetation communities in the Study Area were mapped by Stantec to the alliance level following the second edition of *A Manual of California Vegetation* as updated in the current online edition (Stantec 2020). The alliance classification is determined by plant species dominance, co-dominance, or importance in the stratum (i.e., tree, shrub, or herbaceous layers). The association level is a subcomponent of an alliance classification and describes the variety of vegetation under each alliance.

Stantec used several resources to identify and classify vegetation communities within the Study Area including the CDFW's *California Vegetation Inventory*, USFWS' National Wetland Inventory, Google Earth aerial imagery dating back to 1985, and Google Earth Street View (Stantec 2020). Prior to conducting field surveys, potential vegetation community boundaries were digitized using current ArcGIS software and were loaded onto a working field map that was then used as a reference and refined during field surveys in 2019 and 2020 (Stantec 2020).

Stantec then conducted surveys to characterize natural vegetation communities on September 17 and 18, 2019. The biologists noted general conditions of the mapped habitat communities relative to special status species habitat requirements. and conducted a quality check during the 2020 surveys. The vegetation mapping included the entire Caltrans and Lassen County rights-of-way (Stantec 2020).

Stantec botanists mapped vegetation in the field by walking and driving along the Study Area and assessing plant species composition and vegetative cover within stands (Stantec 2020). Stantec used the ArcGIS Collector application on tablets and phones to collect vegetation data in the field. The tablets were paired with Global Positioning System (GPS) receivers for increased accuracy. All stands were classified to the alliance level, or association level when an association was present (Stantec 2020). Stantec botanists delineated the boundaries of natural communities based on characteristics observed in the field and vegetation signatures observed on aerial imagery during the desktop review. Information was collected by

Stantec botanists to document each mapped vegetation community, including plant species composition (i.e., percent relative cover of dominant and sub-dominant species within each stratum), stand structure, regional occurrence, and other notable characteristics (Stantec 2020).

Stantec digitized the delineated boundaries in current ArcGIS software for display and data query purposes. Stantec used vegetation signatures on aerial imagery to map vegetation communities in inaccessible areas; thus, the vegetation mapping was performed in the entire Study Area.

A total of 61 natural vegetation communities occur in the Study Area (Table 3.5-1) (Stantec 2020). Descriptions of each vegetation community are contained within the BRTR (Appendix C) and mapped in conjunction with Project components in Appendix F1). The Western juniper woodland alliance occurs throughout the Study Area and is the most common type of tree-dominated vegetation community observed. The big sagebrush alliance is the most common shrubland vegetation community throughout the Study Area. Cheatgrass grassland alliance occurs throughout the Study Area, especially in disturbed roadside areas, and is the most common herbaceous community observed. Descriptions of each natural vegetation community are contained within the BRTR.

Stantec biologists encountered several natural communities in the Study Area that are not currently described in *A Manual of California Vegetation* because the Study Area occurs in an area currently being classified or that remains unclassified (Stantec 2020). As a result, Stantec designated several new alliance and association types not currently provided in *A Manual of California Vegetation*. These natural vegetation communities are included in Table 3.5-1 below.

Table 3.5-1 Natural Vegetation Communities in Study Area

Alliance	Association	Acreage in Study Area
Forests and Woodlands		
Western juniper woodland	*Juniperus occidentalis / Artemisia arbuscula – Purshia tridentata / Festuca idahoensis*	1.10
	Juniperus occidentalis / Artemisia arbuscula / Poa secunda	8.65
	Juniperus occidentalis / Artemisia arbuscula / Stipa thurberiana	0.10
	Juniperus occidentalis / Artemisia tridentata – Purshia tridentata	20.24
	Juniperus occidentalis – (Pinus jeffreyi – Pinus ponderosa) / Cercocarpus ledifolius	0.68
	Juniperus occidentalis / Poa secunda – Elymus elymoides	0.10
	Juniperus occidentalis	4.26
	Juniperus occidentalis - Pinus jeffreyi / (Purshia tridentata)	0.13

Table 3.5-1 Natural Vegetation Communities in Study Area

Alliance	Association	Acreage in Study Area
Jeffrey pine forest	*Pinus jeffreyi / Purshia tridentata*	1.15
Aspen groves	*Populus tremuloides / Symphoricarpos rotundifolius*	0.19
Black cottonwood forest	*Populus trichocarpa*	0.06
Shrublands		
Little sagebrush scrub	*Artemisia arbuscula* ssp. *arbuscula / Bromus* spp. *–Elymus caput- medusae*	4.44
	Artemisia arbuscula ssp. *arbuscula / Poa secunda*	15.45
Silver sagebrush scrub	*Artemisia cana* ssp. *bolanderi,* ssp. *viscidula / Poa secunda*	<0.00
Big sagebrush	*Artemisia tridentata – Ephedra viridis / Pseudoroegneria spicata*	<0.00
	Artemisia tridentata – Ericameria nauseosa / Bromus tectorum	66.08
	Artemisia tridentata / Bromus tectorum	12.24
	Artemisia tridentata / Distichlis spicata	<0.00
	Artemisia tridentata	79.42
	Artemisia tridentata ssp. *wyomingensis – Peraphyllum ramosissimum*	0.27
	Artemisia tridentata ssp. *wyomingensis / Stipa thurberiana – Poa secunda*	2.61
Mountain big sagebrush	*Artemisia tridentata* ssp. *vaseyana*	1.89
Rubber rabbitbrush scrub	*Ericameria nauseosa / Bromus tectorum*	18.06
	Ericameria nauseosa	1.57
Bitter cherry thickets	*Prunus emarginata*	<0.00
Klamath plum thickets	*Prunus subcordata / Elymus cinereus*	<0.00
Bitterbrush scrub	*Purshia tridentata – Artemisia arbuscula*	0.13
	Purshia tridentata – Artemisia tridentata – Tetradymia canescens	0.12
	Purshia tridentata – Artemisia tridentata / Bromus tectorum	0.22
	Purshia tridentata – Artemisia tridentata	24.24
	Purshia tridentata – Prunus subcordata	<0.00

Table 3.5-1 Natural Vegetation Communities in Study Area

Alliance	Association	Acreage in Study Area
Interior rose thickets	*Rosa woodsii*	0.71
Sandbar willow thickets	*Salix exigua / Juncus balticus*	0.61
	Salix exigua	6.64
Shining willow groves	*Salix lucida – Rosa woodsii /* Mixed Herbs	0.16
Greasewood scrub	*Sarcobatus vermiculatus – Artemisia tridentata*	7.16
	Sarcobatus vermiculatus	0.15
Herbaceous Vegetation		
Crested wheatgrass rangelands	*Agropyron cristatum*	<0.00
Meadow foxtail meadows	*Alopecurus pratensis*	24.20
Cheatgrass grassland	*Bromus tectorum – Agropyron cristatum*	0.08
	Bromus tectorum – Elymus caput- medusae	<0.00
	Bromus tectorum	44.08
Sheldon's sedge patch	*Carex sheldonii – Leymus cinereus*	0.80
One spike oat grass meadows	*Danthonia unispicata – Poa secunda*	0.34
Ashy ryegrass meadows	*Elymus cinereus – Alopecurus geniculatus*	0.59
	Elymus cinereus	2.24
Blue wild rye montane meadows	*Elymus glaucus –- Medicago sativa*	9.64
Blue bunch wheat grass meadows	*Pseudoroegneria spicata – Poa secunda*	0.22
Baltic rush marshes	*Juncus arcticus* ssp. *balticus*	3.40
Reed canary grass swards	*Phalaris arundinacea*	<0.00
Hardstem bulrush marshes	*Schoenoplectus acutus*	0.02
American bulrush marsh	*Schoenoplectus americanus*	<0.00
Needle-and-thread grassland	*Stipa comata*	0.20
Tansyleaf evening primrose patch	*Taraxia tanacetifolia – Iva axillaris*	0.03
Broadleaf cattail marsh	*Typha latifolia*	<0.00

Table 3.5-1 Natural Vegetation Communities in Study Area

Alliance	Association	Acreage in Study Area
Other		
Agriculture	Not applicable	0.47
Anthropogenic areas of little or no vegetation	Not applicable	85.50
Planted trees and shrubs	Not applicable	0.30
Western North American sparsely vegetated river shore	Not applicable	0.24

Sixteen wildlife habitat communities were defined within the Study Area following CDFW's *A Guide to Wildlife Habitats of California* (Stantec 2020). Wildlife habitat communities are more generalized vegetation communities differentiated by their potential to provide habitat for different groups of species. Descriptions of the wildlife habitat communities that occur within the Study Area are provided below.

Jeffrey Pine Habitat

The Jeffrey pine community occurs in one location west of Honey Lake and comprises 1.14 acres of the Study Area. This community is dominated by Jeffrey pine and western juniper. The understory primarily consists of shrubs, including big sagebrush and bitterbrush.

Juniper Habitat

Juniper occurs throughout the Study Area and is the most common tree-dominated habitat community. This forest community consists of 39.85 acres within the Study Area and is dominated by western juniper, little sagebrush, curl-leaf mountain mahogany, bitterbrush, and big sagebrush. Perennial grasses and herbs occur among the trees and shrubs, including blue fescue, curly bluegrass, and Thurber's needle grass.

Aspen Habitat

The aspen community occurs in the northern portion of the Study Area near the North Fork of the Pit River and comprises 0.19 acre within the Study Area. This forest community is dominated by aspen, with mountain snowberry in the shrub layer.

Montane Chaparral Habitat

Montane chaparral comprises 0.0003 acre at the far northern end of the Study Area near Goose Lake. This community is dominated by bitter cherry and Klamath plum along with big sagebrush, yellow rabbitbrush, and rubber rabbitbrush. Native bunch grasses such as ashy ryegrass and curly bluegrass occur between the shrubs.

Bitterbrush Habitat

The bitterbrush community occurs in many topographic settings throughout the Study Area but is most prominent in highly permeable and well-drained soils characteristic of sagebrush steppe environments. This shrub community comprises 26.53 acres within the Study Area and is dominated by bitterbrush, big sagebrush, rubber rabbitbrush, and spineless horsebrush.

Sagebrush Habitat

The sagebrush community occurs in a variety of topographic settings and is the most common habitat community in the Study Area. This shrub community comprises 195.71 acres within the Study Area, is characterized by big sagebrush, and is present in pure stands with grasses and forbs as well as in stands co-dominated with rubber rabbitbrush and bitterbrush. Other sagebrush communities include little sagebrush, silver sagebrush, and mountain big sagebrush. Little sagebrush occurs in rocky/shale flats and open rocky ground throughout the Study Area. Silver sagebrush occurs in one mesic area north of Mud Flat, and is co-dominant with big sagebrush, interior rose, and greasewood. Mountain big sagebrush occurs in foothills and on mountain slopes adjacent to Goose Lake and Honey Lake in the Study Area.

Alkali Desert Scrub Habitat

The alkali desert scrub community occurs in areas with high concentrations of alkaline soils such as those found in old lakebeds, playas, and intermittently flooded desert sinks in the central portion of the Study Area. This shrub community comprises 7.32 acres within the Study Area and is dominated by greasewood and yellow rabbitbrush. This community contains an understory characterized by grasses such as cheatgrass, bulbous bluegrass, and saltgrass. An herbaceous inclusion of this shrub community occurs in Mud Flat, a dry alkali lakebed in the central portion of the Study Area. The herbaceous layer is dominated by tansyleaf evening primrose and poverty weed.

Annual Grassland Habitat

Annual grasslands are dominated by nonnative invasive grass species and occur throughout the Study Area in disturbed roadside areas. This community comprises 52.77 acres within the Study Area. Cheatgrass dominates the community and often co-occurs with medusahead and other nonnative grasses and forbs.

Perennial Grassland Habitat

Perennial grasslands occur throughout the Study Area and are dominated by perennial native grasses. This community comprises 40.72 acres within the Study Area. Common grass species in this community include crested wheatgrass, meadow foxtail, onespike oatgrass, curly bluegrass, ashy ryegrass, saltgrass, and squirreltail. Scattered shrubs such as big sagebrush and patches of annual grasses also occur throughout this vegetation community.

Wet Meadow Habitat

Wet meadow occurs in wet seeps and drainages adjacent to large grasslands throughout the Study Area. This community comprises 4.17 acres within the Study Area and is dominated by Baltic rush and may be co-dominant with yarrow, spike rushes, and Nebraska sedge.

Fresh Emergent Wetland Habitat

Fresh emergent wetland comprises 0.02 acre and occurs in select locations in the central and southern portions of the Study Area. This community occurs in semi-permanently flooded freshwater marshes and is dominated by broadleaf cattail and hardstem bulrush. Other common species in this community include spike rushes, Nebraska sedge, rushes, and a low cover of riparian shrubs, including willow.

Montane Riparian Habitat

The montane riparian community occurs along streams and within meadows throughout the Study Area. Within the Study Area, this community comprises 8.14 acres of riparian shrub species, including interior rose, sandbar willow, Himalayan blackberry, shining willow, and arroyo willow.

Riverine Habitat

Riverine habitat comprises 0.54 acre and includes the open water and non-vegetated portions of perennial and intermittent streams in the Study Area, including the Pit River, Long Valley Creek, and Secret Creek, and other features that either flow year-around or have a non-vegetated river channel.

Irrigated Hayfields

Irrigated hayfield includes areas used for alfalfa and hay production. These areas comprise 0.47 acre in the northern portion of the Study Area.

Urban Areas

Urban areas are dominated by ornamental trees and shrubs and comprise 0.29 acre of the Study Area. These areas include hedges, ornamental trees, and other landscaping in rural residential areas. Most areas mapped as urban occur in the northern half of the Study Area.

Barren Areas

Barren areas are defined in CDFW's *A Guide to Wildlife Habitats of California* as areas that naturally or artificially contain less than two percent herbaceous vegetation cover or less than 10 percent tree or shrub cover (Stantec 2020). Barren areas mainly occur in areas that are not vegetated due to human activity and land use. These areas include roads, road shoulders, structures, and parking areas throughout the Study Area and comprise 85.47 acres.

3.5.1.3 Special Status Species

The California Public Utilities Commission's *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-filing and Proponent's Environmental Assessments* defines special status species as species that are:

- Listed, candidates, or proposed for listing under the federal Endangered Species Act (ESA) or California ESA;
- Plants listed as rare or endangered under the California Native Plant Protection Act);
- Species that meet the definitions of rare and endangered under CEQA;
- Plants considered by the California Native Plant Society to be "rare, threatened or endangered in California" (California Rare Plant Rank [CRPR] 1A, 1B, 2A, and 2B), as well as California Rare Plant Rank 3 and 4 plant species;
- Species designated by CDFW as Fully Protected or as a Species of Special Concern (SSC);
- Species protected under the Bald and Golden Eagle Protection Act;
- Birds of Conservation Concern (BCC) or Watch List species; and
- Bats considered by the Western Bat Working Group (WBWG) to be *high* or *medium* priority.

Collectively, species that meet any of these designations are herein referred to as *special status species*.

In addition, for the purposes of this analysis, species considered sensitive by the BLM and by the United States Forest Service (USFS) are also considered special status species. BLM Sensitive species are defined as follows pursuant to BLM Manual Section 6840:

> BLM sensitive species are: (1) species listed or proposed for listing under the Endangered Species Act (ESA), and (2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA, which are designated as Bureau sensitive by the State Director(s). All Federal candidate species, proposed species, and delisted species in the 5 years following delisting will be conserved as Bureau sensitive species.

USFS Sensitive species are defined as:

> plant and animal species identified by a regional forester that are not listed or proposed for listing under the federal Endangered Species Act for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution. Regional Foresters shall identify sensitive species occurring within the region.

A combination of literature review and field surveys were used to determine the potential for special status species to occur in the Study Area as described below.

Literature Review

Stantec Biologists obtained lists of federally listed species and designated critical habitats within the Study Area using the USFWS Information for Planning and Conservation (IPaC) tool on October 23, 2019 and updated on June 9, 2020 (Appendix G). Because the Study Area lies within the jurisdiction of two USFWS offices, the Klamath Falls and Reno field offices each provided an official species list. These lists are contained in Appendix C of the BRTR entitled *USFWS Consultation Letters* (Stantec 2020) (Appendix C of this document). A federal species list was not obtained from the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS; Stantec 2020) because the Study Area is situated entirely inland with no tributaries to marine waters.

The following resources were also used to identify special status species that are known to occur, or have the potential to occur, within a five-mile search buffer of the Study Area (Stantec 2020):

- CDFW's Special Vascular Plants, Bryophytes, and Lichens List;
- CDFW's Special Animals List;
- USFWS' list of Birds of Conservation Concern;
- WBWG's list of Western Bat Species Regional Priority Matrix;
- CDFW's California Natural Diversity Database (CNDDB; results within the 7.5-minute US Geological Survey topographic quadrangles in the Study Area, as well as those quadrangles immediately adjacent called the *search buffer*);
- California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California; and
- Cornell Lab of Ornithology's *eBird* website.

For the purposes of this analysis, the potential for a species to occur within the Study Area is defined as follows:

- Not Expected (NE) – species with no range overlap within the Study Area
- Low Potential (Low) – species with no or limited suitable habitat within the Study Area
- Moderate Potential (Moderate) – species with suitable habitat present but either no publicly available occurrence records or no historical publicly available occurrence records (i.e., more than 25 years old) within the Study Area
- High Potential (High) – species with suitable habitat present and recent publicly available occurrence records within the Study Area (within the last 25 years)
- Present (Present) – species documented within or adjacent to the Study Area during field surveys

Plants

Pedestrian field surveys were conducted by Stantec biologists for the Project from May to August 2019 and April to August 2020 on the following dates (Stantec 2020):

- May 22-31, 2019
- June 1-9, 2019
- June 18-27, 2019
- July 29, 2019
- August 3-4, 2019
- April 27-28, 2020
- May 6-31, 2020
- June 2-23, 2020
- August 4-6, 2020

Botanical surveys were performed within 5,538 acres of the 6,011-acre Study Area by walking meandering transects (Stantec 2020). The botanical surveys were performed in accordance with the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive natural Communities* (Stantec 2020) and *Survey Protocols Required for NEPA/ESA Compliance for BLM special-Status Species* (Stantec 2020) for BLM lands. The botanical survey area excluded 473 acres of the Study Area that were inaccessible due to fencing or unsafe conditions. Botanists identified each species observed to the taxonomic level necessary to identify special status plant species. Methods for plant identification are described in a Botanical Resources Report contained in Appendix D of the BRTR. Stantec botanists listed all plant species observed and mapped special status plant species populations with GPS units (Stantec 2020). The complete list of all plant species observed during each of the surveys is contained in the Botanical Resources Report.

Stantec botanists visited nearby reference populations for 40 special status plant species with the potential to occur to determine if the plants were in bloom or were otherwise identifiable at the time of the survey (Stantec 2020) (see Tables 3.5-2 through 3.5-5). These visits also provided the field team an opportunity to refine their search images for specific taxa. Stantec queried the California Natural Diversity Database to identify nearby reference populations. Field visits of these reference populations then took place between mid-May and mid-July of 2019 and 2020. Stantec did not locate reference populations for 19 out of 40 target special status species.

In addition to surveying reference populations, soils maps for the Study Area were reviewed to determine if any soils are known to occur that may provide suitable habitat for special status plant species, such as serpentine or limestone (Stantec 2020). The Consortium of California Herbaria and Calflora database were consulted to review specimen records, photographs, and habitat descriptions to better identify potential

special status species and their habitat. Stantec botanists consulted with several taxon experts to assist in plant identification during the course of the botanical survey, including (Stantec 2020):

- Genevieve Walden with the California Department of Food and Agriculture regarding playa phacelia (*Phacelia inundata*);
- Teresa Sholars with Mendocino College regarding intermountain lupine (*Lupinus pusillus* var. *intermontanus*);
- Don Mansfield with the University of Idaho for several raven's lomatium (*Lomatium ravenii*) varieties;
- Nick Otting with Oregon State University for identification of dotted onion (*Allium punctum*);
- Arnold Tiehm with the University of Nevada, Reno Herbarium for several taxa; and
- Sarah Canham, botanist for the BLM Prineville District, and Valda Lockie, ecologist in the Eagle Lake Field Office regarding botanical resource concerns on BLM lands, including special status plants and invasive plant species.

Stantec botanists visited the Reno Herbarium at the University of Nevada, Reno, on five separate occasions during the botanical survey (May 16, 21, and June 17, 2019, and August 4 and 5, 2020) to review herbarium specimens of target special status species, to review key characteristics, and to develop an accurate search image for field surveys.

Table 3-4 of the BRTR (Appendix C of this document) lists 127 special status plant species that are known to occur or determined to have the potential to occur within the Study Area along with their conservation status, habitat requirements, and potential for occurrence. Of these 127 plant species, Stantec botanists observed 39 special status plant species during field surveys that are confirmed to be present in the Study Area (Table 3.5-2). An additional 40 special status plant species are considered to have a high potential to occur in the Study Area as they have been observed within the Study Area in the past according to CNDDB records (Table 3.5-3).

Most of the 79 special status plant species present in or with a high potential to occur in the Study Area have a California Rare Plant Rank of 1B or 2B according to the CNPS, meaning that they are considered rare, threatened, or endangered in California by the CNPS. The following special status plant species on the CNPS' CRPR 1B.2 or 1B.3 (Raven's lomatium) have been observed in the Study Area:

- Ephemeral monkeyflower;
- Adobe lomatium;
- Volcanic beardtongue;
- Williams's combleaf; and
- Raven's lomatium.

Table 3.5-2 Special Status Plant Species Present in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
Ephemeral monkeyflower (*Erythranthe inflatula*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Gravelly or rocky. Vernally mesic soils. Elevation: 4,100-5,700 feet. Annual herb. Blooms May-August. Reference site visited but no population found.
Adobe lomatium (*Lomatium roseanum*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	Great Basin scrub, lower montane coniferous forest. Openings, gravelly or rocky soils. Elevation: 4,800-7,400 feet. Perennial herb. Blooms June-July. Reference site visited and population found.
Volcanic beardtongue (*Penstemon sudans*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	Great Basin scrub, lower montane coniferous forest (openings), pinyon and juniper woodland. Volcanic, rocky, and sometimes roadside soils. Elevation: 4,000-8,000 feet. Shrub (stem succulent). Blooms June-July. Reference site visited and population found.
William's combleaf (*Polyctenium williamsiae*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	Great Basin scrub, marshes, swamps, pinyon and juniper woodland, playas, and vernal pools. Sandy, volcanic, and lake margins. Elevation: 4,400-8,900 feet. Perennial herb. Blooms May-July.
Raven's lomatium (*Lomatium ravenii* var. *ravenii*)	—/—/1B.3/BLM Sensitive	Great Basin scrub. Adobe, clay loam, and alkaline soils. Elevation: 5,300-5,900 feet. Perennial herb. Blooms April – June. Reference site visited and population found.
Purple loco weed (*Astragalus agrestis*)	—/—/2B.2/BLM Sensitive	Great Basin scrub, meadows and seeps with vernally mesic soils. Elevation: 5,100-5,400 feet. Perennial herb. Blooms April-July. Reference site visited but no population found.
Woolly stenotus (*Stenotus lanuginosus* var. *lanuginosus*)	—/—/2B.2/ BLM Sensitive	Great Basin scrub, meadows and seeps, pinyon and juniper woodland. Gravelly loam. Elevation: 4,900-6,300 feet. Perennial herb. Blooms May-July.
Punctate onion (*Allium punctum*)	—/—/2B.2	Pinyon and juniper woodland. Rocky soil. Elevation: 3,900-5,250 feet. Perennial herb (bulb). Blooms April-May.

Table 3.5-2 Special Status Plant Species Present in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
Hillside arnica (*Arnica fulgens*)	—/—/2B.2	Great Basin scrub, lower montane coniferous forest, meadows and seeps. Mesic soils. Elevation: 4,900-8,900 feet. Perennial herb (rhizomatous). Blooms April-May.
Sickle saltbush (*Atriplex gardneri* var. *falcata*)	—/—/2B.2	Chenopod scrub and Great Basin scrub. Often with alkaline soil. Elevation: 3,900-5,600 feet. Perennial herb. Blooms May-August. Reference site visited and population found.
Slough sedge (*Carex atherodes*)	—/—/2B.2	Meadows, seeps, marshes, swamps, and pinyon and juniper woodland with mesic soil. Elevation: 4,300-5,100 feet. Perennial grasslike herb. Blooms June-August.
Sheldon's sedge (*Carex sheldonii*)	—/—/2B.2	Lower montane coniferous forest (mesic), marshes and swamps (freshwater), and riparian scrub. Elevation: 3,900-6,600 feet. Perennial grasslike herb (rhizomatous). Blooms May-August.
Great Basin calicoflower (*Downingia laeta*)	—/—/2B.2	Mesic Great Basin scrub, meadows and seeps, marshes and swamps (assorted shallow freshwater), mesic pinyon and juniper woodland, vernal pools. Elevation: 4,000-7,200 feet. Annual herb. Blooms May-July. Reference site visited but no population found.
Lemmon's goldflower (*Hymenoxys lemmonii*)	—/—/2B.2	Great Basin scrub, lower montane coniferous forest, meadows and seeps (subalkaline). Elevation: 800-11,100 feet. Perennial herb. Blooms June-August. Reference site visited and population found.
Rigid pea (*Lathyrus rigidus*)	—/—/2B.2	Great Basin scrub, pinyon and juniper woodland. Often disturbed areas. Elevation: 2,600-5,700 feet. Perennial herb. Blooms April – July.
Sagebrush bluebells (*Mertensia oblongifolia* var. *oblongifolia*)	—/—/2B.2	Great Basin scrub, lower montane coniferous forest, subalpine coniferous forest, meadows and seeps. Usually mesic soils. Elevation: 3,300-9,800 feet. Perennial herb. Blooms April-July.
Spiny milkwort	—/—/2B.2	Great Basin scrub, pinyon and juniper woodland. Gravelly and rocky soils.

Table 3.5-2 Special Status Plant Species Present in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
(*Polygala subspinosa*)		Elevation: 4,400-5,600 feet. Perennial herb. Blooms May-July. Reference site visited and population found.
Many-flowered thelypody (*Thelypodium milleflorum*)	—/—/2B.2	Chenopod scrub, Great Basin scrub (sandy). Elevation: 4,000-8,200 feet. Perennial herb. Blooms April-June. Reference site visited but no population found.
Golden violet (*Viola purpurea* ssp. *aurea*)	—/—/2B.2	Great Basin scrub, pinyon and juniper woodland. Sandy soils. Elevation: 3,300-8,200 feet. Perennial herb. Blooms April-June. Reference site visited and population found.
Dwarf lousewort (*Pedicularis centranthera*)	—/—/2B.3/BLM Sensitive	Great Basin scrub (alluvial). Elevation: 4,300-4,900 feet. Perennial herb. Blooms April-June. Reference site visited and population found.
Winged dock (*Rumex venosus*)	—/—/2B.3	Great Basin scrub (sandy). Elevation: 3,900-5,900 feet. Perennial herb. Blooms May-June. Reference site visited and population found.
Prairie woundwort (*Stachys pilosa*)	—/—/2B.3	Great Basin scrub (mesic), meadows and seeps. Elevation: 3,900-5,800 feet. Perennial herb. Blooms June-September. Reference site visited but no population found.
Green-flowered prince's plume (*Stanleya viridiflora*)	—/—/2B.3	Great Basin scrub (white ash deposits). Elevation: 4,300-5,200 feet. Perennial herb. Blooms May-August. Reference site visited and population found.
Cruciform evening- primrose (*Chylismia claviformis* ssp. *cruciformis*)	—/—/2B.3	Chenopod scrub and Great Basin scrub with clay soil. Elevation: 2,000-4,600 feet. Annual or perennial herb. Blooms March-May. Reference site visited and population found.
Nevada daisy (*Erigeron eatonii* var. *nevadincola*)	—/—/2B.3	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Rocky. Elevation: 5,000-9,500 feet. Perennial herb. Blooms May-July. Reference site visited and population found.
Nodding buckwheat (*Eriogonum nutans* var. *nutans*)	—/—/2B.3	Chenopod scrub, Great Basin scrub. Sandy or gravelly soils. Elevation: 4,000-9,800 feet. Annual herb. Blooms May-September.

Table 3.5-2 Special Status Plant Species Present in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
Modoc frasera (*Frasera albicaulis* var. *modocensis*)	—/—/2B.3	Great Basin grassland, sometimes in upper montane coniferous forest. Occurs in openings. Elevation: 3,000-5,700 feet. Perennial herb. Blooms May-July. Reference site visited and population found.
Lance-leaved scurf-pea (*Ladeania lanceolata*)	—/—/2B.3	Great Basin scrub (sandy). Elevation: 4,000-8,200 feet. Perennial herb. Blooms May – July. Reference site visited but no population found.
Intermountain lupine (*Lupinus pusillus* var. *intermontanus*)	—/—/2B.3	Great Basin scrub (sandy). Elevation: 4,000-6,800 feet. Annual herb. Blooms May-June. Reference site visited and population found.
Plummer's clover (*Trifolium gymnocarpon* ssp. *plummerae*)	—/—/2B.3	Great Basin scrub, pinyon and juniper woodland. Elevation: 4,900-6,300 feet. Perennial herb. Blooms May-June. Reference site visited and population found.
Modoc plateau milk vetch (*Astragalus pulsiferae* var. *coronensis*)	—/—/4.2/US Forest Service Sensitive	Great Basin scrub, lower montane coniferous forest, and pinyon and juniper woodland. Sandy, gravelly, and volcanic soils. Elevation: 4,400-6,200 feet. Perennial herb. Blooms May-June.
Sweet marsh ragwort (*Senecio hydrophiloides*)	—/—/4.2	Lower montane coniferous forest, meadows and seeps. Mesic. Elevation: 0-9,185 feet. Perennial herb. Blooms May-August. Population found.
Pine Creek evening- primrose (*Eremothera boothii* ssp. *alyssoides*)	—/—/4.3	Great Basin scrub. Sandy and gravelly soils. Elevation: 1,900-5,600 feet. Annual herb. Blooms May-August.
Volcanic daisy (*Erigeron elegantulus*)	—/—/4.3	Alpine boulder and rock field, Great Basin scrub, pinyon and juniper woodland, subalpine coniferous forest, and upper montane coniferous forest. Volcanic soils. Elevation: 3,200-8,800 feet. Perennial herb. Blooms March-August.
Hill buckwheat (*Eriogonum collinum*)	—/—/4.3	Great Basin scrub and pinyon and juniper woodland. Vertisol clay soils. Elevation: 4,200-5,900 feet. Annual herb. Blooms June-September.
Cusick stickweed (*Hackelia cusickii*)	—/—/4.3	Alpine boulder and rock field, pinyon and juniper woodland (rocky loam), and subalpine coniferous forest. Elevation: 3,900-6,600 feet. Perennial herb. Blooms April-July.

Table 3.5-2 Special Status Plant Species Present in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
Canby's lomatium (*Lomatium canbyi*)	—/—/4.3	Great Basin scrub and pinyon and juniper woodland. Elevation: 4,200-6,800 feet. Perennial herb. Blooms April – June.
Fremont's polyctenium (*Polyctenium fremontii* var. *fremontii*)	—/—/4.3	Great Basin scrub, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland, and playas. Mesic soils. Elevation: 3,200-6,800 feet. Perennial herb. Blooms April-July.
Snake milk-vetch (*Astragalus iodanthus* var. *diaphanoides*)	—/—/4.3	Chenopod scrub and Great Basin scrub (sandy, clay). Elevation: 3,900-4,600 feet. Perennial herb. Blooms April-June.

Source: Stantec 2020; CNPS Rare Plant Inventory, version V-9.5. Online at https://rareplants.cnps.org/ accessed January 2023 for updates on species' status.
Notes:
California Rare Plant Rank (CRPR) Codes:

1A	Presumed extirpated in California and either rare or extinct elsewhere
1B	Plants rare, threatened, or endangered in California and elsewhere
2B	Plants rare, threatened, or endangered in California but more common elsewhere
3	Review list: Plants about which more information is needed
4	Plants of limited distribution—a watch list

CRPR Threat Code Extensions:

xx.1	Seriously threatened in California
xx.2	Moderately threatened in California
xx.3.	Not very endangered in California

Table 3.5-3 Special Status Plant Species with High Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
Webber's ivesia (*Ivesia webberi*)	Federally Threatened/—/1B.1/US Forest Service Sensitive	Great Basin scrub (volcanic ash), lower montane coniferous forest, pinyon and juniper woodland. Sandy or gravelly. Elevation: 3,300-6,800 feet. Perennial herb. Blooms May-July. Reference site visited and population found.
Boggs Lake hedge-hyssop (*Gratiola heterosepala*)	—/State Endangered/1B.2/BLM Sensitive	Marshes and swamps (lake margins), vernal pools, freshwater wetlands and wetland-riparian. Clay. Elevation: 30-7,800 feet. Annual herb. Blooms April-August. Reference site visited but no population found.
Schoolcraft's wild buckwheat (*Eriogonum microthecum* var. *schoolcraftii*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	Great Basin scrub, pinyon and juniper woodland. Sandy to rocky soils. Elevation: 4,300-5,700 feet. Perennial herb. Blooms July-September. Reference site visited and population found.
Prostrate buckwheat (*Eriogonum prociduum*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	Great Basin scrub, pinyon and juniper woodland, upper montane coniferous forest. Volcanic soils. Elevation: 4,300-8,900 feet. Perennial herb. Blooms May-August. Reference site visited and population found.
Sierra Valley Ivesia (*Ivesia aperta* var. *aperta*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	Sagebrush scrub, yellow pine forest, northern juniper woodland. Dry, rocky meadows, and generally volcanic soils. Elevation: 4,900-7,500 feet. Perennial herb. Blooms June-September.
Plumas ivesia (*Ivesia sericoleuca*)	—/—/1B.2/US Forest Service Sensitive	Great Basin scrub, lower montane coniferous forest, meadows, seeps, and vernal pools. Vernally mesic and usually volcanic soils. Elevation: 4,300-7,200 feet. Perennial herb. Blooms May-October.
Santa Lucia dwarf rush (*Juncus luciensis*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	Chaparral, Great Basin scrub, lower montane coniferous forest, meadows, seeps, and vernal pools. Annual grasslike herb. Blooms April-July. Elevation: 1,000-6,700 feet
Sticky pyrrocoma (*Pyrrocoma lucida*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	Great Basin scrub, lower montane coniferous forest, meadows and seeps. Alkaline clay soils. Elevation: 2,300-6,400 feet. Perennial herb. Blooms July-October.

Table 3.5-3 Special Status Plant Species with High Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
Warner Mountain buckwheat (*Eriogonum umbellatum* var. *glaberrimum*)	—/—/1B.3/US Forest Service Sensitive	Great Basin scrub, lower montane coniferous forest, and upper montane coniferous forest. Sandy or gravelly soils. Elevation: 5,000-7,900 feet. Perennial herb. Blooms June-September.
Playa phacelia (*Phacelia inundata*)	—/—/1B.3/BLM Sensitive and US Forest Service Sensitive	Great Basin scrub, lower montane coniferous forest, and playas. Alkaline soils. Elevation: 4,400-6,600 feet. Annual herb. Blooms May-August.
Western goblin (*Botrychium montanum*)	—/—/2B.1/ US Forest Service Sensitive	Lower montane coniferous forest, meadows, seeps, and upper montane coniferous forest. Elevation: 4,800-7,200 feet. Fern (rhizomatous). Blooms in July-September.
Scalloped moonwort (*Botrychium crenulatum*)	—/—/2B.2/US Forest Service Sensitive	Bogs, fens, lower montane coniferous forest, meadows, seeps, marshes and swamps (freshwater), upper montane coniferous forest. Elevation: 4,200-10,800 feet. Fern (rhizomatous). Blooms June-September.
Lilliput lupine (*Lupinus uncialis*)	—/—/2B.2/BLM Sensitive	Great Basin scrub, pinyon and juniper woodland. Volcanic and gravelly soils. Elevation: 4,300-5,200 feet. Annual herb. Blooms May-July. Reference site visited and population found.
Sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*)	—/—/2B.2/BLM Sensitive	Desert dunes, Great Basin scrub, Sonoran Desert scrub. Sandy soils. Elevation: 2,300-5,300 feet. Annual herb. Blooms May-June.
Janish's beardtongue (*Penstemon janishiae*)	—/—/2B.2/BLM Sensitive	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Gravelly and volcanic soils. Elevation: 3,500-7,700 feet. Perennial herb. Blooms May-July.
Broad-nerved hump moss (*Meesia uliginosa*)	—/—/2B.2/US Forest Service Sensitive	Bogs, fens, meadows, seeps, subalpine coniferous forest, and upper montane coniferous forest. Damp soils. Elevation: 3,900-9,200 feet. Moss. Blooms in October.
Macdougal's lomatium (*Lomatium foeniculaceum* ssp. *macdougalii*)	—/—/2B.2	Chenopod scrub, Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Volcanic soils. Elevation: 4,000-6,800 feet. Perennial herb. Blooms June-July. Reference site visited and population found.
Grass alisma	—/—/2B.2	Marshes and swamps (assorted shallow freshwater).

Table 3.5-3 Special Status Plant Species with High Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
(*Alisma gramineum*)		Elevation: 1,300-5,900 feet. Perennial herb. Blooms June-August. Reference site visited but no population found.
Geyer's milk-vetch (*Astragalus geyeri* var. *geyeri*)	—/—/2B.2	Chenopod scrub and Great Basin scrub with sandy soil. Elevation: 3,800-6,500 feet. Annual herb. Blooms May-August. Reference site visited but no population found.
Dwarf resin birch (*Betula glandulosa*)	—/—/2B.2	Bogs, fens, lower montane coniferous forest, meadows, seeps, marshes, swamps, and subalpine conifer forest; mesic. Elevation: 4,200-7,600 feet. Shrub. Blooms May-June.
Ochre-flowered buckwheat (*Eriogonum ochrocephalum* var. *ochrocephalum*)	—/—/2B.2	Great Basin scrub, pinyon and juniper woodland. Volcanic or clay soils. Elevation: 3,900-7,900 feet. Perennial herb. Blooms May-June. Reference site visited but no population found.
Aleppo avens (*Geum aleppicum*)	—/—/2B.2	Great Basin scrub, lower montane coniferous forest, meadows and seeps. Elevation: 1,500-4,900 feet. Perennial herb. Blooms June-August.
Nuttall's ribbon-leaved pondweed (*Potamogeton epihydrus*)	—/—/2B.2	Marshes and swamps (assorted shallow freshwater). Elevation: 1,200-7,100 feet. Perennial herb (rhizomatous). Blooms July-September.
Marsh skullcap (*Scutellaria galericulata*)	—/—/2B.2	Lower montane coniferous forest, meadows, seeps (mesic), marshes and swamps. Elevation: 0-6,900 feet. Perennial herb (rhizomatous). Blooms June-September.
Oregon campion (*Silene oregana*)	—/—/2B.2	Great Basin scrub, subalpine coniferous forest. Elevation: 4,900-8,200 feet. Perennial herb. Blooms July-September.
Common moonwort (*Botrychium lunaria*)	—/—/2B.3/ US Forest Service Sensitive	Meadows, seeps, subalpine coniferous forest, and upper montane coniferous forest. Elevation: 6,400-11,200 feet. Fern (rhizomatous). Blooms in August.
Great Basin onion (*Allium atrorubens* var. *atrorubens*)	—/—/2B.3	Great Basin scrub, pinyon and juniper woodland. Rocky or sandy soil. Elevation: 3,900-7,600 feet. Perennial herb (bulb). Blooms May-June. Reference site visited but no population found.

Table 3.5-3 Special Status Plant Species with High Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
Woolly-fruited sedge (*Carex lasiocarpa*)	—/—/2B.3	Bogs, fens, and marshes and swamps (freshwater, lake margins). Elevation: 5,500-6,900 feet. Perennial grasslike herb (rhizomatous). Blooms June-July.
Western valley sedge (*Carex vallicola*)	—/—/2B.3	Great Basin scrub or meadows and seeps with mesic soil. Elevation: 5,000-9,200 feet. Perennial grasslike herb. Blooms July-August.
Spiked larkspur (*Delphinium stachydeum*)	—/—/2B.3	Great Basin scrub, upper montane coniferous forest (edges). Rocky. Elevation: 4,300-8,500 feet. Perennial herb. Blooms June-August.
Doublet (*Dimeresia howellii*)	—/—/2B.3	Lower montane coniferous forest, pinyon and juniper woodland. Volcanic and xeric soils. Elevation: 4,400-7,800 feet. Annual herb. Blooms May-September. Reference site visited but no population found.
Nelson's evening- primrose (*Eremothera minor*)	—/—/2B.3	Chenopod scrub, Great Basin scrub (sandy). Elevation: 4,000-4,500 feet. Annual herb. Blooms April-July.
Bailey's ivesia (*Ivesia baileyi* var. *baileyi*)	—/—/2B.3/	Great Basin scrub, lower montane coniferous forest. Volcanic and rocky soils. Elevation: 4,400-8,500 feet. Perennial herb. Blooms May-August.
Henderson's biscuitroot (*Lomatium hendersonii*)	—/—/2B.3	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Rocky and clay soils. Elevation: 5,000-8,000 feet. Perennial herb. Blooms March-June.
Paiute lomatium (*Lomatium ravenii* var. *paiutense*)	—/—/2B.3	Great Basin scrub. Rocky, gravelly, and volcanic with underlying clay soils. Elevation: 2,900-5,500 feet. Perennial herb. Blooms April-June.
Great Basin nemophila(*Nemophila breviflora*)	—/—/2B.3	Great Basin scrub, upper montane coniferous forest, meadows and seeps. Mesic soils. Elevation: 4,000-7,900 feet. Annual herb. Blooms May-July.
Western seablite (*Suaeda occidentalis*)	—/—/2B.3	Great Basin scrub (alkaline, mesic). Elevation: 4,000-4,900 feet. Annual herb. Blooms July-September. Reference site visited but no population found.

Table 3.5-3 Special Status Plant Species with High Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
Baker's globe mallow (*Iliamna bakeri*)	—/—/4.2	Chaparral, Great Basin scrub, lower montane coniferous forest (openings), and pinyon and juniper woodland. Volcanic soils, often in burned areas. Elevation: 3,200-8,200 feet. Perennial herb. Blooms June-September.
Profuse-flowered pogogyne (*Pogogyne floribunda*)	—/—/4.2	Meadows, seeps, and vernal pools. Heavy clay soils. Elevation: 3,100-5,800 feet. Annual herb. Blooms May-September.

Source: Stantec 2020; CNPS Rare Plant Inventory, version V-9.5. Online at https://rareplants.cnps.org/ accessed January 2023 for updates on species' status.

Notes:
California Rare Plant Rank (CRPR) Codes:

1A Presumed extirpated in California and either rare or extinct elsewhere
1B Plants rare, threatened, or endangered in California and elsewhere
2B Plants rare, threatened, or endangered in California but more common elsewhere
3 Review list: Plants about which more information is needed
4 Plants of limited distribution—a watch list

CRPR Threat Code Extensions:

xx.1 Seriously threatened in California
xx.2 Moderately threatened in California
xx.3. Not very endangered in California

Table 3.5-4 Special Status Plant Species with Moderate Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
Lemmon's milk-vetch (*Astragalus lemmonii*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	Sagebrush scrub, wetland riparian. Moist, alkaline meadows. Elevation: 4,300-9,500 feet. Perennial herb. Blooms May-August.
Lens-pod milk-vetch (*Astragalus lentiformis*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	Great Basin scrub, lower montane coniferous forest. Volcanic and sandy soils. Elevation: 4,800-6,300 feet. Perennial herb. Blooms May-July.
Suksdorf's milk-vetch (*Astragalus pulsiferae* var. *suksdorfii*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	Loose, often rocky soil, often with pines. Elevation: 4,300-5,200 feet. Perennial herb. Blooms May-August.
Ash Creek ivesia (*Ivesia paniculata*)	—/—/1B.2	Great Basin scrub, pinyon and juniper woodland, upper montane coniferous forest. Volcanic, rocky, or gravelly soils. Elevation: 4,900-6,400 feet. Perennial herb. Blooms June-August.
Tall alpine aster (*Oreostemma elatum*)	—/—/1B.2	Peatlands, marshy areas, wet meadows, and montane forest. Elevation: 3,300-4,900 feet. Perennial herb. Blooms June-August.
Columbia yellow cress (*Rorippa columbiae*)	—/—/1B.2	Lower montane coniferous forest, meadows, seeps, playas, vernal pools, and mesic soils. Elevation: 3,900-5,900 feet. Perennial herb (rhizomatous). Blooms May-September.
Howell's thelypodium (*Thelypodium howellii* ssp. *howellii*)	—/—/1B.2	Great Basin scrub, meadows and seeps (alkaline). Elevation: 3,900-6,000 feet. Perennial herb. Blooms May-July.
Plumas rayless daisy (*Erigeron lassenianus* var. *deficiens*)	—/—/1B.3	Lower montane coniferous forest. Gravelly, sometimes serpentine. Elevation: 4,500-6,500 feet. Perennial herb. Blooms June-September.
Ornate Dalea (*Dalea ornata*)	—/—/2B.1	Northern juniper woodland, open, rocky hillsides. Elevation: 4,600-5,600 feet. Perennial herb. Blooms in June.
Silverleaf milk-vetch (*Astragalus argophyllus* var. *argophyllus*)	—/—/2B.2/BLM Sensitive	Alkali sink, wetland riparian; meadows, playas. Heavy alkaline or saline soil. Elevation: 4,200-4,400 feet. Perennial herb. Blooms May-July.
Hillman's silverscale (*Atriplex argentea* var. *hillmanii*)	—/—/2B.2	Great Basin scrub, meadows and seeps with alkaline soil. Elevation: 3,900-5,600 feet. Annual herb. Blooms June-September. Reference site visited and population found.

Table 3.5-4 Special Status Plant Species with Moderate Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
Mud sedge (*Carex limosa*)	—/—/2B.2	Bogs, fens, lower montane coniferous forest, meadows, seeps, marshes, swamps, and upper montane coniferous forest. Elevation: 3,900-8,900 feet. Perennial grasslike herb (rhizomatous). Blooms June-August.
Hillman's cleomella (*Cleomella hillmanii* var. *hillmanii*)	—/—/2B.2	Chenopod scrub and Great Basin scrub (clay). Elevation: 4,000-4,800 feet. Annual herb. Blooms April-June.
Fiddleleaf hawksbeard (*Crepis runcinata*)	—/—/2B.2	Mojavean desert scrub, pinyon and juniper woodland. Mesic and alkaline soils. Elevation: 4,100-7,200 feet. Perennial herb. Blooms May-June.
Water star-grass (*Heteranthera dubia*)	—/—/2B.2	Marshes and swamps (alkaline, still or slow-moving water) in wetland riparian communities. Requires a pH of 7 or higher, usually in slight eutrophic waters. Elevation: 100-4,900 feet. Perennial herb. Blooms July-August.
Long bluebells (*Mertensia longiflora*)	—/—/2B.2	Great Basin scrub, lower montane and coniferous forest. Elevation: 5,000-7,200 feet. Perennial herb. Blooms April-June.
Beautiful sagebrush bluebells (*Mertensia oblongifolia* var. *amoena*)	—/—/2B.2	Great Basin scrub, meadows and seeps. Elevation: 5,300-7,600 feet. Perennial herb. Blooms April-July.
Eel-grass pondweed (*Potamogeton zosteriformis*)	—/—/2B.2	Marshes and swamps (assorted freshwater). Elevation: 0-6,100 feet. Annual herb (aquatic). Blooms June-July.
Newberry's cinquefoil (*Potentilla newberryi*)	—/—/2B.3	Marshes and swamps (drying margins), vernal pools, and wetland riparian habitats. Elevation: 4,300-7,200 feet. Perennial herb. Blooms May-August.
Macoun's buttercup (*Ranunculus macounii*)	—/—/2B.2	Great Basin scrub, meadows and seeps, pinyon and juniper woodland. Mesic soils. Elevation: 4,600-5,900 feet, Annual, Perennial herb. Blooms June-July.
Alder buckthorn (*Rhamnus alnifolia*)	—/—/2B.2	Lower montane coniferous forest, meadows, seeps, riparian scrub, and upper montane coniferous forest. Elevation: 4,500-7,000 feet. Shrub. Blooms May-July.
Slender-leaved pondweed (*Stuckenia filiformis* ssp. *alpina*)	—/—/2B.2	Marshes and swamps (assorted shallow freshwater). Elevation: 1,000-7,000 feet. Perennial herb. Blooms May-July.

Table 3.5-4 Special Status Plant Species with Moderate Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
Serrated balsamroot (*Balsamorhiza serrata*)	—/—/2B.3	Great Basin scrub with rocky soil. Elevation: 4,600-5,800 feet. Perennial herb. Blooms May-June. Reference site visited and population found.
Liddon's sedge (*Carex petasata*)	—/—/2B.3	Broad-leafed upland forest, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland. Elevation: 2,000-10,900 feet. Perennial grasslike herb. Blooms May-July.
Great Basin claytonia (*Claytonia umbellata*)	—/—/2B.3	Subalpine coniferous forest (talus). Elevation: 5,600-11,500 feet. Perennial herb. Blooms May-August.
Cusick's monkeyflower (*Diplacus cusickioides*)	—/—/2B.3	Great Basin scrub, lower montane coniferous forest. Roadsides, gravelly, scree, and volcanic soils. Elevation: 2,000-6,000 feet. Annual herb. Blooms May-August.
Dwarf monolepis (*Micromonolepis pusilla*)	—/—/2B.3	Great Basin scrub. Alkaline, openings. Elevation: 4,900-7,900 feet. Annual herb. Blooms May-August.
Naked-stemmed phacelia (*Phacelia gymnoclada*)	—/—/2B.3	Chenopod scrub, Great Basin scrub, pinyon and juniper woodland. Gravelly or clay soils. Elevation: 4,000-8,200 feet. Annual herb. Blooms April-June.
Squarestem phlox (*Phlox muscoides*)	—/—/2B.3	Alpine boulder, rock field, Great Basin scrub, subalpine coniferous forest. Gravelly or rocky soils. Elevation: 4,200-8,900 feet Perennial herb. Blooms June-August.
Bebb's willow (*Salix bebbiana*)	—/—/2B.3	Marshes and swamps (streambanks and lake margins) and riparian scrub. Elevation: 3,900-7,300 feet. Tree. Blooms in May.
Bailey's greasewood (*Sarcobatus baileyi*)	—/—/2B.3	Chenopod scrub. Alkaline, dry lakes, washes and roadside soils. Elevation: 4,900-5,200 feet. Shrub. Blooms April-July.
Currant-leaved desert mallow (*Sphaeralcea grossulariifolia*)	—/—/2B.3	Chenopod scrub and Great Basin scrub. Volcanic soils. Elevation: 3,900-6,900 feet. Perennial herb, shrub. Blooms May-October.
Western valerian	—/—/2B.3	Lower montane coniferous forest (mesic).

Table 3.5-4 Special Status Plant Species with Moderate Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description
(*Valeriana occidentalis*)		Elevation: 4,900-5,900 feet. Perennial herb. Blooms June-August.
Bearded lupine (*Lupinus latifolius* var. *barbatus*)	—/—/3.2	Upper montane coniferous forest (mesic). Elevation: 4,900-8,200 feet. Perennial herb. Blooms June-July. Reference site visited and population found.
Holmgren's skullcap (*Scutellaria holmgreniorum*)	—/—/3.3	Great Basin scrub and pinyon and juniper woodland. Volcanic and clay soils. Elevation: 4,200-5,700 feet. Perennial herb (rhizomatous). Blooms May-July. Reference site visited and population found..
Large seeded goosefoot (*Chenopodium simplex*)	—/—/4.3	Lower montane coniferous forest (openings, disturbed areas) and pinyon and juniper woodland (carbonate). Elevation: 4,500-7,900 feet. Annual herb. Blooms June-October.
Center basin rush (*Juncus hemiendytus* var. *abjectus*)	—/—/4.3	Meadows and seeps and subalpine coniferous forest. Mesic soils. Elevation: 4, 500-11,200 feet. Annual grasslike herb. Blooms May-June.

Source: Stantec 2020; CNPS Rare Plant Inventory, version V-9.5. Online at https://rareplants.cnps.org/ accessed January 2023 for updates on species' status.

Notes:

California Rare Plant Rank (CRPR) Codes:

1A Presumed extirpated in California and either rare or extinct elsewhere

1B Plants rare, threatened, or endangered in California and elsewhere

2B Plants rare, threatened, or endangered in California but more common elsewhere

3 Review list: Plants about which more information is needed

4 Plants of limited distribution—a watch list

CRPR Threat Code Extensions:

xx.1 Seriously threatened in California

xx.2 Moderately threatened in California

xx.3 Not very endangered in California

Table 3.5-5 Special Status Plant Species Not Expected or with Low Potential to Occur in Study Area

Common Name (Scientific Name)	Status (Federal/State/CRPR)	Habitat Description
Greene's tuctoria (*Tuctoria greenei*)	Federally Endangered/State Rare/1B.1	Vernal pools. Elevation: 90-3,500 feet. Annual grasslike herb. Blooms May-July.
Whitebark pine (*Pinus albicaulis*)	Federal Proposed Threatened/—/—	Upper red-fir forest to timberline. Elevation: 4,300-12,100 feet. Tree. Blooms July-August.
Slender Orcutt grass (*Orcuttia tenuis*)	Federally Threatened/State Endangered/1B.1	Vernal pools. Often gravelly soils. Elevation: 100-1,800 feet. Annual grasslike herb. Blooms May-September.
Modoc County knotweed (*Polygonum polygaloides* ssp. *esotericum*)	—/—/1B.3/BLM Sensitive	Great Basin scrub, lower montane coniferous forest, meadows, seeps, and vernal pools. Mesic soils. Elevation: 1,700-2,900 feet. Annual herb. Blooms May-September.
Yakima bird's-beak (*Cordylanthus capitatus*)	—/—/2B.2	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland. Elevation: 5,900-7,800 feet. Annual herb (hemiparasitic). Blooms July-September.
Northwestern moonwort (*Botrychium pinnatum*)	—/—/2B.3/US Forest Service Sensitive	Lower montane coniferous forest, meadows and seeps, and upper montane coniferous forest with mesic soil. Elevation: 5,800-6,700 feet. Fern (rhizomatous). Blooms July-October.
Little ricegrass (*Stipa exigua*)	—/—/2B.3/BLM Sensitive	Rocky slopes in sagebrush scrub. Elevation: 5,900-7,900 feet. Perennial herb. Blooms in June.
Suksdorf's broom-rape (*Orobanche ludoviciana* var. *arenosa*)	—/—/2B.3	Great Basin scrub. Elevation: 6,500-6,800 feet. Perennial herb. Blooms June-September. Reference site visited and population found.
Blunt-fruited sweet-cicely (*Osmorhiza depauperata*)	—/—/2B.3	Lower montane coniferous forest. Elevation: 6,000-6,100 feet. Perennial herb. Blooms May-July.
Blue alpine phacelia (*Phacelia sericea* var. *ciliosa*)	—/—/2B.3	Great Basin scrub and upper montane coniferous forest. Rocky soils. Elevation: 6,900-8,900 feet. Perennial herb. Blooms June-August.
Kitten-tails (*Synthyris missurica* ssp. *missurica*)	—/—/2B.3	Lower montane coniferous forest, subalpine coniferous forest, and upper montane coniferous forest. Elevation: 6,600-8,400 feet. Perennial herb (rhizomatous). Blooms June-July.

Table 3.5-5 Special Status Plant Species Not Expected or with Low Potential to Occur in Study Area

Source: Stantec 2020; CNPS Rare Plant Inventory, version V-9.5. Online at https://rareplants.cnps.org/ accessed January 2023 for updates on species' status.
Notes:
California Rare Plant Rank (CRPR) Codes:

1A	Presumed extirpated in California and either rare or extinct elsewhere
1B	Plants rare, threatened, or endangered in California and elsewhere
2B	Plants rare, threatened, or endangered in California but more common elsewhere
3	Review list: Plants about which more information is needed
4	Plants of limited distribution—a watch list

CRPR Threat Code Extensions:

xx.1	Seriously threatened in California
xx.2	Moderately threatened in California
xx.3	Not very endangered in California

The following species are either listed species or on the CNPS' CRPR1B.2 or 1B.3 (Warner Mountain buckwheat and *Playa phacelia*) and have a high potential to occur in the Study Area given past CNDDB records for the species in the Study Area:

- State Endangered Boggs Lake hedge-hyssop;
- Federally Threatened species Webber's ivesia;
- Schoolcraft's wild buckwheat;
- Prostrate buckwheat;
- Sierra Valley Ivesia;
- Plumas ivesia;
- Santa Lucia dwarf rush;
- Sticky pyrrocoma;
- Warner Mountain buckwheat; and
- Playa phacelia.

An additional 37 special status plant species have not been recorded in, nor observed, in the Study Area, however, are considered to have a moderate potential to occur in the Study Area given that the Study Area is in the range for the species and given the presence of suitable habitat characteristics for the species in the Study Area (Table 3.5-4) (Stantec 2020).

A total of 11 special status plant species out of the 127 special status plant species were deemed not likely to occur in the Study Area or determined to have a low potential to occur in the Study Area due to their elevation range and habitat requirements. These species are listed in Table 3.5-5. For the purposes of this analysis, all species that are present in, or have a moderate to high potential to occur in the Study Area, are included in the impact analysis. The 11 special status species in Table 3.5-5 are not discussed further in this document.

Fish and Wildlife

In April 2020, one Stantec biologist conducted a survey for wildlife in areas of big sagebrush habitat in the Study Area by walking a meandering transect on each side of the road; during this survey, a focused survey was performed for pygmy rabbits and observations of raptor nests (Stantec 2020). In addition, Stantec biologists surveyed the entire California project segment for raptor nests and recorded all active and inactive raptor nests visible with high-powered optics (10x binoculars and 20-60x spotting scopes) from the Study Area, including nests beyond the Study Area boundary (Stantec 2020).

A total of 105 wildlife species were observed during the April 2020 field surveys, including nine mammals, 93 birds, two reptile species, and one amphibian species (Table 3.5-6) (Stantec 2020).

Table 3.5-6. Wildlife Species Observed in the Study Area	
Amphibians	
Sierran treefrog	
Reptiles	
Great Basin fence lizard	Western yellow-bellied racer
Mammals	
American badger	Mountain cottontail
Black-tailed jackrabbit	Mule deer
Bobcat	Muskrat
California ground squirrel	Pronghorn
Coyote	
Birds	
American avocet	Lark sparrow
American coot	Lesser goldfinch
American goldfinch	Lesser scaup
American kestrel	Lewis's woodpecker
American pipit	Lincoln's sparrow
American robin	Loggerhead shrike
American white pelican	Long-billed curlew
Bald eagle	Mallard
Band-tailed pigeon	Marsh wren
Barn swallow	Mountain bluebird
Bewick's wren	Mountain chickadee
Black-billed magpie	Mourning dove
Black-necked stilt	Northern flicker
Blue-gray gnatcatcher	Northern harrier
Brewer's blackbird	Northern shoveler
Brewer's sparrow	Oregon junco
Brown-headed cowbird	Pied-billed grebe
Bufflehead	Prairie falcon
California quail	Red-tailed hawk
California scrub-jay	Red-winged blackbird

Table 3.5-6. Wildlife Species Observed in the Study Area	
Canada goose	Ring-billed gull
Canyon wren	Ring-necked duck
Caspian tern	Ring-necked pheasant
Cassin's finch	Rock pigeon
Cedar waxwing	Ruby-crowned kinglet
Chipping sparrow	Ruddy duck
Cinnamon teal	Sage thrasher
Cliff swallow	Sagebrush sparrow
Common raven	Sandhill crane
Double-crested cormorant	Savannah sparrow
Eared grebe	Say's phoebe
Eurasian collared-dove	Song sparrow
European starling	Sora
Forster's tern	Spotted towhee
Gadwall	Steller's jay
Golden eagle	Swainson's hawk
Great blue heron	Tree swallow
Great egret	Tricolored blackbird
Great horned owl	Turkey vulture
Greater white-fronted goose	Western kingbird
Green-winged teal	Western meadowlark
Hairy woodpecker	White-crowned sparrow
Horned lark	White-faced Ibis
House finch	Willet
House sparrow	Yellow-headed blackbird
Killdeer	Yellow-rumped warbler
Rough-legged hawk	–

The biologists documented 107 raptor and other nests observed during April 2020 field surveys (Stantec 2020). Fifty-five of the nests were inactive, and therefore not identified to species. Fifty-two nests were active; 18 of which comprised were common raven nests (Stantec 2020). Table 3.5-7 reports the number of active raptor nests observed in April 2020 by species.

Table 3.5-7. Nests Observed in Study Area

Species	Number of Active Nests Observed
American kestrel	1
Canada goose	1
Great horned owl	2
Red-tailed hawk	28
Swainson's hawk	2

Stantec biologists evaluated the potential for special status fish and wildlife species to occur within the Study Area based on field-collected and publicly available occurrence records and the availability of potential habitat. The lists of these species are included in Tables 3.5-8 through 3.5-12 along with their potential to occur in the Study Area (i.e., present, high, moderate, low, not expected).

Table 3.5-8 Special Status Fish and Wildlife Species Present in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
Mammals			
American badger (*Taxidea taxus*)	SSC	Inhabits drier, open stages of shrub, forest, and herbaceous habitat with friable soils for digging burrows and abundant fossorial rodent prey throughout California. Bitterbrush, sagebrush, montane chaparral, alkali desert scrub annual grassland, perennial grassland, and irrigated hayfield	Open, dry habitats throughout entire Study Area may provide suitable habitat. One badger carcass was observed within the Study Area in Modoc County, and multiple potential burrows were documented in Lassen County. Three historical CNDDB occurrences within the search buffer with one overlapping Study Area, and one undated CNDDB occurrence overlapping Study Area.
Birds			
Greater sandhill crane (*Antigone canadensis tabida*)	ST, FP, BLM Sensitive and USFS Sensitive (nesting and wintering)	In northeastern California, breeding habitat includes wet meadows with grasses, sedges, rushes (*Juncus* spp.), spikerush (*Eleocharis* spp.), hardstem bulrush, and broadleaf cattail. In migration, forages in agricultural fields and roosts in wetlands and shallow areas of waterbodies. Wet meadows, fresh emergent wetland, riverine, and irrigated hayfield	Range overlaps nearly the entire Study Area, except about the 20 southernmost miles. Does not overwinter in or near the Study Area. More than 100 CNDDB occurrences within the search buffer, a large majority of which are concentrated in Modoc County. Numerous eBird (Stantec 2020) records in and near the Study Area. Breeding and migration stopover habitat present in locations throughout the Study Area. Observed by Stantec within the Study Area at Modoc NWR in September 2019, and 13 observations of one or more birds at several locations within or near the Study Area during the April 2020 field surveys. One active nest was recorded very near the Study Area during the April 2020 surveys.
Tricolored blackbird (*Agelaius tricolor*)	ST, SSC, BLM Sensitive (nesting colony)	Historically, primarily breeds in freshwater wetlands with cattails, tules, willows, and/or nettles, but due to habitat modification, nesting has been increasingly reported in Himalayan blackberry (*Rubus discolor*), thistles, and silage and grain fields. Forages in wetlands, riparian habitats, and agricultural	The Study Area generally overlaps range in the Honey Lake and Modoc NWR areas (Stantec 2020). Five CNDDB nesting colony records near Honey Lake and one nesting colony record near Modoc NWR. Numerous recent eBird (Stantec 2020) records in the search buffer concentrated in Honey Lake and Modoc NWR areas, some within the Study Area, with additional records in other locations in or near the Study Area. Potential nesting and foraging habitats within and adjacent to

Table 3.5-8 Special Status Fish and Wildlife Species Present in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
		fields. In winter, forages in grasslands and agricultural fields. Nesting: fresh emergent wetland, wet meadow, and irrigated hayfield. Foraging: montane riparian, fresh emergent wetland, wet meadow, annual grassland, perennial wetland, and irrigated hayfield	the Study Area in the Honey Lake and Modoc NWR areas. Two observations of flocks and a singing male were recorded between Lassen County MP 88.5 and MP 88.7 during the April 2020 field surveys.
Swainson's hawk (*Buteo swainsoni*)	ST, BLM Sensitive (nesting)	Breeding habitat includes open grasslands and agricultural fields, especially alfalfa crops. Often nests in proximity to riparian systems. Also uses lone trees in agricultural fields or pastures and roadside trees when available and adjacent to suitable foraging habitat. In the Great Basin, occupies juniper-sagebrush communities. Juniper, sagebrush, annual grassland, perennial grassland, irrigated hayfield, and urban	The entire Study Area overlaps breeding and migration range (Stantec 2020). Forty-three CNDDB breeding records within the search buffer, including 16 records that overlap the Study Area. Also, numerous recent eBird (Stantec 2020) records in the search buffer, including many within the Study Area. Suitable nesting substrates and foraging habitat present throughout much of the Study Area and surrounding areas. Two active nests were recorded during the April 2020 field surveys, both near the town of Standish. In addition, eight observations of adult birds not associated with a nesting activity were observed in proximity to agricultural areas near Honey Lake and Alturas areas.
Bald eagle (*Haliaeetus leucocephalus*)	SE, FP, BGEPA, BLM Sensitive and USFS Sensitive (nesting and wintering)	In winter, found at lakes, reservoirs, rivers, and some rangelands. Breeding habitats are mainly in mountain and foothill forests and woodlands near reservoirs, lakes, and rivers. Typically builds their large stick nests in the upper canopy of the tallest trees in the area. Jeffrey pine, juniper, aspen, montane riparian, wet meadow, fresh emergent wetland, and riverine	Range overlaps the entire Study Area; however, according to CNDDB, only two known breeding locations are within the search buffer. Known breeding locations are in the Goose Lake area—one about 0.75 mile east of Modoc County MP 45.1 and one about 2.2 miles east of Modoc County MP 57.4. Numerous recent eBird records scattered along the entire search buffer, including records within the Study Area. Unlikely to nest within the Study Area due to lack of potential large trees, but suitable hunting and roosting habitat throughout. No nests recorded within or adjacent to the Study Area during April 2020 field surveys, but one soaring individual recorded in Modoc County.

Table 3.5-8 Special Status Fish and Wildlife Species Present in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
Golden eagle (*Aquila chrysaetos*)	WL, FP, WL, BGEPA, BLM Sensitive (nesting and wintering)	In California, inhabits a variety of habitats including forests, canyons, shrublands, grasslands, and oak woodlands. Constructs nests on platforms on steep cliffs or in large trees in open areas. Jeffery pine, juniper, aspen, bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, and perennial grassland	The entire Study Area overlaps year-round range. Four recent and four historical CNDDB occurrences of active nests within the search buffer, with the closest recent record being 0.6 mile west of the Study Area. Many eBird (Stantec 2020) observation records within or near the Study Area during all seasons. Nesting is unlikely within Study Area due to lack of suitable substrate and sensitivity to human disturbance, such as US 395. Foraging, perching, or migrating birds could occur in any part of the Study Area. Two adults were observed soaring/foraging during April 2020 field surveys.
Prairie falcon (*Falco mexicanus*)	WL, BCC (nesting)	Shrublands, grasslands, shrub-grassland mix, tundra, and some agricultural lands. Nests on cliffs and bluffs. Bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, perennial grassland, and irrigated hayfield	The entire Study Area overlaps year-round range. CNDDB reports 21 historical records and 3 recent records in the search buffer, including 8 historical and 2 recent records overlapping the Study Area. Numerous recent eBird (Stantec 2020) records across the search buffer, including within the Study Area. Potential year-round habitats common in the Study Area. One adult was observed foraging in Modoc County during the April 2020 field surveys.
Sage thrasher (*Oreoscoptes montanus*)	BCC	Breeds in sagebrush habitats, but migration habitat may include other arid shrubland types, grasslands with shrub cover, and open pinyon-juniper woodlands. Breeding: sagebrush. Migration: juniper, bitterbrush, sagebrush, montane chaparral, and alkali desert scrub	The entire Study Area overlaps migration and breeding range. No CNDDB occurrences in the search buffer, but there are numerous recent eBird (Stantec 2020) records throughout the search buffer, including within the Study Area. Sagebrush is one of the more common habitats within the Study Area, making this species a potential common occurrence. Sixteen observations of 1 to 4 birds recorded during the April 2020 field surveys, including two active nests.
Brewer's sparrow (*Spizella breweri*)	BCC	Breeds in shrublands, most often associated in areas dominated by big sagebrush. Bitterbrush, sagebrush, montane chaparral, and alkali desert scrub	The entire Study Area overlaps breeding and migration range. No CNDDB occurrences in the search buffer, but there are numerous recent eBird (Stantec 2020) records scattered along the entire search buffer, including records within the Study

Table 3.5-8 Special Status Fish and Wildlife Species Present in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
			Area. Two individuals were detected during April 2020 field surveys. Suitable habitat is scattered throughout the Study Area.
Sagebrush sparrow (*Artemisiospiza nevadensis*)	BCC	Prefers big sagebrush (*A. tridentata*) habitats (Martin and Carlson 2020). Sagebrush	The entire Study Area overlaps breeding and migration range. No CNDDB occurrences in the search buffer, but there are recent eBird (Stantec 2020) records scattered across the search buffer, including within the Study Area. May occur anywhere in Study Area with sagebrush habitat. A pair was recorded in Lassen County during the April 2020 field surveys.
Cassin's finch (*Haemorhous cassinii*)	BCC	Breeds in in mature forests of pine, spruce and aspen; especially open, dry pine forests. Some will breed in open sagebrush shrubland with scattered western junipers.	No CNDDB occurrences in the search buffer, but there are recent eBird scattered across the search buffer, including within the Study Area. May occur anywhere in Study Area with woodland or sagebrush habitat. This species was observed during field surveys (Stantec 2020).
Lewis's woodpecker (*Melanerpes lewis*)	BCC (nesting)	Breeds in open canopy, forest, and riparian habitats with brushy understory. Typically winters in oak woodlands and orchards. Jeffery pine, juniper, aspen, and montane riparian	The entire Study Area overlaps the year- round range. No CNDDB occurrences in the search buffer; however, numerous recent eBird (Stantec 2020) occurrence records within the search buffer and within the Study Area between the Nevada border and Lassen MP 70.2. Recent eBird records also present near Likely, Alturas, Davis Creek, and New Pine Creek in Modoc County. Two observations of groups of individuals recorded in Lassen County during the April 2020 field surveys.
Loggerhead shrike (*Lanius ludovicianus*)	SSC, BCC (nesting)	In California, breeds mainly in shrublands or open woodlands (e.g., juniper) with a fair amount of grass cover and in areas of bare ground. Requires tall shrubs or trees for nests and perches and may also use fences and power lines for perches.	The entire Study Area overlaps breeding (February to July) range. No CNDDB occurrences in the search buffer, but there are eBird (Stantec 2020) records scattered along the Study Area and surrounding areas. Potential breeding habitat common throughout the Study Area. Three observations of adults recorded during the April 2020 field surveys.

Table 3.5-8 Special Status Fish and Wildlife Species Present in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
		Juniper, montane riparian, bitterbrush, sagebrush, montane chaparral, and alkali desert scrub	
American white pelican (*Pelecanus erythrorhynchos*)	SSC (nesting colony)	In California, nests on the ground on earthen, sandy, and rocky islands but rarely on peninsulas and locally on floating tule-mat islands. Forages in shallow inland waters less than 8.2 feet deep, such as open areas in marshes and along lake or river edges. Breeding season is from March to July. Wet meadow, fresh emergent wetlands, and riverine	The entire Study Area overlaps their breeding range. No CNDDB occurrences in the search buffer; however, numerous recent eBird (Stantec 2020) records within the search buffer, including within the Study Area. The nearest current nesting locations are Clear Lake in Modoc County and Anaho Island in Washoe County, Nevada (40 miles west and 30 miles east of the Study Area, respectively). Foraging spots are often 30 or more miles from breeding locations. Nesting habitats are absent in the Study Area, but foraging habitat is present. Three observations of small flocks (3 to 5 birds) documented during April 2020 field surveys in Modoc County.
Long-billed curlew (*Numenius americanus*)	WL, BCC (nesting)	Breeds in flat to rolling open grasslands. Habitats with trees, high density of shrubs, and tall, dense grass generally avoided. Also commonly nests in pastures, and rarely in other agricultural fields. Breeding: Annual grassland, and perennial grassland	The Study Area overlaps breeding range (April to July). No CNDDB occurrences in the search buffer, but there are numerous recent eBird (Stantec 2020) records scattered across the search buffer, including within the Study Area, particularly in flatter areas from Honey Lake north to the Oregon border. Potential breeding habitat is present in the Study Area. A flock of 24 were observed in an agricultural field in Modoc County during the April 2020 field surveys.
Willet (*Tringa semipalmata*)	BCC (nesting)	Breeds in wetlands and grasslands on semiarid plains; in uplands near brackish or saline wetlands; prefers temporary, seasonal, and alkali wetlands over semipermanent and permanent wetlands.	The Study Area overlaps breeding range (April to August). No CNDDB occurrences in the search buffer, but there are numerous eBird records scattered across the search buffer. Potential breeding habitat is present in the Study Area. Willet were observed in the Study Area (Stantec 2020).
Northern harrier (*Circus hudsonius*)	SSC (nesting)	Breeds and forages in a variety of treeless habitats, including freshwater marshes; wet meadows; weedy borders of lakes, rivers, and	The entire Study Area overlaps breeding range. No CNDDB occurrences in the search buffer, but there are numerous recent eBird (Stantec 2020) records during the breeding

Table 3.5-8 Special Status Fish and Wildlife Species Present in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
		streams; annual and perennial grasslands; weedy fields; ungrazed or lightly grazed pastures; some croplands; sagebrush flats; and desert sinks. Bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, perennial grassland, wet meadow, fresh emergent wetland, and irrigated hayfield	season within the search buffer, including within the Study Area. Suitable habitat common across most of the Study Area. Nine observations of species across Lassen and Modoc Counties during the April 2020 field surveys.
Yellow-headed blackbird (*Xanthocephalus xanthocephalus*)	SSC (nesting)	Breeds in wetlands with tall emergent vegetation, such as tules or cattails, over water 1 to 2 feet deep. May also forage in uplands, and often in agricultural fields. Fresh emergent wetland, wet meadow, and irrigate hayfield	The entire Study Area overlaps breeding (from April to July) range. No CNDDB occurrences within the search buffer, but there are numerous recent breeding season eBird (Stantec 2020) records in the search buffer, including within the Study Area. Many eBird (Stantec 2020) records are in the Honey Lake and Modoc NWR areas, where the species is a known breeder, but may breed in small to large numbers at other sites in or near the Study Area. A flock was observed in Lassen County during the April 2020 field surveys.

Source: Stantec 2020. CNDDB and USFWS's BCC May 2022, and WBWG list queried on September 5, 2021 for updates on species' status.
Notes:

BCC	USFWS Bird of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
CNDDB	California Natural Diversity Database
CWHR	California Wildlife Habitat Relationships
FC	Federal Candidate
FE	Federal Endangered
FP	Fully Protected
FPT	Federal Proposed Threatened
FT	Federal Threatened
MP	mile post

Table 3.5-8 Special Status Fish and Wildlife Species Present in Study Area			
Common Name (*Scientific Name*)	**Status (Federal/State/CRPR)**	**Habitat Description**	**Occurrence**

NWR National Wildlife Refuge
SCE State Candidate Endangered
SCT State Candidate Threatened
SE State Endangered
SSC State Species of Special Concern
ST State Threatened
USFWS US Fish and Wildlife Service
WBWG Western Bat Working Group Priority High and/or Medium
WL State Watch List

Table 3.5-9 Special Status Fish and Wildlife Species with High Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
Invertebrates			
Carson wandering skipper (*Pseudocopaeodes eunus obscurus*)	FE	Found in lowland grassland habitats with alkaline substrates, elevation lower than 5,000 feet Requires saltgrass host plant for egg laying and larval development and nearby nectar plants and springs or other water sources. Current range in California is restricted to one extant population center in Lassen County. Alkali desert scrub and perennial grassland.	Eleven recent CNDDB occurrences overlap the Study Area and four recent CNDDB occurrences are within the search buffer. Saltgrass habitat in Study Area around Honey Lake may provide habitat.
Fish			
Goose Lake lamprey (*Entosphenus tridentatus* ssp. 1)	SSC, USFS Sensitive	Inhabits shallow, alkaline Goose Lake; in streams with gravel and riffles for spawning; and in muddy backwaters for ammocoetes. May travel up to 12-19 miles upstream for spawning. Endemic to Goose Lake and its tributaries. Riverine	One recent CNDDB occurrence overlaps the Study Area, and one historical CNDDB spawning and resident stream occurrence overlaps the Study Area. Goose Lake tributaries that cross the Study Area in Modoc County may provide habitat
Pit roach (*Lavinia symmetricus mitrulus)*	SSC	Occurs in streams with spring pools, swampy reaches, and vegetated margins. Also found in an isolated spring pond. In California, restricted to tributaries of the upper Pit River. Riverine	One recent CNDDB occurrence overlaps the Study Area and one recent occurrence is within the search buffer. Tributaries of the upper Pit River crossing the Study Area may provide habitat.

Table 3.5-9 Special Status Fish and Wildlife Species with High Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
Birds			
Bank swallow (*Riparia riparia*)	ST, BLM Sensitive (nesting)	Migrates to Northern and Central California from Central and South America to breed. Nests in colonies along eroded, vertical banks within river systems with sandy soils. Nesting colonies also found in artificial sites like sand quarries and road cuts. Forages in a variety of aquatic and terrestrial open habitats. Nesting: Riverine. Foraging: bitterbrush, sagebrush, alkali desert scrub, annual grassland, perennial grassland, wet meadow, fresh emergent wetland, riverine, irrigated hayfield, and barren	The entire Study Area overlaps breeding range; however, suitable nesting habitat limits their distribution in the region to Long Valley Creek near the southern end of the Study Area, Baxter Creek and Susan River near Honey Lake, and the Pit River and its tributaries near Alturas. CNDDB also has a bank swallow colony polygon within the Study Area at a sand and gravel operation just east of the Study Area between Lassen County MP 77.6 and MP 78.5. One other recent (2006) CNDDB bank swallow colony record overlaps the Study Area between Sierra County MP 0.0 and MP 0.4 (Long Valley Creek). eBird (Stantec 2020) records are primarily located in the three areas described above; however, additional observations of 1 to 5 birds occurred in several other locations. Suitable foraging habitat is scattered throughout the Study Area, and suitable nesting banks were observed at four locations along Long Valley Creek during field surveys in April 2020, with no current sign of nesting activity.
American peregrine falcon (*Falco peregrinus anatum*)	FP, BCC (nesting)	Occurs in a wide range of habitats including wetlands, deserts, forests, and islands. In California, breeding habitats include a variety of locations from cliffs in uninhabited areas to tall buildings or bridges within the urban landscape. May travel up to 25 miles from nests. All habitat communities	Suitable habitat occurs throughout the Study Area. No CNDDB occurrences within the search buffer, but numerous recent eBird (Stantec 2020) records within the search buffer, including two records within the Study Area. Few breeding territories in project counties and no nesting substrates within the Study Area. Documented records in Study Area likely hunting or roosting birds.
Burrowing owl (*Athene cunicularia*)	SSC, BCC, BLM Sensitive (burrowing sites and some wintering sites)	Breeds in a variety of open arid and semi-arid habitats characterized by the presence of mammal burrows in generally treeless	The entire Study Area overlaps their breeding range. Two recent CNDDB occurrences between 3 and 5 miles east of the Study Area just north of Honey Lake. Scattered recent

Table 3.5-9 Special Status Fish and Wildlife Species with High Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
		habitats with sparse shrubs and ground vegetation and areas of bare ground. Also breeds in human-modified habitats, such as airports, golf courses, and banks of impoundments. Breeding season is from March to August. Bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, perennial grassland, irrigated hayfields, and barren	eBird (Stantec 2020) records in the search buffer, including one recent and one historical record within the Study Area in Lassen County. Possible breeding birds may occur in any non-aquatic treeless areas with sparse vegetation in the Study Area.
Short-eared owl (*Asio flammeus*)	SSC (nesting)	Breeds in open, herbaceous habitats with concentrations of rodents and enough herbaceous cover to conceal ground-based nests. Suitable habitats may include freshwater marshes, irrigated alfalfa or grain fields, and ungrazed grasslands and old pastures. Fresh emergent wetland, wet meadow, annual grassland, perennial grassland, and irrigated hayfield	All but roughly the southernmost 20 miles of the Study Area overlaps breeding (March to July) range. No CNDDB occurrences in the search buffer. Recent breeding season eBird (Stantec 2020) records within the search buffer, including few within the Study Area, are primarily concentrated in the Honey Lake and Modoc NWR area, though there are a few scattered records in other areas near the Study Area. Potential nesting habitat present in relatively small amounts within the Study Area.
Cooper's hawk (*Accipiter cooperii*)	WL (nesting)	Coniferous, deciduous, and mixed forests. Increasingly in urban and suburban areas. Jeffrey pine, juniper, aspen, montane riparian, and urban	Year-round range overlaps the entire Study Area. No CNDDB occurrences in the search buffer; however, there are numerous eBird (Stantec 2020) records scattered across the search area, including within the Study Area. Most records are concentrated from the Nevada border to Honey Lake and from Alturas to the Oregon border. Possible habitat occurs in the Study Area in any treed habitats.

Table 3.5-9 Special Status Fish and Wildlife Species with High Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
Ferruginous hawk (*Buteo regalis*)	WL, BCC	Breeds in grassland and shrub-steppe, sometimes on the periphery of pinyon-juniper habitats. Nests in lone trees or artificial structures. Winters in open habitats with abundant small mammal prey. Bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, perennial grassland, and irrigated hayfield	The entire Study Area overlaps year-round range (Stantec 2020). No CNDDB occurrences in the search buffer; however, there are numerous eBird (Stantec 2020) occurrence records within the search buffer, including within the Study Area. eBird breeding season records are uncommon and concentrated more near agricultural areas, but the species is relatively abundant during winter and migration. Potential habitat is common throughout the Study Area.
Sharp-shinned hawk (*Accipiter striatus*)	WL, BCC (wintering)	Breeds in a variety of forest habitats, usually with at least some conifers. Jeffery pine, juniper, aspen, and montane riparian	The entire Study Area overlaps year-round range. No CNDDB occurrences in the search buffer. Numerous recent eBird (Stantec 2020) records in the search buffer, including with the Study Area, are more concentrated in the Honey Lake, Modoc NWR, and Goose Lake areas. eBird records most common during non-breeding seasons. Forested habitat in the Study Area mostly juniper.
Merlin (*Falco columbarius*)	WL (wintering)	Winters in open forests, grasslands, and urban areas (Warkentin et al. 2020). Jeffery pine, juniper, aspen, montane riparian, annual grassland, perennial grassland, irrigated hayfields, and urban	The entire Study Area overlaps winter range (Stantec 2020). No CNDDB occurrences in the search buffer; however, there are recent eBird (Stantec 2020) records scattered across the search buffer, including within the Study Area. eBird records are most common near Honey Lake and Alturas areas. Potential winter habitat common in the Study Area.
Osprey (*Pandion haliaetus*)	WL (nesting)	Breeds in a variety of habitats from forests, rivers, and lakes to deserts, but requires access to abundant fish prey and open, elevated natural and artificial nesting structures.	The entire Study Area overlaps breeding and migration range. One recent CNDDB nesting occurrence within the search buffer. Recent eBird (Stantec 2020) occurrence records during breeding and migration scattered throughout the search buffer, including within the Study Area, in areas proximal to larger waterbodies. May occur anywhere in or near the Study Area proximal to fish-bearing waterbodies.

Table 3.5-9 Special Status Fish and Wildlife Species with High Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
		Jeffrey pine, juniper, aspen, salt desert scrub, montane riparian, wet meadow, fresh emergent wetland, and riverine	
Greater sage-grouse (*Centrocercus urophasianus*)	SSC, BLM Sensitive and USFS Sensitive (nesting and leks)	Dependent on sagebrush year-round for food and cover. In summer and early fall, may move to other habitats that are rich in forbs and insects, such as meadows, riparian areas, and croplands. Year-round: Sagebrush. Summer/early fall: sagebrush, montane riparian, wet meadow, and irrigated hayfield Leks are groups of male greater sage-grouse that gather to perform courtship displays from about March to mid-May for a group of females in or near suitable breeding habitat. The size of leks may range from a few individuals to several hundred (Stantec 2020).	Year-round range historically overlapped most of the Study Area except between Lassen MP 25.0 and Lassen MP 79.0, and between about Lassen MP 129.0 and Modoc MP 2.0. The range has contracted, particularly in Modoc County, where the Study Area crosses the current year-round range between about Modoc MP 2.0 and MP 17.0. Sixteen CNDDB records, all in Modoc County, for lekking activity occur within the search buffer from 1994. No active greater sage-grouse leks were observed during wildlife surveys performed by Stantec in 2020. Closest CNDDB occurrence is 0.4 mile east of the Study Area. Numerous eBird (Stantec 2020) records within the Study Area and in surrounding areas, mostly concentrated in the Lassen County portion, particularly north of Honey Lake. Suitable sagebrush habitat present throughout much of the Study Area.
Pinyon jay (*Gymnorhinus cyanocephalus*)	BCC	Primarily inhabits pinyon-juniper woodland but may breed and forage in shrubland, scrub oak, and chaparral habitats. Juniper, bitterbrush, sagebrush, salt desert scrub, and montane chaparral	The entire Study Area overlaps year-round range. No CNDDB occurrences in the search buffer; however, there are scattered recent eBird (Stantec 2020) records across the search buffer, with some records in the Study Area. Most records occur from Honey Lake south to the Nevada border. May occur locally, not widespread, within the Study Area where preferred habitats occur.
Yellow-breasted chat (*Icteria virens*)	SSC (nesting)	Nests in early successional riparian habitats with a well-developed shrub layer and an open canopy, usually restricted to the narrow border of streams, creeks, sloughs,	The Study Area overlaps breeding (May to August) range along Secret Creek, which runs within the Study Area from Lassen County MP 92.7 to MP 95.3. A fire destroyed breeding habitat along Secret Creek, but habitat is likely to

Table 3.5-9 Special Status Fish and Wildlife Species with High Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
		and rivers, and rarely extensive tracts. Plants that form dense thickets and tangles are often selected. Taller trees are required for song perches. Montane riparian and riverine	have returned, as eBird (Stantec 2020) reports breeding season records along Secret Creek at Lassen County MP 94.4 in 2018, 2019, and 2020. Few additional recent eBird (Stantec 2020) records in the search buffer, and no CNDDB occurrences within the search buffer.
Yellow warbler (*Setophaga petechia*)	SSC, BCC (nesting)	Breeds in riparian vegetation, such as willows and cottonwoods. Montane riparian and riverine	The entire Study Area overlaps breeding (April to July) range. No CNDDB occurrences within the search buffer, but there are numerous breeding season eBird (Stantec 2020) records in the search buffer, including within the Study Area.
Black tern (*Chlidonias niger*)	SSC (nesting colony)	In northeastern California, nests semi-colonially in protected areas of marshes dominated by low emergent vegetation. Vegetative cover is usually greater than 80 percent. Also occurs as a migrant. Breeding season is from May to August. Wet meadow, fresh emergent wetland, and riverine	The entire Study Area overlaps breeding range. No CNDDB occurrences, but there are recent eBird (Stantec 2020) records within the search buffer, including two within the Study Area. A 2010 breeding inventory of northeastern California did not document nesting within the Study Area. The nearest colony to the Study Area was about 5 miles east of Likely; however, the 2010 inventory was conducted after several years of drought, and other nesting areas may occur within 5 miles of the Study Area following wetter years. Nesting habitat not available in or adjacent to the Study Area, but suitable foraging habitat is scattered throughout.
Marbled godwit (*Limosa fedoa*)	BCC	During migration, flocks in a variety of wetland types. Wet meadow, fresh emergent wetland, and riverine	The Study Area overlaps spring and fall migration range (Stantec 2020). No CNDDB occurrences in the search buffer; however, there are scattered recent eBird (Stantec 2020) records in the search buffer, including the Study Area, during spring and fall in the Honey Lake, Modoc NWR, and Goose Lake areas. Possible migration anywhere in the Study Area where wetland or other waters habitats occur.

Table 3.5-9 Special Status Fish and Wildlife Species with High Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
Lesser yellowlegs (*Tringa flavipes*)	BCC	During migration, flocks in a variety of wetland types. Wet meadow, fresh emergent wetland, and riverine	The Study Area overlaps the fall migration range of this species. No CNDDB occurrences in the search buffer; however, there are scattered eBird records in the search buffer. Possible migration anywhere in the Study Area where wetland or other waters habitats occur.
Redhead (*Aythya americana*)	SSC (nesting)	Breeds in freshwater emergent wetlands with dense stands of cattails and tules and areas of deep, open water. Fresh emergent wetland	The Lassen and Modoc portions of the Study Area overlap breeding (April to August) range. No CNDDB occurrences in the search buffer, but there are recent breeding season eBird (Stantec 2020) records scattered across the search buffer, including within the Study Area. Regularly breed in high numbers at Modoc NWR, and in smaller numbers at Honey Lake Wildlife Area and other wetland sites in the area.

Source: Stantec 2020. CNDDB and USFWS's BCC May 2022, and WBWG list queried on September 5, 2021 for updates on species' status.

Notes:

BCC	USFWS Bird of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
CNDDB	California Natural Diversity Database
CWHR	California Wildlife Habitat Relationships
FC	Federal Candidate
FE	Federal Endangered
FP	Fully Protected
FPT	Federal Proposed Threatened
FT	Federal Threatened
MP	mile post
NWR	National Wildlife Refuge
SCE	State Candidate Endangered
SCT	State Candidate Threatened
SE	State Endangered

Table 3.5-9 Special Status Fish and Wildlife Species with High Potential to Occur in Study Area			
Common Name (*Scientific Name*)	**Status (Federal/State/CRPR)**	**Habitat Description**	**Occurrence**

SSC State Species of Special Concern
ST State Threatened
USFS U.S. Forest Service
USFWS US Fish and Wildlife Service
WBWG Western Bat Working Group Priority High and/or Medium
WL State Watch List

Table 3.5-10 Special Status Fish and Wildlife Species with Moderate Potential to Occur in Study Area			
Common Name (Scientific Name)	**Status (Federal/State/CRPR)**	**Habitat Description**	**Occurrence**
Invertebrates			
Suckley's cuckoo bumble bee (*Bombus suckleyi*)	SE	Inhabits meadows and grasslands and is brood parasite of western bumble bee and possibly other bumble bee species. Generalist forager using a wide variety of flowering plants and small mammal burrows for overwintering. Listed as SCE June 12, 2019. Annual grassland and perennial grassland	No CNDDB occurrences within the search buffer. Northern portion of the Study Area falls within the current range.
Western bumble bee (*Bombus occidentalis*)	SE, USFS Sensitive	Occurs in meadows and grasslands with abundant flowering plants from later winter to fall for foraging and small mammal burrows for nesting and overwintering. Listed as SCE June 12, 2019. Annual grassland and perennial grassland	One historical CNDDB occurrence more than 50 years old overlaps the Study Area. Current range may not include the Study Area.

Table 3.5-10 Special Status Fish and Wildlife Species with Moderate Potential to Occur in Study Area

Common Name (Scientific Name)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
Fish			
Goose Lake redband trout (*Oncorhynchus mykiss* ssp. 1)	SSC, USFS Sensitive	Endemic to Goose Lake and its tributaries. Two life history strategies influence habitat use: lake-strategy and headwater-strategy. Lake-strategy fish reside in Goose Lake and spawn in associated tributaries. Headwater-strategy fish inhabit and spawn in small, cool, high-elevation tributaries of Goose Lake and Upper Pit River. Riverine	One historical CNDDB occurrence overlaps the Study Area and one historical CNDDB spawning and resident stream occurrence overlaps the Study Area. Goose Lake tributaries and Upper Pit River that cross the Study Area in Modoc County may provide habitat.
Goose Lake sucker (*Catostomus occidentalis lacusanserinus*)	SSC, USFS Sensitive	Endemic to Goose Lake and its tributaries. Spawns in tributaries with moderate to slow waters, varying substrates, and little aquatic vegetation. Riverine	One historical CNDDB occurrence overlaps the Study Area, and one historical CNDDB stream occurrence overlaps the Study Area. Goose Lake tributaries that cross the Study Area in Modoc County may provide habitat.
Goose Lake tui chub (*Siphateles bicolor thalassinus* or *S. thalassinus thalassinus*)	SSC	Occurs in Goose Lake and associated low- elevation tributaries and Everly Reservoir in Modoc County. Prefers streams with pools and slow water and below 4,728 feet in elevation in California. Riverine	One historical CNDDB occurrence overlaps the Study Area, and one historical CNDDB stream occurrence overlaps the Study Area. Goose Lake tributaries that cross the Study Area in Modoc County may provide habitat.
Hardhead (*Mylopharodon conocephalus*)	SSC, USFS Sensitive	Occurs in low- to mid-elevation large streams, rivers, and reservoirs with high water quality, pools and runs with deep water, sand-gravel substrates, slow velocities, and well-oxygenated. Range extends from the Pit River (south of the Goose Lake drainage) in Modoc County to Kern River in Kern County. Riverine	Two recent CNDDB occurrences are within the search buffer. Pit River drainage low- and mid-elevation streams south of Goose Lake that cross the Study Area in Modoc County may provide habitat.

Table 3.5-10 Special Status Fish and Wildlife Species with Moderate Potential to Occur in Study Area

Common Name (Scientific Name)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
Mountain sucker (*Catostomus platyrhynchus*)	SSC	Inhabits low-gradient, small streams and large rivers, lakes, and reservoirs from sea level to 10,000 feet elevation. Spawns in streams with riffles and gravel substrates. Range in California is along the eastern and central border with Nevada. Riverine	Two historical CNDDB occurrences overlap the Study Area. Waterways in Study Area portion within Honey-Eagle Lakes watershed in eastern and southern Lassen County may provide habitat.
Northern California brook lamprey (*Entosphenus folletti*)	SSC	Occurs in small, cool, tributary streams with fine substrates and beds of aquatic vegetation. Only known occurrences are from Willow and Boles Creeks above Clear Lake Reservoir and Fall Creek. Riverine	One historical CNDDB occurrence overlaps the Study Area. Sections of Willow and Boles Creeks that cross the Study Area may provide habitat.
Pit-Klamath brook lamprey (*Entosphenus lethophagus*)	SSC	Found in clear, cool rivers and streams with fine substrates, beds of aquatic vegetation, gravel riffles for spawning, and muddy backwaters for ammocoetes. Current range is the Pit River-Goose Lake basin, upper Klamath basin, and upstream of Klamath lakes. Riverine	One historical CNDDB occurrence overlaps the Study Area and one historical CNDDB occurrence is within the search buffer. Waterways crossing Study Area in Pit River-Goose Lake basin may provide habitat.
Amphibians			
Southern long-toed salamander (*Ambystoma macrodactylum sigillatum*)	SSC	Breeds in semi-permanent (low elevation only) and permanent ponds and lakes in arid grassland, sagebrush, forest, and alpine meadow habitats. Adults and juveniles are highly fossorial and spend most of the year in mammal burrows and rock fissures, typically within 3,280 feet of aquatic habitat. Montane riparian, wet meadow, fresh emergent wetland, Jeffrey pine, juniper, aspen, bitterbrush, sagebrush, montane chaparral, annual grassland, and perennial grassland	Two recent CNDDB occurrences and one historical occurrence are within the search buffer. Aquatic features in the Study Area near Goose Lake may provide suitable aquatic habitat, and surrounding uplands may provide suitable migration and fossorial habitats.

Table 3.5-10 Special Status Fish and Wildlife Species with Moderate Potential to Occur in Study Area

Common Name (Scientific Name)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
Mammals			
Pygmy rabbit (*Brachylagus idahoensis*)	SSC, BLM Sensitive and USFS Sensitive	Occurs in habitats with structurally dense, tall sagebrush providing ample cover, with deep, friable soils for burrowing, grass and forb cover for summer and fall foraging. Highly dependent on big sagebrush to provide both food and shelter throughout the year. Sagebrush	The entire Study Area from Lassen County MP 16.0 north to the Oregon border overlaps the pygmy rabbit's range. Two historical CNDDB occurrences within the search buffer, which do not overlap the Study Area. Targeted surveys conducted during April 2020 did not detect individuals or sign, and sagebrush habitat within the Study Area was marginally suitable.
Western white-tailed jackrabbit (*Lepus townsendii townsendii*)	SSC	Occurs in open habitats including sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, perennial grassland with scattered shrubs, wet meadow, and early successional stages of various conifer habitats. Migrates to higher areas in summer and descends to lower elevations in winter. An uncommon to rare year-round resident of the crest and upper eastern slope of the Sierra Nevada. Jeffrey pine, juniper, aspen, bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, perennial grassland, wet meadow, and emergent fresh wetland	The Study Area occurs within range, and suitable shrubland, grassland, and woodland habitats may be present throughout the Study Area. Three historical CNDDB occurrences overlap the Study Area.
California myotis (*Myotis californicus*)	WBWG	Inhabits desert, chaparral, and forest habitats and roosts in buildings, under tree bark, caves, and mines. Forages low over ground, water, and vegetation. Year-round residents in California and may only move locally between suitable roosting and hibernation structures. Jeffrey pine, juniper, aspen, montane chaparral, montane riparian, alkali desert scrub, urban, and barren	The Study Area is in species range, and suitable foraging habitats with nearby roosting structures may provide habitat. No CNDDB occurrences within the search buffer.
Fringed myotis (*Myotis thysanodes*)	WBWG, BLM Sensitive, and USFS Sensitive	Inhabits pinyon-juniper forest, valley foothill hardwood forest, and hardwood-conifer forest habitats and roosts in caves, mines, and buildings. Forages over water, open	The Study Area is in species range and suitable foraging habitats with nearby roosting

Table 3.5-10 Special Status Fish and Wildlife Species with Moderate Potential to Occur in Study Area

Common Name (Scientific Name)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
		habitat, and among foliage. Year-round residents in California and moves locally between suitable roosting and hibernation structures. Jeffrey pine, juniper, aspen, urban, and barren	structures may provide habitat. No CNDDB occurrences within the search buffer.
Hoary bat (*Lasiurus cinereus*)	WBWG	Inhabits a variety of open or mosaic forest habitats and roosts in dense foliage of medium to large trees. Forages in open or edge habitats. Year-round residents in California; however, their migrations between summer and winter roosting and hibernation sites can be over long distances. Typically hibernates along the coast and in the southern portion of the state. Jeffery pine, juniper, aspen, and montane riparian	The Study Area is in species range and suitable foraging habitats with nearby roosting structures may provide habitat. No CNDDB occurrences within the search buffer.
Little brown bat (*Myotis lucifugus*)	WBWG (San Bernardino Mountains population)	Inhabits mid to high forest, sagebrush, bitterbrush, alkali desert scrub, wet meadow, and montane chaparral habitats. Forages over water and along forest edges and roosts in buildings, trees, under rock or wood, caves, and mines. Year-round residents in California. Migrations between summer and winter roosting and hibernation sites can be local movements or may be over long distances depending on available habitats and environmental conditions. Jeffery pine, juniper, aspen, montane riparian, bitterbrush, sagebrush, montane chaparral, alkali desert scrub, wet meadow, urban, and barren	The Study Area is in species range, and suitable foraging habitats with nearby roosting structures may provide habitat. No CNDDB occurrences within the search buffer.
Long-eared myotis (*Myotis evotis*)	WBWG, BLM Sensitive	Inhabits brush and forest habitats and roosts in buildings, crevices, under tree bark, snags, and caves. Forages along habitat edges, open habitat, and over water. Year-round residents in California and may make local movements between summer and winter roosting and hibernation sites.	Suitable foraging habitats with nearby roosting structures may provide habitat in the search buffer. One historical CNDDB occurrence within the search buffer.

Table 3.5-10 Special Status Fish and Wildlife Species with Moderate Potential to Occur in Study Area

Common Name (Scientific Name)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
		Jeffrey pine, juniper, aspen, montane riparian, bitterbrush, sagebrush, montane, chaparral, urban, and barren	
Long-legged myotis (*Myotis volans*)	WBWG	Inhabits forest, chaparral, coastal scrub, and Great Basin shrub habitats and roosts in rock crevices, under tree bark, snags, mines, and caves. Forages over water, vegetation, and habitat openings water. Year-round residents in California and may make local movements or short distance migrations between summer and winter roosting and hibernation sites. Jeffery pine, juniper, aspen, montane riparian, bitterbrush, sagebrush, montane chaparral, urban, and barren	The Study Area is in species range, and suitable foraging habitats with nearby roosting structures may provide habitat. No CNDDB occurrences within the search buffer.
Mexican free-tailed bat (*Tadarida brasiliensis*)	WBWG	Inhabits basically all habitat types, with open woodlands, shrublands, and grasslands preferred. Roosts in caves, mines, buildings, and bridges. Forages high above landscape. Year-round residents in California with populations east of the Sierra Nevada Mountain range migrating north in spring and south in fall Jeffery pine, juniper, aspen, bitterbrush, sagebrush, montane chaparral, annual grassland, perennial grassland, irrigated hayfield, urban, and barren	The Study Area is in species range and suitable foraging habitats with nearby roosting structures may provide habitat. No CNDDB records within the search buffer.
Pallid bat (*Antrozous pallidus*)	SSC, WBWG, BLM Sensitive and USFS Sensitive	Inhabits open, dry habitats with rocky roosting areas in variety of habitats including forests, desert, grasslands, shrublands, and open. Roosts in caves, crevices, mines, hollow trees, bridges, and buildings. Year-round residents in most of their range and may only move locally between summer roosts and winter hibernation sites.	The Study Area is in species range and open, dry habitats with nearby roosting structures may provide habitat throughout the entire Study Area. No CNDDB occurrences within the search buffer.

Table 3.5-10 Special Status Fish and Wildlife Species with Moderate Potential to Occur in Study Area

Common Name (Scientific Name)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
		Jeffrey pine, juniper, bitterbrush, sagebrush, alkali desert scrub, annual grassland, perennial grassland, irrigated hayfield, urban, and barren	
Silver-haired bat (*Lasionycteris noctivagans*)	WBWG	Inhabits varies mesic forest habitats including montane conifer forest, valley foothill woodland, pinyon-juniper woodland, and montane riparian. Roosts in snags, buildings, rock crevices, caves, and under tree bark. Forages over streams, ponds, and open brushy areas. Year-round residents in California and may make long- distance migrations between summer and winter roosting and hibernation sites. Jeffery pine, juniper, aspen, montane riparian, urban, and barren	The Study Area is in species range, and suitable grassland and montane conifer habitats with nearby roosting structures may provide habitat. No CNDDB occurrences within the search buffer.
Spotted bat (*Euderma maculatum*)	SSC, WBWG, BLM Sensitive	Inhabits deserts, grasslands, and montane conifer forests. Solitarily roosts in rock crevices and cliffs, typically near water, and occasionally roosts in caves, mines, and buildings. Information on seasonal movements is limited, though data suggest that the species does not migrate long distances to hibernation sites. Jeffery pine, juniper, bitterbrush, sagebrush, montane chaparral, alkali desert scrub, annual grassland, perennial grassland, wet meadow, irrigated hayfield, urban, and barren	The Study Area is in species range, and suitable grassland and montane conifer habitats with nearby roosting structures may provide habitat. No CNDDB occurrences within the search buffer.
Townsend's big-eared bat (*Corynorhinus townsendii*)	SSC, WBWG, BLM Sensitive and USFS Sensitive	Found throughout California in all habitats except subalpine and alpine habitats. Most abundant in mesic habitats. Roosts in caves, mines, tunnels, buildings, or other human-made structures for roosting. Year- round and relatively sedentary residents in California and may only move locally between summer roosts and winter hibernation sites.	The Study Area is in species range, and suitable foraging habitats with nearby roosting structures may provide habitat. One historical CNDDB occurrence within the search buffer.

Table 3.5-10 Special Status Fish and Wildlife Species with Moderate Potential to Occur in Study Area

Common Name (Scientific Name)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
		All habitat communities, especially mesic habitats like montane riparian, wet meadow, and riverine	
Yuma myotis (*Myotis yumanensis*)	WBWG, BLM Sensitive	Inhabits open forests and roosts in buildings, mines, caves, and under bridges. Forages over water. Year-round residents in California and may make local or short-distance migrations between summer and winter roosting and hibernation sites. Jeffery pine, juniper, aspen, montane riparian, wet meadow, fresh emergent wetland, riverine, urban, and barren	The Study Area is in species range, and suitable foraging habitats with nearby roosting structures may provide habitat. No CNDDB occurrences within the search buffer.
Birds			
Long-eared owl (*Asio otus*)	SSC	Nests in conifer, oak, riparian, pinyon- juniper, and desert woodlands that are either open or are adjacent to open habitats, which they use for foraging. Jeffery pine, juniper, aspen, and montane riparian	The entire Study Area overlaps their breeding (February to July) range. Northeastern California may be the center of abundance for the species in California. Two recent and two historical CNDDB breeding records within the search buffer, with the recent record occurring 0.8 mile west of the Study Area. Few eBird (Stantec 2020) records near the Study Area, mostly in the Honey Lake area. Forests and woodlands in the Study Area may provide breeding habitat, and nearby open areas may provide foraging opportunities.

Source: Stantec 2020. CNDDB and USFWS's BCC May 2022, and WBWG list queried on September 5, 2021 for updates on species' status.

Notes:

BCC USFWS Bird of Conservation Concern
BGEPA Bald and Golden Eagle Protection Act
BLM Bureau of Land Management
CNDDB California Natural Diversity Database

Table 3.5-10 Special Status Fish and Wildlife Species with Moderate Potential to Occur in Study Area			
Common Name (Scientific Name)	**Status (Federal/State/CRPR)**	**Habitat Description**	**Occurrence**

CWHR	California Wildlife Habitat Relationships
FC	Federal Candidate
FE	Federal Endangered
FP	Fully Protected
FPT	Federal Proposed Threatened
FT	Federal Threatened
MP	mile post
NWR	National Wildlife Refuge
SCE	State Candidate Endangered
SCT	State Candidate Threatened
SE	State Endangered
SSC	State Species of Special Concern
ST	State Threatened
USFS	U.S. Forest Service
USFWS	US Fish and Wildlife Service
WBWG	Western Bat Working Group Priority High and/or Medium
WL	State Watch List
SCT	State Candidate Threatened

Table 3.5-11 Special Status Fish and Wildlife Species Not Expected to Occur or with Low Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
Not Expected			
Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*)	FT	Occurs in relatively clear, cold waters of large freshwater and alkaline lakes, major rivers, and small streams. Spawns in streams and may migrate up to 100 miles to spawning habitat. Historically thought to occur in Study Area in Honey-Eagle Lakes watershed in southern Lassen County and northeastern Sierra County.	No CNDDB occurrences within the search buffer. Current occupied streams not within the Study Area; possibly extirpated from the Study Area.
Foothill yellow-legged frog (*Rana boylii*) North Feather River Distinct Population Segment)	FT, SE, SSC, BLM Sensitive and USFS Sensitive	Inhabits low gradient, shallow, perennial rivers and streams in forest and chaparral habitats with varying degrees of open and shaded banks from sea level to 6,365 feet Requires reduced flow sections with cobble, boulders, and gravel for breeding sites. Adults and juveniles inhabit a variety of stream habitats, including riffles, pools, and glides, as well as upland habitat typically within 9.8 feet of stream.	Two historical CNDDB occurrences within the search buffer; however, these are considered extirpated, and the Study Area is not included in the designated population boundaries.
Sierra Nevada yellow-legged frog (*Rana sierrae*)	FE, ST, US Forest Service Sensitive	Occurs in rivers, streams, ponds, wetlands, and lakes with abundant bank vegetation in chaparral, coniferous forest, and mountain meadow habitats from 4,500 to 11,980 feet. Uses banks and uplands within 9.8 feet of aquatic habitats.	One recent CNDDB occurrence is within the search buffer; however, the Study Area falls outside of the species' range in California, which extends from Plumas County to Fresno County.
Oregon spotted frog (*Rana pretiosa*)	FT, SSC, BLM Sensitive	Extremely aquatic species that inhabits wetlands, wet meadows, lakes, ponds, and slow streams and rivers with abundant aquatic vegetation in subalpine forests from 3,280 to 4,760 feet. Moves between seasonally saturated or flooded areas for breeding and deeper water for overwintering and dry periods.	One historical CNDDB occurrence more than 100 years old that is within the search buffer; however, all known localities in California are possibly extirpated.

Table 3.5-11 Special Status Fish and Wildlife Species Not Expected to Occur or with Low Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
Gray wolf (*Canis lupus*)	SE	Inhabits diverse habitats including tundra, forest, grassland, and desert. Habitat use affected by availability and abundance of prey, snow conditions, protected and public land ownership, road density, human presence and conflicts, and topography. Den sites occur in rock crevices, hollow logs, or under roots of trees.	Two historical CNDDB occurrences overlap the Study Area, one more than 90 years old and the other more than 100 years old. The approximate area of activity in California as of October 2019 is west of the Study Area in Lassen and Plumas Counties. Not considered to be active in Study Area, therefore, not expected to occur within Study Area.
North American wolverine (*Gulo luscus*)	ST, FP, USFS Sensitive	Northern Sierra Nevada population inhabits mixed conifer, red fir, and pine habitats from 4,300 to 7,300 feet and possibly also subalpine conifer, alpine dwarf-shrub, wet meadow, and montane habitats. Prefers habitats with low human disturbances and caves, cliff hollows, logs, rock outcrops, cavities in ground, and burrows in dense forest for den sites. Forages in open to sparse tree habitats. Travels extensively inside and outside home range. Occurs in low population densities and likely not historically common in California.	Suitable habitat with low-human disturbance is not present in Study Area. No CNDDB occurrences within the search buffer. The current range is west of Study Area in the Sierra Nevada foothills of southern Lassen County and northern Sierra County.
Sierra Nevada red fox (*Vulpes necator*)	FPE, ST, USFS Sensitive	Uses a variety of habitats including meadows, rocky areas, conifer forests, and chaparral in alpine and subalpine zones from 3,937 to 11,811 feet elevation. Likely occurs in low population densities throughout range. Three separate areas are within historical range in California: Mt. Shasta to Trinity Mountains; Cascade Mountains around Lassen Peak; and the upper elevation Sierra Nevada Mountain Range from Tulare to Sierra counties. Two current sighting areas in California: Lassen and Sonora Pass.	One historical occurrence within the search buffer that is presumed to be this species, but identification has not been conclusively determined. The Study Area falls outside the historical range and current USFWS sighting areas.

Table 3.5-11 Special Status Fish and Wildlife Species Not Expected to Occur or with Low Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
California gull (*Larus californicus*)	WL (nesting colony)	Breeding colonies are nearly always on islands on natural lakes, rivers or reservoirs, varying from fresh oligotrophic lakes and rivers to saline lakes saturated with dissolved salts at elevations ranging from sea level to more than 9,000 feet. May forage at great distances from colonies.	The entire Study Area overlaps breeding range. Two recent CNDDB nesting colony records within the search buffer: one along Goose Lake and associate tributaries and one along Honey Lake. No CNDDB nesting colony records within the Study Area. eBird (Stantec 2020) records do not indicate breeding colonies occurring within the Study Area. Despite the range overlaps and nearby records, islands on lakes, rivers, or reservoirs do not occur within the Study Area.
Clark's grebe (*Aechmophorus clarkii*)	BCC	Winters on salt or brackish bays, estuaries, sheltered sea coasts, freshwater lakes, and rivers. Breeds on freshwater to brackish marshes, lakes, reservoirs and ponds, with a preference for large stretches of open water fringed with emergent vegetation.	No CNDDB occurrences in the search buffer; however, there are scattered eBird records in the search buffer. Nesting habitat is absent within the Study Area, but foraging or non-breeding birds may occur in open water areas within the Study Area.
Double-crested cormorant (*Phalacrocorax auritus*)	WL (nesting colony)	Colonies on small rocky or sandy islands on ponds, lakes, slow-moving rivers, and other bodies of water. May also nest on artificial substrates, trees, or vegetation mats in marshes. Uses sites free from ground predators and near foraging areas.	No CNDDB occurrences in the search buffer; however, there are scattered eBird (Stantec 2020) records in the search buffer, primarily in the Honey Lake and Modoc NWR areas. Nesting habitat is absent within the Study Area, but foraging or non-breeding birds may occur in open water areas within the Study Area.
Olive-sided flycatcher (*Contopus cooperi*)	SSC, BCC	Breeds in late-successional conifer forests with open canopies from sea level to timberline. Typically associated with forest openings or edges.	No CNDDB occurrences in the search buffer. Limited eBird (Stantec 2020) records in the search buffer are primarily associated with higher elevation forested areas, which are not present within the Study Area. Conifers within the Study Area are younger and unlikely to support nesting birds.
Evening grosbeak (*Coccothraustes vespertinus*)	BCC	Breed in open canopy mixed conifer, open canopy red fir, and closed canopy red fir forests	No CNDDB occurrences in the search buffer. Scattered eBird records in the search buffer are not likely associated

Table 3.5-11 Special Status Fish and Wildlife Species Not Expected to Occur or with Low Potential to Occur in Study Area			
Common Name (*Scientific Name*)	**Status (Federal/State/CRPR)**	**Habitat Description**	**Occurrence**
			with breeding. There are no forested areas in the Study Area..
Low Potential to Occur			
Northern leopard frog (*Lithobates pipiens*)	SSC (native populations only)	Breeds and overwinters in permanent and semi-permanent aquatic habitats including ponds; lakes; wetlands; and shallow, slow streams with abundant aquatic and shoreline vegetation in moist grasslands, brushlands, forests, and pasture lands. Uses uplands for foraging and migration and can migrate up to 2.0 miles from aquatic habitat. Introduced in many locations in California, though presumed to be native to the northeastern corner of the state. Montane riparian, wet meadow, fresh emergent wetland, riverine, Jeffrey pine, juniper, aspen, bitterbrush, sagebrush, montane chaparral, annual grassland, perennial grassland, and irrigated hayfield	One historical CNDDB occurrence more than 100 years old overlaps the Study Area. Aquatic features in the Study Area in east central Modoc County south of Goose Lake may provide habitat; however, native population status in California is unknown, and the species is possibly extirpated
Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*)	SSC	Occurs in riparian habitats with thickets of deciduous trees and shrubs and patches of Ceanothus and manzanita chaparral. The elevation range is published in the literature as 4,800-8,000 feet, and the CNDDB records elevation range is 5,200-8,600 feet. Distribution is patchy, and populations are rare to uncommon in California. Range includes southern Lassen County along the western edge of Honey Lake.	Rare to uncommon in California. The Study Area runs along the edge of the modeled range of the subspecies near Honey Lake; however, the elevation in this area (4,034-4,208 feet) is well below the species' known elevation (4,800-8,600 feet). No CNDDB occurrences within the search buffer.

Table 3.5-11 Special Status Fish and Wildlife Species Not Expected to Occur or with Low Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
Willow flycatcher (*Empidonax traillii*)	SE, BCC, USFS Sensitive (nesting)	Breeds in moist, shrubby areas often with standing or running water. In California, prefers willow thickets. Migration habitat is like breeding habitat. Montane riparian and riverine	The entire Study Area overlaps breeding and migration range (Stantec 2020). One recent CNDDB occurrence of potential breeding activity 0.9 mile west of the Study Area near the Modoc County and Lassen County border. Few eBird (Stantec 2020) records in the search buffer, the majority of which are during migration periods and are primarily concentrated in the Honey Lake, Madeline, Modoc NWR, and Goose Lake areas.
Yellow-billed cuckoo (*Coccyzus americanus*)	FT, SE, BCC, BLM Sensitive and USFS Sensitive	Uses a variety of riparian habitats. Cottonwood and willow trees are an important foraging habitat in areas where the species has been studied in California. Montane riparian and riverine	USFWS (2017) considers the Sacramento Valley the northern extent of their current breeding range in the western coastal states. Appears on the project's IPaC lists; however, they are unlikely to occur within the search buffer. No CNDDB occurrences within the search buffer and only one eBird (Stantec 2020) record for Sierra, Lassen, and Modoc counties combined, a historical fall migration period recorded about 11 miles west in Sierra County.
Rufous hummingbird (*Selasphorus rufus*)	BCC	Nesting habitat includes secondary succession communities and openings, mature forests, parks and residential areas.	No CNDDB occurrences in the search buffer. The Study Area is not situated in the current known breeding range of this species. However, there are scattered eBird occurrences within the vicinity of the Study Area that represent migrants.
Calliope hummingbird (*Selasphorus calliope*)	BCC	Typically occupies shrub-sapling stage montane forest/woodland habitats, although may occur at lower elevations. Jeffrey pine, aspen, and montane riparian	No CNDDB occurrence records in the search buffer and few eBird (Stantec 2020) occurrence records scattered along the search buffer. Small amounts of suitable breeding habitat within the Study Area, where forest, woodland, or thicket habitats occur in montane areas.
Flammulated owl (*Psiloscops flammeolus*)	BCC (nesting)	Breeds in mature to old dry montane conifer or aspen forests, often with oak (*Quercus* sp.),	The Study Area may overlap breeding range in montane coniferous forest areas. No CNDDB occurrences in the search buffer. There are eBird (Stantec 2020) records in the search buffer, primarily within the portion of the Warner

Table 3.5-11 Special Status Fish and Wildlife Species Not Expected to Occur or with Low Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
		dense saplings, or other brushy understory. Nests in tree cavities. Jeffrey pine and aspen	Mountains just south of the Oregon border, with two additional records near Doyle (Lassen County) and one record near Alturas (Modoc County). Minimal potential breeding habitat within the Study Area.
Franklin's gull (*Leucophaeus* pipixcan)	BCC	Breeds in freshwater marshes or lakes, and rarely in meadows. Prefers to nest in areas of low vegetation density or at edges of dense clumps (Burger and Gochfeld 2020).	The Study Area is at the extreme western edge of the breeding range of this species. No CNDDB occurrences in the search buffer. There are scattered eBird records in the vicinity of the search buffer, primarily associated with large wetland complexes and open water habitat. Minimal potential breeding habitat within the Study Area.
Least bittern (*Ixobrychus exilis*)	SSC, BCC (nesting)	Nests and forages in freshwater and brackish marshes with tall, dense vegetation. Fresh emergent wetland and wet meadow	Breeding (May to August) range overlaps the Study Area near Honey Lake and Modoc NWR. No CNDDB occurrences in the search buffer and no eBird (Stantec 2020) records. Probably very rare in northeastern California, given that very few have been observed despite years of waterbird surveys in the region. Potential wetland habitat within or adjacent to the Study Area in Honey Lake and Modoc NWR areas.
Northern goshawk (*Accipiter gentilis*)	SSC, BLM Sensitive and USFS Sensitive	Nests in mature and old-growth forest. Suitable stands occur in a broad range of conifer and conifer-hardwood types, rarely pinyon-juniper. Jeffery pine, aspen, and montane chaparral	One recent and 16 historical CNDDB nesting records in the Warner Mountains, the closest of which is 0.5 mile east of the Study Area. Most recent eBird (Stantec 2020) records within the search area also located in the Warner Mountains. One recent eBird record within the Study Area. Forested areas within the Study Area are limited and likely not mature enough to support the species.
Vaux's swift (*Chaetura vauxi*)	SSC	Breeds in late successional coniferous and mixed deciduous and coniferous forests, where they	The Study Area abuts or slightly overlaps edge of breeding (May to August) range along the eastern foothills of the

Table 3.5-11 Special Status Fish and Wildlife Species Not Expected to Occur or with Low Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
		nest in tree cavities. Also nests in chimneys or other human-made structures in residential areas. Forages in a variety of habitats, especially over water. Jeffrey pine and urban	Sierra Nevada between about Lassen County MP 13.0 and MP 51.9, and along the western foothills of the Warner Mountains between about Modoc County MP 34.0 and MP 61.5. No CNDDB occurrences within the search buffer. Few eBird (Stantec 2020) Breeding season records within the search buffer and none within the Study Area. eBird records largely associated with the Honey Lake, Modoc NWR/Alturas, and Goose Lake areas. Minimal potential nesting habitat in the Study Area.
White-faced ibis (*Plegadis chihi*)	WL (nesting colony)	Primarily inhabits shallow marshes with islands of emergent vegetation in the interior. Wet meadow and fresh emergent wetland	The entire Study Area overlaps breeding range. One historic CNDDB nesting colony record within the STUDY AREA along Goose Lake and associated tributaries. Numerous recent eBird (Stantec 2020) records within the search buffer; however, records within and adjacent to Study Area do not indicate presence of nesting colonies. Habitat present throughout Study Area, but colonies unlikely proximal to the high-volume traffic highway.
White-headed woodpecker (*Dryobates albolarvatus*)	BCC	Inhabits montane mixed coniferous forests, typically dominated by pine species, with abundance of mature pine trees, relatively open canopy, availability of snags and stumps, and generally sparse understory. Jeffrey pine	The Study Area abuts or slightly overlaps the edge of the range along the eastern foothills of the Sierra Nevada in southern Lassen County and along the western foothills of the Warner Mountains in Lassen and Modoc Counties. No CNDDB occurrences within the search buffer. Few recent eBird (Stantec 2020) records in the search buffer, mostly west of Honey Lake in the Sierra Nevada foothills. Minimal potential habitat within the Study Area.

Table 3.5-11 Special Status Fish and Wildlife Species Not Expected to Occur or with Low Potential to Occur in Study Area

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Habitat Description	Occurrence
Oak titmouse (*Baeolophus inornatus*)	BCC	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines and Joshua tree).	No CNDDB occurrences in the search buffer. There are only a few eBird occurrences in the vicinity of the Study Area, where this species is considered scarce (Cicero, et al. 2020).
Black-throated gray warbler (*Setophaga nigrescens*)	BCC	Breeding habitat includes open coniferous or mixed coniferous-deciduous woodland with brushy undergrowth, pinyon-juniper and pine-oak associates, and oak scrub	No CNDDB occurrences in the search buffer. There are only a few eBird occurrences in the vicinity of the Study Area. Breeding habitat is limited in the Study Area.

Source: Stantec 2020. CNDDB and USFWS's BCC May 2022, and WBWG list queried on September 5, 2021 for updates on species' status.

Notes:

BCC	USFWS Bird of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
CNDDB	California Natural Diversity Database
CWHR	California Wildlife Habitat Relationships
FC	Federal Candidate
FE	Federal Endangered
FP	Fully Protected
FPE	Federal Proposed Endangered
FPT	Federal Proposed Threatened
FT	Federal Threatened
MP	mile post
NWR	National Wildlife Refuge

Table 3.5-11 Special Status Fish and Wildlife Species Not Expected to Occur or with Low Potential to Occur in Study Area			
Common Name (*Scientific Name*)	**Status (Federal/State/CRPR)**	**Habitat Description**	**Occurrence**

SCE	State Candidate Endangered
SCT	State Candidate Threatened
SE	State Endangered
SSC	State Species of Special Concern
ST	State Threatened
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WBWG	Western Bat Working Group Priority High and/or Medium
WL	State Watch List

Stantec biologists observed 18 special status wildlife species present within the Study Area (Table 3.5-8). Among this list, the following species are most vulnerable to impacts given their status and active nesting in the Study Area, or because they are fossorial (i.e., live in burrows underground):

- State threatened nesting and wintering Greater sandhill cranes;
- Nesting colonies of the state-threatened tricolored blackbird;
- Nesting state-threatened Swainson's hawk; and
- American badger (California SSC).

Past CNDDB records for an additional 20 species occur in the Study Area which are considered to have a high potential to occur in the Study Area (Table 3.5-9). Among this list, the following species are most vulnerable to impacts given their status and active nesting in the Study Area, or because they are fossorial (i.e., live in burrows underground):

- Federally endangered Carson wandering skipper;
- State threatened bank swallow;
- Nesting burrowing owls (California SSC);
- Nesting short-eared owls (California SSC);
- Leks of the Greater sage-grouse (California SSC); and
- Nesting redheads (California SSC).

An additional 26 species have not been detected in the Study Area but have a moderate potential to occur given the presence of suitable habitat (Table 3.5-10). Among this list, the following species are most vulnerable to impacts given their status and because they are difficult to detect during surveys:

- Suckley's cuckoo bumble bee (state listed as Endangered);
- Western bumble bee (state listed as Endangered); and
- Southern long-toed salamander (California SSC).

Finally, 27 species were determined to either not be expected to occur or have a low potential to occur in the Study Area given their range, status, and/or habitat requirements (Table 3.5-11). These species are not expected to be present in the Project Area and are not discussed further in this analysis.

Critical Habitat

No federally designated or proposed critical habitat occurs within the Study Area for the Project. One designated critical habitat polygon for Sierra Nevada yellow-legged frog occurs approximately four miles west of the Study Area near Janesville. Six designated critical habitat polygons for Webber's ivesia occur within five miles of the Study Area (Stantec 2020).

3.5.1.4 Riparian Habitat and Sensitive Natural Communities

The effort to map natural vegetation communities in the Study Area also included identifying and documenting all natural vegetation communities that are considered Sensitive Natural Communities by CDFW (Stantec 2020). Sensitive natural communities as defined by CDFW as those with a state rarity ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable). Natural vegetation communities identified during field mapping that were also on CDFW's California Natural Community List dated November 8, 2019, were identified as Sensitive Natural Communities (Stantec 2020).

Stantec reviewed the USFWS *National Wetlands Inventory Wetlands Mapper* prior to conducting the delineation for the site to determine if any previously mapped surface water and wetland features occurred in the Study Area and surrounding areas (Stantec 2020). Additionally, Stantec reviewed United States Geological Survey (USGS) topographic 7.5-minute quadrangles for drainage features (perennial and intermittent streams) that occur in the Study Area. Stantec used data gathered from the desktop reviews to assist with field delineations and mapping efforts. Refer to the *Delineation of Potential Waters of the United States* report contained in Attachment B of the BRTR for complete desktop methods used in identifying Waters of the U.S. and State (Stantec 2020).

CDFW considers 22 of the 61 mapped natural vegetation communities in the Study Area to be sensitive natural communities according to CDFW's *California Natural Community List* (Table 3.5-12). Locations of sensitive natural communities within the Study Area are shown in Appendix F1. Descriptions of each sensitive natural vegetation community are contained within the BRTR. Riparian habitat is protected as a State Protected wetland and is discussed under that resource category.

Table 3.5-12. Sensitive Natural Vegetation Communities in the Study Area

Alliance	Association	Acres
Forests and Woodlands		
Jeffrey pine forest	*Pinus jeffreyi* and *Purshia tridentate*	6.46
Aspen groves	*Populus tremuloides* and *Symphoricarpos rotundifolius*	0.48
Black cottonwood forest	*Populus trichocarpa*	0.18
Shrublands		
Little sagebrush scrub	*Artemisia arbuscula* ssp. a*rbuscula and Poa secunda*	192.03
Silver sagebrush scrub	*Artemisia cana* ssp. *bolanderi*, *Artemisia cana* ssp. ssp. *viscidula,* and *Poa secunda*	0.93
Bitterbrush scrub	*Purshia tridentata* and *Artemisia arbuscula*	322.48
Bitterbrush scrub	*Purshia tridentata*, *Artemisia tridentata*, and *Tetradymia canescens*	39.51

Table 3.5-12. Sensitive Natural Vegetation Communities in the Study Area

Alliance	Association	Acres
Bitterbrush scrub	*Purshia tridentata*, *Artemisia tridentata*, and *Bromus tectorum*	5.52
Bitterbrush scrub	*Purshia tridentata* and *Artemisia tridentata*	416.89
Bitterbrush scrub	*Purshia tridentata* and *Prunus subcordata*	1.26
Interior rose thickets	*Rosa woodsii*	7.11
Shining willow groves	*Salix lucida*, *Rosa woodsia,* and Mixed Herbs	3.81
Greasewood scrub	*Sarcobatus vermiculatus* and *Artemisia tridentata*	198.02
Herbaceous Vegetation		
Sheldon's sedge patch	*Carex sheldonii*, and *Elymus cinereus*	3.39
One spike oat grass meadows	*Danthonia unispicata* and *Poa secunda*	7.46
Ashy ryegrass meadows	*Elymus cinereus* and *Alopecurus geniculatus*	22.63
Ashy ryegrass meadows	*Elymus cinereus*	46.24
Blue bunch wheat grass meadows	*Pseudoroegneria spicata* and *Poa secunda*	19.37
Hardstem bulrush marshes	*Schoenoplectus acutus*	0.14
American bulrush marsh	*Schoenoplectus americanus*	0.07
Needle-and-thread grassland	*Stipa comata*	0.71
Tansyleaf evening primrose patch	*Taraxia tanacetifolia* and *Iva axillaris*	70.26

Source: Stantec 2020

3.5.1.5 State or Federally Protected Wetlands

Potential Waters of the U.S. protected under Section 404 and Section 401 of the Clean Water Act (CWA) and potential Waters of the State protected under the California Porter-Cologne Water Quality Control Act occur in the Study Area (Stantec 2020). Natural drainages and streams also containing a defined bed and bank are also protected under Section 1600 et seq. of the California Fish and Game Code.

Waters of the U.S. include traditional navigable waters and their tributaries (as defined in 33 Code of Federal Regulations [CFR] 329) as well as *other waters* such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes,

or natural ponds and wetlands adjacent to waters (40 CFR 230.3[s]). Stantec delineated other waters based on presence of an Ordinary High Water Mark (OHWM), as defined in United States Army Corps of Engineers (USACE) regulations (33 CFR 328.3 and 328.4). Physical characteristics of an OHWM include but are not limited to the following conditions: a natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, presence of litter and debris, leaf litter disturbed or washed away, scour, deposition, presence of bed and bank, and water staining (Stantec 2020).

Wetlands adjacent to Waters of the U.S. also are considered Waters of the U.S. if they possess wetland hydrology, wetland vegetation, and wetland (i.e., hydric) soils.

Waters of the State are defined in California Water Code Section 13050(e) as all Waters of the U.S. plus all surface waters that are not Waters of the U.S. (e.g., all wetlands and surface waters in natural and artificial channels), groundwater, and territorial seas).

Wetland types in the Study Area include riparian wetland, riparian fresh emergent wetland complex, fresh emergent wetland, seasonal wetland, wetland swale, and wetland seep spring. Other waters include perennial stream, intermittent stream, ephemeral stream, irrigation canal, vegetated ditch, non-vegetated ditch, and pond.

Stantec conducted onsite routine delineations of wetlands and *other Waters* of the U.S. and State based on field observations of positive indicators for wetland vegetation, hydrology, and soils and indicators of an OHWM (Stantec 2020). Delineators used methods outlined in the USACE *Wetlands Delineation Manual* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (Stantec 2020). Plant taxonomy followed *The Jepson Manual: Vascular Plants of California, Second Edition*, including applicable errata and supplements (Stantec 2020). Stantec used The *National Wetland Plant List* to confirm wetland indicator status for plant species, and the *50/20 Rule* or *Prevalence Index* to determine plant dominance (Stantec 2020).

Stantec documented the presence of primary and secondary wetland hydrology indicators for potential aquatic resources and determined the OHWM using the approach outlined in *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States* (Stantec 2020).

Stantec evaluated soils for positive indicators of hydric soils in the field following the criteria in *Field Indicators of Hydric Soils in the United States* (Stantec 2020). Delineators used the Natural Resource Conservation Service's *Web Soil Survey* to review the hydric status of each soil map unit occurring in the Study Area (Stantec 2020).

Stantec mapped the boundaries of delineated features and the associated data points using a tablet computer and GPS device with sub-meter accuracy (Stantec 2020). The biologists conducted the routine delineation from August to September 2019 and from March to May 2020. The *Delineation of Potential Waters of the United States* contained in Attachment B of the BRTR (Appendix C of this document) contains more details. Stantec will submit the jurisdiction of individual features as discussed in this report to USACE for verification (Stantec 2020).

Stantec identified and mapped 2.62 acres of potential Waters of the U.S. and State within the Study Area (Appendix F2), which include:

- 0.19 acre of riparian wetlands;
- 0.33 acre of riparian fresh emergent wetland complexes;
- 1.39 acres of fresh emergent wetlands;
- 0.38 acres of seasonal wetlands;
- 0.07 acres of wetland swales;
- 0.17 acre of perennial streams;
- 0.05 acre of intermittent streams;
- 0.03 acre of ephemeral streams;
- 0.01 acre of irrigation canals; and
- 0.000002 acre of ponds.

For purposes of this analysis, it is conservatively assumed that each aquatic feature in the Study Area meets the more stringent definition of Waters of the State. The final identification of Waters of the U.S. will be determined by USACE, and the Waters of the State will be confirmed by the Regional Water Quality Control Board. (RWQCB).

3.5.1.6 Fish and Wildlife Corridors

In addition to agency correspondence, Stantec reviewed various resources to identify wildlife corridors and habitat connectivity including migratory bird flyways and California Fish Passage Assessment Database (Stantec 2020).

Habitat corridors connect patches of habitat and allow movement of plants and animals between them. Plants, fish, and wildlife may use habitat corridors and linkages to move, expand territories, find mates and reproduce, and forage and hunt. In the Study Area, habitat corridors may consist of woodland riparian segments, canyons, wetlands, and ridgelines (Stantec 2020). Waterways may also serve as habitat corridors for fish and other species.

Flyways are administrative regions in North America that categorize the major north-south bird migration (Stantec 2020). On a broad scale, northeastern California falls within the Pacific Flyway, which is composed of numerous, narrow migration corridors that pass through the Study Area and the surrounding lands (Stantec 2020).

The California Fish Passage Assessment Database maps known and potential barriers to anadromous fish (Stantec 2020). Although no special status anadromous fish occur within the Study Area, the mapped barriers could also prevent or hinder movement of non-anadromous special status fish species that may occur in waterways in the Study Area. The database includes the following waterway crossings within the Study Area:

- New Pine Creek between Modoc County Mile Post (MP) 61.4 to 61.5 – remediated but fish response unconfirmed, meaning that the barrier structures were removed; however, there is no evidence yet of fish presence above the remediated site
- Cottonwood Creek between Modoc County MP 58.0 to 58.1 – remediated but fish response unconfirmed and unknown passage status
- Willow Creek between Modoc County MP 54.4 to 54.5 – remediated but fish response unconfirmed
- Lassen Creek between Modoc County MP 53.6 to 53.7 – partial barrier from steep culvert

The remaining waterways have either not been assessed or do not contain barriers and therefore may serve as passages for special status fish.

The BLM's Sierra Front Field Office within the Carson City District considers the section of the Study Area from approximately Lassen County MP 0.0 to MP 18.9 as a mule deer movement corridor (Stantec 2020). Mule deer generally use the corridors from March 1 to May 15 and from October 1 to November 30 (Stantec 2020). The project segment would follow roads with high traffic volumes, which hinder the movement of many species. Existing roads often separate and isolate plant and animal habitats and sever corridors, acting as a physical barrier to movement, or inducing avoidance behavior for some species, and causing mortalities or injuries for some others (Stantec 2020). The project lies within the Caltrans US 395 right-of-way in this area, which likely impacts movement but does not serve as a complete barrier to big game movement under existing conditions, and the BLM Sierra Front Field Office does not apply seasonal restrictions to these areas.

3.5.1.7 Wildlife Nursery Sites

Based on desktop reviews and habitat field surveys, no known regional and local native wildlife nursery sites occur within the Study Area. The BLM Eagle Lake Field Office noted that BLM-designated pronghorn (*Antilocapra americana*) kidding habitat occurs outside of the Study Area west of US 395 approximately 8 miles north of Honey Lake and west of the BLM Ravendale Fire Station near Termo (Stantec 2020).

3.5.1.8 Adopted Local, State, or Federal Habitat Conservation Plans

The Study Area does not lie within any Habitat Conservation Plan (HCP) area defined under Section 10 of the federal ESA nor within any Natural Community Conservation Plan (NCCP) area defined under the California Natural Community Conservation Planning Act. The Study Area does occurs within portions of the Modoc National Wildlife Refuge operated by the USFWS, and the Doyle and Hallelujah Junction Wildlife Areas operated by CDFW (Stantec 2020; Appendix F1).

Other biological resource management areas that occur within 5 miles of the Study Area include the Bass Hill, Biscar, and Honey Lake Wildlife Areas operated by CDFW, and The Nature Conservancy's Matley Ranch (Stantec 2020).

3.5.2 Regulatory Setting

3.5.2.1 Federal

Clean Water Act

The CWA also known as the Federal Water Pollution Control Act of 1972, as amended (33 United States Code [USC] 1251 et seq.), was established to restore and maintain the chemical, physical, and biological integrity of waters throughout the U.S. Discharge of dredged or fill material into Waters of the U.S., including wetlands, lakes, streams, rivers, and estuaries, is regulated under Section 404 of the CWA. Section 404 is jointly implemented by the United States Environmental Protection Agency and the USACE, with the USACE issuing Section 404 permits and monitoring permit compliance. Section 404 permit applicants are also required to obtain a Section 401 water quality certification from the state or authorized tribe in the region where the discharge would originate. In California, the State Water Resources Control Board (SWRCB) regulates multi-regional projects, and the RWQCBs regulate specific regional projects.

Federal Endangered Species Act

The federal ESA of 1973, as amended (16 USC 1531 et seq.), was established to protect and recover imperiled species and their habitats. Under the ESA, wildlife and plant species may be listed as either endangered or threatened and along with their critical habitat, if designated, are protected from actions that would cause take of any listed species except under federal permit. The USFWS and NOAA's NMFS the National Oceanic and Atmospheric Administration's National Marine Fisheries Service administer the ESA and consult with other federal agencies under Section 7 of the ESA to ensure that their actions are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat for these species. Further, when a project without a federal nexus has the potential to take listed species, such take can be authorized through the development of an HCP under Section 10 of the ESA.

Migratory Bird Treaty Act

Under the Migratory Bird Treaty Act (MBTA) it is unlawful to take any migratory bird or any part, nests, or eggs of migratory birds unless permitted by regulations. Migratory birds include all species native to the United States or its territories, except some upland game birds (e.g., California quail), that occur as a result of natural biological or ecological processes (1,026 total species). Non-native species introduced into the United States or its territories by intentional or unintentional human assistance are not included in the MBTA.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940, as amended (16 USC 668-668c), prohibits take of bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) or any part, nests, or eggs of bald and golden eagles unless federally permitted. The Bald and Golden Eagle Protection Act also prohibits human-induced alterations around an unoccupied nest site if upon return of the eagle, the alterations result in adverse impacts on the eagle.

Executive Orders

Federal agencies are required to demonstrate that their actions comply with Executive Orders (EOs), which are directives issued by the President to manage operations of the federal government. Relevant EOs include the following:

EO 11988 – Floodplain Management. EO 11988, Floodplain Management, was issued on May 24, 1977, by President Jimmy Carter to avoid adverse impacts associated with the occupancy and modification of floodplains and to avoid floodplain development wherever there is a practicable alternative. Under this EO, federal agencies are required to evaluate the potential effects of the action on the floodplain and to identify practicable alternatives to avoid adverse effects and incompatible development in the floodplains. Federal agencies are also required to provide opportunity for early public review of any plans or proposals for actions in floodplains.

EO 11990 – Protection of Wetlands. EO 11990, Protection of Wetlands, was issued on May 24, 1977, by President Jimmy Carter to avoid adverse impacts associated with the destruction or modification of wetlands and to avoid new construction in wetlands wherever there is a practicable alternative. Under this EO, federal agencies are required to demonstrate that there is no practicable alternative to avoid wetlands for new construction and to include all practicable measures to minimize harm to wetlands that may result from the proposed action. Federal agencies are also required to provide opportunity for early public review of any plans or proposals for new construction in wetlands.

EO 13112 – Invasive Species and Executive Order 13751 – Safeguarding the Nation from the Impacts of Invasive Species. EO 13112, Invasive Species, was issued on February 3, 1999, by President Bill Clinton to prevent the introduction of invasive species, to provide control of invasive species, to minimize impacts from invasive species, and to the establish the National Invasive Species Council. Federal agencies are required to prevent the introduction of invasive species and not authorize actions that could cause or promote the introduction or spread of invasive species. Federal agencies also need to identify all feasible and prudent measures to minimize the risk of harm caused by invasive species.

EO 13751, Safeguarding the Nation from the Impacts of Invasive Species, was issued on December 5, 2016, by President Barack Obama to amend EO13112. EO 13751 directed continuing coordination of federal control and prevention of invasive species and maintained the National Invasive Species Council and Invasive Species Advisory Committee.

The Federal Highway Administration (FHWA) issued Guidance on Invasive Species on August 10, 1999, in response to EO 13112. The FHWA guidance defined known invasive plants as those listed on the official noxious weed list of the state in which the activity occurs. In California, the California Invasive Species Advisory Committee under the Invasive Species Council of California developed and maintains the list of statewide invasive species.

3.5.2.2 State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) of 1969, as amended (Water Code Section 13000 et seq.), was established to provide a comprehensive program to protect water quality that applies to surface waters, wetlands, groundwater, and point and nonpoint pollution sources. Under the Porter-Cologne Act, the SWRCB and nine RWQCBs were created and authorized to implement state water quality regulations. The SWRCB State Water Resources Control Board oversees water rights and water quality policy, and the RWQCBs Regional Water Quality Control Boards protect and enhance water quality at the regional and local levels. CWA Section 401 grants the SWRCB State Water Resources Control Board the authority to review proposed federally permitted or licensed activities that may impact state water quality and to certify, condition, or deny the activities if they do not comply with state water quality standards. RWQCBs Regional Water Quality Control Boards may impose specific discharge prohibitions or requirements for activities that may affect any Waters of the State, including isolated wetlands. Per the 2001 U.S. Supreme Court decision of *Solid Waste Association of Northern Cook Counties v. United States Corps of Engineers* and the Porter-Cologne Act, RWQCBs Regional Water Quality Control Boards retained the authority to regulate discharges of waste into any Waters of the State regardless of whether the waters are subject to USACE jurisdiction under CWA Section 404.

California Endangered Species Act

The California ESA of 1970, as amended (California Fish and Game Code Sections 2050-2089), was established to conserve, protect, restore, and enhance any listed species and its habitat. The California Endangered Species Act prohibits the take of any species designated by the California Fish and Game Commission as endangered, threatened, or candidate species and protects all native animals and plants and their habitats that are threatened with extinction or experiencing significant declines that would lead to threatened or endangered designation if not halted. The California Endangered Species Act authorizes CDFW to issue an Incidental Take Permit (Fish and Game Code Sections 2081 and 2089) for state-listed species when specific criteria are met. The California Endangered Species Act also outlines provisions for creation of Natural Community Conservation Plan for the purpose of conserving species and protecting and managing natural communities.

California Fish and Game Code

The California Fish and Game Code provides several provisions for the protection of state wildlife resources, including the following relevant sections:

Sections 1600-1616 – Lake and Streambed Alteration. Under Section 1602, CDFW has the authority to issue Lake or Streambed Alteration Agreements for activities that substantially divert or obstruct the natural flow; substantially change or use any material from the bed, channel, or bank; or deposit or dispose of materials into any river, stream, or lake. Applicants are required to obtain a Lake or Streambed Alteration Agreement prior to commencing these activities in any river, stream, or lake, including features with ephemeral and perennial flow. The notification may also apply to specific activities within floodplains.

Sections 1900-1913 – Native Plant Protection Act. The Native Plant Protection Act allows the California Fish and Game Commission to designate plants as endangered or rare. The Native Plant Protection Act prohibits take, possession, or sale within the state of any native-listed plants. CDFW has the authority to enforce the provisions of this act and authorize incidental take permits for activities if deemed appropriate.

Sections 3500-3516 – Birds. CDFW protects game birds, birds of prey, migratory birds, Fully Protected birds, and their nests and eggs from take or possession except as otherwise provided by the California Fish and Game Code (e.g., incidental take under California Endangered Species Act, state waterfowl hunting validations, etc.). In response to the U.S. Department of Interior's December 22, 2017, memorandum interpreting incidental take of migratory birds, CDFW and California Office of Attorney General published a legal guidance on November 29, 2018, affirming that California State Law will continue to prohibit the incidental take of migratory birds. On September 27, 2019, the California State Legislature passed the California Migratory Bird Protection Act (Assembly Bill 454) amending Section 3513 of the California Fish and Game Code, which clarifies that incidental but avoidable take of migratory birds is prohibited.

Sections 3511, 4700, 5050, and 5515 – Fully Protected Species. Prior to the California Endangered Species Act listings, California Statutes accorded a Fully Protected status to specifically identified birds, mammals, reptiles, amphibians, and fish. Most of these Fully Protected species have also been listed under the California Endangered Species Act. Fully Protected species cannot be taken or possessed, and no take licenses or permits (e.g., incidental take permit) can be issued except for collecting for scientific research and relocation for protection of livestock.

3.5.2.3 Local

Following is a list of policies from the General Plans of Modoc, Lassen, and Sierra counties that are most relevant to the Project.

Modoc County General Plan

The following policies from the Conservation and Open Space Element of the Modoc County General Plan directly pertain to biological resources (Stantec 2020):

Wildlife

Policy #2: Maintain countywide consistency on the types of fish and wildlife protection measures for mitigating adverse impacts on critical or sensitive wildlife habitats on a case-by-case basis. Similar consistency is desirable for protection measures for threatened and endangered species.

Policy #3: Specific requirements to be considered for mitigating adverse impacts on critical or sensitive wildlife habitats, including habitat important to threatened or endangered species, shall be on a case-by-case basis with adequate consideration given to landowner needs.

Timber/Vegetation

Policy #3: Protect timber resources through vegetation program.

Policy #4: Protect timber resources for its wildlife habitat and scenic resources.

Policy #5: Protect officially listed rare and endangered plants in Modoc County which contribute to the natural diversity of plant life.

Lassen County General Plan

The following policies from the Natural Resources, Wildlife, and Open Space Elements of the Lassen County General Plan 2000 directly pertain to biological resources (Stantec 2020):

Vegetation

Policy NR26: In order to avoid or reduce the extent of potential adverse impacts to important vegetation communities which may result from projects and land use decisions within its jurisdiction, the County shall consider the potential extent of such impacts in the course of project review.

Policy NR27: Projects subject to County approval which will result in significant disturbance of a site's vegetative cover shall be required to prepare and implement as effective plan to revegetate disturbed, undeveloped areas of the site.

Policy NR28: The County recognizes the need to identify and provide reasonable measures for the protection of rare and endangered plant species in the consideration of projects and land use decisions.

Policy N29: The County supports strong measures to eliminate or prevent the spread of invasive and noxious weeds and plant species including but not limited to medusahead, yellow star thistle, and perennial pepperweed (whitetop), and to control the adverse effects from the excessive spreading of such species as juniper and cheatgrass.

Wildlife

Policy WE 16: The County supports interagency efforts to protect and restore the wildlife habitat values of lakes, riverine and riparian areas and wetlands.

Policy WE 17: The County supports cooperative efforts to protect and enhance the wildlife habitat values of upland vegetation communities of bitterbrush, mountain mahogany, and aspen.

Sierra County General Plan

The following policies from the Water Resources and Wildlife Elements of the Sierra County General Plan 2012 directly pertain to biological resources (Stantec 2020):

Water

Policy 22: Protect natural swales and wetlands, plus a buffer from those features, for water quality protection.

Policy 31: Preserve the integrity of water courses throughout the County.

Plants and Wildlife

Policy 2: Within stream zones, control uses over which the County has jurisdiction to prevent significant impacts on riparian and aquatic habitat.

Policy 3: Prohibit removal of native vegetation in lake and stream zones except when done in conjunction with the permitted uses as described under #2, above.

Policy 4: Protect bodies of water and their watersheds to prevent water degradation.

Policy 7: Prohibit development on meadows.

Policy 8: Protect, and whenever possible enhance, threatened, endangered, and special plants and animals and their habitats, as defined by CDFW, as well as migratory birds from proposed land uses.

Policy 9: Encourage and assist in efforts to sustain plant and animal populations for recreational and other values.

Policy 10: Encourage the protection of natural populations which are unique and representative of the habitats of Sierra County and which could provide for educational and research purposes. Identify and preserve heritage and landmark trees and groves where appropriate.

Policy 17: Discourage removal or significant disturbance of any remaining old growth forests.

Policy 21: Protect all habitat types and the continuity of habitats.

Policy 22: Protect critical deer migration corridors as well as the movement corridors of other animals. Protect the integrity and continuity of wildlife habitats.

Policy 30: Require monitoring of projects with the potential to significantly impact biotic resources.

3.5.3 Environmental Impacts

3.5.3.1 Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines. For purposes of this EIR, implementation of the project would be considered to have a significant adverse impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS.
- Have a substantial adverse effect on state or federally protected wetlands, as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.), either individually or cumulatively, through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors or impede the use of wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.
- Create a substantial collision or electrocution risk for birds or bats.

3.5.3.2 Methods of Analysis

The Applicant and/or Stantec have conducted the following agency coordination regarding biological resources for the Project (Stantec 2020). In addition, scoping comments on the Notice of Preparation for this EIR were received by CDFW, Regional Water Quality Control Board (RWQCB), and CSLC pertaining to biological resources that were considered and addressed in this analysis.

US Army Corps of Engineers

Stantec submitted an aquatic resources delineation report and request for preliminary jurisdictional determination to Nancy Haley of the USACE on August 20, 2020. On August 26, 2020, Stantec followed up with additional Applicant information to Hillary Kraft and Matthew Roberts of the USACE. Ms. Kraft responded on February 11, 2021, requesting further information on 13 features to which Stantec replied on March 22, 2021. Additional consultation is pending the USACE review of Stantec's response.

U.S. Fish and Wildlife Service

On October 23, 2019, USFWS provided Stantec with lists of Federal ESA-protected plant, fish, and wildlife species, including candidate and proposed species that are known or have the potential to occur in the Study Area. The Study Area is within the jurisdictions of two USFWS field offices, Klamath Falls and Reno, both of which provided official species lists for this project segment. Stantec obtained updated official species lists from the USFWS on June 9, 2020.

California Department of Fish and Wildlife

The Applicant and/or Stantec have coordinated with CDFW as follows:

- Stantec received preliminary vegetation maps of Lassen and Modoc counties from Diana Hickson, the Vegetation Classification and Mapping Program and Conservation Analysis Unit Supervisor at CDFW, on May 30, 2019.
- Stantec met with CDFW in Redding, California, on August 29, 2019, to provide the agency with Project background, a summary of field surveys underway, and history on the status of CEQA review for the Project. CDFW made the following requests and comments:
    - A survey of Swainson's hawk (*Buteo swainsoni*) should be undertaken;
    - The Project segment must avoid sandhill crane nests (*Antigone canadensis*);
    - Translocation of special status plants is not feasible, and avoidance is preferred;
    - Numerous wetlands are present within the right-of-way and there is potential for frac-outs during directional boring; and
    - Documentation should discuss invasive species and measures should include equipment washing.
- Stantec corresponded with Environmental Scientists Diana Hickson and Rachelle Boul on October 28, 2019, regarding sensitive natural community designations under the vegetation alliance classification system described in *A Manual of California Vegetation, Second Edition*. CDFW provided guidance about several natural communities that are not currently described in the classification system.
- Stantec met with Amy Henderson and Adam McKannay with CDFW on March 2, 2020, in Redding, California, to provide an overview of the completed 2019 biological field surveys and the surveys planned for 2020. CDFW provided the following feedback:
    - Noted that raptors are abundant in the Honey Lake area;
    - Did not have a preferred pygmy rabbit (*Brachylagus idahoensis*) survey protocol, but recommended reviewing protocols used in Nevada or Utah;
    - Confirmed that raptor nest surveys need not adhere to 2010 Swainson's hawk survey protocol during 2020 field surveys, which are intended to inform impact discussions, but requested

that the 2010 protocol be used for pre-construction surveys for work conducted during the breeding season;

- Requested that analyses of invasive plant species be included in the biological resources technical report;
- Highly recommended early consultation for a Lake and Streambed Alteration Agreement;
- Requested that biologists conducting April 2020 field surveys to look for bank swallows (*Riparia riparia*) in the Long Valley Creek area; and
- Recommended coordination with the BLM for greater sage-grouse (*Centrocercus urophasianus*) lek information.

Bureau of Land Management

Stantec had the following correspondences with BLM pertaining to biological resources on BLM-managed lands in California:

- Stantec corresponded with Larry Ashton of BLM's Deschutes, Oregon, Field Office on April 10, 2020, during which Mr. Ashton noted that the two California districts crossed by the Project would be preparing wildlife clearance documents outlining the BLM's concerns regarding potential Project impacts on biological resources and providing recommendations to avoid or minimize impacts. Mr. Ashton also indicated that the Project would likely result in a *No Effect* determination for all potential federal Endangered-listed species in California, including Carson wandering skipper (*Pseudocopaeodes eunus obscurus*).
- On May 1, 2020, Stantec received the wildlife clearance document from Melissa Nelson of the Eagle Lake Field Office in Susanville, California, via Larry Ashton. The following summarizes the comments and recommendations from Ms. Nelson:
  - No known burrowing owls (*Athene cunicularia*) or other raptor nests occur where project overlaps the field office's lands. Provided avoidance and minimization measures in case burrowing owls or other raptors are discovered during the construction phase.
  - Recommended that all trees and vegetation be surveyed by a qualified wildlife biologist prior to their removal to check for nesting birds. If nesting birds are located, a 300-foot no-cut buffer should be enforced around the nest site until after the young have fledged.
  - The field office lands do not have designated mule deer (*Odocoileus hemionus*) key fawning or pronghorn (*Antilocapra americana*) kidding habitat overlapping the project footprint; however, some pronghorn kidding habitat is in proximity to the Study Area on the west side of US 395, and also south and west of the BLM Ravendale Fire Station.
  - Prior to removal, all trees should be surveyed by a qualified wildlife biologist to check for bats. If bats are located, the tree(s) will not be removed, and the BLM wildlife lead (Larry Ashton) will be notified.

- Ms. Nelson referred the Applicant to sections of the Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment (Stantec 2020) for information pertaining to greater sage-grouse avoidance, minimization, and mitigation strategies for construction of the project. She also indicated that greater sage-grouse habitat and other pertinent data would be provided when possible, and that habitat mitigation for greater sage-grouse may be required.

- Requested that elk (*Cervus elaphus*), American badger (*Taxidea taxus*), snowshoe hare (*Lepus americanus*), or other unusual species be reported to Ms. Nelson and/or Mr. Ashton with global positioning system (GPS) coordinates.

- On May 1, 2020, Stantec received the wildlife clearance document from the Katrina Krause of the Sierra Front Field Office in Carson City, Nevada, via Larry Ashton. Ms. Krause summarized the special status species that may be affected where Sierra Front Field Office lands in Nevada and California overlap the project, which include the following:

  - Burrowing owls, if present, between April 1 and July 31, but noted that construction activities located close to the road would not likely impact individuals.

  - Multiple species of raptors and other migratory birds, as well as some reptiles (specifics not provided). Removal of vegetation should be restricted between March 1 and August 31 for raptors and between April 1 and July 31 for other migratory birds.

  - Greater sage-grouse habitat; however, there are no known leks in proximity to the project, and seasonal restrictions do not apply.

  - Mule deer movement corridors and crucial winter habitat, and year-round pronghorn habitat, but no seasonal restrictions apply.

- On May 28, 2020, Stantec received the wildlife clearance document from the Applegate Field Office in Alturas, California via Larry Ashton. The following summarize the comments and recommendations:

  - Given the linear nature of the Project along US 395, the Project would not significantly impact greater sage-grouse, and no seasonal restrictions or mitigation measures were recommended.

  - The field office is outside of the range of Carson wandering skipper, and no seasonal restrictions or mitigation measures were recommended.

  - Noted that the CNDDB reports a Swainson's hawk nest within 50 meters of the road on the east side of US 395 about 5.5 miles south of Alturas. The nest should be considered active until it is formally surveyed, and if active, a 0.5-mile line-of-sight- buffer should be applied. Impacts would be minimal outside of the species' breeding season (April 15 to August 15). Also suggested moving the route to the west side of the road in this area if flexibility allows.

3.5.3.3 Project Impacts and Mitigation Measures

Permanent Impacts

Appendix F2 depicts the proposed fiber optic line alignment and associated Area of Direct Impact (ADI) relative to habitat communities in the Study Area, special status plant species populations observed during Stantec surveys of the Study Area, special status species locations previously reported in the CNDDB, and potential jurisdictional Waters of the U.S. and the State mapped by Stantec (2020). The total width of the ADI includes 20 feet on either side of the fiber optic line. The ADI is assumed to be completely disturbed by ground disturbance associated with installation of the fiber optic line, stockpiling of topsoil on either side of the line, and/or trampling of vegetation and compaction due to material staging and use of these areas for vehicle and construction equipment traffic. Much of the proposed fiber optic line alignment travels through areas that have not been previously disturbed thereby resulting in habitat loss, direct loss of special status plant populations, and the potential for direct mortality or injury to wildlife.

Construction of the fiber optic line would primarily be performed using plowing or trenching. The fiber optic line is proposed to be directionally bored under certain drainages and sensitive resources as shown in Appendix F2. All entry and exit pits and setup areas required for directional boring would occur within the ADI. Vaults would be installed at each entry and exit pit that would each be 2.5 feet long and 4 feet wide. The maximum length of a directional bore is 2,500 feet; directional bores longer than this would also require vaults and associated disturbance within the ADI to splice the line.

Markers for the fiber optic line would be included in the ADI. In addition, the ADI includes the three proposed In Line Amplifiers (ILAs); ILAs are proposed to be installed in previously disturbed urban areas (Appendix F2). Proposed staging areas and materials storage areas would also result in direct impacts on any existing vegetation but are proposed in previously disturbed areas.

Section 2.3.2.2 of the Project Description states that "no overland access would be needed during construction or operation of the Project"; therefore, all construction vehicles and equipment including worker vehicles are presumed to utilize the 20-foot-wide ADI as the only access route during construction and operation of the fiber optic line and that access to the ADI would only be from paved areas.

Given the need for repairs and/or replacement of the fiber optic line during long term operation of the Project, impacts within the ADI are considered permanent.

Temporary Impacts

The duration of construction activity would be approximately six months and is anticipated to begin in the spring. No work would be conducted at night or during Red Flag High Fire Hazard conditions. Based on the proposed schedule, up to 11 crews would be working concurrently within the ADI. During construction, various activities would occur simultaneously, including conduit plowing, trenching, cable blowing or pulling, splicing, marker pole installation, and site cleanup and restoration. Work phases would be staggered such that cable installation crews would follow conduit installation crews and site cleanup and restoration crews would follow marker pole crews. Staging areas and materials storage yards would

be intermittently active as crews move through each work location. Therefore, it is assumed that temporary impacts on biological resources associated with construction noise, potential increased predation, potential increased wildfire risk, herbicide use, potential introduction of invasive species, and potential impacts on water quality would occur over the entire fiber optic line route during the 6-months of construction.

Impact BIO-1	**Would project implementation have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?**
Impact Determination:	*Significant and Unavoidable for Permanent Impacts to Special Status Plants* *Less than Significant for Temporary Impacts to Special Status Plants and Temporary and Permanent Impacts to Special Status Wildlife*

Impact Discussion

Direct Impacts

Special Status Plant Species. While directional boring under some populations of special status plant species are proposed and shown in Appendix F2 and the Applicant's goal is to further avoid special status plant populations during construction (see Mitigation Measure BIO-9 below), populations of 20 special status plant species that were detected during botanical surveys performed between May 2019 and August 2020 would still be removed by the Proposed Project as shown in Table 3.5-13. These species include four species on the CNPS List 1B.2 or 1B.3 list (Adobe lomatium, Raven's lomatium, volcanic beardtongue, and Williams' combleaf). For some species, several distinct populations would be directly impacted as shown in Appendix F2. Due to the limited availability of seed banks and limited expected success in restoring these special status plant species populations, impacts on these species would be significant and unavoidable under the current proposed alignment of the fiber optic line.

Table 3.5-13 Direct Impacts to Special Status Plant Species

Common Name (*Scientific Name*)	Status (Federal/State/CRPR)	Direct Impact (acres)
Purple loco weed (*Astragalus agrestis*)	—/—/2B.2/BLM Sensitive	0.0009
Snake milk-vetch (*Astragalus iodanthus* var. *diaphanoides*)	—/—/4.3	0.0635
Sickle saltbush (*Atriplex gardneri* var. *falcata*)	—/—/2B.2	0.5186
Slough sedge (*Carex atherodes*)	—/—/2B.2	0.0199
Sheldon's sedge (*Carex sheldonii*)	—/—/2B.2	0.0547
Great Basin calicoflower (*Downingia laeta*)	—/—/2B.2	0.0292
Volcanic daisy (*Erigeron elegantulus*)	—/—/4.3	0.0052
Ephemeral monkeyflower (*Erythranthe inflatula*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	0.0018
Modoc frasera (*Frasera albicaulis* var. *modocensis*)	—/—/2B.3	0.0286
Rigid pea (*Lathyrus rigidus*)	—/—/2B.2	0.3395
Canby's lomatium (*Lomatium canbyi*)	—/—/4.3	0.0366
Raven's lomatium (*Lomatium ravenii* var. *ravenii*)	—/—/1B.3/BLM Sensitive	2.6353
Adobe lomatium (*Lomatium roseanum*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	0.5386
Sagebrush bluebells (*Mertensia oblongifolia* var. *oblongifolia*)	—/—/2B.2	0.0159
Volcanic beardtongue (*Penstemon sudans*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	0.0637
William's combleaf (*Polyctenium williamsiae*)	—/—/1B.2/BLM Sensitive and US Forest Service Sensitive	0.0001
Spiny milkwort (*Polygala subspinosa*)	—/—/2B.2	0.0438
Winged dock (*Rumex venosus*)	—/—/2B.3	0.4980

Table 3.5-13 Direct Impacts to Special Status Plant Species		
Common Name (*Scientific Name*)	**Status (Federal/State/CRPR)**	**Direct Impact (acres)**
Many-flowered thelypody (*Thelypodium milleflorum*)	—/—/2B.2	0.0588
Plummer's clover (*Trifolium gymnocarpon* ssp. *plummerae*)	—/—/2B.3	0.3968
Total		**5.3496**

Source: ECORP analysis of Geographic Information System (GIS) files of proposed alignment and ADI provided by

1A Presumed extirpated in California and either rare or extinct elsewhere
1B Plants rare, threatened, or endangered in California and elsewhere
2B Plants rare, threatened, or endangered in California but more common elsewhere
3 Review list: Plants about which more information is needed
4 Plants of limited distribution—a watch list
CRPR Threat Code Extensions:
xx.1 Seriously threatened in California
xx.2 Moderately threatened in California
xx.3. Not very endangered in California

While there are currently no known impacts on federal or state listed plant populations, the ADI for the Proposed Project would directly remove a total of 370.08 acres of native habitat as shown in Table 3.5-14 including pinyon and juniper woodland, suitable habitat for the Federally Threatened Webber's ivesia, and freshwater marsh, habitat for the State Endangered Boggs Lake hedge-hyssop. Therefore, there is potential for incidental take of the State Endangered Boggs Lake hedge-hyssop and the Federally Threatened Webber's ivesia. Given that there are a total of 115 special status plant species that are present in the Study Area and/or have a high to moderate potential to occur in the Project Area (shown in Tables 3.5-2, 3.5-3, and 3.5-4 and discussed above), the direct impact acreages for special status plant populations could be greater than what is reported in Table 3.5-13.

Table 3.5-14: Direct Impacts on Habitat Communities	
Habitat Community	**Direct Impact (acres)**
Jeffrey Pine	1.14
Juniper	39.33
Aspen	0.16
Montane Chaparral	0.0003
Bitterbrush	25.62
Sagebrush	192.48

Table 3.5-14: Direct Impacts on Habitat Communities

Habitat Community	Direct Impact (acres)
Alkali Desert Scrub	7.25
Annual Grassland	52.22
Perennial Grassland	39.70
Wet Meadow	4.15
Fresh Emergent Wetland	0.02
Montane Riparian	7.84
Riverine	0.16
Total	370.08

Notes: Proposed alignment would also directly impact 75.19 acres of barren land, 0.42 acre of irrigated hayfield, and 0.28 acre of urban areas.

Mitigation Measures BIO-1, BIO-2, and BIO-8, listed below, would require Worker Environmental Awareness Training, installation of construction fencing to clearly delineate access and work areas, and daily biological monitoring. Mitigation Measure BIO-6 would require restoration of disturbed native habitat in the region. Mitigation Measures BIO-9 and BIO-15 would require pre-construction protocol-level surveys for special status plants prior to construction and would require avoidance of any additional special status plant populations and their habitat to the maximum extent by directional boring in additional areas than are currently proposed. Mitigation Measure BIO-17 would require that the Applicant obtain incidental take coverage for any unanticipated impacts on listed plant species discovered during construction, and Mitigation Measure BIO-18 would require re-evaluation of any proposed field changes to the fiber optic line alignment. With implementation of these measures, impacts on special status plant species would be minimized. However, impacts on special status plant species would remain significant and unavoidable given the unavoidable loss and adverse impact on 20 special status plant species along the currently proposed alignment.

Special Status Wildlife Species. Direct impacts on special status wildlife species would occur from the Proposed Project due to loss of habitat for the species as well as through the potential for direct mortality or injury. As discussed above, Stantec biologists observed 17 special status wildlife species present within the Study Area (Table 3.5-8). Among this list, the following species are most vulnerable to impacts given their status and active nesting in the Study Area, or because they are fossorial (i.e., live in burrows underground):

- State threatened nesting and wintering Greater sandhill cranes in the Study Area;
- Nesting colonies of the State threatened tricolored blackbird in the Study Area;
- Nesting State threatened Swainson's hawk in the Study Area; and
- American badger (California SSC).

Past CNDDB records for an additional 20 species occur in the Study Area which are considered to have a high potential to occur in the Study Area (Table 3.5-9). Appendix F2 shows general areas where special status fish and wildlife species have been observed in the past in the Study Area. Among this list, the following species are most vulnerable to impacts given their status and active nesting in the Study Area, or because they are fossorial (i.e., live in burrows underground):

- Federally endangered Carson wandering skipper;
- State threatened bank swallow;
- Nesting burrowing owls (California SSC);
- Nesting short-eared owls (California SSC);
- Leks of the Greater sage-grouse (California SSC); and
- Nesting redheads (California SSC).

An additional 25 species have not been detected in the Study Area but have a moderate potential to occur given the presence of suitable habitat (Table 3.5-10). Among this list, the following species are most vulnerable to impacts given their status and because they are difficult to detect during surveys:

- State listed as Endangered Suckley's cuckoo bumble bee;
- State listed as Endangered western bumble bee; and
- Southern long-toed salamander (California SSC).

For the purposes of this impact analysis, due to their mobility and/or habitat preferences, it is presumed that each species listed in Tables 3.5-8, 3.5-9, and 3.5-10 could occur in the ADI for the Proposed Project and could be directly impacted by the Project.

Habitat Loss. As summarized in Table 3.5-14 above, the Proposed Project would result in direct loss of 370.08 acres of native habitat and suitable habitat for each species listed in Tables 3.5-8, 3.5-9, and 3.5-10. Impacts on special status wildlife species would be adverse and significant. Mitigation Measure BIO-6 would require restoration of an equivalent amount and type of habitat in the region that would be preserved in perpetuity. This measure would help offset adverse impacts on wildlife due to habitat loss. The restoration of native habitat, wetlands, waters, and riparian habitat at the prescribed ratios would result in no-net-loss of wildlife habitat. With implementation of this measure, impacts would be reduced to less than significant levels.

Mortality or Injury. The potential for the Project to result in mortality or injury to special status wildlife species would be adverse and significant without implementation of mitigation. During construction, project vehicles and equipment could collide with or crush wildlife, causing mortality or injury. Trench excavation and plowing could harm wildlife underground. Sedentary and less mobile animals, such as amphibians and invertebrates, would be at greater risk of mortality or injury at the surface or of being harmed underground. More mobile animals would likely be able to avoid construction vehicles and equipment approaching occupied sites, but the potential for collisions would still exist. The risk of

mortality or injury could increase with certain seasonal changes in animals' behavior, including breeding, migration, and dormancy. Migratory birds are generally very mobile and would be able to avoid construction equipment, but eggs and young birds would be more susceptible to crushing, mortality, or injury by equipment during the breeding season. Bat species are particularly susceptible to high mortality rates if roosts are disturbed, and roost site suitability is considered a limiting factor for bat populations as well.

To avoid collisions with wildlife, Mitigation Measures BIO-1, BIO-2, and BIO-3 would require Worker Environmental Awareness Training, installation of construction fencing to clearly delineate access and work areas and to exclude wildlife from work areas, and restriction of vehicle speeds in construction areas. Mitigation Measure BIO-8 would require pre-construction wildlife surveys (including for sensitive invertebrate species) in addition to daily morning sweeps to ensure that wildlife are not inadvertently harmed during construction.

Open trenches or other excavations could result in mortality or injury of wildlife that fall in and become trapped. To avoid this impact, Mitigation Measure BIO-13 would require the Applicant to backfill or cover open excavations at the end of each workday. When this is not possible, the Applicant would be required to install escape ramps of sufficient slope to allow wildlife to escape (2:1 slope or less), and biological monitors would inspect excavations that remained open overnight before construction activities begin each morning.

Mitigation Measure BIO-16 would require pre-construction surveys for roosting bats prior to attaching fiber optic cables to bridges. If present, Mitigation Measure BIO-16 requires that construction activities shall not be permitted on the bridge until the biological monitor determines that the roost is no longer active. Although the description of the Project states that no tree removal or trimming is anticipated to be required for conduit installation, Mitigation Measure BIO-16 also applies to any tree removal or trimming.

Under Mitigation Measure BIO-11, biologists would conduct pre-construction bird nest surveys during the breeding season and establish exclusionary buffers around the nests to avoid disturbances to the adults or young. Construction activities would be prohibited within the exclusionary bird nest buffer until the nest fledged or failed. Mitigation Measure BIO-11 would require protocol-level surveys for the state listed Swainson's hawk for any construction activities occurring within 0.5 mile of the Project during the nesting period of late March to mid-August. Mitigation Measure BIO-11 would require preconstruction surveys and prohibition of construction within 500 feet of nesting greater sandhill cranes as well. Finally, Mitigation Measure BIO-12 would restrict construction hours within 4 miles of active or pending greater sage-grouse leks.

Despite implementation of these Mitigation Measures, there is still a chance for inadvertent incidental take of federal or state listed species, such as the tricolored blackbird or bank swallow. Mitigation Measure BIO-17 requires compliance with the ESA and California ESA to obtain required coverage for any unanticipated incidental take of federal or state listed species.

Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-8, BIO-11, BIO-13, and BIO-16 would reduce or eliminate direct mortality of listed and non-listed wildlife species, and BIO-17 would reduce or eliminate the

incidental take of state-listed wildlife species. With implementation of the mitigation measures discussed above, Project impacts on special status wildlife species would be reduced to less than significant levels.

Temporary Impacts

Without mitigation, potential temporary impacts on special status plant and wildlife species associated with construction as well as operational activities (such as repairs or replacement of segments of the line) would be adverse and significant. Long linear projects have the potential for significant temporary impacts on native habitat and special status plant and wildlife populations given the large region affected by the Project. Potential impacts associated with sensory disturbances, such as noise and light, increased predation, increased wildfire risk, introduction of invasive species, herbicide use, and water quality impacts are discussed in more detail below. However, with implementation of mitigation measures required during construction and operation of the Project discussed below, impacts would be reduced to less than significant levels.

Sensory Disturbances (Noise and Light). Sensory disturbances associated with equipment noise and the increased presence of personnel could cause displacement or avoidance of species on a temporary basis. Displacement or avoidance of areas could divert time and energy away from important activities like foraging, reproduction, and parental care (Stantec 2020). Stress of wildlife may also result in indirect impacts on the health and reproductive fitness of individuals, and potentially local populations.

Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-8 would require Worker Environmental Awareness Training, installation of construction fencing to clearly delineate access and work areas and to exclude wildlife from work areas, and restriction of vehicle speeds in construction areas. Mitigation Measure BIO-8 would require pre-construction wildlife surveys (including for sensitive invertebrate species) in addition to daily morning sweeps to ensure that wildlife are not inadvertently harmed during construction.

Project activities near active migratory bird nests pose the greatest potential for adverse sensory disturbance impacts for migratory birds, as they may affect reproductive success. Mitigation Measure BIO-BIO-11 would require pre-construction nesting bird surveys and would prohibit project activities near active bird nests to avoid potential adverse impacts on migratory bird nests. Sensory disturbances of greater sage-grouse during lekking would potentially have adverse impacts on breeding success for the individuals associated with the lek. Though no active greater sage-grouse leks were observed during wildlife surveys by Stantec in 2020, Mitigation Measure BIO-12 would prevent impacts on any greater sage-grouse leks that may be present by restricting construction within 4 miles of active or developing leks during 6 PM to 9 AM between March 1 and May 15. Mitigation Measure BIO-10 would require that construction activities be restricted to daylight hours only to minimize impacts on nocturnal species. With implementation of these measures, construction activities are expected to have a less than significant sensory disturbance on wildlife.

Increased Predation. Trash created by project personnel could attract predators, such as common ravens or raccoons. The Applicant would practice good housekeeping during project activities (UTL-2, Recycling of Construction Materials) to minimize the potential impacts on fish and wildlife through increased predation. Likewise, Mitigation Measure BIO-4 would prohibit project personnel from having dogs onsite to avoid potential harm to local wildlife, and to regularly remove trash and debris from the construction

site. With implementation of these measures, potentially significant impacts would be reduced to less than significant levels.

Increased Wildfire Risk. Special status plant populations and native vegetation communities could be impacted by wildfires accidentally sparked by construction vehicles and equipment under dry conditions. To avoid wildfires, the Applicant would instruct construction crews about the danger of wildfires and ways to prevent fires, including prohibiting idling over vegetated areas (WILD-1, Construction Fire Protection Plan). In addition, all work vehicles would be equipped with a fire extinguisher, and crews would be trained to put out incipient brush fires when it is safe to do so. The Applicant does not plan to conduct any welding as part of the project. With implementation of these measures, potentially significant impacts would be reduced to less than significant levels.

Introduction of Invasive Species. Native habitats could be modified through the introduction or spread of invasive plants and animals. Invasive species could be introduced to new areas via contaminated soil attached to vehicles and equipment entering work areas or moving from one work area to another. Mitigation Measure BIO-7 would ensure that all construction equipment and vehicles are cleaned inside and out prior to arrival onsite. If invasive plants are observed within a work area, vehicles, equipment, and personnel clothing and boots would be swept or cleaned prior to deployment to a different construction spread. Site stabilization measures required in Mitigation Measure BIO-5 would also ensure that native soils are used for backfilling or weed-free soil is used, and re-seeding disturbed areas with native plant mixes would help prevent the spread of invasive plant species. With implementation of these measures, potentially significant impacts would be reduced to less than significant levels.

Herbicide Use. The Applicant does not anticipate that herbicides would be used as part of project construction or operation. However, if an agency requests that invasive weeds be treated with herbicides, significant impacts on special status plant or wildlife species or native habitat could result if improperly used. Mitigation Measure BIO-7 would ensure that any herbicide use would adhere to State and manufacturer's guidelines. Therefore, potentially significant impacts would be reduced to less than significant levels.

Water Quality Impacts. Directional boring uses a bentonite clay lubricant that in certain rare circumstances could escape to the surface as a frac-out, which could smother plants in the area or adversely affect water quality if spilled into wetlands, Waters of the U.S. or Waters of the State. The Applicant would implement its Surface Spill and Hydrofracture Contingency Plan, which would detail measures such as monitoring and response actions in the event of a frac-out (HAZ-3, see Section 3.10, Hazards and Hazardous Materials). Mitigation Measure BIO-14 would ensure that geotechnical investigations are performed for boring under each wetland or waters to determine the appropriate bore depth to ensure that the risk of frac out is minimized in addition to minimizing the risk of draining the water body. Finally, sedimentation of wetlands, rivers, and other waters because of construction-related ground disturbance and erosion could also adversely affect water quality in adjacent wetlands or waters. The Applicant's project-specific Stormwater Pollution Prevention Plan would describe the measures and steps to prevent and control erosion and sediment transport into aquatic habitats (HYDRO-1). Mitigation Measure BIO-5 would ensure that the ADI associated with the fiber optic line is stabilized once installed.

With implementation of these measures, potentially significant impacts would be reduced to less than significant levels.

Mitigation Measures

Applicant proposed measures to minimize impacts on special status plant and wildlife species were considered and further strengthened and supplemented proportionate to the potential Project impacts on biological resources. Therefore, the following mitigation measures are required during construction and operation of the Project to minimize impacts on biological resources and shall supersede all Applicant Proposed Measures for biological resources.

BIO-1: **Worker Environmental Awareness Training.** CDFW-approved biological monitor(s) shall prepare a Worker Environmental Awareness Training to be presented by CDFW-approved biological monitor(s) to all onsite personnel prior to commencing construction activities (i.e., including staging vehicles or equipment), and, subsequently, to all new workers. The biological monitor(s) shall document training for all workers. Training shall instruct personnel how to identify sensitive resources and the required protection measures for sensitive resources. Personnel shall be instructed about the roles and responsibilities in protecting sensitive biological resources, including penalties for violations, requirements for stopping work immediately and notifying onsite biological monitors if sensitive resources are encountered, and instructed that handling and relocating special status species by non-approved personnel shall be prohibited.

BIO-2: **Work Areas and Access Routes.** Prior to mobilization of construction equipment and supplies, the Applicant shall delineate the ADI for the Project. comprising the fiber optic line route and 20 feet on either side of the fiber optic line, staging areas, and the In Line Amplifiers, with flagging, lathe stakes, or wildlife exclusion fencing. The access routes to the ADI and staging areas and material storage areas shall also be delineated with flagging, lathe stakes, or wildlife exclusion fencing prior to mobilization or construction equipment or supplies. The Applicant shall confine all equipment, vehicles, and construction work within these areas. Signage shall be used to clearly direct construction traffic to and from approved access routes work areas. No work, staging, or ground disturbance shall occur outside of these approved access routes and work areas. CDFW-approved biological monitor(s) shall oversee installation of the flagging, staking, or fencing, and shall ensure that the flagging, stakes, or fencing is maintained throughout the duration of construction activities.

BIO-3: **Speed Limit.** Vehicles and equipment shall adhere to a 15 mile-per-hour speed limit on all unpaved project access roads and routes.

BIO-4: **General Project Area Use.** The Applicant shall prohibit trash dumping, firearms, hunting, open fires (those not required for project activities), smoking outside designated areas, and pets in Project Areas.

BIO-5: **Site Stabilization.** Ground disturbance and vegetation clearing shall be limited to the minimum extent practicable. Open excavations shall be backfilled and recompacted after

installation of the conduit with native soils. At locations where the excavated material is not adequate to use for backfilling, construction crews shall remove it from the project workspaces and dispose of it at a suitable location within the Project Area. In areas where backfill material must be imported (e.g., areas were excavated material has high rock content), the Applicant shall obtain soils from weed-free, commercially available sources. After completion of project activities, all temporarily disturbed work areas shall be restored to their pre-construction contours, and areas of exposed soils in natural habitats shall either be stabilized or re-seeded with native seed mixes appropriate to the habitat type.

BIO-6: **Restoration.** A CDFW-approved biologist(s) with expertise in northern California ecosystems and native plant revegetation techniques shall prepare and implement a Revegetation and Restoration Plan (RRP) for review and approval by the California Public Utilities Commission (CPUC), Caltrans, CDFW, the BLM, and USFS, with detailed specifications for restoring all disturbed native habitat. The restoration location(s) could be offsite or onsite as approved by the resource agencies. Native habitat disturbed by the Project shall be restored on-site on a 1:1 basis, with the exception of impacts on wetlands, riparian habitat, and waters, which shall be restored at a minimum of a 2:1 basis and also in accordance with any required project permits. The RRP shall specify the location of the restoration site(s), plants and seed mixes that shall be used for restoration, plant container sizes and appropriate planting methods, and maintenance requirements, including irrigation needs and design plans that shall show the specific plant species and planting locations. The RRP shall include required performance standards, timing of implementation, methods for controlling invasive species, monitoring methods, monitoring frequency and duration, contingency plans if restoration is not successful, and provisions for long-term conservation of mitigation site(s). Review and approval of the RRP shall be completed prior to commencement of construction activities. Implementation of the RRP shall commence within one year of the conclusion of construction. Annual monitoring reports shall be prepared by the Applicant and submitted to CPUC, Caltrans, CDFW, the BLM, and USFS.

BIO-7: **Invasive Species.** To prevent the introduction and spread of invasive plants during construction, the Applicant and construction contractor shall ensure that all construction equipment and vehicles are cleaned inside and out prior to arrival onsite. Incoming vehicles and wheeled or tracked equipment shall be inspected by a biological monitor prior to deployment onsite. If invasive plants are observed within a work area, vehicles, equipment, and personnel clothing and boots shall be swept or cleaned prior to deployment to a different construction site. If application of herbicides is needed to control designated noxious weeds, only CDFW-approved weed control contractors would apply herbicides in adherence with all State and manufacturer's guidelines. Integrate invasive species management methods and protocols developed by USFS, where applicable.

BIO-8: **Biological Monitors.** The Applicant shall appoint a CDFW-approved Lead Biologist and at least one biological monitor per construction spread operating under the supervision of the Lead Biologist. However, the Lead Biological Monitor shall have the authority to adjust the

number of monitors required per spread based on the geographic extent of the spread and the resources present within the spread to ensure effective monitoring. A construction spread refers to the group of construction workers, vehicles, and equipment necessary to install and backfill the fiber optic cable and restore the ground surface in a particular location. A construction spread will also be located in areas being established and used as materials storage areas and/or staging areas, or areas where ILAs are being constructed if those areas are outside an active fiber optic cable construction spread location.

The CDFW-approved biologist(s) shall perform pre-construction surveys for sensitive wildlife and plant species prior to commencing construction along each segment of the fiber optic line. The CDFW-approved biologists shall also be onsite daily during project activities to minimize incidental impacts to sensitive biological resources by conducting daily morning sweeps of construction areas, parking areas and equipment and material storage areas prior to commencement of construction activities; ensuring compliance with all avoidance and minimization measures; demarcating sensitive biological resource exclusion areas (e.g., active dens or nests, special status plant occurrences, sensitive natural communities, or the boundaries of wetlands or waters) with flagging or signage; and ensuring that flagging and signage remain intact and that project activities remain outside of exclusion areas. If a special status species is encountered in the work areas, construction in the immediate vicinity shall cease, and personnel shall notify the biological monitors. Biological monitors shall establish a buffer to restrict work near the species. If it is a wildlife species, a biological monitor shall observe the behavioral responses of the species to the work occurring in proximity to them. The biological monitors shall halt work if a wildlife species exhibits an adverse response to nearby project work activities. The species shall be allowed to move offsite on their own. If the species is in danger of injury or does not leave the work area, the biological monitor shall relocate the species to adjacent suitable habitat and with prior approval and authorization under the federal ESA, the California ESA, and California Fish and Game Code (i.e., Scientific Collecting Permit) granted by the CDFW and/or the USFWS, or the biological monitor shall consult with these agencies for further guidance.

BIO-9: **Protection of Botanical Resources.** Pre-construction surveys for special status plant species shall be conducted by a CDFW-approved biologist within the ADI of the fiber optic line. The locations of the special status plants identified during previous surveys and the pre-construction survey shall be marked as additional avoidance areas where possible both in the field using flagging, staking, fencing, or similar devices; and on construction plans. Special status plant species populations shall be avoided using directional drilling under populations where feasible.

BIO-10: **Work Timing.** Construction activities shall be restricted to daylight hours. The project shall follow seasonal restriction work windows and limitations for any special-status species potentially affected by project construction or operations.

BIO-11: **Nesting Birds.** CDFW-approved biological monitors shall conduct pre-construction nesting bird surveys during the nesting season (January 1 to September 30) within 100 feet of the

construction workspaces for non-raptors, within 500 feet for greater sandhill cranes, and within 0.5 mile for raptors. If work is scheduled during the breeding season for Swainson's hawk (i.e., late March to mid-August), protocol-level surveys in accordance with 2010 protocol for the species (CEC and CDFW 2020) or in accordance with alternate protocol as approved by CDFW shall be conducted for the species. Pre-construction surveys for non-raptors would be valid for one week, and surveys for raptors would be valid for the full season if conducted after May 1. Biological monitors shall establish exclusionary buffers, in which no activity would be permitted, around active nests until young have fledged or it has been determined that the nest has failed, which would be 100 feet for non-raptors, 500 feet for greater sandhill cranes, and 0.25 mile for raptors, increasing to 0.5 mile for bald eagles, golden eagles, ferruginous hawks (*Buteo regalis*), Swainson's hawks (*Buteo swainsoni*), American peregrine falcons (*Falco peregrinus anatum*), and prairie falcons (*Falco mexicanus*) when nests are in line-of-sight. In addition, no vegetation clearing would be permitted within 300 feet of an active non-raptor nest. Project activities shall be prohibited within the exclusionary buffer until the nest fledged or failed. To the extent possible, work will be scheduled during the non-breeding season or in construction spreads that lack active nests.

BIO-12: **Greater Sage-grouse Leks.** The Applicant shall avoid construction activities within 4 miles of active or pending greater sage-grouse leks from 6 PM to 9 AM between March 1 and May 15.

BIO-13: **Open Excavations.** The Applicant shall backfill or cover open excavations at the end of each workday to avoid wildlife entrapment. When this is not possible, the Applicant shall install escape ramps overnight to allow wildlife to escape (2:1 slope ratio or less), and a CDFW-approved biological monitor shall inspect excavations that remained open overnight before construction activities begin each morning.

BIO-14: **Minimum Bore Depth.** The Applicant shall ensure that each boring is planned at a sufficient depth to prevent draining of the wetland or drainage and to minimize the risk of a frac-out. The Applicant shall otherwise impose minimum bore depths when boring under sensitive natural communities and special status plant occurrences to prevent root damage and plant mortality. The minimum boring depths shall be 30 feet for tree-dominated communities or occurrences, 23 feet for shrub-dominated communities or occurrences, and 15 feet for herbaceous-dominated communities or occurrences. The results of the geotechnical investigations shall be included in the Surface Spill and Hydrofracture Contingency Plan prepared for the project (under HAZ-3, Section 3.10, Hazards and Hazardous Materials) which shall address the risk of a frac out during directional boring and contingency measures to take in the event of a frac out. The CDFW shall review and approve of the Surface Spill and Hydrofracture Contingency Plan prior to commencement of any directional drilling activities.

BIO-15: **Wetland and Waters Impacts.** The Applicant shall avoid directly impacting wetlands, Waters of the U.S., and Waters of the State using directional boring under the resource. If wetlands or waters cannot be fully avoided, the following measures shall be implemented to minimize impacts:

- Construction activities within wetlands and waters shall be performed during the dry season only between May 1 through October 15.
- All construction in and near wetlands or waters shall utilize temporary matting or other protection measure (e.g., rig mats, timber roads, plating, or tracked vehicles [preferably rubber tracked]) to avoid soil compaction or mixing.
- No construction shall occur within a flowing stream or waterbody.
- All impacted wetlands or waters shall be restored at least at a 2:1 ratio.

BIO-16: **Bats.** Prior to attaching fiber optic cables to bridges or prior to any trimming or removal of trees, a CDFW-approved biological monitor shall conduct pre-construction surveys for roosting bats, and if present, the construction activities shall not be permitted on the bridge or trimming or removal of trees permitted until the biological monitor determines that the roost is no longer active.

BIO-17: **Compliance with Other Laws, Regulations, and Permits.** The Applicant shall obtain required permits under the Clean Water Act and/or Porter-Cologne Water Quality Control Act for any Project impacts on Waters of the U.S. or Waters of the State and shall abide by all permit requirements prior to, during, and after construction. The Applicant shall obtain any required coverage for incidental take of state or federally listed species in compliance with the federal and/or California ESAs. The Applicant shall copy the CPUC and Caltrans on all correspondences with responsible resource agencies and landowners (i.e., BLM, USFS) regarding compliance with CPUC's CPCN Conditions of Approval or other permit conditions and requirements.

BIO-18: **Field Changes to the Project.** Any proposed modifications to the Project components within the Area of Direct Impact (ADI), including the ADIs for the fiber optic line, ILAs, staging areas, and materials storage yards, shown in Appendix F2 of the environmental document can be reviewed and approved by CPUC staff. Changes to the boundaries of the ADIs shown in Appendix F2 of the environmental document may require a re-evaluation of the permit conditions by CPUC and Caltrans and other resource agencies or landowners. Any proposed revisions to the requirements of the Project's conditions of approval/mitigations, including the plans required by these conditions/mitigations, shall be reviewed and approved by the CPUC and Caltrans, and may require a re-evaluation of the permit conditions by these agencies and other resource agencies or landowners.

Residual Impact After Mitigation

After mitigation, temporary and permanent impacts on special status wildlife species and temporary impacts to special status plant species would be reduced to less than significant levels but permanent impacts on special status plant populations would remain significant and unavoidable.

Impact BIO-2	**Would project implementation have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?**
Impact Determination:	*Significant and Unavoidable (Permanent Impacts)* *Less than Significant with Mitigation (Temporary Impacts)*

Impact Discussion

Permanent Impacts

The Project would have a permanent direct impact on several CDFW sensitive natural communities as presented in Table 3.5-15. Specifically, the Project would result in permanent removal of, or disturbance to, vegetation in these communities. In addition to sensitive natural communities, proposed fiber optic line alignment crosses through portions of three biological resource management areas: USFWS' Modoc National Wildlife Refuge, CDFW's Doyle Wildlife Area, and CDFW's Hallelujah Junction Wildlife Area.

Table 3.5-15: Direct Impacts on Sensitive Natural Vegetation Communities

Alliance	Association	Acres
Forests and Woodlands		
Jeffrey pine forest	*Pinus jeffreyi* and *Purshia tridentate*	1.15
Aspen groves	*Populus tremuloides* and *Symphoricarpos rotundifolius*	0.16
Black cottonwood forest	*Populus trichocarpa*	0.001
Shrublands		
Little sagebrush scrub	*Artemisia arbuscula* ssp. a*rbuscula and Poa secunda*	15.40
Silver sagebrush scrub	*Artemisia cana* ssp. *bolanderi, Artemisia cana* ssp. ssp. *viscidula,* and *Poa secunda*	0.00
Bitterbrush scrub	*Purshia tridentata* and *Artemisia arbuscula*	0.13
Bitterbrush scrub	*Purshia tridentata*, *Artemisia tridentata*, and *Tetradymia canescens*	0.12
Bitterbrush scrub	*Purshia tridentata*, *Artemisia tridentata*, and *Bromus tectorum*	0.22
Bitterbrush scrub	*Purshia tridentata* and *Artemisia tridentata*	23.30
Bitterbrush scrub	*Purshia tridentata* and *Prunus subcordata*	0.00
Interior rose thickets	*Rosa woodsii*	0.64
Shining willow groves	*Salix lucida*, *Rosa woodsia,* and Mixed Herbs	0.13

Table 3.5-15: Direct Impacts on Sensitive Natural Vegetation Communities		
Alliance	**Association**	**Acres**
Greasewood scrub	*Sarcobatus vermiculatus* and *Artemisia tridentata*	7.09
Herbaceous Vegetation		
Sheldon's sedge patch	*Carex sheldonii,* and *Elymus cinereus*	0.80
One spike oat grass meadows	*Danthonia unispicata* and *Poa secunda*	0.34
Ashy ryegrass meadows	*Elymus cinereus* and *Alopecurus geniculatus*	0.59
Ashy ryegrass meadows	*Elymus cinereus*	2.22
Blue bunch wheat grass meadows	*Pseudoroegneria spicata* and *Poa secunda*	0.22
Hardstem bulrush marshes	*Schoenoplectus acutus*	0.02
American bulrush marsh	*Schoenoplectus americanus*	0.00
Needle-and-thread grassland	*Stipa comata*	0.20
Tansyleaf evening primrose patch	*Taraxia tanacetifolia* and *Iva axillaris*	0.03
Total		**52.77**

As summarized in Table 3.5-15, the Proposed Project would result in direct loss of 52.77 acres of sensitive natural vegetation communities. Mitigation Measures BIO-2 and BIO-18 would ensure that the footprint of disturbance is minimized. Mitigation Measure BIO-6 would require restoration of an equivalent amount and type of habitat in the region that would be preserved in perpetuity. Mitigation Measures BIO-15 and BIO-17 would require restoration of wetlands and waters that are affected and other permit requirements that would help minimize impacts on these natural communities. These measures would all help offset the loss of sensitive natural vegetation communities, however, due to the rare nature of each vegetation community and the uncertainty of the success in restoring each sensitive natural vegetation community, impacts would be permanent and adverse and would remain significant and unavoidable.

Temporary Impacts.

As discussed under Impact BIO-1, sensitive natural vegetation communities can also be affected by potential introduction of invasive species, herbicide use, and impacts on water quality. Impacts would be potentially adverse and significant. However, as discussed in Impact BIO-1, implementation of Mitigation Measures BIO-2, BIO-5, BIO-7, BIO-14, and BIO-15 would ensure that impacts would be reduced to less than significant levels.

Mitigation Measures

The following mitigation measures described above shall apply:

- BIO-2: Work Areas and Access Routes
- BIO-5: Site Stabilization
- BIO-6: Restoration

- BIO-7: Invasive Species
- BIO-14: Minimum Bore Depth
- BIO-15: Wetland and Waters Impacts
- BIO-17: Compliance with Other Laws, Regulations, and Permits
- BIO-18: Field Changes to the Project

Residual Impact After Mitigation

After mitigation, impacts would remain significant and unavoidable for permanent impacts and would be reduced to less than significant for temporary impacts.

Impact BIO-3	**Would project implementation cause a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**
Impact Determination:	*Significant and Unavoidable (Permanent Impacts)* *Less than Significant with Mitigation (Temporary Impacts)*

Impact Discussion

Permanent Impacts

The Project would have a permanent direct impact on 2.32 acres of wetlands and potential Waters of the U.S. or State as presented in Table 3.5-16. Specifically, despite the Applicant's goal to directional drill underneath these resources, the Project would result in permanent removal of, or disturbance to, these habitats.

Table 3.5-16. Direct Impacts on Wetlands and Other Waters

Wetland Classification	Other Waters Classification	Direct Impact (acres)
Fresh Emergent Wetland	–	1.34
Riparian Fresh Emergent Wetland Complex	–	0.29
Riparian Wetland	–	0.16
Seasonal Wetland	–	0.38
Wetland Swale	–	0.06

Table 3.5-16. Direct Impacts on Wetlands and Other Waters		
Wetland Classification	**Other Waters Classification**	**Direct Impact (acres)**
–	Ephemeral Stream	0.02
–	Intermittent Stream	0.003
–	Irrigation Canal	0.01
–	Perennial Stream	0.06
–	Pond	0.000002
	Total:	**2.32**

Mitigation Measures BIO-2 and BIO-18 would ensure that the footprint of disturbance is minimized in these areas. Mitigation Measure BIO-6 would require restoration of an equivalent amount and type of habitat at an offsite mitigation location or locations in the region that would be preserved in perpetuity. Mitigation Measures BIO-15 and BIO-17 would require restoration of wetlands and waters that are affected and other permit requirements that would help minimize impacts on these habitats. These measures would all help offset the loss of wetlands and waters, however, due to the rare nature of wetlands and waters and the uncertainty of the success in restoring each, impacts would be permanent and adverse and would remain significant and unavoidable.

Temporary Impacts.

As discussed under Impact BIO-1, wetlands and waters can also be affected by potential introduction of invasive species, herbicide use, and impacts on water quality. Impacts would be potentially adverse and significant. However, as discussed in Impact BIO-1, implementation of Mitigation Measures BIO-7, BIO-14, and BIO-15 would ensure that impacts would be reduced to less than significant levels.

Mitigation Measures

The following mitigation measures described above shall apply:

- BIO-2: Work Areas and Access Routes
- BIO-5: Site Stabilization
- BIO-6: Restoration
- BIO-7: Invasive Species
- BIO-14: Minimum Bore Depth
- BIO-15: Wetland and Waters Impacts
- BIO-17: Compliance with Other Laws, Regulations, and Permits

- BIO-18: Field Changes to the Project

Residual Impact After Mitigation

After mitigation, impacts would remain significant and unavoidable.

Impact BIO-4	**Would project implementation interfere substantially with the movement of any native resident or migratory fish or wildlife species with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

As discussed in Section 3.5.1.6 above, habitat corridors in the Study Area may consist of woodland riparian segments, canyons, wetlands, and ridgelines (Stantec 2020). Flyways are administrative regions in North America that categorize the major north-south bird migration (Stantec 2020). On a broad scale, northeastern California falls within the Pacific Flyway, which is composed of numerous, narrow migration corridors that pass through the Study Area and the surrounding lands (Stantec 2020). Waterways may also serve as habitat corridors for fish and other species.

The BLM's Sierra Front Field Office within the Carson City District considers the section of the Study Area from approximately Lassen County MP 0.0 to MP 18.9 as a mule deer movement corridor (Stantec 2020). Mule deer generally use the corridors from March 1 to May 15 and from October 1 to November 30 (Stantec 2020). However, the BLM Sierra Front Field Office does not apply seasonal restrictions to these areas.

Habitat loss and modification can result in habitat fragmentation, which may have numerous impacts on fish and wildlife resources. However, due to the relatively narrow corridor of expected ground disturbance for the project (a 40-foot wide ADI), habitat fragmentation would be minimal. In addition, the project would be constructed along highways within existing transportation rights-of-way, which already have fragmented local habitats and serve as potential barriers to movement.

Although not observed in the Study Area (Stantec 2020), as discussed in Impact BIO-1, the Proposed Project has the potential to adversely affect greater sage-grouse leks. However, Mitigation Measure BIO-12 would restrict construction hours within 4 miles of active or pending greater sage-grouse leks to avoid impacts on this species. The restriction of construction hours would reduce or eliminate disturbances to greater sage-grouse lekking activities, which typically occurs around sunrise and during full moon evenings. With implementation of this measure, potential impacts on greater sage-grouse leks would be less than significant.

Mitigation Measures

The following mitigation measure described above shall apply:

- BIO-12: Greater Sage-Grouse Leks

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact BIO-5	**Would project implementation conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

As discussed in Section 3.5.2.3, policies of the Modoc County General Plan, Lassen County General Plan and Sierra County General Plan protect fish and wildlife, including listed species, and native vegetation communities, including wetlands. Local agency policies in the region do not have tree preservation policies or ordinances and do not name individual species for protection. As discussed in Impact BIO-1, BIO-2, and BIO-3, the Proposed Project has the potential to significantly adversely impact biological resources protected by local policies. However, implementation of Mitigation Measures BIO-1 through BIO-18 would ensure that the Project is generally consistent with these policies and that these potential impacts are reduced to less than significant levels.

Mitigation Measures

The following mitigation measures described above shall apply:

- BIO-1: Worker Environmental Awareness Training
- BIO-2: Work Areas and Access Routes
- BIO-3: Speed Limit
- BIO-4: General Project Area Use
- BIO-5: Site Stabilization
- BIO-6: Restoration
- BIO-7: Invasive Species
- BIO-8: Biological Monitors
- BIO-9: Protection of Botanical Resources

- BIO-10: Work Timing
- BIO-11: Nesting Birds
- BIO-12: Greater Sage-Grouse Leks
- BIO-13: Open Excavations
- BIO-14: Minimum Bore Depth
- BIO-15: Wetland and Waters Impacts
- BIO-16: Bats
- BIO-17: Compliance with Other Laws, Regulations, and Permits
- BIO-18: Field Changes to the Project

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact BIO-6	**Would project implementation conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional, or state habitat conservation plans?**
Impact Determination:	*No Impact*

Impact Discussion

The Project does not occur within any areas covered under an HCP or NCCP. Therefore, there would be no impacts.

Mitigation Measures

No mitigation measures are required.

Impact BIO-7	**Would project implementation result in a substantial collision or electrocution risk for birds or bats?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

During construction, there is the potential for vehicle and equipment collisions with wildlife as discussed in Impact BIO-1. However, to avoid collisions with wildlife, Mitigation Measures BIO-1, BIO-2, and BIO-3

would require Worker Environmental Awareness Training, installation of construction fencing to clearly delineate access and work areas and to exclude wildlife from work areas, and restriction of vehicle speeds in construction areas. Mitigation Measure BIO-8 would require pre-construction wildlife in addition to daily morning sweeps to ensure that wildlife are not inadvertently harmed during construction. With implementation of these measures, impacts would be reduced to less than significant levels.

The Applicant does not plan to build aboveground facilities that would provide risk for electrocution. Therefore, there would be no electrocution risk for birds or bats under the Proposed Project.

Mitigation Measures

The following mitigation measures described above shall apply:

- BIO-1: Worker Environmental Awareness Training
- BIO-2: Work Areas and Access Routes
- BIO-3: Speed Limit
- BIO-8: Biological Monitors

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

3.5.4 Cumulative Impacts

Planned or reasonably foreseeable projects in the region listed in Table 3.1-1 of Section 3.1 are primarily in urban areas where impacts on biological resources are expected to be minimal, with the exception of the additional Zayo fiber optic routes in Oregon and Nevada, and future proposed surface mines on the east and west side of US Highway 395 approximately 5.5 miles north of the intersection of US Highway 395 and California State Route 70 in Lassen County, California. Significant Project-specific impacts on biological resources are expected to be avoidable or mitigable for the proposed surface mine projects. Therefore, those projects are not expected to result in significant cumulative impacts on biological resources.

The planned 225.3 miles of the Zayo fiber optic line proposed through Oregon from Prineville to the California state line within the US 395 right-of-way, and the proposed 14.6 miles of the Zayo fiber optic line proposed through Nevada from the California state line to Reno within the US 395 right-of-way would be within paved areas and therefore, would be expected to result in lesser impacts on special status species, sensitive natural vegetation communities, and wetlands and waters than the proposed route in California.

Nevertheless, combined with biological resource impacts associated with planned or foreseeable projects in the region, the Proposed Project is expected to result in a considerable contribution to cumulative impacts on special status plant species, sensitive natural vegetation communities and wetlands and waters. Mitigation measures for the Proposed Project would reduce impacts on these resources but would

not fully offset significant impacts. Therefore, cumulative impacts on special status plant species, sensitive natural vegetation communities, and wetlands and waters would be significant and unavoidable.

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3.6 Cultural Resources

This section evaluates the potential impacts of the Proposed Project on cultural resources. Cultural resources are defined as pre-contact (prehistoric) and historic sites, buildings, objects, structures, and districts, or any other physical evidence associated with human activity considered important to a culture, or a community for scientific, traditional, or religious reasons. This section is based on the Cultural Resources Inventory Report prepared by Stantec (2022a). The information provided below summarizes this report.

Due to the sensitive nature of cultural resources, which is restricted from public distribution by state and federal law, the cultural resources report is not included in the EIR appendices; however, all pertinent information necessary for impact determinations is included in this section.

Although this section includes Native American pre-contact and historic information, Section 3.19, Tribal Cultural Resources, includes further analysis of the ethnography of the Project Area and potential Project impacts to Tribal Cultural Resources.

3.6.1 Environmental Setting

The following environmental setting for cultural resources was prepared by Stantec (2022a) and is presented below. This incorporates by reference the environmental context from Stantec (2022a) and the ethnographic context summarized in Section 3.19, Tribal Cultural Resources.

3.6.1.1 Pre-contact Context

Modoc Uplands Prehistory and Chronology

Pre-contact archaeological research in the vicinity of northeastern California began prior to World War II with the efforts of Luther Cressman and others based at the University of Oregon. Cressman's studies were focused on south-central Oregon. They were conducted using an interdisciplinary approach and established a human presence in the region extending back to Late Glacial times. After World War II, researchers such as Grosscut, Riddell, Squier, and Swartz added details to the regional chronology and cultural history through surveys and selected excavations. The 1960s witnessed the advent of problem-oriented archaeological studies, such as those of Baumhoff, Olmstead, and O'Connell. The advent of cultural resources management in the 1970s spurred a host of cultural resource inventories, as well as testing and data recovery projects generally conducted on public lands administered by the United States Forest Service (USFS) or Bureau of Land Management (BLM). During the 1990s, several large-scale infrastructure corridor projects in northeastern California, such as the Pacific Gas Transmission Company–Pacific Gas and Electric Pipeline, Tuscarora Pipeline, Alturas Intertie, and California-Oregon Transmission Project, provided considerable data that was used to address a number of key research issues relating to cultural chronology, subsistence and settlement, technological organization, trade and exchange, and past environments (Stantec 2022a et seq.).

The prehistory of the region is divided into six cultural and temporal periods (Stantec 2022a et seq.):

- Early Holocene: 5000+BC
- Post-Mazama: 5000-3000 BC
- Early Archaic: 3000-1500 BC
- Middle Archaic: 1500 BC-AD 700
- Late Archaic: AD 700-1400
- Terminal Pre-contact: AD 1400-1850

The Early Holocene in northeast California is characterized by lanceolate projectile points, which resemble Clovis points. Elsewhere in North America, Clovis points have a date range of circa (ca.) 11,500-9500 BC and are often found in conjunction with the remains of extinct megafauna such as camels, mammoth, and large bison. Although fluted points occur more commonly at sites in south-central Oregon, such points have been documented in California at sites such as Mammoth Springs, Sconchin Butte, and Battle Ranch. Early inhabitants of the region appear to have been small groups of highly mobile big game hunters who settled along rivers and lakes where their quarry would be present (Stantec 2022a et seq.).

Occupation of northeast California and the adjacent Great Basin after ca. 9500 BC is characterized by Great Basin Stemmed points (large projectile points, lanceolate and stemmed in shape), along with heavy core tools, flake tools, bifaces, and crescents. The association of these artifacts with the locations of past pluvial lakes and former wetlands inspired the name Western Pluvial Lakes Tradition. Stemmed points have been found in the Fort Rock and Lower Klamath Basins; at Goose, Clear, and Tule Lakes; and at various localities in the Modoc National Forest (Stantec 2022a et seq.).

At some northeastern California sites, the presence of ground stone tools and the remains of small game, fish, and shellfish point to an increased resource intensification. However, people still appear to have been highly mobile. Indeed, the high degree of variation among source profiles for obsidian suggests that people ranged widely in search of raw materials to make stone tools (Stantec 2022a et seq.).

Approximately 7,000 years ago, Mount Mazama in south-central Oregon experienced a short-term series of massive volcanic eruptions. All told, between 11 and 14 cubic miles of materials were produced in the pyroclastic flows that emptied the peak's magma chamber, causing its collapse. The resultant caldera has since filled with water, forming Crater Lake. This cataclysmic eruption had profound effects on the plants, animals, and humans of the region: pyroclastic flows extended up to 40 miles from the mountain, and ash from the eruption reached as far as present-day Utah, Wyoming, and Canada (Stantec 2022a et seq.).

Northern side-notched projectile points are the primary temporal marker for the Post-Mazama Period in northeast California. Other artifacts include mortars with V-shaped bowls, pointed pestles, T-shaped drills, antler wedges, and flaked stone pendants. During this period, dwellings tended to be highly formalized and semi-subterranean. This collection of features and artifacts, which is well represented at sites in Surprise Valley, appears to have been derived from the Columbia Plateau to the north (Stantec 2022a et seq.).

The increase in milling equipment during the Post-Mazama Period points to the growing importance of plant resources. Faunal remains indicate a continued reliance on large game hunting, which comports with the Early Holocene Period but contrasts with subsequent periods. Post-Mazama sites are often located near wetlands or permanent water sources, suggesting lakeshore adaptations. Notwithstanding, the Post-Mazama Period also represents the first substantial occupation of upland areas. Upland foraging strategies likewise appear to have been highly mobile without much reliance on resource storage (Stantec 2022a et seq.).

The Early Archaic Period across the Modoc Uplands is characterized by a significant increase in archaeological visibility relative to previous periods. The Gatecliff Split Stem point, which serves as the indicator of the Early Archaic in the Great Basin to the east, is virtually absent. Instead, archaeologists encounter Elko and Siskiyou side-notched points (Stantec 2022a et seq.).

Settlement differentiation and increasing archaeological visibility, which are hallmarks of the Early Archaic Period, increased further during the Middle Archaic. Evidence of Middle Archaic occupation is widespread in northeast California and on the Modoc Plateau where large, semi-sedentary villages arose along with elaborations of material culture, ceremonial activities, obsidian production, and construction. The region's most elaborately constructed villages and base camps are attributed to the Middle Archaic, suggesting increasing sedentism coupled with a level of continued mobility tied to resource acquisition and hunting (Stantec 2022a et seq.).

Obsidian biface production peaked during the Middle Archaic, and the increase in stone tool raw material production (either obsidian or basalt) is tied to an increase in long-range mobility. At the same time, trade increased, evidenced by obsidian stone tool material from northwest Nevada, the Warner Mountains, and the Medicine Lake Highlands, as well as marine shell beads from coastal California into the Great Basin (Stantec 2022a et seq.).

The transition from the Middle Archaic to the Late Archaic in northeast California can be seen in marked changes in subsistence and settlement patterns as well as assemblage composition. The Late Archaic Period can itself be divided into early and late phases by a tumultuous period around AD 1000. The source of this tumult has not been established, but it may be related to the AD 900-1400 period of drier, warmer weather known as the Medieval Climatic Anomaly; it also might be related to a major volcanic eruption at Little Glass Mountain in the Medicine Lake Highlands around 1065 ± 90 radiocarbon years before present. The Early Late Archaic, lasting between AD 700-1000, is similar to the preceding Middle Archaic. The later part of the Late Archaic, spanning roughly AD 1100-1400, is more similar to the Terminal Pre-contact. Late Archaic sites in the Modoc Uplands, Surprise Valley, and central Pit River are characterized by the adoption of bow-and-arrow technology as seen through the presence of Rose Spring and Gunther Barbed points. Stone tool production shifts towards the production and use of smaller flaked tools. Brownware ceramics also begin to appear around AD 950 (Stantec 2022a et seq.).

Prior to AD 1000, houses tended to be more formal, with central hearths, elaborate superstructures, and storage pits that pointed to extended seasonal occupancy. These houses appear not as isolated features but as small clusters. After AD 1000, houses are less complex and are often represented by rock rings, living surfaces, or ephemeral domestic features. At the same time, large clusters of houses occur,

apparently occupied for short periods of time. This concentration of people into large villages may have been a response to threats posed by raids, war, or other forms of social conflict (Stantec 2022a et seq.).

The Late Archaic is characterized by apparent increased resource intensification. A significant decline in the representation of large game occurred. Along the Middle Pit River after AD 1000, increased population densities expanded resource intensification, manifested by intensive exploitation of freshwater shellfish and increased use of seeds and manzanita berries. On the Modoc Plateau, greatly expanded use of upland habitats occurred, probably heavily depending upon seasonal harvesting and storage of geophytes, perhaps as a result of imbalances in populations and resources (Stantec 2022a et seq.).

In addition, major shifts in tool stone procurement and production took place after AD 1000 in the Modoc Uplands. The prior focus upon biface reduction at a few key toolstone quarries was replaced by localized toolstone procurement and production, which increasingly relied upon obtaining raw material through exchange networks, coupled with scavenging and reuse of older artifacts. This yielded a greater diversity of toolstone sources. It also suggests increased use of obsidian pebble and cobble materials derived from different sources located in secondary, alluvial contexts (Stantec 2022a et seq.).

In northeast California, the Terminal Pre-contact Period is represented by Desert Series (Desert side-notched and Cottonwood) projectile points. Use of Rose Spring points may have continued throughout the Terminal Pre-contact. The Terminal Pre-contact in northeast California and adjacent portions of the Great Basin appears to have witnessed large-scale population shifts, marking the arrival of desert-adapted Numic-speaking peoples. This appears to have begun in the Reno area around 500 years ago, reaching northeast California 200 to 300 years ago (Stantec 2022a et seq.).

During the Terminal Pre-contact Period, large Late Archaic semi-permanent seasonal villages were abandoned and replaced by smaller multiconstituent sites inhabited by one or a few households. Domestic and residential activities contract into a small area surrounding a single house structure, with evident spatial differentiation of tasks. This is coupled with a significant reduction in logistical procurement of resources, which were obtained daily from residential camps. Specialized tools and functionally-focused tool kits were also largely replaced by easily made and discarded flake tools (Stantec 2022a et seq.).

The level of residential activity declined sharply in areas that formerly featured large, multicomponent villages (such as Secret Valley); instead, the dominant settlement pattern appears to have been short-term occupancy of dispersed sites by small family groups. Sites frequently comprise isolated ground stone/rock concentrations or hearths, sometimes in association with limited flake scatters or midden deposits. Indications of milling and processing activities commonly occur, represented by stationary, large, and unshaped milling stone blocks associated with widely scattered field camps and stations (Stantec 2022a et seq.).

Madeline Plains Prehistory and Chronology

Cultural chronologies and cultural histories of the Madeline Plains include Eagle Lake and Surprise Valley. Work on Honey Lake and environs to the south also bears on the area. Riddell's excavation of the Karlo Site in Lassen County's Secret Valley marked the first major excavation of a Great Basin site in the open (as

opposed to found within a cave). In addition, the Karlo Site provided vast quantities of information, including burials, grave goods, projectile points, marine shell beads, and occupation debris. In particular, the shell beads provided the opportunity to link activity at the Karlo Site with dateable activity to the west in California (Stantec 2022a et seq.).

The cultural chronology of the Madeline Plains region is, on the whole, similar to that of the Modoc Uplands region. The same six cultural and temporal periods also apply, but there are some notable differences. For instance, Madeline Dunes side-notched projectile points, which are similar to Northern side-notched points, are the primary temporal marker for the Post Mazama Period in northeast California south of the Modoc Uplands. During the Post-Mazama Period on the Madeline Plains and environs, Middle Holocene warming-aridity appears to have produced shifts in land use. Almost all sites occur upslope on alluvial fans adjacent to major sources of fresh water, along major drainages, or at major springs. As pluvial lakes and wetlands dried, sites located along pond edges and in riparian habitats became increasingly important (Stantec 2022a et seq.).

The Early Archaic in the Modoc Uplands saw Elko and Siskiyou side-notched points all but replace Gatecliff split-stem points; meanwhile, south of the plateau, Gatecliff and Humboldt series points are common. Settlement systems in the western Sierra Nevada foothills and Central Valley appear oriented along major east-west drainages and extend from lowland villages to basalt quarry sites located near the Sierran crest. Reduction debris produced by on- and offsite production activities appears at these upland quarries. The Middle Archaic was marked by a period of cool, wet weather. In the Secret Valley area, Middle Archaic houses, midden deposits, hearths, ovens, and burials occur, along with an abundant, diverse suite of artifacts and ecofacts. Similar manifestations of settlement activity are found in adjacent desert areas along the Middle Pit River, at Eagle Lake, and along the Feather River. The end of the Middle Archaic was marked by the return of drier conditions. Elko series projectile points are characteristic of the Middle Archaic in the Madeline Plains area (Stantec 2022a et seq.).

After c. AD 1000 in Secret Valley, geophyte processing intensified in the Secret Valley area, and along the Middle Pit River, increased population densities expanded resource intensification, manifested by intensive exploitation of freshwater shellfish and increased use of seeds and manzanita berries. During the Terminal Pre-contact Period, more intensified use of multiconstituent sites occurred along the Middle Pit River. Around AD 1450, house remnants and other residential features suddenly occur at Crooks Canyon, adjacent uplands, and other relatively remote places near the South Fork of the Pit River. These sites contain a variety of stone and bone tools, work areas, roasting features, and storage pits, indicating that a wide array of activities took place, including plant and animal processing and tool production and maintenance. This settlement pattern may be the product of intensified use of geophytes, which began during the preceding Late Archaic; it also may have been a response to conflict and warfare sparked by the Numic Expansion, with the canyons and uplands of northeastern California providing a refuge from hostilities (Stantec 2022a et seq.).

Honey Lake Basin Prehistory and Chronology

The cultural chronology of the Honey Lake Basin largely resembles that of the Madeline Plains region. Early Holocene sites at Honey Lake reflect a bounty of wetland resources unequaled by later time periods.

The transition from the Early Holocene to the Post-Mazama period was far-reaching: the climate became drier and warmer, megafauna went extinct, and vegetation changed. Where Northern side-notched points serve as an indicator of the Post-Mazama Period in the Madeline Plains area, to the south in Honey Lake Basin, the frequency of Northern side-notched points markedly decreases. In place of Northern side-notched points were Gatecliff, Fish Slough, and other points assigned to the early part of the Martis Phase. The Honey Lake Basin likely provided fresh water to people migrating from desert areas to the east, particularly during periods of warming and drying. The Honey Lake Basin region may have been one of the few in the northwest Great Basin that still periodically produced lakeshore resources, making it an attractive destination amidst the drier Great Basin, not only during the Post-Mazama Period but well into the Early and Middle Archaic periods (Stantec 2022a et seq.).

Long Valley Prehistory and Chronology

Long Valley lies at the intersection of numerous archaeological research regions: northeastern California lies to the northwest, the Sierra Nevada Range to the southwest, Lake Tahoe to the south, and the Great Basin to the east. Heizer and Elsasser expounded the first archaeological sequences for the northern Sierra Nevada Range around Lake Tahoe, including defining the Martis and Kings Beach complexes of artifact assemblages, which they attributed to the ethnographic Washoe. Although chronologies from neighboring regions have been applied in the Long Valley region, McGuire's chronological sequence remains relevant in describing the prehistory of this regional intersection and is useful when drawing comparisons to the Honey Lake Basin, Madeline Plains, and Modoc Uplands (Stantec 2022a et seq.).

The cultural chronology of Long Valley parallels that of the Honey Lake Basin, Modoc Uplands Prehistory). Early Holocene sites in the Tahoe/Truckee area of the Sierra Nevada Range are characterized by Parman-stemmed projectile points (corresponding to Great Basin stemmed points). Indicators of the Post-Mazama Phase in the Honey Lake Basin (Gatecliff, Fish Slough, and early-Martis Phase points) also carry through into Long Valley (Stantec 2022a et seq.).

As with the rest of northeastern California, the Middle Archaic Period in Long Valley was characterized by greater archaeological visibility. Some attributed the increase in artifact deposits and middens to an increase in the re-occupation of favored sites. The Middle Archaic was characterized by the prevalence of large, bifacial Martis Phase points, typically fashioned from Sierra Nevada basalt. Over the course of the Middle Archaic, styles shifted in the Long Valley and Truckee River area from straight-stemmed to corner-notched projectile points. As with the Early Archaic, the presence of ground stone tools and faunal remains point to the continued importance of seed processing and small game hunting (Stantec 2022a et seq.).

The Late Archaic period in the Long Valley area, as with northeastern California generally, was marked by a shift towards smaller Rose Spring and Gunther Barbed points made from cryptocrystalline material for bow-and-arrow use at the expense of large Martis basalt bifaces (Stantec 2022a et seq.).

3.6.1.2 Historic Context

Modoc Uplands in the Historic Period

Early historic period exploration of northeast California was less intensive than in other parts of California and was not part of Spanish colonial activities. The earliest Hudson's Bay fur trappers entered northeastern California in 1828. A later fur trade expedition was documented by John Work, who led a Hudson's Bay Company expedition through the Goose Lake area in 1832. By the late 1840s, the fur trade was in decline; however, emigrant travel into northeast California via the Applegate/Lassen Emigrant Trail had increased after the discovery of gold at Sutter's Mill in 1848, bringing settlers into the region. Gold was almost non-existent in Modoc, Lassen, Plumas, and Sierra counties, and lasting settlement in the region did not occur until the late nineteenth century due in large part to the lack of precious metals, the remoteness and ruggedness of the terrain, and ongoing Native American resistance. By the 1870s, though population remained sparse, several homesteads and ranches had been established, and land-use primarily consisted of ranching, forestry and timber harvesting, and transportation. Beginning at the turn of the twentieth century, the Modoc National Reserve; Lassen Peak National Reserve; Plumas Forest Reserve, later Modoc National Forest; and Lassen National Forest were established. These reserves supported the logging and ranching industries while fulfilling their mandate for forest conservation and, later, tourism (Stantec 2022a et seq.).

Established in 1874 from part of Siskiyou County, Modoc County is the northeasternmost and third least-populated county in California. Though rich in natural resources, including forests, fertile plains and valleys, lakes, and rivers, the rugged terrain and isolated geography have resulted in a sparsely populated, independent region. The northeastern portion of the county makes up the Modoc Uplands region. The City of Alturas, located on the Pit River and within the Project corridor, is the county seat and the only incorporated city within the county. It was settled in 1871 and originally called Dorris' Bridge after Pressley and James Dorris, an early ranching family who built a bridge across the Pit River and upon whose land the town was initially established. Prior to Anglo-American pioneer settlement, the city was the site of an Achumawi, or Pit River, village called Kaselektawi (Stantec 2022a et seq.).

Historically, the primary economies for the area were cattle, sheep, horse ranching, forestry, logging, and railroads. The first European explorers to visit Modoc County were a party led by John C. Frémont in 1846, which included Kit Carson, Alexis Godey, and Richard Owens, who were traveling from Sutter's Fort in present-day Sacramento to Upper Klamath Lake in south central Oregon. Early emigrant travel to and through the area throughout the late nineteenth and early twentieth centuries was often met with stringent resistance by the Modoc, who were often the victims of unprovoked violence as traffic through the area increased (Stantec 2022a et seq.).

The area of present-day Alturas was on the Dorris Ranch and was originally known as Dorris' Bridge when the town began to take shape in the 1870s. By 1876, as the town continued to grow, a community petition changed the name to Alturas. It quickly became the largest town and the county seat in Modoc County. By the 1910s, Alturas was home to several churches, a large county courthouse, and the headquarters of the Nevada, California, Oregon Railway (NCO). Development of Alturas was largely assisted by access to transportation on the NCO and the availability of jobs with the railroad. By 1926 though, the NCO was

sold to Southern Pacific Railroad. Southern Pacific Railroad continued operation of the rail line through Alturas, although they discontinued passenger service in 1938 and dedicated the rail line to freight service. Alturas experienced slight growth through the latter half of the twentieth century, with much of the growth attributed to ranching, logging, and outdoor recreation in the surrounding area (Stantec 2022a et seq.).

Originally named South Fork when the town was founded in 1878, the present-day town of Likely was renamed in 1886 after post office officials demanded a name change to differentiate it from another town already named South Fork. Inhabitants of the area squabbled over a new name for several years until a resident remarked during a meeting that the population was not likely to ever choose a name. Locals liked the unique name and unanimously voted to change the name of the town to Likely. By the 1880s, Likely had a growing population with two hotels, a general store, and several other businesses in town, supported by a small population and the surrounding ranches and farms. In 1906, J.L Fountain opened the Likely Saloon just south of the Likely General Store, serving wine, spirits, and cigars to the residents of Likely. The saloon remained a fixture in Likely through the late twentieth century and is still in operation (Stantec 2022a et seq.).

The first settlers to the region primarily relied on ranching. During the late nineteenth century and into the early twentieth, the economic focus was on livestock production and the production of winter hay for the livestock. As most of Modoc County was public open land, cattle, sheep, and horses grazed freely and openly. However, by the turn of the century, this practice led to decimated ranges across much of Modoc County. In response, a number of Modoc ranchers petitioned the U.S. government to request that a forest preserve be created. In 1904, President Theodore Roosevelt allocated almost 600,000 acres of land, creating the Warner Mountains Forest Reserve and Modoc Forest Reserve. In 1908, an additional 570,000 acres were added, and the two reserves were combined and renamed the Modoc National Forest (Stantec 2022a et seq.).

The forest resources of the region supported timber harvesting, the area's second major industry. Small local sawmills were a part of the early settlement and provided lumber for the construction of pioneer buildings. Growth of the industry in this region was hindered by a lack of transportation across the rough, rugged terrain. While lumber could be easily produced, there was no efficient way to get it to market, so virtually all of the local sawmills served their local markets. From the late-1860s until around the turn of the century, a dozen or so small sawmills popped up in the Modoc Uplands region. After the turn of the century, improvements to transportation networks and USFS policies changed the timber industry. A number of larger mills were established in the Modoc National Forest, notably the Crane Creek Lumber Company located at the base of the Crane Creek Canyon, and then later at Lawson's Creek; and the Puckering Lumber Company (Stantec 2022a et seq.). Although these mills did not own timber lands, they had the capability to abide by USFS sustainable yield practices and to export lumber. The USFS programs allowed the mills to secure more timber than they would have been able to on their own. As a result, these mills were able to remain close to their allocated lands and maintain their business for longer periods. These mills also had a greater impact upon local development, providing steady jobs for local residents. Widespread railroad development in the 1920s saw a boom in large-scale, commercial timber production in the Modoc National Forest, which Brown notes became known as a "timber sale forest."

Although much of the forest was harvested for large-scale commercial sale, small-scale sales continued. Local residents were offered timber at cost for fuel, posts, and farming needs. Between 1916 and 1930, an average of 162 of these transactions were reported annually (Stantec 2022a et seq.).

Emigrants entering northeastern California followed the Applegate/Lassen Emigrant Trail. In 1846, a party led by Lindsay Applegate and Levi Scott branched off of the California Trail on the Humboldt River in Nevada near present-day Imlay. They entered the northeastern corner of California less than 30 miles south of the Oregon border, crossing Surprise Valley and the Warner Mountains at Fandango Pass, formerly Lassen Pass, to Goose Lake and beyond, eventually reaching the southern end of the Willamette Valley in Oregon. From the Gold Rush-era through the mid-1860s, the trail was a major route through northeastern California and the Modoc Uplands (Stantec 2022a et seq.).

Western railroad expansion in the late nineteenth and early twentieth century led to a number of railroads passing through Modoc County, most notably the NCO Railway. Organized in 1880 and originally called the Nevada and Oregon Railroad, its plan was to build north from Reno to the Columbia River, with stops in northeastern California and eastern Oregon to service local ranches. Construction of the railroad was slow, due in part to financial troubles and poor business management by the NCO Railway. In 1884, the bank took over the company and spent the next several years repairing existing track lines and focusing on local business development. New track construction resumed in 1899 and reached Madeline in 1902, Likely in 1907, and Alturas in 1908, and it finally terminated in Lakeview, Oregon in 1912. The NCO Railway fell into serious financial trouble by the 1920s and began selling off branch lines to other railroads before being acquired by Southern Pacific in 1925 (Stantec 2022a et seq.).

Madeline Plains in the Historic Period

The Madeline Plains region stretches from southern Modoc County just south of the City of Alturas to much of eastern Lassen County, terminating at Honey Lake. As the early history of Modoc County was discussed above, this section primarily focuses on the Madeline Plains area in Lassen County. Lassen County was formed in 1864 from parts of Plumas and Shasta counties. It is named after early pioneer Peter Lassen, a Danish immigrant who, after working as a blacksmith in Boston for 10 years, decided to venture west in the mid-nineteenth century. Similar to the Modoc Uplands, early settlements in the Madeline Plains region were sparse and primarily relied on ranching, timber, and forestry. While the discovery of gold at Sutter's Mill in 1848 led to an influx of gold-seekers into Northern California, gold was much harder to find in Modoc and Lassen counties, so few who passed through actually stayed. Those who remained relied on ranching and timber economies, and later the railroad, to support themselves (Stantec 2022a et seq.).

Early agricultural and ranching activities in the region were primarily focused on local consumption, small grains, and livestock due to the short summer growing season. When the first pioneers came to Modoc and Lassen counties, the valleys, sagebrush flats, and mountains were covered in grasses. Most of the area was made up of public lands. Livestock, primarily cattle, sheep, and horses, were turned loose to graze on a first-come, first-served basis during the first two decades of settlement, with hay being the primary agricultural product. As with Modoc County, the practice of free, open grazing resulted in decimated ranges across the Madeline Plains region. The creation of the Lassen Forest Reserve in 1905, which would

later become the Lassen National Forest, provided a federally run agency that assisted with properly managing the natural resources of the area for ranchers and timber harvesters. Currently, the Lassen National Forest is composed of 1.2 million acres of land in seven counties: Lassen, Shasta, Tehama, Butte, Plumas, Siskiyou, and Modoc (Stantec 2022a et seq.).

There is significant overlap in the timber harvesting histories of the Modoc Uplands and the Madeline Plains. As in the Modoc Uplands, the first settlers procured lumber for their dwellings from the nearby forests. Later, small sawmills were established to serve their local markets and to provide jobs for the residents. The establishment of the USFS and introduction of railroads to the region assisted with growth of the timber industry, notably the Likely Lumber Company in Likely, which was taken over in 1926 by the Edgerton Brothers Lumber Company in nearby Adin. The Edgerton Brothers Mill in Likely operated until 1937 (Stantec 2022a et seq.).

Emigrants arriving in the Madeline Plains also followed the Applegate/Lassen Trail. The Lassen Trail and Lassen County are named after Peter Lassen. Lassen came to America in 1829 from Denmark and worked as a blacksmith in Boston for 10 years before heading west, ending up in the Willamette Valley in Oregon in 1839. He ventured south into Alta California the following year, traveling to the San Francisco Bay Area and San Jose before making his way to the Sacramento Valley and befriending John Sutter of Sutter's Fort and Sutter's Mill. Lassen continued to travel through much of the U.S. in the 1840s, returning to California from Missouri with a group of emigrants in 1848 using the Applegate Trail. Desiring a shorter, easier route, Lassen convinced his party to branch off the Applegate Trail near Goose Lake and head south. Unfortunately, this route was more difficult, leading through the rough terrain of the Pit River Canyon and the base of Lassen Peak. They were encountered by a group of gold-seekers from Oregon and eventually ended up at Lassen's Ranch near the Sacramento River (Stantec 2022a et seq.).

The NCO Railway had several stops in the Madeline Plains, namely Termo, Madeline, and Likely. In 1900, Termo was the terminus of the NCO Railway before construction of the railroad resumed, reaching Madeline in 1902 and Likely in 1907. In the early twentieth century, a number of notable railroad companies laid track through the Madeline Plains en route to Susanville, the Lassen County seat, notably the Southern Pacific, Union Pacific, and Western Pacific, which often took over smaller local railway companies (Stantec 2022a et seq.).

Honey Lake Basin in the Historic Period

The Honey Lake Basin has a colorful and storied history. Located in southeastern Lassen County, it was first settled by pioneer Isaac Roop in 1854. Roop had visited the area in 1853 and returned the following year to build a log cabin and a store on the newly opened Nobles Emigrant Trail, an offshoot of the California Trail. In 1855, Peter Lassen and his traveling companions also built a cabin in the Honey Lake Basin, which was occupied until it burned down in 1896. Geographic isolation and the ambiguous, as-yet-unsurveyed border area between California and the Utah Territory contributed to 20 of the original settlers, including Roop and Lassen, forming the "Territory of Nataqua" in 1856. The territory was 240 miles long and 155 miles wide and included residents of the Carson, Eagle, and Washoe Valleys in present-day Nevada. Ironically, the territory failed to include the Honey Lake Basin, which led to a great deal of ridicule for the founders. In 1857, Nataqua Territory residents petitioned Congress for separation

from Utah and official recognition as a territory, and in 1858, while awaiting a decision on their petition, formed a local government, electing Roop as the territory's governor in 1859. In 1861, when Congress created the Nevada Territory, the Honey Lake Basin became embroiled in a territorial dispute between Nevada's newly formed Lake County and California's Plumas County that resulted in both counties holding elections in the basin. Territorial tensions escalated in 1863, resulting in a skirmish between Honey Lake residents and Plumas County officials, known as the Sagebrush War. A truce was called after two men were wounded, and in 1864 Lassen County was created, at last settling the issue (Stantec 2022a et seq.).

Early economic and population growth in the Honey Lake Basin was slow, with few permanent settlers outside of the upper end of the valley near Susanville until the late nineteenth century. Susanville (formerly Rooptown), was named after Isaac Roop's daughter and is the Lassen County seat. The Susanville Post Office was established in 1860, and the city was incorporated in 1900. Susanville is where Roop and his party first settled upon arrival to the area, and Roop's original log cabin still stands in Susanville's city park. Slow growth in the area was caused in part by its remote location, severe wet/dry weather cycles that affected water levels in Honey Lake and impacted the raising of livestock and crops, and by violent clashes between settlers and local Native American groups who resisted the arrival of newcomers to their native lands (Stantec 2022a et seq.).

While ranching and agriculture, timber, and railroads played a significant economic role in the development of the Honey Lake Basin, much like the Modoc Uplands and Madeline Plains regions discussed above, water management also played a central role and was crucial to the success of those other industries (Stantec 2022a et seq.).

Standish was founded as a utopian community in 1897 by a group of settlers from New York. It is named for Miles Standish, who came to America on the Mayflower, and espoused the benefits of utopian societies. Settlers plotted the 240-acre townsite on the Susanville-Datura Stage Line, to make it more accessible. Residents of the new town were primarily farmers, and one of the key issues in settling at Standish was access to water. Locals attempted to dam a portion of the Susan River, but were met with litigation from surrounding ranchers. Their attempts to use water for irrigation from the Susan River were officially struck down by a court order in 1905. The lack of resources and remote location kept the population of Standish small, but construction of a small downtown area began at the turn of the century (Stantec 2022a et seq.).

In 1906, the Standish #220 Foresters of America chapter began construction of a two-story wooden building and it opened in 1907, with plans to use the first story as commercial space and the second story as a hall or lodge space. The Foresters used the building as their lodge until 1908 when they sold it to the Standish Hall Association, and it became known as Standish Hall. The association immediately rented the first floor of the building to Charles Emerson, who moved his General Merchandise Store into the space. As the only general store in the area, it was used by Standish residents and by travelers on the stage route for purchasing groceries, clothes, hardware, and livestock feed. Usage of the second story continued as a social hall by two local organizations, the Odd Fellows Lassen Lodge #421 and the Native Daughters of the Golden West Nataqua Parlor #152, who both sponsored many community social and charitable events (Stantec 2022a et seq.).

In 1934, the first floor of Standish Hall was leased to the Heard family and they continued operations of the general store. In October 1941, they added Standish's first and only gas station to the property, and in November 1941, they purchased Standish Hall from the Standish Hall Association. Social events and organizations continued to meet on the second story. The Heards sold the property to the Winchell family in 1946, and in 1952, they ceased operation of the gas station. The Odd Fellows and Native Daughters of the Golden West continued to occupy the second story of Standish Hall until 1984 when they began to meet at a new building. Operation of the general store continued until 1990, when the Winchells closed it and vacated the building. In 1997, local couple Scott and Susan McMillin purchased Standish Hall, but the building remains vacant (Stantec 2022a et seq.).

Like most of the towns in Lassen County, present-day Litchfield was originally part of the Shaffer Brothers Ranch and Station in the 1850s. The land was purchased in 1868 by Andrew Litch and Thomas French, and in 1874, they split the property, with Litch receiving the western portion. The Litch family continued to operate the land as a ranch until 1912; when the Fernley-Lassen Railroad constructed their line past the property and they saw the opportunity to create a town around the line. They offered free home lots to residents of Standish, to entice them to move the 2.5 miles northeast. In 1913, the new town was christened Litchfield (Stantec 2022a et seq.).

Litchfield remained a relatively small town in Lassen County, but by 1925 they boasted their own local market, Davie & Sons. It was operated by the Davie family until 1948, when it was sold to Claude and Della Heard and began operation as Heard's Market. They enlarged the existing market building and added another building to the property in the 1950s and 1960s and sold merchandise from groceries to clothing. Operation of Heard's Market continued until 2013 when the store closed due to a lack of business, as the population of Litchfield and the surrounding areas decreased (Stantec 2022a et seq.).

The town of Doyle was founded by Euro-American settler John Doyle in 1859. He operated a ranch on the land until 1888 when the NCO Railway reached Lassen County. Construction of the line created the town of Doyle and drew new settlers to the area to support the rail line. The NCO Railway was followed in 1909 by construction of the Western Pacific Railroad line through Doyle and through the twentieth century, the town existed to serve the rail line (Stantec 2022a et seq.).

Termo was founded in 1900, as one of the last towns in Lassen County. Originally known as Juniper City, the town was founded as the terminus for the NCO Railway line. As the terminus for a tri-state railroad line, Termo quickly became one of the most populated towns in Lassen County and boasted a train depot, livery stables, restaurants, hotels, and large NCO Railway warehouses. Termo's boom was short lived, and in the 1910s, the NCO Railway continued the line north, leaving the town struggling to survive; however, in 1912, the Eagle Lake Lumber Company was founded in the nearby mountains and they used Termo as their railroad shipping point for lumber. The lumber company sustained the economy of Termo for several decades, even though a fire in 1937 decimated the town and destroyed all the existing buildings. The town was rebuilt, but the lumber mill eventually closed in 1942, the population of Termo dwindled, and the town was eventually deserted in the late twentieth century (Stantec 2022a et seq.).

Ranching and agricultural activities in the region mainly relied on cattle raising, grain and vegetable production, and fruit orchards. However, throughout much of the late nineteenth century severe wet/dry

weather cycles that affected water levels in Honey Lake and the surrounding creeks impacted the raising of livestock and crops. The lack of a consistent water table led some early settlers to propose an irrigation system that would supplement the local water supply with water from Eagle Lake, approximately 30 miles northeast of Honey Lake. C.A. Merrill partnered with Alvinza Hayward, often called "the richest man in California" in the 1870s, to form the Lassen Flume and Land Company, which would provide water to the driest areas of the Honey Lake Basin. From 1875 into the 1920s, more than 15 land and water companies were established to harvest water and irrigate the Honey Lake Basin, including the Lassen Irrigation Company, which is still in operation today. Once the water problem was better managed, the population began to increase, and grist mills and sawmills were built to advance the growing agricultural and timber economies (Stantec 2022a et seq.).

The first sawmill in the area, Roop's Mill, was constructed in 1857 on the Susan River. Until the establishment of the Lassen National Forest, much of the timber industry was composed of small sawmills that served local needs. At the turn of the century, as ranching and agriculture grew and railroads began making their way through the region, larger sawmills and lumber companies appeared. Another contributor to the growth of this industry was the establishment of the National Forest Receipts Program in 1908, which reallocated 25 percent of the proceeds of government sales of timber back into the counties in which it was sold; a practice that benefitted the economic development of Lassen County. One of Lassen County's largest and most successful sawmills, The Lassen Lumber and Box Company (1918–1953), operated out of Susanville and sourced their timber from the Lassen National Forest (Stantec 2022a et seq.).

Early pioneers arrived in the Honey Lake Basin via the Nobles Emigrant Trail, an offshoot of the California Trail and an alternative to the Applegate/Lassen Trail. The route is named for William H. Nobles and his party, gold prospectors who in 1851 branched off the Applegate Trail near the Humboldt River in Nevada and continued west towards Honey Lake. The Nobles Trail was a faster and safer route than the Lassen Trail, which was all but abandoned following the establishment of the Nobles Trail. As more accessible Sierra Nevada passes opened and the railroads were established, the Nobles Trail was abandoned, but it remains an important historic resource and is designated by historic markers along its course (Stantec 2022a et seq.).

Like the Modoc Uplands and Madeline Plains regions, the NCO Railway contributed to the economic development of the Honey Lake Basin. In 1890, the railroad reached Amedee, where it remained as the terminus for the next 10 years. Despite an expressed desire by residents for a stop in Susanville, the NCO Railway bypassed the town. As a result, Susanville relied on alternatives like the Fernley and Lassen Railway, a branch of the Southern Pacific Railroad that ran from Fernley, Nevada to Westwood, California, near Susanville. This railway provided passenger and freight services from 1914 until the 1950s (Stantec 2022a et seq.).

Long Valley in the Historic Period

The Long Valley region is made up of the narrow, southern portion of Lassen County and the northeastern corner of Sierra County, stretching into Washoe County in western Nevada. It is the southernmost and smallest geographic region examined as a part of this study. Sierra County was formed from part of Yuba

County in 1852, with Downieville, located on the North Fork of the Yuba River, designated as the county seat. The first recorded settler to the area was James Beckwourth in 1852. Beckwourth, an African-American explorer and fur trapper, created a low-elevation trail across the Sierras that led through the Upper Long Valley region into the eastern Sierra Valley, and established a trading post near the pass. The history of the Long Valley region varies slightly from the previously discussed regions. Although agriculture, ranching, and railroads were important to the growth of all of the regions traversed by the Project alignment, in Long Valley the timber industry was significantly less important to its economic development while mining played a more substantial role (Stantec 2022a et seq.).

Gold, silver, and copper mining were active in the Long Valley region, echoing the California and Comstock mining booms on a smaller scale. Much of the mining in Sierra County on the California side of Long Valley occurred on and around the Yuba River, west of the valley in what is now the Tahoe National Forest. Goodyears Bar, approximately 30 miles west of Long Valley, was one of the first mining camps on the North Fork Yuba River. It was established in 1849 by Andrew and Miles Goodyear, and the area was rich in gold. By 1852 a number of successful camps had been established in the area. In Long Valley on the Nevada side, the Peavine Mining District southeast of the Project right-of-way flourished in the 1870s, and mines were reworked periodically through the 1950s. The Peavine Mining District was initially organized by local rancher Fielding Lemmon in 1863 (Stantec 2022a et seq.). Lemmon acquired Peavine Springs Ranch in 1862, established mining claims, sold shares in copper-bearing properties on nearby Peavine Mountain, and promoted a new townsite, Peavine City, north of his mining claims. The venture was not successful, and mining activity died out by the late 1860s. The Peavine Mining District had a short renaissance in the early 1870s when silver was found in Horse Canyon. A mining camp (called Peavine City or Poeville) was established ca. 1873 a few miles south of the town-site but died out in the early 1880s (Stantec 2022a et seq.).

Although mining was an important part of the local economy, agriculture played an even larger role. The mining booms of the California Gold Rush and 1859 Comstock Lode in Nevada created a demand for supplies, food, livestock, and forage in mining communities. In Long Valley, where water was available, a number of ranches and farms were established in the 1850s and 1860s. Ranchers primarily raised herds of cattle and grew alfalfa and hay. Because delivering produce to market was difficult over early wagon roads, widespread commercial marketing of produce was limited until the introduction of railroad systems in the early 1880s. The growth of agriculture and settlement in the region was due in part to the Homestead Act of 1862. The Homestead Act transferred up to 160 acres of government lands to late nineteenth century settlers for $1.25 per acre. After 5 years of residence and cultivation, the land would be deeded to the homesteader free of charge. Even more settlers came to the area after the passage of the Desert Land Acts of 1875 and 1877. The 1875 Act allowed a settler to apply for up to 640 acres of arid land for $1.25 per acre in return for residence and land improvement and development within 2 years. The later Desert Land Act of 1877 allowed the settler to claim their section of land for a reduced $0.25 per acre and gave the homesteader 3 years for land improvements. The Desert Land Acts encouraged settlement in the arid lands of Long Valley. Large-scale irrigation also played a part in expanding agriculture in the Long Valley region. Between 1880 and 1890, irrigation was based on diverting water from Long Valley Creek, as well as smaller streams and wells, providing Long Valley ranchers with the water resources that

they needed to raise both beef and dairy herds and to cultivate wheat, oats, rye, and barley in addition to hay for their livestock (Stantec 2022a et seq.).

The first Anglo-American trail through the region was the Beckwourth Trail, which connected the Reno area to Marysville via the Long and Sierra Valleys. The Beckwourth Trail began in Truckee Meadows, branched northwest through western Nevada to White Lake, crossed Long Valley to Hallelujah Junction, and then turned west to cross Beckwourth Pass into the Sierra Valley and on to Marysville. The route through Upper Long Valley roughly corresponds to modern-day US 395 and part of the Project right-of-way. The trail was used heavily during the 1850s as an improved route across the Sierra Nevada Range. Beckwourth was also instrumental in establishing a wagon road over the Beckwourth Pass, connecting Sierra and Long Valleys in 1852 (Stantec 2022a et seq.).

The NCO Railway was an important transportation and economic resource in Long Valley. The railroad route was initially planned to connect Reno with the Columbia River in Oregon and to link the mining camps of Nevada with the agricultural and lumber producing areas in California and Oregon. For Long Valley ranchers and residents, the railroad provided a connection with the transcontinental Central Pacific railroad line that opened up shipping routes to extensive new markets across the country. It also shortened the travel time to market, which meant that more perishable products could be shipped to the expanded markets. The first section of the NCO Railway ran from Reno to Antelope House, later Oneida House, and was completed in 1881. For a brief time in the 1880s, Oneida Station was the end of the rail line and served many functions, including an inn, restaurant, stables, and dance hall, as well as a working ranch, Evans Ranch. Evans Ranch stabled teams of horses for train patrons who had driven to the station from outlying areas and took the train to Reno. By 1884, Chat's Station was established 2 miles north of Junction House, near current Hallelujah Junction, and the railroad line reached Amedee Station on the east shore of Honey Lake in 1890, where it remained the railroad's terminus for the next 10 years (Stantec 2022a et seq.).

3.6.2 Regulatory Setting

3.6.2.1 Federal

National Historic Preservation Act

NHPA of 1966, as amended, is the federal law that covers cultural resources that could be affected by federal undertakings. Section 106 of the NHPA requires that federal agencies consider the effects of a federal undertaking on properties listed in or eligible for the NRHP. The agencies must afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on the undertaking. A federal undertaking is defined in 36 CFR 800.16(y) as:

> A federal undertaking means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license, or approval.

The regulations that stipulate the procedures for complying with Section 106 are in 36 CFR 800. The Section 106 regulations require:

- definition of the Area of Potential Effects (APE);
- identification of cultural resources within the APE;
- evaluation of the identified resources in the APE using NRHP eligibility criteria;
- determination of whether the effects of the undertaking or project on eligible resources will be adverse; and
- agreement on and implementation of efforts to resolve adverse effects, if necessary.

The federal agency must seek comment from the State Historic Preservation Officer (SHPO) and, in some cases, the ACHP, for its determinations of eligibility, effects, and proposed mitigation measures. Section 106 procedures for a specific project can be modified by negotiation of a Memorandum of Agreement or Programmatic Agreement between the federal agency, the SHPO, and, in some cases, the project proponent.

Effects to a cultural resource are potentially adverse if the lead federal agency, with the SHPO's concurrence, determines the resource eligible for the NRHP, making it a Historic Property, and if application of the Criteria of Adverse Effects (36 CFR 800.5[a][2] et seq.) results in the conclusion that the effects will be adverse. The NRHP eligibility criteria, contained in 36 CFR 63, are as follows:

> The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and
>
> A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> B. that are associated with the lives of persons significant in our past; or
>
> C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> D. that have yielded, or may be likely to yield, information important in prehistory.

In addition, the resource must be at least 50 years old, barring exceptional circumstances (36 CFR 60.4). Resources that are eligible for or listed on the NRHP are *historic properties*.

Regulations implementing Section 106 of the NHPA (36 CFR 800.5) require that the federal agency, in consultation with the SHPO, apply the Criteria of Adverse Effect to historic properties within the APE. According to 36 CFR 800.5(a)(1):

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association.

3.6.2.2 State

California Environmental Quality Act (CEQA) is the state law that evaluates a project's impacts on cultural resources. A *project* is defined under CEQA as an activity that is undertaken or funded by a state or local agency, or requires a permit, license, or lease from a state or local agency, which may cause a direct or indirect physical change in the environment. CEQA requires that impacts to Historical Resources be identified and, if the impacts will be significant, then apply mitigation measures to reduce the impacts.

A *Historical Resource* is a resource that:

(1) is listed in or has been determined eligible for listing in the California Register of Historical Resources (CRHR) by the State Historical Resources Commission, or has been determined historically significant by the CEQA lead agency because it meets the eligibility criteria for the CRHR,
(2) is included in a local register of historical resources, as defined in Public Resources Code (PRC) Section 5020.1(k), or
(3) has been identified as significant in a historical resources survey, as defined in PRC 5024.1(g) (California Code of Regulations [CCR] Title 14, Section 15064.5(a)).

The eligibility criteria for the CRHR are as follows (CCR Title 14, Section 4852(b)):

(1) It 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;

(2) It is associated with the lives of persons important to local, California, or national history;

(3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or

(4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, the resource must retain integrity, which is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association (CCR Title 14, Section 4852(c)). Resources that have been determined eligible for the NRHP are automatically eligible for the CRHR.

Impacts to a Historical Resource, as defined by CEQA (i.e., listed in an official historic inventory or survey or eligible for the CRHR), are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired (CCR Title 14, Section 15064.5(b)). Demolition or alteration of eligible buildings, structures, and features, thereby making them ineligible eligible would result in a significant impact. Whole or partial destruction of eligible archaeological sites would result in a significant impact. In addition to impacts from construction resulting in destruction or physical alteration

of an eligible resource, impacts to the integrity of setting (sometimes termed *visual impacts*) of physical features in the Project Area could also result in significant impacts.

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 an historical resource as defined in PRC Sections 5020.1(j) or 5024.1. In addition, properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be historical resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC Section 5024.1 and CCR Title 14 Section 4850).

CEQA also requires lead agencies to determine if a proposed project would have a significant effect on unique archaeological resources. If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the CEQA Guidelines criteria for a historical resource, then the site may meet the threshold of PRC Section 21083.2 regarding unique archaeological resources.

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 any of the following criteria:

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

The CEQA Guidelines note that if a resource is neither a unique archaeological resource nor a historical resource, the effects of the project on that resource shall not be considered a significant effect on the environment (14 CCR Section 15064(c)(4)).

3.6.2.3 California Public Utilities Commission

In 2019, California Public Utilities Commission (CPUC) adopted its *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-filing and Proponent's Environmental Assessments*. Attachment 3 of those guidelines provides the CPUC's cultural resources technical report standards for inventories and evaluations of significance. The inventory report must:

a. clearly discuss the methods used to identify unique archaeological resources (i.e., how the determination was made about the resources' eligibility).

b. identify large resources such as districts and landscapes where resources indicate their presence, even if federal agencies disagree. It is understood that often only a few contributing elements may be in the project area, and that the boundaries of the large resource may need to be revisited as part of future projects. It is acknowledged that boundaries of districts and landscapes can be difficult to define and there is not always good, recorded data on these resources.

c. discuss whether each archaeological resource is also a unique archaeological resource and explain why or why not.

d. include descriptions of resources with spatial relationships to other nearby resources, raw materials sources, and natural features such as water sources and mountains.

e. include evidence that indicates a particular function or age for a resource, not simply asserted.

In addition, a cultural resources evaluation report must:

a. Discuss resource descriptions and evaluations together, and not in separate volumes or report sections, to facilitate understanding of each resource.

b. Include an evaluation or re-consideration of each potential or eligible CRHR resource and consider all seven aspects of integrity using specific examples for each resource.

c. Include an evaluation of each potential or eligible CRHR resource under all four criteria using specific examples for each resource.

d. For pre-contact archaeological resources, Criteria 1, 2, and 3 should be considered.

e. Although potentially unique archaeological resources could be identified in the records search report or inventory report, the justification for each individual resource to be considered a resource under CEQA should be presented in the report.

f. If surface information collected during survey is sufficient to make an eligibility recommendation, this reasoning should be outlined explicitly for each resource.

g. If archaeological testing or additional historical research was required in order to evaluate a resource, the evaluation report will be explicit about why the work was required, the results for each resource, and the subsequent eligibility recommendation.

h. For large projects with multiple similar resources where the eligibility justifications for similar resources are essentially identical, it is acceptable to discuss these resources as a group. However, eligibility justifications for each individual resource are preferred, so if the grouping strategy is used, the criteria used to group resources must be clearly justified.

i. Large resources such as districts and landscapes may be challenging to fully evaluate in the context of a single project. CPUC encourages the identification and evaluation of these resources with the understanding that often only a few contributing elements may be located within the project area, and that the boundaries of the large resource may need to be revisited as part of future projects. It is understood that a full evaluation of the resource may be beyond the scope of

one project. Regardless, the potential for the project to affect any resources within a district or landscape must be defined.

3.6.3 Environmental Impacts

3.6.3.1 Cultural Resources

Records Searches and Literature Reviews

On May 11, 2020, Stantec contacted the Northeast Information Center (NEIC) of the California Historical Resources Information System to request a records search for the Project Area and a 0.25-mile radius around it. The search area spanned 180 miles through portions of Modoc, Lassen, and Sierra counties from New Pine Creek, California in the north to the California state line near Bordertown, Nevada in the south. On May 19, 2020, the NEIC provided the results to Stantec (I.C. File No. D20-81).

Stantec (2022a) also conducted an assessment of buried site sensitivity, which included a review of the geography, geology, soils, and geomorphology of the Project Area. Stantec concluded that the geology and soils present in the Project Area generally date to the Pleistocene and Holocene, and are primarily associated with loess, alluvial, and lake deposits. This suggests that the area is associated with active landscapes affected by short- and long-term episodes of deposition. In combination with a generally arid climate, these conditions do not make it conducive to long-term permanent settlement by ancient human populations. Based on the geology, soil types, and the known distribution of archaeological and ethnographic sites known to anthropologists and descendent communities of Native American ancestry, Stantec concluded that the Project Area generally exhibits a low to moderate sensitivity for the presence of buried archaeological sites or other cultural material; however, the areas along the margins of existing lakes (e.g., Lake Madeline and Honey Lake) and former Pleistocene lakes (e.g., Lake Lahontan) have a high sensitivity for the presence of buried archaeological sites or other cultural material because of their age and proximity to environments containing natural resources that typically coincide with temporary human activity by mobile populations. In summary, the overall sensitivity of the Project Area for the presence of buried archaeological sites is low to moderate, with any buried sites not likely occurring at a depth greater than 100 centimeters below the ground surface because of the types of soils across the Project Area (Stantec 2022a).

Tribal Outreach

In 2019, the Project Proponent's consultants contacted the Native American Heritage Commission (NAHC) to request a search of the Sacred Lands File for the full length of the Project right-of-way in California. The NAHC responded on October 29, 2019 to report positive findings and urged contact with the Alturas Rancheria of Pit River Indians for further information. The NAHC also suggested contact with tribal representatives from the following tribes (Stantec 2022a):

- Alturas Rancheria of Pit River Indians
- Fort Bidwell Indian Community of Paiute
- Greenville Rancheria of Maidu Indians
- Honey Lake Maidu
- Pit River Tribe of California
- Susanville Indian Rancheria

- Tsi Akim Maidu
- United Auburn Indian Community of the Auburn Rancheria
- Washoe Tribe of Nevada and California

All of these tribes were separately consulted by CPUC (see Section 3.19, Tribal Cultural Resources).

In addition, on behalf of the Project Proponent, Stantec reached out to the following tribes, culturally affiliated with California, regarding the Project (Stantec 2022a):

- Alturas Rancheria of Pit River Indians
- Cedarville Rancheria of Northern Paiute
- Fort Bidwell Indian Community of Paiute
- Greenville Rancheria of Maidu Indians
- Honey Lake Maidu
- Klamath Tribe
- Pit River Tribe of California
- Susanville Indian Rancheria
- Washoe Tribe of Nevada and California

The Fort Bidwell Indian Community of Paiute, Susanville Indian Rancheria, Honey Lake Maidu, Greenville Rancheria of Maidu Indians, Cedarville Rancheria of Northern Paiute, and Alturas Rancheria of Pit River Indians did not respond to requests for information. Stantec received the following responses from the balance of culturally affiliated tribes:

- Klamath Tribe: Requested copies of maps and construction plans.
- Pit River Tribe of California: Expressed interest in the Project and an opportunity to accompany Stantec archaeologists during surveys of their traditional tribal territories. Pit River tribal representatives from the Aporige, Hammawi, Kosealekte, and Hewisedawi Bands accompanied Stantec archaeologists while surveying their respective traditional tribal territories.
- Washoe Tribe of Nevada and California: Darrel Cruz (Tribal Historic Preservation Officer) stated that he is not aware of cultural resources within the Project area but wants to maintain consultation and review the archaeological report.

Stantec prepared an ethnographic report for the Proposed Project in 2021 (Stantec 2021e). The purpose of the ethnographic study was to identify the locations of ethnographic villages and other areas identified by the tribes in the Project Area as culturally sensitive or exhibiting tribal cultural or religious values. Stantec identified 35 ethnographic villages or other sensitive sites in or near the Project's APE.

CPUC's separate tribal consultation and assessment of impacts to tribal cultural resources under CEQA, as required by Assembly Bill (AB) 52, is provided in Section 3.19 of this EIR.

Fieldwork

Stantec completed a Class III intensive pedestrian survey of the Project APE between June 1 and July 2, 2020. Stantec archaeologists conducted an archaeological inventory of the APE by walking parallel transects spaced in approximately 10- to 15-meter intervals. The survey strategy followed California Office

of Historic Preservation (OHP) guidelines regarding surveys of topographical features considered sensitive for cultural resources such as springs, meadows with running water, intermittent or seasonal drainages, and rock outcrops, as well as subsurface exposures such as rodent burrows. The archaeologists examined cut banks for physical manifestation of human activity more than 50 years in age. Archaeologists carefully inspected and documented these types of features in field notes and photographs. Using the Environmental Systems Research Institute Collector application and an EOS Positioning System Arrow 100 Global Positioning System (GPS), Stantec recorded and/or updated new and previously recorded resources on California Department of Parks and Recreation 523-series forms. Stantec archaeologists were accompanied by Pit River tribal representatives when surveying traditional tribal territories of the Pit River Tribe.

In addition, Stantec archaeologists conducted presence/absence and boundary delineation testing throughout the California Segment of the Project APE. Under testing plans approved by the agency landowners, Stantec conducted test excavations using Shovel Test Probes (STP) and Test Units (TU) spaced at appropriate intervals to maximize the collection of data. Subsurface testing was conducted at 68 sites that intersect with the Project ADI. Site testing was not conducted at the balance of the sites because they were either not eligible for NRHP/CRHR listing, inventory identified the resource concentrations were outside of the Project APE, and/or site visits determined that the Project ADI where it intersects with the site is located within deep road cut or elevated road grade and no testing was warranted. Section 3.6.3.3 describes the difference between ADI and APE.

Each STP was 50 centimeters in diameter, and each TU was 1 by 1 meter in size. Both STPs and TUs were excavated in 10-centimeter levels, and excavated soils were screened through a ⅛-inch wire-mesh screen. The archaeologists continued excavation of each STP and TU until they encountered at least two levels of sterile soil (when possible) unless environmental issues inhibited digging. Standard professional practices dictated the in-field documentation of each unit.

At 43 of the 68 tested sites that intersect with the Project ADI, subsurface testing was negative for cultural materials. The remaining tested sites that intersect with the Project ADI were positive for cultural material. However, at all 25 tested sites that were positive for cultural material within the Project ADI, all cultural material was recovered from previously disturbed contexts, indicated by a mixed matrix of cultural material, mixed local soils, modern debris, imported road fill, and/or asphalt. Therefore, the portions of those 25 sites that intersect with the Project ADI where cultural material was recovered have been previously disturbed, do not retain integrity, and do not contribute to the overall NRHP eligibility of the sites.

The archaeologists collected cultural materials recovered during site testing and transported them to the Stantec laboratory in Petaluma, California for post-field processing, cataloging, analysis, and preparation for curation. The results of the inventory and testing are provided in numerous confidential technical documents (ASM Affiliates, Inc. 2022; Stantec 2021a, 2021b, 2021c, 2021d, 2021e, 2021f, 2021g, 2021h, 2022a, 2022b, 2022c, 2022d, 2022e; 2023a, 2023b; USFS 2020). Due to the sensitive nature of cultural resources, which are restricted from public distribution by state and federal law, the cultural resources technical studies are not included in the EIR appendices; however, all pertinent information necessary for impact determinations is included in the following section.

Cultural Resources

Stantec's inventories resulted in the identification of 250 cultural resources within the Project Area (Stantec 2022e). These are composed of 105 resources within the ADI and 145 resources outside the ADI but within the APE/PAL. Of the 105 total resources within the ADI, 87 either meet the eligibility criteria for inclusion in the CRHR or are assumed to be eligible, based on the information evaluated by Stantec (2022e) through the inventories and evaluations summarized in this section. None of the resources evaluated as not being eligible for the CRHR (i.e., not historical resources under CEQA) are unique archaeological resources. Therefore, for the purpose of CEQA, there are 87 historical resources present in the ADI. Tables 3.6-1 through 3.6-3 summarize the cultural resources and their significance.

Table 3.6-1. Cultural Resources Summary of All Sites

Primary Number	Trinomial Number	Other Number	Location	Type	Significance
		31.15.15.01	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	CrNV-03-12074 / Zayo-CA-HS-1	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	CrNV-03-12075 / Zayo-CA-HS-2	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	CrNV-03-12076 / Zayo-CA-HS-4	ADI	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4
–	–	CrNV-03-12077 / Zayo-CA-HS-5	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	CrNV-03-12078 / Zayo-CA-HS-6	ADI	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4
–	–	CrNV-03-12079 / Zayo-CA-JT-2	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	Doyle Dump No. 2	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	XL-1982-022; Zayo-CA-HS-13	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	XL-1982-080; Zayo-CA-LK-6	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	Zayo-CA-HS-12	PAL	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	Zayo-CA-HS-3	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**
–	–	Zayo-CA-JT-1	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	Zayo-CA-JT-10	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	Zayo-CA-JT-3	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	Zayo-CA-LK-2	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	Zayo-CA-LKJT-1	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	Zayo-CA-MR-1	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	Zayo-CA-MR-3	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	Zayo-CA-MR-4	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	29.15.04.01; Zayo-CA-LK-01	APE	Pre-contact	Eligible (D/4 only), not eligible under A/B/C, 1/2/3
–	–	29.15.01.02; Zayo-CA-JT-04	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	38.13.17.01	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	37.13.29.01	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	35.15.15.01	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	30.15.22.04; Zayo-CA-HS-10	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
–	–	32.15.26.01; Zayo-CA-LK-04	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000020	–	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**
P-18-000029	CA-LAS-000029	–	ADI	Pre-contact	Eligible (D/4 only); not eligible under A/B/C, 1/2/3
P-18-000054	CA-LAS-000054	–	ADI	Pre-contact	Eligible (D/4 only); not eligible under A/B/C, 1/2/3
P-18-000089	CA-LAS-000089	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000106	CA-LAS-000106	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000153	CA-LAS-000153/H	30.15.15.502/ 30.15.15.A	ADI	MC	Eligible (D/4 only); not eligible under A/B/C, 1/2/3
P-18-000155	CA-LAS-000155	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000156	CA-LAS-000156	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000194	CA-LAS-000194	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000206	CA-LAS-000206	31.15.02.01	ADI	Pre-contact	Eligible (D/4 only), not eligible under A/B/C, 1/2/3
P-18-000209	CA-LAS-000209	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000378	CA-LAS-000378	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000379	CA-LAS-000379	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000380	CA-LAS-000380	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000381	CA-LAS-000381	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000382	CA-LAS-000382	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000383	CA-LAS-000383	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000384/P-18-001707	CA-LAS-000384/001707	–	ADI	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**
P-18-000385/P-18-0001708	CA-LAS-000385/001708/H	31.15.14.A	ADI	MC	Pre-contact: Not Eligible A/B/C/D, 1/2/3/4; Historic: Assumed Eligible (D/4 only) and unevaluated under A/B/C, 1/2/3
P-18-000551	CA-LAS-000551	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000618	CA-LAS-000618	–	ADI	Pre-contact	Eligible (D/4 only); not eligible under A/B/C, 1/2/3
P-18-000899	CA-LAS-000899/H	–	ADI	MC	Eligible (D/4 only); not eligible under A/B/C, 1/2/3
P-18-000985	CA-LAS-000985	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-000988 and P-18-002080	CA-LAS-00988 and CA-LAS-002080	33.15.07.05	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001267	CA-LAS-001267	–	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001269	CA-LAS-001269	–	ADI	MC	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-18-001272	CA-LAS-001272/H	–	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001292	CA-LAS-001292/H	–	ADI	MC	Historic component determined eligible NRHP, listed in CRHR under A/B/C/D, 1/2/3/4 (code 2S2); pre-contact component Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001354	CA-LAS-001354	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001373	CA-LAS-001373	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001374	CA-LAS-001374/H	–	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001375	CA-LAS-001375	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001376	CA-LAS-001376	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**
P-18-001377	CA-LAS-001377	–	ADI	Pre-contact	Eligible (D/4 only); not eligible under A/B/C, 1/2/3
P-18-001391	CA-LAS-001391/H	–	ADI	MC	Eligible (D/4 only). Not eligible under A/B/C, 1/2/3
P-18-001392	CA-LAS-001392	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001393	CA-LAS-001393	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001394	CA-LAS-001394	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001395	CA-LAS-001395	–	PAL	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-18-001396	CA-LAS-001396	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001397	CA-LAS-001397	–	APE	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-18-001398	CA-LAS-001398	–	APE	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-18-001500	CA-LAS-001500/H	–	APE	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001501	CA-LAS-001501	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001502	CA-LAS-001502	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001512	CA-LAS-001512	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001551	CA-LAS-001551	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001552	CA-LAS-001552	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001553	CA-LAS-001553	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001572	CA-LAS-001572	CrNV-03-8455	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001612	CA-LAS-001612/H	–	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**
P-18-001613	CA-LAS-001613	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001615	CA-LAS-001615	31.15.14.A	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001617	CA-LAS-001617/H	33.15.17.02/3 3.15.20.A	ADI	MC	Eligible (D/4 only), not eligible under A/B/C, 1/2/3
P-18-001623	CA-LAS-001623/H	36.13.17.01	ADI	MC	Eligible (D/4 only), not eligible under A/B/C, 1/2/3
P-18-001626	CA-LAS-001626	–	PAL	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-18-001634	CA-LAS-001634	–	PAL	MC	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-18-001637	CA-LAS-001637/H	–	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001638	CA-LAS-001638/H	39.13.32.01	APE	MC	Precontact: Eligible (D/4 only), Historic: Not Eligible (D/4 only); unevaluated A/B/C, 1/2/3
P-18-001666	CA-LAS-001666/H	33.15.08.01	APE	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001668	CA-LAS-001668	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001674	CA-LAS-001674	–	ADI	Pre-contact	Eligible (D/4 only), not eligible under A/B/C, 1/2/3
P-18-001679	CA-LAS-001679H	+3:33:144	ADI	Historic	Not Eligible under all criteria (6Y)
P-18-001693	CA-LAS-001693/H	–	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001695	CA-LAS-001695/H	35.13.23.01	ADI	Pre-contact	Eligible (D/4 only), not eligible under A/B/C, 1/2/3
P-18-001709	CA-LAS-001709	31.15.11.A/31. 15.11.3	ADI	Pre-contact	Eligible (D/4 only), not eligible under A/B/C, 1/2/3
P-18-001716	CA-LAS-001716	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001719	CA-LAS-001719	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001721	CA-LAS-001721	32.15.14.C	ADI	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**
P-18-001723	CA-LAS-001723/H	32.15.15.B	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001728	CA-LAS-001728	–	PAL	MC	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-18-001729	CA-LAS-001729	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001732	CA-LAS-001732H	–	ADI	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001734	CA-LAS-001734H	33.14.02.05	ADI	Historic	Eligible A/B/C/D, 1/2/3/4
P-18-001735/P-25-003118	–	33.14.01.05	APE/ADI	MC	Eligible A/C/D and 1/3/4 only; not eligible under B/2
P-18-001764	CA-LAS-001764/H	32.15.14.03	APE	MC	Not Eligible A/B/C/D, 1/2/3/4
P-18-001765	CA-LAS-001765		ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001845	CA-LAS-001845	CrNV-31-4706	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001951	CA-LAS-001951	–	ADI	Pre-contact	Eligible A/B/C/D, 1/2/3/4 (2S2)
P-18-001952	CA-LAS-001952		PAL	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4
P-18-001966	CA-LAS-001966	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001968	CA-LAS-001968/H	–	ADI	MC	Not Eligible under all criteria (6Y)
P-18-001969	CA-LAS-001969	–	ADI	Pre-contact	Eligible (D/4 only); not eligible under A/B/C, 1/2/3 (2S2)
P-18-001970 / P-18-004820	CA-LAS-1970 / CA-LAS-4820	BLM 33.15.28.04	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001971	–	–	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001973	CA-LAS-001973	–	ADI	Pre-contact	Eligible (D/4 only), not eligible A/B/C, 1/2/3
P-18-001975	–	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**
P-18-001977	–	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001978		-	APE	Possibly a modern mile marker	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001979	–	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001985	CA-LAS-001985	–	ADI	Pre-contact	Eligible (D/4 only); not eligible under A/B/C, 1/2/3 (2S2)
P-18-001986	CA-LAS-001986		PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001987		–	PAL	Historic	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-18-001989	CA-LAS-001989	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-001990	–	–	PAL	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-18-001991	CA-LAS-001991	–	PAL	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-18-001992	CA-LAS-001992	–	PAL	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-18-002138	CA-LAS-002138/H	–	ADI	MC	Eligible (D/4 only); not eligible under A/B/C, 1/2/3
P-18-002139	CA-LAS-002139H	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-002151	CA-LAS-002151/H	–	PAL	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-002152	CA-LAS-002152	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-002153	CA-LAS-002153	–	PAL	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-002156	CA-LAS-002156	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-002163	CA-LAS-002163/H	–	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-002164	CA-LAS-002164	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3

Table 3.6-1. Cultural Resources Summary of All Sites

Primary Number	Trinomial Number	Other Number	Location	Type	Significance
P-18-002166	CA-LAS-002166	–	ADI	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-002232	CA-LAS-002232H	CrNV-03-2154; Old 395	APE	Historic	Not Eligible A/B/C/D, 1/2/3/4 (6Z)
P-18-002235	–	CrNV-03-5243; Red Rock Road	ADI	Historic	Not Eligible A/B/C/D, 1/2/3/4
P-18-002268	CA-LAS-002268H	–	ADI	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-002300	CA-LAS-002300H	–	ADI	Historic	Not Eligible under all criteria (6Y)
P-18-002495	CA-LAS-002495H	Humboldt Wagon Road	APE	Historic	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-18-002886	CA-LAS-002886	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-003374	CA-LAS-003374H	–	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-003813	CA-LAS-003813H	CrNV-03-7718	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004087	CA-LAS-004087/H	–	APE	MC	Eligible A/B/C/D, 1/2/3/4
P-18-004088	CA-LAS-004088	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004109	CA-LAS-004109	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004111	–	32.15.04	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004114	–	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004115	CA-LAS-004115	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004116	CA-LAS-004116	–	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004117	–	–	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**
P-18-004118	–	RR Bridge	ADI	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004121	CA-LAS-004121	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004193	CA-LAS-004193	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004816	CA-LAS-004816/H	33.15.20.04	ADI	MC	Not Eligible A/B/C/D, 1/2/3/4
P-18-004818	CA-LAS-004818	33.15.28.02	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004854	CA-LAS-004854H	33.15.29.19 Ramhorn Road	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004890	–	–	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004891	–	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-18-004912	CA-LAS-004912H	–	APE	Historic	Listed A/B/C/D, 1/2/3/4 (1S)
P-18-004913	CA-LAS-004913H	–	ADI	Historic	Not Eligible (A/B/C/D, 1/2/3/4)
P-18-004914	CA-LAS-004914H	CrNV003-8454	ADI	Historic	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-25-000272	CA-MOD-000272	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-000293	CA-MOD-000293	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-000743	CA-MOD-000743	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001323	CA-MOD-001323/H	XL-1982-038	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001324	CA-MOD-001324	XL-1982-007	ADI	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4
P-25-001325	–	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001326	CA-MOD-001326	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**
P-25-001327	CA-MOD-001327	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001328	CA-MOD-001328	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001329	CA-MOD-001329	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001330	CA-MOD-001330	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001331	CA-MOD-001331/H	–	PAL	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001332	CA-MOD-001332	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001333	CA-MOD-001333/H	–	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001334	CA-MOD-001334	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001335	CA-MOD-001335	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001336	CA-MOD-001336	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001801	CA-MOD-001801	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-001832	CA-MOD-001832/H	–	PAL	MC	Eligible A/B/C/D, 1/2/3/4 (2S2)
P-25-002268	CA-MOD-002268	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-002274	CA-MOD-002274/H	–	PAL	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-003016	CA-MOD-003016	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-003090	CA-MOD-003090/H	–	ADI	MC	Eligible (D/4 only); not eligible under A/B/C, 1/2/3
P-25-003104	CA-MOD-003104/H	40.13.32.01	APE	MC	Eligible (D/4 only), not eligible under A/B/C, 1/2/3

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**
P-25-003488	CA-MOD-003488		PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-003856	–	–	ADI	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-25-003857	CA-MOD-003857		PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-003858	CA-MOD-003858	–	PAL	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-25-003859	CA-MOD-003859H	41.12.24.02	APE	MC	NRHP: Eligible D only; CRHR: Assumed Eligible 4 only; unevaluated under A/B/C, 1/2/3
P-25-003860	CA-MOD-003860	41.12.24.03	ADI	Pre-contact	Eligible A/B/C/D, 1/2/3/4
P-25-003861	CA-MOD-003861/H	–	PAL	MC	Not Eligible A/B/C/D, 1/2/3/4 (6Y)
P-25-004098	CA-MOD-004098	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-004099	CA-MOD-004099	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-004100	CA-MOD-004100	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-004101	CA-MOD-004101	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-004102	CA-MOD-004102	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-004103	CA-MOD-004103/H	–	PAL	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-004104	CA-MOD-004104	45.14.32.02	APE	Pre-contact	Not Eligible A/B/C/D,1/2/3/4
P-25-004298	CA-MOD-4298	–	ADI	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4
P-25-004299	CA-MOD-4299	XL-1982-019/XL-1982-093	ADI	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4
P-25-005877	CA-MOD-005877/H	46.14.09.01	ADI	MC	Eligible (D/4 only), not eligible under A/B/C, 1/2/3
P-25-006370	–	46.14.09.04	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**
P-25-007256	CA-MOD-007256	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007257	CA-MOD-007257	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007258	–	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007260	CA-MOD-7260/H	–	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007264	CA-MOD-007264	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007265	–	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007266	CA-MOD-007266	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007267	–	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007268	–	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007269	–	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007270	–	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007271	–	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007272	–	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007273	–	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007274	CA-MOD-007274/H	–	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007275	CA-MOD-007275/H	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**
P-25-007276	CA-MOD-007276	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007277	CA-MOD-007277/H	–	ADI	MC	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007278	–	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007304	CA-MOD-007304	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007305	CA-MOD-007305	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007306	CA-MOD-007306	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007307	CA-MOD-007307	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007308	CA-MOD-007308		PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007309	CA-MOD-007309	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007310	CA-MOD-007310	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007311	CA-MOD-007311	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007340	CA-MOD-007340	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007341	CA-MOD-007341	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007343	–	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007344	–	–	ADI	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4
P-25-007345	–	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**
P-25-007346	–	–	APE	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007347	–	–	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-007348	CA-MOD-007348	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-25-008631	CA-MOD-008631	40.13.07.01	ADI	Pre-contact	Not Eligible A/B/C/D, 1/2/3/4
P-25-008632	CA-MOD-8632	40.13.29.01	APE	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-46-000079	CA-SIE-000079	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-46-000081	CA-SIE-000081	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-46-000720	CA-SIE-000720	–	ADI	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-46-000721	CA-SIE-000721	–	ADI	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-46-000810	CA-SIE-000810	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-46-000815	CA-SIE-000815	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-46-001883	CA-SIE-001883H	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-46-001884	CA-SIE-001884	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-46-001885	CA-SIE-001885H	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-46-001886	CA-SIE-001886H	–	PAL	Historic	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3
P-46-001887	CA-SIE-001887	–	PAL	Pre-contact	Assumed Eligible (D/4 only); unevaluated under A/B/C, 1/2/3

Table 3.6-1. Cultural Resources Summary of All Sites					
Primary Number	**Trinomial Number**	**Other Number**	**Location**	**Type**	**Significance**

Notes:
6Y = Determined ineligible for National Register by consensus through Section 106 process – Not evaluated for CRHR or local listing.
1S = Individually listed in the National Register by the Keeper. Listed in the CRHR.
2S2 = Individually determined eligible for National Register by consensus through Section 106 process. Listed in the CRHR.
APE = Area of Potential Effects, which includes the ADI plus non-impacted areas adjacent to it, but all within the right-of-way. Equal to the PAL.
PAL = Project Area Limits, which is the equivalent to APE for Caltrans-owned segments.
ADI = Area of Direct Impact, which is only the portion of the APE that will be directly impacted. The ADI is a subset of the APE or PAL.
MC = Multicomponent (pre-contact and historic)

In addition, Zayo proposes to attach infrastructure to 11 bridges, of which 9 are more than 50 years in age. Caltrans evaluated these bridges as category 5, or not eligible for the NRHP, and therefore, are exempt properties and do not require further consideration (DeMar 2023). These are not considered historical resources for the purposes of CEQA or CPUC.

- Long Valley Creek (07-0056), constructed in 1946
- Long Valley Creek (07 0057), constructed in 1946
- Long Valley Creek (07 0023), constructed in 1968
- Long Valley Creek Overflow (07 0052), constructed in 1969
- Dill Slough (07 0080), constructed in 1992
- Susan River Overflow (07 0081), constructed in 1992
- Susan River (07 0034), constructed in 1954
- South Fork Pit River (03 0019), constructed in 1947
- Juniper OH (03 0055), constructed in 1971
- South Fork Pit River (03 0052), constructed in 1971
- North Fork Pit River (03 0023), constructed in 1971

In addition, there are three bridges that have been reclassified as culverts and have been evaluated by Caltrans as category 4, which are properties between 30 and 50 years old and exempted from further evaluation (DeMar 2023). These are not considered historical resources for the purposes of CEQA or CPUC.

- Flournoy Equipment Overhead (03-058)
- Joseph Creek bridge (03-0014)
- Willow Creek bridge (03-0016)

Tables 3.6-2 and 3.6-3 summarize the resources by type and location, excluding the exempted bridges and culverts.

Table 3.6-2. Cultural Resources by Location

Component	Inside ADI	Outside ADI	Subtotal
Pre-contact	66	87	153
Historic	11	40	51
Multicomponent	28	17	45
Other	0	1	1
Subtotal	105	145	250

Table 3.6-3. Cultural Resources by Significance Within ADI

Component	Determined or Assumed Eligible	Not Eligible	Subtotal
Pre-contact	56	10	66
Historic	6	5	11
Multicomponent	25	3	28
Subtotal	87	18	105

3.6.3.2 Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines. For purposes of this EIR, implementation of the Proposed Project would have a significant adverse impact on historical resources if it would result in any of the following:

- Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.
- Cause a substantial adverse change in the significance of an archeological resource pursuant to CEQA Guidelines Section 15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.

CEQA Guidelines Section 15064.5 defines *substantial adverse change* as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource is materially impaired.

CEQA Guidelines Section 15064.5(b)(2) defines *materially impaired* for purposes of the definition of substantial adverse change as follows:

The significance of an historical resource is materially impaired when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics of a Historical Resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

CEQA requires that if a project would result in an effect that may cause a substantial adverse change in the significance of a historical resource or would cause significant effects on a unique archaeological resource, then alternative plans or mitigation measures must be considered. Therefore, prior to assessing effects or developing mitigation measures, the lead agency must determine if a historical resource or unique archaeological resource is present that may be affected by the project. The steps that are normally taken in a cultural resources investigation for CEQA compliance are as follows:

- identify potential historical resources and unique archaeological resources;
- evaluate the significance of the potential historical resources; and
- evaluate the effects of the project on eligible (significant) historical resources and unique archaeological resources.

3.6.3.3 Methods of Analysis

The analysis of the effects of the Proposed Project on cultural resources relied upon the description of Project activities during construction provided by the applicant and Stantec (2022e) relative to two different but related concepts: the ADI and the APE. The APE is equivalent to the right-of-way and is also referred to as the PAL for Caltrans-owned portions of the alignment. The APE/PAL includes all areas of direct and indirect effect caused by the Project's construction and operation, and, therefore, includes both temporary and permanent impact areas. This includes temporary staging areas or detours that would not require grading, grubbing, or clearing, and would be confined to the right-of-way boundaries within the APE/PAL, but could impact surface-level resources if present.

The areas of subsurface ground disturbance associated with Project construction represent a subset of the APE/PAL and are referred to as the ADI. The activities that could impact cultural resources in the ADI include areas of direct ground disturbance associated with construction, including all areas that would be subject to plowing and furrowing, trench installation, vault installation, and directional boring. The horizontal impact area within the ADI is expected to average 6 to 18 inches wide for plowing and furrowing and trench installation. The vertical impact area within the ADI for plowing, trenching, and vault excavations would average 42 inches below the existing ground surface, though deeper excavations would be required for directional boring to bypass sensitive areas or paved roads. The depth of deeper excavations would be dictated by the depth of sensitive resources; these depths have not been determined on a site-by-site basis at this time, but could reach as deep as 10 feet below existing grade. Each of the vaults would measure 36 inches wide and 48 inches long, and the bottom of the vault would be set at least 36 inches below the existing ground surface.

Information used in this analysis was drawn from Stantec (2022e), which is a summary of the findings of the various technical reports prepared for the Project (ASM Affiliates, Inc. 2022; Stantec 2021a, 2021b, 2021c, 2021d, 2021e, 2021f, 2021g, 2022a, 2022b, 2022c, 2022d; USFS 2020). Additional information regarding state-owned resources (bridges and US 395) was obtained from Stantec (2021h). Additional information was drawn from Project designs and Geographic Information System (GIS) shapefiles provided by the Project Proponent and Stantec, which illustrate the locations of Proposed Project activities relative to cultural resources.

The Project would attach fiber optic conduit to eleven state-owned bridges and three culverts and would cross under US 395 using directional boring techniques. Caltrans has determined that the bridges, culverts, and US 395 at the locations where directional boring would occur are not historical resources (Stantec 2021h) and no impact would occur.

The following sites are not eligible for inclusion in the CRHR or NRHP, and therefore, are not considered historical resources. In addition, these resources do not meet the criteria for unique archaeological resources. As a result, no avoidance, preservation, or mitigation measures are required; however, in the event of the discovery of subsurface deposits associated with these (which were not known prior), Mitigation Measure CUL-1d will apply.

Table 3.6-4. Cultural Resources Determined to be Not Significant

Number	Location
CrNV-03-12076	ADI
CrNV-03-12078	ADI
P-18-000384/P-18-001707 / CA-LAS-384/1707	ADI
P-18-001269 / CA-LAS-001269	ADI
P-18-001395 / CA-LAS-001395	PAL
P-18-001397 / CA-LAS-001397	APE

Table 3.6-4. Cultural Resources Determined to be Not Significant	
Number	**Location**
P-18-001398 / CA-LAS-001398	APE
P-18-001626 / CA-LAS-001626	PAL
P-18-001634 / CA-LAS-001634	PAL
P-18-001679+3:33:144 / CA-LAS-001679H	ADI
P-18-001721 / CA-LAS-1721 / 32.15.14.C	ADI
P-18-001728 / CA-LAS-001728	PAL
P-18-001764	APE
P-18-001952	PAL
P-18-001968 / CA-LAS-001968/H	ADI
P-18-001987	PAL
P-18-001990	PAL
P-18-001991 / CA-LAS-001991	PAL
P-18-001992 / CA-LAS-001992	PAL
P-18-002232 / CA-LAS-002232H / CrNV-03-2154	APE
P-18-002235 / CrNV-03-5243	ADI
P-18-002300 / CA-LAS-002300H	ADI
P-18-002495 / CA-LAS-2495H	APE
P-18-004816 / CA-LAS-4816/H / 33.15.20.04	ADI
P-18-004913 / CA-LAS-004913H	ADI
P-18-004914 / CA-LAS-004914H / CrNV003-8454	ADI
P-25-001324 / CA-MOD-1324 / XL-1982-007	ADI
P-25-003856	ADI
P-25-003858 / CA-MOD-003858	PAL
P-25-003861 / CA-MOD-003861/H	PAL
P-25-004104 / CA-MOD-004104 / 45.14.32.02	APE
P-25-004298 / CA-MOD-4298	ADI
P-25-004299 / CA-MOD-4299 / XL-1982-019/XL-1982-093	ADI

Table 3.6-4. Cultural Resources Determined to be Not Significant	
Number	**Location**
P-25-007344	ADI
P-25-008631 / CA-MOD-008631 / 40.13.07.01	ADI

3.6.3.4 Project Impacts and Mitigation Measures

Impact CUL-1	**Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section15064.5?**
Impact Determination	*Less Than Significant with Mitigation*

Impact Discussion

As described above, historical resources are defined in Section 15064.5 of the CEQA Guidelines as resources either listed in or eligible for listing in the CRHR. They also are defined as 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, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Therefore, historical resources can be from any time period and take many forms, including archaeological sites, buildings, structures, and landscapes. Historical resources are not limited to standing structures.

All proposed ground disturbing will occur within the ADI, therefore, any historical resources (as defined in the CEQA guidelines) present within the ADI would be impacted unless specific mitigation measures or design changes are imposed that ensure preservation in-place. In addition, surface or near-surface historical resources that are not present within the ADI but are present within the larger APE/PAL and in immediate proximity to work areas could be impacted if measures to preserve them in place are not implemented. The following discussion relies on Project information provided by Stantec (2022e).

The sites listed in Table 3.6-5 are considered historical resources and are being avoided; no special conditions are required because they are reasonably far enough away from the work limits or are separated by lanes of travel, or because the activity will not result in an adverse effect. These will not be impacted by the Project; however, in the event of the discovery of subsurface deposits associated with these sites (which were not known prior), unanticipated discovery measures (Mitigation Measure CUL-1d) will apply.

Table 3.6-5. Cultural Resources Determined to Be Significant and Sufficiently Avoided	
Number	**Location**
35.15.15.01	APE
38.13.17.01	APE
P-18-001971	APE
P-18-000209 / CA-LAS-000209	PAL
P-18-000378 / CA-LAS-00378	PAL
P-18-000380 / CA-LAS-000380	PAL
P-18-001354 / CA-LAS-001354	PAL
P-18-001376 / CA-LAS-001376	PAL
P-18-001394 / CA-LAS-001394	PAL
P-18-001552 / CA-LAS-001552	PAL
P-18-001553 / CA-LAS-001553	PAL
P-18-001613 / CA-LAS-001613	PAL
P-18-001638 / CA-LAS-1638/H / 39.13.32.01	APE
P-18-001719 / CA-LAS-001719	PAL
P-18-001729 / CA-LAS-001729	PAL
P-18-002139 / CA-LAS-002139H	PAL
P-18-002151 / CA-LAS-002151/H	PAL
P-18-002152 / CA-LAS-002152	PAL
P-18-002153 / CA-LAS-002153	PAL
P-18-002156 / CA-LAS-002156	PAL
P-18-002164 / CA-LAS-002164	PAL
P-18-002886 / CA-LAS-002886	PAL
P-18-003374 / CA-LAS-3374H	APE
P-18-004115 / CA-LAS-004115	PAL
P-18-004121 / CA-LAS-004121	PAL
P-25-001331 / CA-MOD-001331/H	PAL
P-25-001801 / CA-MOD-001801	PAL

Table 3.6-5. Cultural Resources Determined to Be Significant and Sufficiently Avoided	
Number	**Location**
P-25-001832 / CA-MOD-001832/H	PAL
P-25-002268 / CA-MOD-002268	PAL
P-25-002274 / CA-MOD-002274/H	PAL
P-25-003016 / CA-MOD-003016	PAL
P-25-003104 / CA-MOD-3104/H / 40.13.32.01	APE
P-25-003488	PAL
P-25-003857	PAL
P-25-003859 / CA-MOD-3859H / 41.12.24.02	APE
P-25-004103 / CA-MOD-004103/H	PAL
P-25-006370 / 46.14.09.04	APE
P-25-007258	PAL
P-25-007265	PAL
P-25-007267	PAL
P-25-007269	PAL
P-25-007270	PAL
P-25-007272	PAL
P-25-007276 / CA-MOD-007276	PAL
P-25-007278	PAL
P-25-007306 / CA-MOD-007306	PAL
P-25-007308	PAL
P-25-007340 / CA-MOD-007340	PAL
P-25-007346	APE
P-25-008632 / CA-MOD-8632 / 40.13.29.01	APE
P-46-000079 / CA-SIE-000079	PAL
P-46-000081 / CA-SIE-000081	PAL
P-46-000810 / CA-SIE-000810	PAL
P-46-000815 / CA-SIE-000815	PAL

Table 3.6-5. Cultural Resources Determined to Be Significant and Sufficiently Avoided	
Number	**Location**
P-46-001883 / CA-SIE-001883H	PAL
P-46-001884 / CA-SIE-001884	PAL
P-46-001885 / CA-SIE-001885H	PAL
P-46-001886 / CA-SIE-001886H	PAL
P-46-001887 / CA-SIE-001887	PAL
XL-1982-022; Zayo-CA-HS-13	APE
Zayo-CA-JT-1	PAL
Zayo-CA-JT-10	PAL
Zayo-CA-JT-3	PAL
Zayo-CA-LK-2	PAL
Zayo-CA-LKJT-1	PAL
Zayo-CA-MR-1	APE
Zayo-CA-MR-3	PAL
Zayo-CA-MR-4	APE

The sites listed in Table 3.6-6 are historical resources that have been demonstrated through archaeological testing to exhibit a loss of integrity within the ADI; the qualities that make these sites significant, if present, lie outside of the ADI. Project construction, however, could reveal additional archaeological deposits that were not previously observed during testing activities, and such previously unknown deposits may retain sufficient integrity to convey the significance. If the Project construction impacts intact deposits, then this would be a potentially significant impact. Installation of exclusionary fencing along the ADI limits, as required by Mitigation Measure CUL-1a, and archaeological monitoring during ground disturbing activity, as required by Mitigation Measure CUL-1c, would reduce this impact to less than significant. In the event of the discovery of subsurface deposits associated with these (which were not known prior), unanticipated discovery measures in Mitigation Measure CUL-1d will apply.

Table 3.6-6. Cultural Resources Determined to Be Significant Outside of the ADI Only	
Number	**Impact**
P-18-000029 / CA-LAS-000029	Trenching/plowing and short bore through center
P-18-000054 / CA-LAS-000054	Trenching/plowing through center
P-18-000106 / CA-LAS-000106	Trenching/plowing through center

Table 3.6-6. Cultural Resources Determined to Be Significant Outside of the ADI Only	
Number	**Impact**
P-18-000153 / CA-LAS-153/H / 30.15.15.502/30.15.15.A	Trenching/plowing through western edge
P-18-000206 / CA-LAS-206 / 31.15.02.01	Trenching/plowing through center
P-18-000379 / CA-LAS-000379	Trenching/plowing through center
P-18-000381 / CA-LAS-000381	Trenching/plowing through center
P-18-000382 / CA-LAS-000382	Trenching/plowing through center
P-18-000383 / CA-LAS-000383	Trenching/plowing through center
P-18-000385/P-18-0001708 / CA-LAS-385/1708/H / 31.15.14.A	Trenching/plowing through center
P-18-000618 / CA-LAS-000618	Trenching/plowing and short bore through center
P-18-000899 / CA-LAS-000899/H	Trenching/plowing and short bore through center
P-18-000985 / CA-LAS-000985	Trenching/plowing through center
P-18-000988 and P-18-002080 / CA-LAS-988 and CA-LAS-2080 / 33.15.07.05	Trenching/plowing through center
P-18-001267 / CA-LAS-001267	Trenching/plowing through western portion
P-18-001272 / CA-LAS-001272/H	Trenching/plowing through a very small portion on western end
P-18-001292 / CA-LAS-1292/H	Trenching/plowing through center
P-18-001373 / CA-LAS-001373	Trenching/plowing through center
P-18-001374 / CA-LAS-001374/H	Trenching/plowing through center
P-18-001375 / CA-LAS-001375	Trenching/plowing through center
P-18-001377 / CA-LAS-001377	Boring under the center
P-18-001512 / CA-LAS-001512	Boring under the eastern end
P-18-001612 / CA-LAS-001612/H	Trenching/plowing through southwestern side
P-18-001617 / CA-LAS-1617/H / 33.15.17.02/33.15.20.A	Trenching/plowing through western side
P-18-001623 / CA-LAS-001623/H / 36.13.17.01	Trenching/plowing through western side
P-18-001637 / CA-LAS-001637/H	Trenching/plowing through eastern end
P-18-001668 / CA-LAS-001668	Boring under the western side
P-18-001674 / CA-LAS-1674	Trenching/plowing through western margin
P-18-001693 / CA-LAS-001693/H	Trenching/plowing through center

Table 3.6-6. Cultural Resources Determined to Be Significant Outside of the ADI Only	
Number	**Impact**
P-18-001695 / CA-LAS-1695/H / 35.13.23.01	Trenching/plowing through western side
P-18-001709 / CA-LAS-1709 / 31.15.11.A/31.15.11.3	Trenching/plowing through center
P-18-001732 / CA-LAS-1732H	Boring underneath
P-18-001735/P-25-003118 / 33.14.01.05	Trenching/plowing through center
P-18-001765 / CA-LAS-001765	Trenching/plowing through center
P-18-001966 / CA-LAS-1966	Boring under the center
P-18-001969 / CA-LAS-001969	Trenching/plowing through center
P-18-001970 (P-18-004820/BLM 33.15.28.04) / CA-LAS-1970 (CA-LAS-4820/BLM 33.15.28.04)	Trenching/plowing through center
P-18-001985 / CA-LAS-001985	Trenching/plowing through center
P-18-002138 / CA-LAS-2138/H	Trenching/plowing and short bore through center
P-18-002163 / CA-LAS-002163/H	Trenching/plowing and short bore through center
P-18-002166 / CA-LAS-002166	Boring under the center
P-18-002268 / CA-LAS-002268H	Trenching/plowing through eastern end
P-18-004854 / CA-LAS-4854H / 33.15.29.19	Running line will trench through Ramhorn Road, bisecting the roadway
P-25-000272 / CA-MOD-000272	Trenching/plowing through center
P-25-000293 / CA-MOD-000293	Trenching/plowing through center, with a short bore on the northern end
P-25-000743 / CA-MOD-000743	Trenching/plowing through center, with a short bore on the southern end
P-25-001326 / CA-MOD-001326	Boring under entire site down its centerline
P-25-001327 / CA-MOD-001327	Boring under entire site down its centerline
P-25-001328 / CA-MOD-001328	Trenching/plowing through center
P-25-001329 / CA-MOD-001329	Trenching/plowing through center
P-25-001330 / CA-MOD-001330	Trenching/plowing through center
P-25-001332 / CA-MOD-001332	Trenching/plowing through center
P-25-001333 / CA-MOD-001333/H	Trenching/plowing through center
P-25-001334 / CA-MOD-001334	Trenching/plowing through center
P-25-001335 / CA-MOD-001335	Trenching/plowing through center

Table 3.6-6. Cultural Resources Determined to Be Significant Outside of the ADI Only	
Number	**Impact**
P-25-001336 / CA-MOD-001336	Trenching/plowing through center
P-25-003090 / CA-MOD-003090/H	Trenching/plowing through center
P-25-004098 / CA-MOD-004098	Trenching/plowing through center
P-25-004100 / CA-MOD-004100	Trenching/plowing through center
P-25-005877 / CA-MOD-005877/H	Trenching/plowing through center
P-25-007256 / CA-MOD-007256	Trenching/plowing through center plus one short bore
P-25-007257 / CA-MOD-007257	Boring under entire site down its centerline
P-25-007260 / CA-MOD-7260/H	Trenching/plowing through center of the site at its northern and southern termini, with short bores at both ends
P-25-007264 / CA-MOD-007264	Trenching/plowing through center
P-25-007274 / CA-MOD-007274/H	Trenching/plowing through center, plus small area of boring
P-25-007275 / CA-MOD-007275/H	Trenching/plowing through center
P-25-007277 / CA-MOD-007277/H	Trenching/plowing through center
P-25-007304 / CA-MOD-007304	Trenching/plowing through center
P-25-007305 / CA-MOD-007305	Trenching/plowing through center
P-25-007310 / CA-MOD-007310	Trenching/plowing through center
P-25-007311 / CA-MOD-007311	Trenching/plowing through center
P-25-007341 / CA-MOD-007341	Trenching/plowing along southern margin
P-25-007348 / CA-MOD-007348	Boring under entire site down its western half
P-46-000721 / CA-SIE-000721	Trenching/plowing and boring through center

The sites listed in Tables 3.6-7 and 3.6-8 are historical resources and are being avoided by the Project; however, they are close enough to Project activities that Project construction could result in an impact. This determination was made either based on distance from project activities, or out of an abundance of caution by federal agencies. Inadvertent damaged by Project activities would be a potentially significant impact. Implementation of special conditions as mitigation measures, such as the placement of high-visibility temporary exclusionary fencing or flagging during adjacent construction or modification to the contractors means-and-methods to ensure depth control will ensure they are avoided. These conditions are summarized in the following table and described in detail in Mitigation Measures CUL-1a and CUL-1b. With these special measures in place, the historical resources will not be impacted by the Project;

however, in the event of the discovery of subsurface deposits associated with these (which were not known prior), unanticipated discovery measures in Mitigation Measure CUL-1d will apply.

Table 3.6-7. Cultural Resources Determined to be Significant and Avoided with Temporary Fencing

Number	Location
29.15.01.02; Zayo-CA-JT-04	APE
29.15.04.01 / Zayo-CA-LK-01	APE
30.15.22.04; Zayo-CA-HS-10	APE
31.15.15.01	APE
32.15.26.01; Zayo-CA-LK-04	APE
37.13.29.01	APE
CrNV-03-12074 / Zayo-CA-HS-1	APE
CrNV-03-12075 / Zayo-CA-HS-2	APE
CrNV-03-12077	APE
CrNV-03-12079 / Zayo-CA-JT-2	APE
Doyle Dump No. 2	PAL
P-18-000020	PAL
P-18-000089 / CA-LAS-000089	PAL
P-18-000155 / CA-LAS-000155	APE
P-18-000194 / CA-LAS-000194	PAL
P-18-000551 / CA-LAS-000551	APE
P-18-001392 / CA-LAS-001392	APE
P-18-001393 / CA-LAS-001393	APE
P-18-001396 / CA-LAS-001396	APE
P-18-001500 / CA-LAS-001500/H	APE
P-18-001501 / CA-LAS-001501	APE
P-18-001502 / CA-LAS-001502	APE
P-18-001551	APE
P-18-001572 / CA-LAS-001572 / CrNV-03-8455	APE
P-18-001615 / CA-LAS-1615 / 31.15.14.A	APE

Table 3.6-7. Cultural Resources Determined to be Significant and Avoided with Temporary Fencing	
Number	**Location**
P-18-001666 / CA-LAS-1666/H / 33.15.08.01	APE
P-18-001716 / CA-LAS-1716	APE
P-18-001845 / CA-LAS-001845 / CrNV-31-4706	APE
P-18-001975	APE
P-18-001977	APE
P-18-001978	APE
P-18-001979	APE
P-18-001986 / CA-LAS-001986	PAL
P-18-001989 / CA-LAS-001989	PAL
P-18-003813 / CA-LAS-003813H / CrNV-03-7718	APE
P-18-004087 / CA-LAS-4087/H	APE
P-18-004088 / CA-LAS-4088	APE
P-18-004109 / CA-LAS-4109	APE
P-18-004111 / 32.15.04	APE
P-18-004114	APE
P-18-004117	APE
P-18-004193 / CA-LAS-4193	APE
P-18-004818 / CA-LAS-4818 / 33.15.28.02	APE
P-18-004890	APE
P-18-004891	APE
P-18-004912 / CA-LAS-4912H	APE
P-25-004099 / CA-MOD-004099	PAL
P-25-004101 / CA-MOD-004101	PAL
P-25-007268	PAL
P-25-007271	PAL
P-25-007273	PAL

Table 3.6-7. Cultural Resources Determined to be Significant and Avoided with Temporary Fencing	
Number	**Location**
P-25-007307 / CA-MOD-007307	PAL
P-25-007309 / CA-MOD-007309	PAL
P-25-007343	APE
P-25-007345	APE
P-25-007347	APE
P-46-000720 / CA-SIE-000720	ADI
XL-1982-080 / Zayo-CA-LK-6	APE
Zayo-CA-HS-12	PAL
Zayo-CA-HS-3	PAL

Table 3.6-8. Cultural Resources Determined to be Significant and Avoided with Depth Controls			
Number	**Location**	**Impact**	**Special Conditions Needed**
P-18-000156 / CA-LAS-156	ADI	Boring under western portion	Boring shall be deeper than 2 m to ensure sufficient vertical separation between the bore and the deepest known level of the site.
P-18-001951 / CA-LAS-001951	ADI	Boring under the western end	Boring shall be deeper than 2.5 m to ensure sufficient vertical separation between the bore and the deepest known level of the site.
P-18-004116 / CA-LAS-4116	ADI	Boring under the center	Boring shall be deeper than 1.5 m to ensure sufficient vertical separation between the bore and the deepest known level of the site.
P-18-004118	ADI	Boring under the western end	A qualified engineer shall calculate the depth under which the bore should go to avoid vibration and loss of integrity.
P-25-001325	ADI	Trenching/plowing and minor boring along western margin	All work must be within the existing road fill.
P-25-004102 / CA-MOD-004102	ADI	Boring under western portion	Boring shall not reach within 2.5 m (10 feet) of the original ground and can only occur within the top 6.5 m of existing ground.
P-25-007266 / CA-MOD-007266	ADI	Boring under the site's approximate centerline	Boring shall be deeper than 2.5m to ensure sufficient vertical separation between the bore and the deepest known level of the site.
P-18-001391 / CA-LAS-001391/H	ADI	Boring under the sites western margin	Boring shall be deeper than 1.5m to ensure sufficient vertical separation between the bore and the deepest known level of the site.

Table 3.6-8. Cultural Resources Determined to be Significant and Avoided with Depth Controls			
Number	**Location**	**Impact**	**Special Conditions Needed**
P-18-001734 / CA-LAS-1734H / 33.14.02.05	ADI	Boring underneath	A qualified engineer shall calculate the depth under which the bore should go to avoid loss of integrity.
P-18-001723 / CA-LAS-1723/H / 32.15.15.B	ADI	Trenching/plowing and boring through center	All work must be within the existing road fill.

The sites listed in Table 3.6-9 are historical resources that will be impacted by the Proposed Project as a result of trenching, plowing, or boring through them. Avoidance and preservation in place for these sites were considered but rejected as infeasible because the extent of archaeological deposits and their state of integrity cannot be known prior to construction. The proposed construction activities at these sites will result in the disturbance and dislocation of archaeological materials and will diminish the integrity of location, materials, and association of these historical resources. This materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in or eligibility for inclusion in the CRHR. This would be a significant impact.

Table 3.6-9. Cultural Resources Determined to be Significant but Avoidance Cannot be Guaranteed		
Number	**Location**	**Impact**
P-18-001973 / CA-LAS-001973	ADI	Boring under the center
P-25-001323 / XL-1982-038	ADI	Trenching/plowing along western margin
P-25-003860 / CA-MOD-3860 / 41.12.24.03	ADI	Boring under western portion

Implementation of Mitigation Measure CUL-1c will reduce the impact to less than significant because it will recover and preserve the significant information that would have otherwise been lost as a result of construction activities.

Finally, excavations that occur in association with construction of the Project could affect previously unknown and unrecorded archaeological deposits or cultural resources, and these resources may meet the criteria for inclusion in the NRHP/CRHR or be unique archaeological resources. If present, these resources could be impacted by Project construction and any resulting damage to the resources could be considered a potentially significant impact. CPUC will require the implementation of Mitigation Measure CUL-1d for previously unknown historical resources of an archaeological nature.

Mitigation Measures

The following mitigation measures shall apply to the Proposed Project.

CUL-1a: **Installation of Temporary Exclusionary Fencing.** Prior to ground-disturbing activities commencing within 1,000 feet of the sites listed in Tables 3.6-6 and 3.6-7 of the Exemption Report, the contractor shall install high-visibility temporary exclusionary fencing or flagging

to separate site boundaries from Project construction activity. For large or linear sites, the entire site boundary may not require fencing or flagging, if the monitoring archaeologist, using professional judgement, determines that fencing between the activity area and the site is sufficient. Fence or flagging installation shall be monitored and documented by a qualified professional archaeologist and inspected at least once per month during active construction to ensure the integrity of the fencing or flagging. Once all construction equipment and personnel have vacated the Project Area and have been moved at least 1,000 feet away, the exclusionary fencing or flagging may be removed.

CUL-1b: **Design Standards for Depth Control.** The sites listed in Table 3.6-8 of the Exemption Report require vertical depth controls to ensure preservation of the archaeological deposits. The following depth controls shall be clearly expressed on all Project engineering drawings and site plans. The prime contractor shall be responsible for ensuring that equipment does not exceed these thresholds.

- P-18-000156 / CA-LAS-156: Boring shall be deeper than 2 m to ensure sufficient vertical separation between the bore and the deepest known level of the site.
- P-18-001951 / CA-LAS-001951: Boring shall be deeper than 2.5 meters from existing ground.
- P-18-004116 / CA-LAS-4116: Boring shall be deeper than 1.5 meters from existing ground.
- P-18-004118: A licensed engineer shall calculate the depth under which the bore should occur to avoid vibration and loss of integrity of the historic railroad bridge.
- P-25-001325: All work must be within the existing road fill.
- P-25-004102 / CA-MOD-004102: Boring shall only occur within the top 6.5 meters of existing ground.
- P-25-007266 / CA-MOD-007266: Boring shall be deeper than 2.5 meters from existing ground.
- P-18-001391 / CA-LAS-001391/H: Boring shall be deeper than 1.5 meters to ensure sufficient vertical separation between the bore and the deepest known level of the site.
- P-18-001734 / CA-LAS-1734H / 33.14.02.05: A licensed engineer shall calculate the depth under which the bore should occur to avoid loss of integrity of the railroad grade.
- P-18-001723 / CA-LAS-1723/H / 32.15.15.B: All work must be within the existing road fill.

CUL-1c: **Develop and Implement a CPUC-Approved Treatment Plan.** The Project Proponent shall submit to CPUC a brief Historical Resources Treatment Plan (HRTP) for the sites listed in Table 3.6-9 of the Exemption Report. The HRTP shall be prepared under the direction of a professional archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology and in consultation with culturally

affiliated Native American tribes and other cooperating agencies. The HRTP shall be revised in response to CPUC comment and approved by CPUC, following consultation with consulting tribes, prior to the mobilization of construction-related activities within 1,000 feet of the sites subject to this condition. The HRTP shall meet, at a minimum, the following performance standards:

1. Brief site descriptions for each of the historical resources requiring treatment. Sites may be grouped into site types and summarized in tabular format for ease in reporting, so long as at treatment is proposed for each specific site.
2. Brief research design with appropriate themes or topics, and associated data needs, following guidance from the Office of Historic Preservation.
3. Proposed method of in-field data recovery, collection, and/or documentation, as well as final disposition of material culture (e.g., curation, reburial, or repatriation) for each site that mitigates the effects that the Project activity would have on each specific resource, in light of each site's constituents and aspects of integrity.
4. Schedule for implementing the proposed treatment in terms of the phases of fieldwork, analysis, and reporting. Project construction-related activities cannot commence within 500 feet of a historical resource subject to this mitigation measure until CPUC has determined that the fieldwork has been completed and has accepted a schedule for the completion of the remaining analysis, reporting, and disposition. Implementation of the HRTP can occur in phases that coincide with construction phasing, if necessary.
5. The HRTP shall not reverse the findings of eligibility or effect presented in the Exemption Report either during development or implementation.

CUL-1d: **Archaeological Monitoring and Unanticipated Discovery Procedures.** Prior to the start of construction, the Project Proponent shall retain a qualified professional archaeologist to monitor all ground-disturbing activities associated with Project construction. Monitoring is also required where specified in Mitigation Measure CUL-1a. Monitoring is not required for placement of equipment or fill inside excavations that were monitored, above-ground construction activities, or redistribution of soils that were previously monitored (such as the return of stockpiles to use in backfilling).

The Monitoring Archaeologist shall meet or work under the direct supervision of a qualified individual meeting the Secretary of the Interior's professional qualifications standards for prehistoric and historic archaeology. The Monitoring Archaeologist shall have the authority to temporarily halt ground-disturbing or construction-related work within 50 feet of any discovery of potential historical or archaeological resources to implement the following procedures.

If the Monitoring Archaeologist (in coordination with implementation of Mitigation Measure TCR-1) determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required. If the Monitoring Archaeologist

determines that the find does represent a cultural resource from any time period or cultural affiliation, or determines that the discovery represents new significant information about a resource previously determined to be not significant, they shall immediately notify CPUC. CPUC shall consult with cooperating agencies and consulting tribes, as appropriate, on a finding of eligibility. CPUC shall determine and require implementation of appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines. Work may not resume within the no-work radius until CPUC, through consultation as appropriate, determines that the site either: 1) is not a Historical Resource under CEQA; or 2) that the treatment measures have been completed to CPUC's satisfaction.

If the find includes human remains, or remains that are potentially human, the procedures in Mitigation Measure CUL-2 shall be implemented.

Residual Impact After Mitigation

As described above, requirements for avoidance, preservation in place, construction monitoring, data recovery, and procedures for addressing unanticipated discoveries through implementation of mitigation measures will reduce the impact to known and previously unknown historical resources to less than significant with mitigation incorporated.

Impact CUL-2	**Would the Project cause a substantial adverse change in the significance of an archeological resource pursuant to CEQA Guidelines Section15064.5?**
Impact Determination	*Less Than Significant with Mitigation*

Impact Discussion

Impacts to archaeological resources pursuant to Section 15064.5 are discussed under Impact CUL-1.

Mitigation Measures

See Mitigation Measures CUL-1a, CUL-1b, CUL-1c, and CUL-1d.

Residual Impact After Mitigation

Impacts would be less than significant with mitigation incorporated.

Impact CUL-3	**Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

No human remains have been identified in the Project Area, and the geoarchaeological assessment performed by Stantec (2022b) does not suggest that there is a high potential for encountering human remains. However, implementation of the Proposed Project would include ground-disturbing construction activities that could result in the inadvertent disturbance of previously undiscovered human remains, and if so, this would result in a significant impact. Procedures of conduct following the discovery of human remains on non-federal lands are mandated by procedures in existing state law; specifically, Health and Safety Code Section 7050.5, by PRC Section 5097.98, and by CEQA in CCR Section 15064.5(e).

According to these provisions, should human remains be encountered, all work in the immediate vicinity of the remains must cease, and any necessary steps to ensure the integrity of the immediate area must be taken. The remains are required to be left in place and free from disturbance until a final decision as to the treatment and their disposition has been made. The applicable County Coroner would be immediately notified, and the coroner would then determine whether the remains are Native American. If the coroner determines the remains are Native American, the coroner has 24 hours to notify the NAHC, which will in turn notify the person identified as the most likely descendant (MLD) of any human remains. Further actions would be determined, in part, by the desires of the MLD, who has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery.

Implementation of Mitigation Measure CUL-2 would assure that any discovery of human remains within the Project area would be subject to these procedural requirements in existing state law. Implementation of this mitigation measure would reduce impacts associated with the discovery or disturbance of human remains to be less than significant.

Mitigation Measures

The following mitigation measures shall apply to the Proposed Project.

CUL-2 **Human Remains Discoveries.** If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the applicable County Coroner (as per California Health and Safety Code Section 7050.5). The provisions of California Health and Safety Code Section 7050.5, PRC Section 5097.98, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (PRC Section 5097.98). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, then the NAHC can mediate (PRC Section 5097.94). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (PRC Section 5097.98). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in

which the property is located (AB 2641). Work cannot resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

Residual Impact After Mitigation

Impacts would be less than significant with mitigation incorporated.

3.6.4 Cumulative Impacts

The cumulative setting associated with the Proposed Project includes proposed, planned, and other reasonably foreseeable road improvements and adjacent development. The Existing Setting subsection provides an overview of cultural resources and the history of the region.

Development of the Proposed Project in combination with other projects located within the Caltrans right-of-way or in adjacent areas would increase the potential for impacts to known and previously unknown archaeological resources that could contribute to the loss of such resources in northeastern California. All future projects would be required to follow existing state and federal law or other agency regulations and policies, although projects that do not require discretionary approval may not be subject to the same level of evaluation and thus, result in impacts to cultural resources. Therefore, cumulative impacts from the Proposed Project, along with adjacent development, would be significant. However, development within the Project Area would be subject to mitigation measures, which would reduce some of the Project's potential impacts on previously unknown historical resources and human remains to less than significant. Consequently, the incremental effects of the Proposed Project, after mitigation, would not be cumulatively considerable with respect to previously unknown historical resources and human remains. Because of the implementation of Mitigation Measures CUL-1a, CUL-1b, CUL-1c, CUL-1d, and CUL-2, the Project's potentially significant impacts on eight known historical resources present within the ADI would not be a cumulatively significant contribution to such impacts regionally

3.7 Energy

This section describes the environmental setting for energy, including the existing site conditions and regulatory setting, impacts that would result from the Proposed Project, and, if significant impacts are identified, the mitigation measures that would reduce these impacts. This section was based on information provided in the PEA (Stantec 2020).

3.7.1 Environmental Setting

Energy relates directly to environmental quality. Energy use can adversely affect air quality and other natural resources. Most of California's air pollution is caused by burning fossil fuels. Consumption of fossil fuels is linked to changes in global climate and depletion of stratospheric ozone. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes (e.g., auto, carpool, and public transit); vehicle speeds; and miles traveled via these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy. In addition, residential, commercial, and industrial land uses consume energy, typically through the usage of natural gas and electricity.

3.7.1.1 Energy Types and Sources

California relies on a regional power system comprising a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with most of its electricity, followed by renewables, large hydroelectric, and nuclear (California Energy Commissions [CEC] 2019). Electric utility service providers in the Project Area include Lassen Municipal Utilities District and Plumas Sierra Rural Electric Cooperative.

3.7.1.2 Existing Transmission and Distribution Facilities

The components of transmission and distribution systems include generating facilities, switching yards and stations, primary substations, distribution substations, distribution transformers, various sized transmission and distribution lines, and end users (customers). The United States contains more than 250,000 miles of transmission lines, most of which are capable of handling voltages between 115 and 345 kilovolts (kV), and a handful of systems of up to 500 kV capacity. Transmission lines are rated according to the amount of power they can carry, the product of the current and the voltage. Generally, transmission is more efficient at higher voltages. Generating facilities generally produce electrical energy at comparatively low voltages, which is increased or *stepped up* by transformers in substations. From there, the energy proceeds through switching facilities to the transmission grid. At various points in the system, the energy is *stepped down* to lower voltages for distribution to customers. Power lines are either high voltage (115, 230, 345, and 500 kV) transmission lines or low voltage (12, 24, and 60 kV) distribution lines.

3.7.1.3 Energy Consumption

Electrical energy (also referred to as *electricity)* consumption is measured in kilowatt-hours (kWh), megawatt-hours (MWh), and gigawatt-hours (GWh); and natural gas use is measured in therms, which is a

product of the volume of gas and its energy content per unit of volume. Vehicle fuel use is typically measured in gallons (e.g., of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh. The primary fuel types used for this Project would be electrical energy and diesel fuel, with the potential to use natural gas.

The electrical energy consumption associated with all uses in the Project counties from 2017 to 2021 is shown in Table 3.7-1. As indicated, electrical energy use has remained relatively constant from 2017 through 2021. The CEC online database was used to compile the total electricity usage for Project counties.

Table 3.7-1. Total Electricity Consumption in Project Counties 2017-2021

Year	County-wide Nonresidential Electricity Consumption (kWh/Year)			
	Lassen	Modoc	Sierra	Total
2021	279,071,843	119,284,876	8,876,755	407,235,495
2020	265,274,788	106,676,871	8,831,940	380,785,619
2019	264,036,681	87,008,244	9,210,565	360,257,509
2018	274,407,177	91,479,978	7,849,099	373,738,272
2017	283,532,613	93,165,331	8,251,277	384,951,238

Source: CEC 2022

The natural gas consumption associated with all nonresidential uses in Lassen County from 2017 to 2021 is shown in Table 3.7-2. As indicated, the demand has decreased since 2017. There is no data available for Modoc and Sierra Counties.

Table 3.7-2. Total Natural Gas Consumption in Project Counties 2017-2021

Year	County-wide Nonresidential Natural Gas Consumption (therms/Year)
	Lassen
2021	1,063,306
2020	1,112,566
2019	1,122,411
2018	1,092,882
2017	1,147,105

Source: CEC 2022

Diesel fuel consumption in the Project counties from 2017 to 2021 is shown in Table 3.7-3. Diesel fuel consumption decreased in the Project counties between 2017 and 2021. The California Air Resources Board (CARB) EMFAC2021 Emissions Inventory Database was used to compile the diesel usage for Project counties.

Table 3.7-3. Automotive Diesel Fuel Consumption in Project Counties 2017-2021				
Year	County-wide Diesel Fuel Consumption (gallons)			
	Lassen	Modoc	Sierra	Total
2021	3,925,286	1,890,970	690,529	6,508,806
2020	3,693,589	1,799,588	653,237	6,148,434
2019	4,093,432	1,952,523	708,144	6,756,118
2018	4,066,072	1,930,339	707,069	6,705,498
2017	4,136,913	1,943,754	709,578	6,792,262

Source: CARB 2021

3.7.2 Regulatory Setting

3.7.2.1 State

California Energy Efficiency Standards for Residential & Nonresidential Buildings (Title 24)

California's energy efficiency standards for residential and nonresidential buildings were established by the CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and provide energy efficiency standards for residential and nonresidential buildings. Efficiency standards are codified in Title 24, Parts 6 and 11 of the California Code of Regulations and are updated on an approximate three-year cycle. These standards are a unique California asset that have placed the State on the forefront of energy efficiency, sustainability, energy independence and climate change issues. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The 2019 standards are a major step toward meeting Zero Net Energy. According to the CEC, single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards; nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades (CEC 2018). The most significant efficiency improvements to the residential Standards include the introduction of photovoltaic technology into the perspective package, as well as improvements for attics, walls, water heating and lighting. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. These new standards apply only to certain nonresidential building types, as specified in the requirements.

California Green Building Standards

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department

of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. CALGreen also has voluntary tiers and measures that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code was adopted in 2016 and went into effect on January 1, 2017.

Senate Bill 1368

On September 29, 2006, Governor Arnold Schwarzenegger signed into law Senate Bill (SB) 1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation by the State's utilities to those power plants that meet an emissions performance standard jointly established by the CEC and the California Public Utilities Commission.

The CEC has enacted regulations that:

- Establish a standard for baseload generation owned by or under long-term contract to publicly owned utilities of 1,100 pounds carbon dioxide per MWh. This would encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of greenhouse gas.
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This would facilitate public awareness of utility efforts to meet customer needs for energy over the long-term while meeting the state's standards for environmental impact.
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard (Perata, Chapter 598, Statutes of 2006).

Executive Order B-55-18

In September 2018 Governor Jerry Brown signed Executive Order (EO) B-55-18, which established a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Carbon neutrality refers to achieving a net zero carbon dioxide emissions. This can be achieved by reducing or eliminating carbon emissions, balancing carbon emissions with carbon removal, or a combination of the two. This goal is in addition to existing statewide targets for Greenhouse Gas (GHG) emission reduction. EO B-55-18 requires CARB to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal."

Senate Bill X1-2 of 2011, Senate Bill 350 of 2015, and Senate Bill 100 of 2018

SB X1-2 of 2011 required that all California electric utilities generate 33 percent of their electricity from renewables by the end of 2020. SB X1-2 also required the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California.

In October 2015, SB 350 was signed by Governor Brown, which requires retail sellers and publicly owned electric utilities to procure 50 percent of their electricity from renewable resources by 2030.

In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

3.7.2.2 Local

Policies and programs for reducing consumption or increasing energy efficiency have not been established by counties within the Project Area.

3.7.3 Environmental Impacts and Mitigation Measures

3.7.3.1 Thresholds of Significance

CEQA Guidelines Appendix G states that a project may have a significant effect on the environment if implementation would result in any of the following:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.
- Add capacity for the purpose of serving a non-renewable energy source.

3.7.3.2 Methods of Analysis

Levels of construction and operational related energy consumption estimated to be consumed by the Project include the number of kWh of electricity, gallons of diesel fuel, and therms of natural gas. All mobile fuel was assumed to be diesel because it makes up most of the fuel used. Modeling was based on Project specific information as specified in the Project Description (Section 2 of this document). ECORP calculated the electricity consumption estimates. Operational automotive fuel consumption has been calculated with the most recent CARB EMission FACtor (EMFAC 2021) model. EMFAC 2021 is a mathematical model that was developed to calculate emission rates and rates of gasoline and diesel consumption from motor vehicles that operate on highways, freeways, and local roads in California. For the purpose of this analysis, the amount of electricity estimated to be consumed by the Project is quantified and compared to the 2021 total consumption by all nonresidential land uses in Lassen, Modoc, and Sierra Counties. The amount of natural gas estimated to be consumed by the Project is quantified and compared to the 2021 consumption by all nonresidential land uses in Lassen County, as it the only County with natural gas consumption data. Similarly, the amount of diesel fuel necessary for Project construction and the amount of diesel fuel necessary for Project operations is calculated and compared to the 2021 total diesel consumption in Lassen, Modoc, and Sierra counties.

3.7.3.3 Project Impacts and Mitigation Measures

Impact ENERGY-1	**Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction and operation?**
Impact Determination	*Less than Significant*

Impact Discussion

Construction of the Project would result in diesel fuel consumption from the use of heavy-duty construction equipment, heavy-duty trucks, and worker vehicles commuting to and from the Project. The Project would also use electricity during construction to provide temporary power for lighting at staging areas. Electricity consumption would be temporary over the duration of construction and would be minimal over the long-term. Project operations would include repair trips and emergency-related generator usage on an as-needed basis; therefore, operational energy was quantified as the amortized diesel usage to model maintenance related fuel usage. The construction phasing and equipment assumptions used in generating air quality and GHG impacts were used to generate energy use estimates. It was assumed that off-road equipment mobile sources would primarily be diesel-fueled. Energy consumption from Project operations was quantified as a *worst-case* scenario per in-line amplifier generator sizing and repair trips, but will likely be much lower. Calculations for modeled diesel usage during construction and operations can be found in Appendix B.

Table 3.7-4. Proposed Project Energy and Fuel Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Project Area
Construction		
Electric Energy[1]	0 kWh	0 percent
Diesel Fuel[2]	14,877 gallons	0.23 percent
Operation		
Electric Energy[1]	12,900 kWh	0.003 percent
Natural Gas[1]	6,505 therms	0.61 percent*
Diesel Fuel[2]	709 gallons	0.01 percent

Sources: [1] CalEEMod 2022.1; [2]Climate Registry 2016
Notes: * The percentage for Natural Gas consumption is likely an overestimate as the Project's natural gas consumption was only compared to Lassen County, due to data availability.

Although the Project would use electricity during construction to provide temporary power for lighting at staging areas, electricity consumption would be temporary over the duration of construction and would be minimal over the long-term. Diesel fuel necessary for Project construction would be required for the

operation and maintenance of construction equipment and the transportation of materials to the Project Site. The fuel expenditure necessary to construct the infrastructure would be temporary, lasting only as long as Project construction. The Project's fuel consumption during the construction period is estimated to be 14,877 gallons of fuel. This would increase the annual multi-countywide diesel fuel use by 0.23 percent. As such, Project construction would have a nominal effect on local and regional energy supplies. No unusual Project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the State. Construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar projects.

Annual natural gas consumption due to operations would be 6,505 therms, resulting in approximately 0.61 percent increase in the typical annual natural gas consumption in Lassen County. As noted previously, this is likely an overestimate because this annual consumption amount is only compared to Lassen County, excluding the other two counties that the Project will take place in, due to data availability.

Annual electricity consumption due to operations would be 12,900 kWh, resulting in an approximately 0.003 percent increase in the typical annual electricity consumption attributable to the Project region. The Project's fuel consumption during the operations is estimated to be 709 gallons of fuel annually. This would increase the annual multi-countywide gasoline fuel use by 0.01 percent.

As shown, Project increases in energy usage across Modoc, Lassen, and Sierra counties would be negligible. For these reasons, the Project would not result in the inefficient, wasteful, or unnecessary consumption of energy.

Mitigation Measures

No mitigation measures are required.

Impact ENERGY-2	**Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**
Impact Determination	*Less than Significant*

Impact Discussion

The Project would be designed in a manner that is consistent with relevant energy conservation plans, such as the Sierra County Energy Action Plan, including using renewables such as battery and solar for backup if feasible. Additionally, the Project Area would be influenced by SB 100 and would achieve 100

percent clean and carbon-free electricity by 2040. The Project would not conflict or obstruct any local or state plans for renewable energy or energy efficiency. This impact is less than significant.

Mitigation Measures

No mitigation measures are required.

Impact ENERGY-3	**Would the Project add capacity for the purpose of serving a non-renewable energy source?**
Impact Determination	*No Impact*

Impact Discussion

The Project would install an underground fiber optic telecommunications line and would not add capacity for the purpose of serving non-renewable energy resources; therefore, the Project would have no impact.

Mitigation Measures

No mitigation measures are required.

3.7.4 Cumulative Impacts

Project level energy impacts were determined to be less than significant. As such, the Project's contribution to energy impacts is found to be less than cumulatively considerable.

3.8 Geology, Soils, and Paleontology

This section describes the environmental setting for geology, soils, and paleontology including the existing site conditions and regulatory setting, impacts that would result from the Proposed Project, and, if significant impacts are identified, the mitigation measures that would reduce these impacts. This analysis reviews state and local resources characterizing geologic units and soils in the Project Area, including databases maintained by the following agencies:

- USGS
- Natural Resources Conservation Service (NRCS)
- California Geological Survey (CGS)
- University of California Museum of Paleontology (UCMP)
- Paleo Biology Database (PBDB)
- General Plans, including seismic hazard maps for the City of Alturas and the counties of Modoc, Lassen, and Sierra

3.8.1 Environmental Setting

3.8.1.1 Regional and Local Geologic Setting

The Project alignment extends 194 miles across portions of Modoc, Lassen, and Sierra counties within the State of California. The alignment extends through portions of the Modoc Plateau Geomorphic Province and portions of the northwest Basin and Range Province, where it borders the northeastern portion of the Sierra Nevada Province. The Basin and Range Province is characterized by interior drainage with lakes and playas, and the typical horst and graben (alternating range and valley) structure. The northern Basin and Range Province includes the Honey Lake Basin. The Modoc Plateau is a volcanic table land approximately 4,000 to 6,000 feet above mean sea level. The plateau consists of a thick accumulation of lava flows and tuff beds along with many small volcanic cones. The plateau is cut by many north-south faults and is bound by the Cascade Range on the west and the Basin and Range on the east and south (Stantec 2020).

The local physiographic setting includes basaltic and andesitic mountains and flows, which comprise the southern end of a series of tertiary and quaternary flows of the Cascade Mountain Range and the northern end of the Sierra Nevada Range (Stantec 2020). Sedimentary deposits along the Project alignment are largely lake and associated basin-margin deposits. The geology of the area primarily consists of Tertiary Period (66 million years ago to 2.6 million years ago) and Quaternary Period (2.6 million years ago to present) volcanic rocks as well as Mesozoic Period (252 million years ago to 66 million years ago) granite and Quaternary Period sedimentary deposits.

3.8.1.2 Seismicity

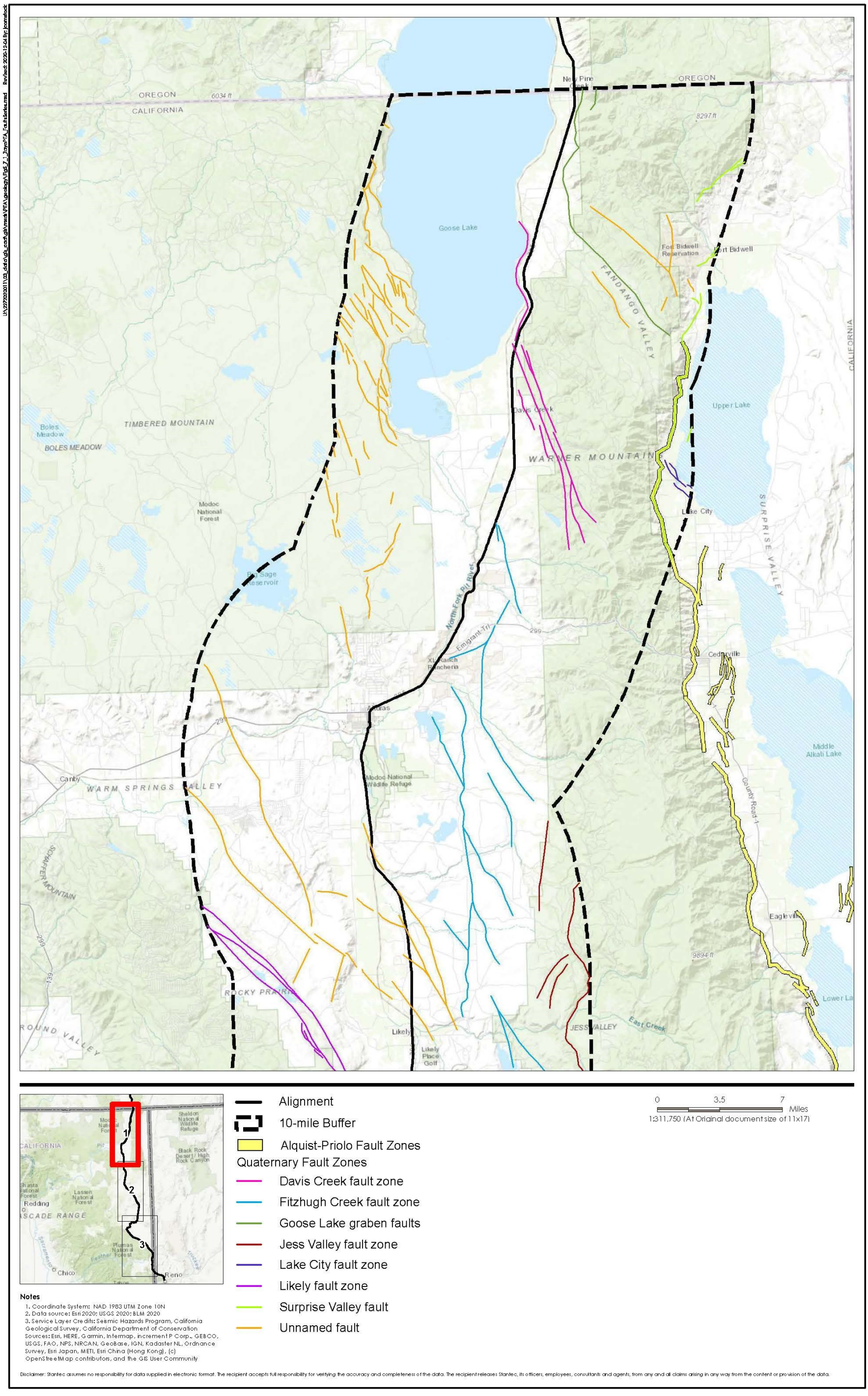
Alquist-Priolo earthquake fault zones are areas of the state where surface rupture of a fault could damage structures in the vicinity. Both Lassen and Modoc counties contain Alquist-Priolo earthquake fault zones. Segments of the Project alignment are located in seismically active areas of these counties, with numerous Holocene epoch (11,700 years ago to present), including latest Quaternary Period, faults that have been identified as potential seismic sources (Figure 3.8-1). Holocene faults are considered to have been active within the past 11,000 to 15,000 years, approximately. There are also numerous older Quaternary and pre-Quaternary faults along the alignment, though these are not regarded as potential seismic sources by CGS or USGS. Active faults that have a relatively high potential for surface rupture along, across, or near the alignment include the Honey Lake Fault Zone, the Upper Long Valley Fault Zone, the Fort Sage Fault, the Warm Springs Valley Fault Zone, and the Surprise Valley Fault, as well as multiple unnamed faults (Table 3.8.1).

Table 3.8.1 Known Earthquake Faults

Fault Name	Fault Type	Location	References
Honey Lake Fault Zone	Strike-Slip	Lassen County	Adams et. al 2017; Willis & Borchardt 1993
Upper Long Valley Fault Zone	Normal	Sierra County	USGS 2020
Fort Sage Fault	Normal	Lassen County	Gianella 1957; Sawyer et al. 2013
Warm Springs Valley Fault Zone	Strike-slip & Normal	Lassen County	Sawyer et al. 1999
Surprise Valley Fault	Normal	Lassen & Modoc Counties	Bryant 2000

These faults are described below.

- **Honey Lake Fault Zone.** The Honey Lake Fault forms a 50-kilometer-long zone of landforms typical of active strike-slip faults with a slip rate estimated between 1.0 and 5.0 millimeters per year. The Honey Lake Fault Zone is primarily composed of northwest-striking, right lateral, dextral strike-slip strands characterized by geomorphic evidence indicative of Holocene displacement. A fault exposure in Holocene alluvium shows evidence of late Holocene surface-faulting earthquakes (Stantec 2020).
- **The Upper Long Valley Fault Zone.** The Long Valley Fault Zone is cut by dozens of major north-northwest trending faults and down-faulted blocks (Stantec 2020).
- The Fort Sage Fault. The Fort Sage Fault is a high-angle, normal fault along the western side of the Fort Sage Mountains. It extends obliquely between the Honey Lake and Warm Springs Valley Fault Zones. The most recent historic earthquake was the 1950 local magnitude (ML) 5.6 Fort Sage Mountain earthquake, which ruptured nearly the full extent of the approximately 8-kilometer-long Fort Sage Fault (Stantec 2020).



Source: Stantec

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 3.8-1 Seismically Active Areas 1 of 3

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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Source: Stantec

ECORP Consulting, Inc.
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Figure 3.8-1 Seismically Active Areas 2 of 3

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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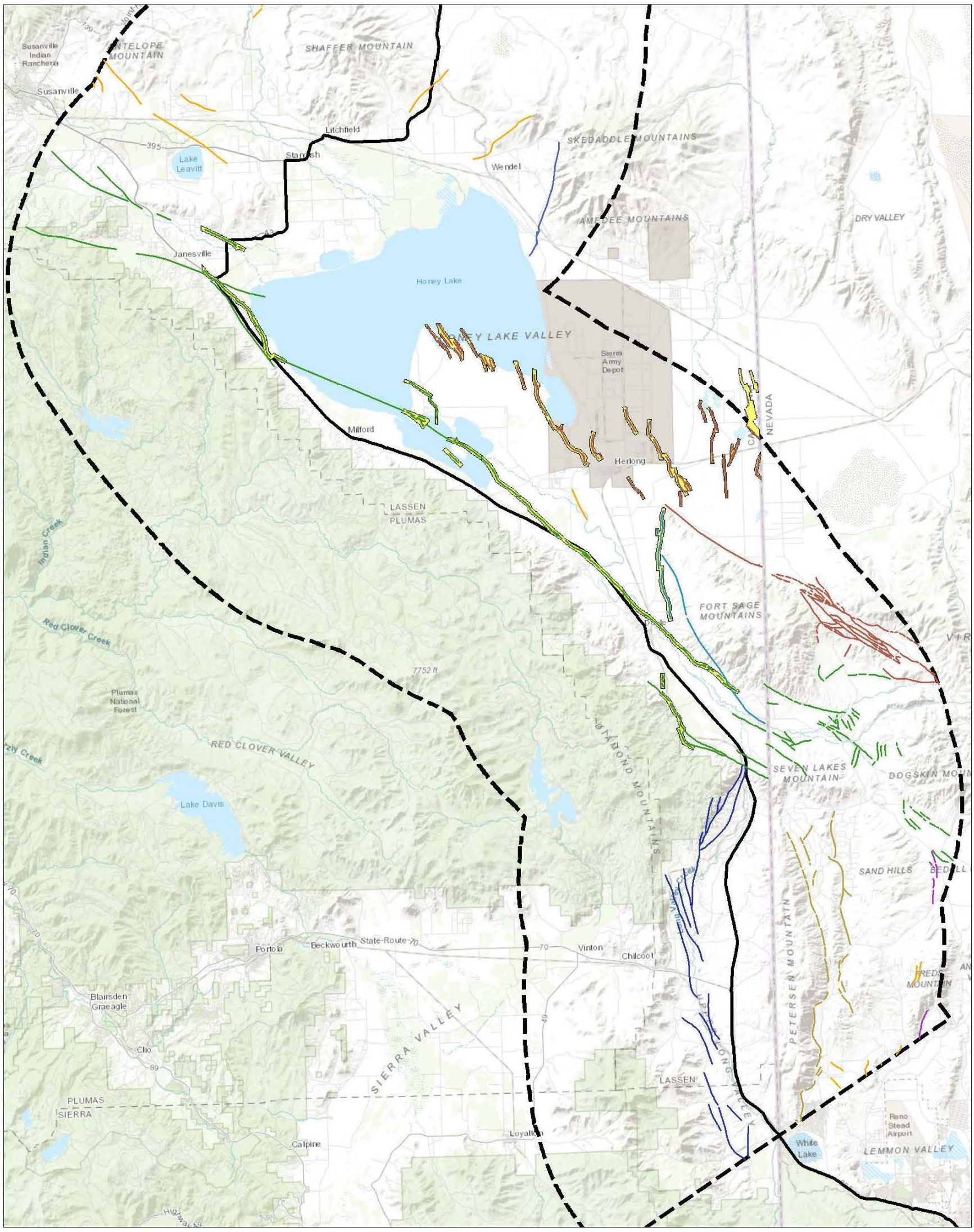

Source: Stantec

ECORP Consulting, Inc.
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Figure 3.8-1 Seismically Active Areas 3 of 3

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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- **Warm Springs Valley Fault Zone.** The Warm Springs Valley Fault Zone is composed of right lateral, dextral strike-slip to dextral normal faults that locally offset Holocene alluvial deposits (Stantec 2020).
- **The Surprise Valley Fault**. The Surprise Valley Fault is an active down-to-east normal fault, delineated by geomorphic features indicative of Holocene normal faulting, bounding the Modoc Plateau (to the west) and Basin and Range (to the east) geomorphic provinces (Stantec 2020).

3.8.1.3 Ground Shaking

Ground shaking is the motion that occurs as a result of energy released during faulting. When ground shaking occurs, it can result in the damage or collapse of buildings and other structures. Ground shaking is influenced by earthquake magnitude, epicenter location, the character and duration of the ground motion, soil conditions, and depth to groundwater. Southern Lassen County along the Honey Lake Basin and extending into northeastern Sierra County is anticipated to have a moderate to high potential for ground shaking (Stantec 2020). The CGS' Probabilistic Seismic Hazards Assessment indicates a minimum peak horizontal acceleration of 0.1 to 0.2g (where g is the percentage of gravity) along most of the proposed route through Modoc County and into northern Lassen County, and a potential acceleration of 0.2 to 0.4g in the areas south of Susanville in Lassen County, with a 10 percent probability of earthquake occurrence in a 50-year time frame.

3.8.1.4 Liquefaction

Liquefaction occurs when groundwater is forced out of the pores of soil as it subsides. This excess water momentarily liquefies the soil, causing an almost complete loss of strength. If this layer is at the surface, its effect is much like that of quicksand for any structure located on it. If the liquefied layer is subsurface, the material above it may slide laterally depending on the confinement of the unstable mass. Liquefaction can occur as a result of strong motions in excess of 0.1g in areas of unconsolidated granular sediment and shallow groundwater. Therefore, there is a potential risk of liquefaction along the project alignment, primarily in the areas south of Susanville in Lassen County where potential ground motion acceleration is between 0.2 to 0.4g. The CGS' Seismic Hazard Zonation Program includes mapping of earthquake induced liquefaction zones. However, this program focuses on the major metropolitan areas of California and has not addressed the areas along the Project alignment.

3.8.1.5 Landslides

Ground motions associated with earthquakes have the potential to trigger landslides or rockfalls along the project alignment. Seismically induced landslides are most commonly associated with earthquakes of magnitude 4.0 or more (Stantec 2020). Therefore, there is a potential risk of landslide along the project alignment, primarily in the areas south of Susanville in Lassen County where the alignment passes through Alquist-Priolo earthquake fault zones. CGS' Seismic Hazard Zonation Program includes mapping of earthquake induced landslide zones. However, this program focuses on the major metropolitan areas of California and has not addressed the areas along the Project alignment.

3.8.1.6 Geologic Units

The Project alignment is underlain by Holocene-age, very young sedimentary deposits; Holocene- to Pleistocene (5.3 million years ago to 1.8 million years ago)-age, young sedimentary deposits; Pleistocene-age, old sedimentary deposits; Pliocene-age, very old sedimentary deposits; Pleistocene- to Oligocene (34 million years ago to 23 million years ago)-age volcanic rocks; and Miocene (23 million years ago to 5 million years ago)- and Mesozoic-age plutonic rocks. Maps noting the geologic units and paleosensitivity along the Project alignment are provided as Appendix A of the Paleontological Report from the Applicant's PEA (included as Appendix E of this DEIR). Geologic units along the project alignment primarily consist of the following:

- **Artificial Fill (Recent).** Artificial fill is made up of recent deposits of previously disturbed sediments deposited by construction operations and is found in areas where recent construction has taken place. Color is highly variable, and sediments are mottled in appearance. These sediments are not mapped within the Project Area but are expected to be encountered within previously disturbed portions of the project, primarily along the Caltrans right-of-way.
- **Very Young Sedimentary Deposits (Q, Qa, Qc, Qf, Qt, Ql, Qhs, Qhe, Qhds) (Holocene).** Very young sedimentary deposits are Holocene-age (less than 11,700 years old) and include surficial deposits made up of variable compositions of clay, silt, sand, gravel, and larger clasts that were laid down in modern fluvial and lacustrine systems. Gravel is composed of igneous and metamorphic rocks that range from granule- to cobble-sized and that generally vary between subangular to subrounded depending on the source proximity. These surficial units are generally unconsolidated, undissected, and less topographically developed than older units. There are seven Holocene-age geologic units mapped within the project alignment: alluvium (Q, Qa), colluvium (Qc), alluvial fan (Qf), terrace deposits (Qt), lake deposits (Ql), sand deposits (Qhs), and eolian, fluvial, and lacustrine deposits (Qhe). Also mapped within a quarter mile buffer of the project alignment is Holocene-age dune sand (Qhds). Holocene-age sediments are typically too young to contain fossilized material (Stantec 2020), although they may shallowly overlie sensitive older (e.g., Pleistocene) deposits at variable depth. Therefore, Holocene-age sedimentary deposits are considered to have a low potential for producing significant paleontological resources (PFYC 2) based on BLM guidelines (Stantec 2020).
- **Young Sedimentary Deposits (Qa, Qf, Qd, Qol, Qlmd, Qls, Qg) (Holocene to Pleistocene).** Young sedimentary deposits are Holocene- to Pleistocene-age (approximately 2.58 million years to less than 11,700 years old) and include surficial deposits made up of variable compositions of clay, silt, sand, gravel, and larger clasts that were laid down in modern and ancient fluvial and lacustrine systems. Gravel is composed of igneous and metamorphic rocks that range from granule- to cobble-sized and that generally vary between subangular to subrounded depending on the source proximity. These sediments are generally unconsolidated to weakly consolidated and are often dissected where elevated. They are moderately indurated, relatively elevated, and contrast the lower-lying Holocene-age surficial sediments. There are six Holocene- to Pleistocene-age geologic units mapped within the project alignment, including alluvium (Qa), alluvial fan deposits (Qf), delta deposits of the Susan River (Qd), older lake deposits (Qol), near-shore and

deltaic deposits of Lake Madeline (Qlmd), and landslide deposits (Qls), the latter of which are made up of displaced sections of land masses. Also mapped in the project vicinity within a 0.25-mile buffer is Holocene- to Pleistocene-age colluvial gravel (Qg) (Stantec 2020).

- **Old Sedimentary Deposits (Qoa, Qof, Qpl, Qplg, Qos, Qpfd) (Pleistocene).** Old sedimentary deposits are Pleistocene-age (approximately 2.58 million years to 11,7000 years old) and include deposits consisting of variable compositions of clay, silt, sand, gravel, and larger clasts that were laid down in ancient terrestrial and marine environments. Gravel is composed of igneous and metamorphic rocks that range from granule to cobble-sized and that generally vary between subangular to subrounded depending on the source proximity. These deposits are moderately to well indurated and are generally characterized by their low-moderate to moderate relief and dissected surfaces. They are relatively elevated and contrast the lower-lying Holocene-age sedimentary deposits. There are six Pleistocene-age sedimentary geologic units mapped within the project alignment: older alluvium (Qoa), older fan deposits (Qof), near-shore deposits of Lake Lahontan (Qpl), gravel deposits of Lake Lahontan (Qplg), nonmarine sedimentary rocks (Qos), and fan delta deposits of Long Creek (Qpfd) (Stantec 2020).
- **Very Old Sedimentary Deposits (Ps) (Pliocene).** Very old sedimentary deposits are Pliocene-age (approximately 5.33 million years to 2.58 million years old) and include nonmarine sedimentary rocks (Ps) within the Project Area. This unit is made up of undifferentiated deposits of fluvial and lacustrine shale, sandstone, and ash (Stantec 2020).
- **Volcanic Rocks (Tmma, Tlma, Ttmb, Tvb, Tdrb, Tsbl, Tlrt, Tvgb, Tdgb, Tb, Ta, Tabpf, Tsht, Tvsa, Ttpw, Ttab, Trpt, Tsha, Tssa, Tsl, Tfcb, Tdct, Tesa, Tsab, Tsbu, Tvbi, Tld, Tlp, Tpvu, Tfp, Ttpf, Omv) (Pleistocene to Oligocene).** Igneous rocks are crystalline or non-crystalline rocks that form through the cooling and subsequent solidification of lava or magma. Volcanic (extrusive) igneous rocks form at the Earth's surface when lava erupts and rapidly solidifies. Lava is formed by the partial melting of pre-existing plutonic rocks in the Earth's crust or mantle due to increases in temperature, changes in pressure, or changes in geochemical composition.
- **Plutonic Rocks (Tovi, Kgd, KJgr) (Miocene and Mesozoic).** Igneous rocks are crystalline or non-crystalline rocks that form through the cooling and subsequent solidification of lava (volcanic) or magma (plutonic). Intrusive (plutonic) igneous rocks form below the Earth's surface. Magma is formed by the partial melting of pre-existing plutonic rocks in the Earth's crust or mantle due to increases in temperature, changes in pressure, or changes in geochemical composition. Three plutonic geologic units are mapped within the project alignment, including Miocene-age hypabyssal intrusions (Tovi), Cretaceous-age hornblende-biotite granodiorite (Kgd), and Mesozoic-age granite and granodiorite (KJgr) (Stantec 2020).

Additional information regarding geologic units along the Project alignment is discussed within the Project's Paleontological Report (Appendix E). Maps of the geologic units along the project alignment are provided as Attachment A of the Paleontological Report.

3.8.1.7 Soils

The project alignment generally follows US 395 through Modoc, Lassen, and Sierra counties within the Caltrans right-of-way and Lassen County roads between the communities of Standish and Bunting. Soils along the Caltrans right-of-way have been previously graded, compacted, and modified with road base and engineered fill. Soils along the project alignment consist primarily of clay to gravelly loams, coarse sands, and silty clays and are depicted within Appendix A of the Applicant's PEA (Stantec 2020).

Soils along the project alignment include soils with a low to high plasticity index (PI) or shrink-swell potential. Soils with a high shrink-swell potential, also known as expansive soils, are prone to shrinking or swelling due to changes in water content of the soil. Soils with a low shrink-swell potential are generally suitable for construction, whereas soils with a high shrink-swell potential may result in structural damage if not addressed by engineering design.

Primary soil types (soils that cover greater than or equal to 2.5 percent of the total Project Area) include:

- **Bieber gravelly loam** (jb3t) – Alluvium derived from basic igneous rock with 0 to 9 percent slopes and a moderate to high PI.
- **Deven-Rock outcrop complex** (jb4k) – Residuum weathered from basic igneous rock comprised of very stony clay loam to clay loam with 2 to 30 percent slopes and a moderate to high PI.
- **Galeppi loamy coarse sand** (jb86) – Alluvium derived from granite with 5 to 30 percent slopes and a low PI.
- **Horsecamp-Brubeck association** (jcb4)
    - Horsecamp – Residuum weathered from volcanic rock comprised of cobbly silty clays to silty clays with 2 to 9 percent slopes and a moderate to high PI.
    - Brubeck – Colluvium derived from volcanic rock and residuum weathered from volcanic rock comprised of very cobbly clay to clay with 2 to 9 percent slopes and a moderate to high PI.
- **Loomis-Fives Springs association** (jcch)
    - Loomis – Colluvium derived from basalt over residuum weathered from basalt comprised of very cobbly loam to very gravelly clay with 5 to 9 percent slopes and a low to moderate PI.
    - Five Springs – Colluvium derived from volcanic rock and residuum weathered from volcanic rock comprised of very cobbly loam to very gravelly clay with 9 to 30 percent slopes and a low PI.
- **Mottsville loamy coarse sand** (jcd0) and **Mottsville gravelly loamy coarse sand** (jcd2) – Alluvium derived from granite with 2 to 9 percent slopes and a low PI.
- **Ravendale silty clay** (jcgb) – Alluvium derived from volcanic rock with 0 to 2 percent slopes and a moderate to high PI.

3.8.1.8 Paleontological Resources

Paleontological resources or fossils are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. Paleontological resources include the fossils themselves, the associated organic matter, and the physical characteristics of the fossils' associated sedimentary matrix (Appendix E). This section summarizes the methods and results of a paleontological resource inventory and sensitivity analysis conducted for the Proposed Project (Stantec 2020).

The paleontological sensitivity of geologic units identified at or near the ground surface within the Project Area was analyzed through a review of literature, maps, and databases. Previous paleontological finds and sediment characteristics were evaluated to determine potential paleontological sensitivity. Potential impacts to paleontological resources resulting from ground disturbing activities due to project construction were analyzed using the Bureau of Land Management Potential Fossil Yield Classification (PFYC) system. The PFYC is a predictive resource management tool that classifies geologic units on their likelihood to contain paleontological resources on a scale of 1 (very low potential) to 5 (very high potential), as well as unknown potential.

- **Artificial Fill (Recent).** These sediments are not mapped within the Project Area but are expected to be encountered within previously disturbed portions of the project, primarily along the Caltrans right-of-way. Any fossil resources contained within these sediments will have been removed from their original deposition locations, and therefore, lack significant stratigraphic contextual data. Therefore, these deposits are considered to have a low potential for producing significant paleontological resources (PFYC 2) based on BLM guidelines (Stantec 2020).
- **Very Young Sedimentary Deposits (Q, Qa, Qc, Qf, Qt, Ql, Qhs, Qhe, Qhds) (Holocene).** Very young sedimentary deposits are Holocene-age (less than 11,700 years old) and include surficial deposits made up of variable compositions of clay, silt, sand, gravel, and larger clasts that were laid down in modern fluvial and lacustrine systems. Holocene-age sediments are typically too young to contain fossilized material, although they may shallowly overlie sensitive older (e.g., Pleistocene) deposits at variable depth. Therefore, Holocene-age sedimentary deposits are considered to have a low potential for producing significant paleontological resources (PFYC 2) based on BLM guidelines (Stantec 2020).
- **Young Sedimentary Deposits (Qa, Qf, Qd, Qol, Qlmd, Qls, Qg) (Holocene to Pleistocene).** Young sedimentary deposits are Holocene- to Pleistocene-age (approximately 2.58 million years to less than 11,700 years old) and include surficial deposits made up of variable compositions of clay, silt, sand, gravel, and larger clasts that were laid down in modern and ancient fluvial and lacustrine systems. Holocene-age sediments are typically too young to contain significant fossil resources (Stantec 2020), although they may shallowly overlie sensitive older (e.g., Pleistocene) deposits at variable depth. Therefore, Holocene- to Pleistocene-age sedimentary deposits are considered to have an unknown potential for producing paleontological resources (PFYC U) based on BLM (2016) guidelines, until more subsurface data is acquired. While fossils contained within landslide deposits may lack stratigraphic context due to displacement from the original area of deposition, they may retain some significance if any stratigraphic structure is preserved in the

landslide masses. Consequently, Holocene- to Pleistocene-age landslide deposits (Qls) are also considered to have an unknown potential for producing paleontological resources (PFYC U) based on BLM (2016) guidelines, until more subsurface data is acquired (Stantec 2020).

- **Old Sedimentary Deposits (Qoa, Qof, Qpl, Qplg, Qos, Qpfd) (Pleistocene).** Old sedimentary deposits are Pleistocene-age (approximately 2.58 million years to 11,7000 years old) and include deposits consisting of variable compositions of clay, silt, sand, gravel, and larger clasts that were laid down in ancient terrestrial and marine environments. Numerous Ice Age taxa have been recovered from Pleistocene-age deposits throughout Lassen and Modoc counties as well as other areas of California. Fossils recorded from Pleistocene-age sediments within the Project vicinity are listed in Appendix E. Therefore, Pleistocene-age sedimentary deposits are considered to have a moderate potential for producing paleontological resources (PFYC 3) based on BLM guidelines (Stantec 2020).
- **Very Old Sedimentary Deposits (Ps) (Pliocene).** Very old sedimentary deposits are Pliocene-age (approximately 5.33 million years to 2.58 million years old) and include nonmarine sedimentary rocks (Ps) within the Project Area. This unit is made up of undifferentiated deposits of fluvial and lacustrine shale, sandstone, and ash (Stantec 2020). Geologic units with informal names like Pliocene-age nonmarine sedimentary deposits (Ps) are not responsive to searches in the literature because they lack formal designation. However, online databases record numerous vertebrate fossils from similar Pliocene-age sedimentary sediments in Lassen and Modoc Counties. Fossils recorded from Pliocene-age sedimentary deposits within the Project vicinity are listed in Appendix E. Therefore, Pliocene-age nonmarine sedimentary deposits (Ps) are considered to have an unknown potential for producing paleontological resources (PFYC U) based on BLM guidelines until more lithological data is obtained (Stantec 2020).
- **Volcanic Rocks (Tmma, Tlma, Ttmb, Tvb, Tdrb, Tsbl, Tlrt, Tvgb, Tdgb, Tb, Ta, Tabpf, Tsht, Tvsa, Ttpw, Ttab, Trpt, Tsha, Tssa, Tsl, Tfcb, Tdct, Tesa, Tsab, Tsbu, Tvbi, Tld, Tlp, Tpvu, Tfp, Ttpf, Omv) (Pleistocene to Oligocene).** Volcanic (extrusive) igneous rocks form at the Earth's surface when lava erupts and rapidly solidifies. Lava is formed by the partial melting of pre-existing plutonic rocks in the Earth's crust or mantle due to increases in temperature, changes in pressure, or changes in geochemical composition. Extreme temperatures in the environments in which most volcanic igneous rocks form prevent the preservation of fossils (e.g., basaltic and andesitic lava flows, pyroclastic flows). However, some volcanic deposits, namely ash and tuff, can harbor significant intact paleontological resources. There are no specimens in the UCMP or PBDB specifically attributed to ash or tuff deposits within Lassen, Modoc, or Sierra counties. However, the Pliocene-age Alturas Formation, which includes tuff and volcaniclastic sandstone deposits as well as lake clays, has produced vertebrate fossils in Modoc County (Stantec 2020). Most of the listed localities do not specify which facies of the Alturas Formation that the fossils were recovered from; however, several were reported from sandstone, volcaniclastic sandstone, and siltstone facies. The majority of volcanic rocks within the Project Area are considered to have very low to low potential for producing significant paleontological resources (PFYC 2 to 1) based on BLM guidelines. However, the Pliocene- to Miocene-age Alturas Formation (Ta) and the unnamed

and undifferentiated Oligocene- to Miocene-age rhyolite tuff and sedimentary rocks (Omv) are considered to have an unknown potential for producing paleontological resources (PFYC U) based on BLM guidelines (Stantec 2020).

- **Plutonic Rocks (Tovi, Kgd, KJgr) (Miocene and Mesozoic).** Intrusive (plutonic) igneous rocks form below the Earth's surface. Magma is formed by the partial melting of pre-existing plutonic rocks in the Earth's crust or mantle due to increases in temperature, changes in pressure, or changes in geochemical composition. Three plutonic geologic units are mapped within the project alignment, including Miocene-age hypabyssal intrusions (Tovi), Cretaceous-age hornblende-biotite granodiorite (Kgd), and Mesozoic-age granite and granodiorite (KJgr) (Stantec 2020).

3.8.2 Regulatory Setting

3.8.2.1 Federal

Clean Water Act Section 402p

The CWA was amended in 1987 to include Section 402p. This amendment created a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination Service (NPDES) program. The State Water Resources Control Board (SWRCB) is responsible for implementing the NPDES program. Pursuant to the state's Porter-Cologne Act, it delegates implementation responsibility to California's nine RWQCBs. Both the Central Valley and the Lahontan RWQCBs have jurisdiction along areas of the Project alignment. The Central Valley RWQCB has jurisdiction along the northern extent from the Oregon–California border to the northern portion of Lassen County. The Lahontan RWQCB has jurisdiction along the remaining extent through Lassen County to the Nevada–California border.

Under the NPDES Phase II Rule, any construction project disturbing greater than or equal to 1.0 acre must obtain coverage under the state's Construction General Permit (CGP) for stormwater discharges associated with construction activity. The purpose of the Phase II Rule is to avoid or mitigate the effects of construction activities, including earthwork, on surface waters. CGP applicants are required to file a Notice of Intent to Discharge Stormwater with the regulating RWQCB and to prepare a SWPPP Best Management Practices (BMP) that would be implemented to avoid adverse effects on water quality.

Federal Land Policy and Management Act (FLPMA) (43 USC 1701)

Federal law, including the Federal Land Policy and Management Act (FLPMA) of 1976 (43 USC 1701), includes objectives such as the evaluation, management, protection, and location of fossils on BLM-managed lands, defines fossils, and lays out penalties for the destruction of significant fossils. Also, NEPA requires the preservation of "historic, cultural, and natural aspects of our national heritage." Most recently, the Omnibus Public Lands Act refines NEPA and FLPMA guidelines and strictures and outlines minimum punishments for removal or destruction of fossils from federal and public lands.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act (PRPA), Title VI, Subtitle D in the Omnibus Public Lands Act of 2009, Public Law 111-011 directs the Secretaries of Interior and Agriculture to manage and protect paleontological resources on federal land using scientific principles and expertise. With the passage of the PRPA, Congress officially recognized the importance of paleontological resources on federal lands by declaring that fossils from federal lands are federal property that must be preserved and protected using scientific principles and expertise.

Code of Federal Regulations, Title 43

Under Title 43, CFR Section 8365.1-5, the collection of scientific and paleontological resources, including vertebrate fossils, on federal land is prohibited. The collection of a "reasonable amount" of common invertebrate or plant fossils for non-commercial purposes is permissible (43 CFR 8365.1-5).

3.8.2.2 State

Alquist-Priolo Earthquake Fault Zoning Act

In 1972, the State of California passed the Alquist-Priolo (AP) Geologic Hazards Zone Act (renamed the Alquist-Priolo Earthquake Fault Zoning Act in 1994). The act limits the hazards of fault surface rupture to occupied structures and prohibits the development of new structures intended for human occupancy from being located across the trace of an active fault. AP earthquake fault zones are areas designated along faults that are "sufficiently active and well defined." Fault Evaluation Reports and maps for AP earthquake fault zones summarize data on fault location, age of activity, orientation, and probable magnitude of displacement.

Seismic Hazard Mapping Act

In 1990, the State of California passed the Seismic Hazards Mapping Act. This law was codified in the PRC as Division 2, Chapter 7.8A. It addresses non-surface fault rupture earthquake hazards, including liquefaction, ground shaking, and seismically induced landslides. Under the Seismic Hazard Mapping Act, these hazards are identified and mapped to assist local governments in land use planning.

State of California Public Resources Code

PRC Chapter 1.7, Sections 5097 and 30244, includes additional state-level requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from the development on state lands, and define the excavation, destruction, or removal of paleontological *sites* or *features* from public lands without the express permission of the jurisdictional agency as a misdemeanor.

3.8.2.3 Local

Per Section 65302 (g) of the California Government Code, the Safety Element of a General Plan shall include policies and implementation measures designed to protect the community from any unreasonable

risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence and other geologic hazards known to the legislative body; flooding; and wildland and urban fires. The safety element shall include mapping of known seismic and other geologic hazards.

Modoc County General Plan

The Safety Element of the Modoc County General Plan (Stantec 2020) includes components related to geologic and seismic hazards. Modoc County lies in the lowest rated area in the State of California for earthquake activity. No epicenters are recorded in the area. Modoc County does, however, adhere to the most recent accepted building standards for earthquakes. Policies including restrictions to new development on slopes of more than 30 percent or on land that has been identified as environmentally unsound to support development are implemented to support the goal of protecting the public health and safety though limitation of development in hazardous areas.

Lassen County General Plan

The Safety and Seismic Safety Element of the Lassen County General Plan (Stantec 2020) contains a number of goals, policies, and implementation measures designed to add safety considerations to the active planning process in order to reduce loss of life, injuries, damage to property, socio-economic dislocation from fire, seismic hazards, and other possible seismic disasters. It addresses hazards related to seismic earth shaking, surface rupture, and seiches, as well as unstable slopes and soils, mudslides, landslides, subsidence, volcanism, and erosion among other topics.

Sierra County General Plan

The Safety Element of the Sierra County General Plan (Stantec 2020) contains a number of goals, policies, and implementation measures designed to maintain a high level of safety for people and property by limiting the exposure of its residents to safety hazards including seismic and geologic hazards, flooding, and fire. It addresses geologic hazards including seismicity, mine shafts, avalanche hazards, and evacuation routes.

City of Alturas General Plan

The Safety Element of the City of Alturas General Plan includes components related to geologic and seismic hazards. Alturas lies in the lowest rated area in the State of California for earthquake activity. No epicenters are recorded in the area. However, Alturas does adhere to the most recent accepted building standards for earthquakes. The goals, policies, and implementation measures reflect that of Modoc County. Policies, including restrictions to new development on slopes of more than 30 percent or on land, which has been identified as environmentally unsound to support development, are implemented to support the goal of protecting the public health and safety though limitation of development in hazardous areas.

3.8.3 Environmental Impacts

3.8.3.1 Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines. For purposes of this EIR, implementation of the Proposed Project may have a significant adverse impact on geology and soils if it would contribute to any of the following:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of known fault.
    - Strong seismic ground shaking.
    - Seismic-related ground failure, including liquefaction.
    - Landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposable of wastewater.

3.8.3.2 Methods of Analysis

Impacts on geology, soils, and paleontological resources that could result from the construction and operation of the project were evaluated based on general locations and proposed construction activities. Geologic hazards that could potentially result from installation of the proposed underground fiber optic network, and that could expose people to injury and infrastructure to damage, were considered in terms of adverse impacts on public safety.

3.8.3.3 Project Impacts and Mitigation Measures

Impact GEO-1	**Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides?**
Impact Determination:	*Less than Significant*

Impact Discussion

Known Earthquake Faults. Topographic maps of the Honey Lake Basin in southern Lassen County show active faults that have a relatively high potential for surface rupture. Topographic maps of eastern Modoc County identify the Surprise Valley Fault as an active fault trace extending parallel along the northern portion of the Project alignment. The Surprise Valley fault runs within 10 miles of the Project alignment near Goose Lake. Additional late Quaternary faults identified along the Project alignment include the Likely Fault Zone in southern Modoc County and northern Lassen County, the Nelson Corral Fault in northern Lassen County, the Fitzhugh Creek and the Davis Creek Fault Zones at the southern edge of Goose Lake, and the Goose Lake graben faults.

With the exception of the active fault areas described above, the majority of the Project alignment would be located outside of Alquist-Priolo earthquake fault zones. Furthermore, both the Modoc County and the City of Alturas General Plans state that they are within the lowest rated area in the State of California for earthquake activity and that there are no recorded epicenters in their respective planning areas.

Known faults located along the Project alignment have the potential to rupture at any time. However, because Project infrastructure primarily consists of underground fiber optic cable and unmanned ancillary equipment, any surface fault rupture or seismic-related ground failure would not expose people or structures present to potential substantial adverse effects as a result of the Project, or increase the risk of loss, injury or death as a result of surface fault rupture. Under this criterion, the impact is determined to be less than significant.

Seismic Ground Shaking. Southern Lassen County along the Honey Lake Basin and extending into northeastern Sierra County is anticipated to have a moderate to high potential for ground shaking. The extent of the alignment that runs through these areas would be subject to the effects of strong seismic ground shaking. Construction activities would not substantially increase risks of seismic hazard exposure beyond typical seismic hazard risks throughout the area. In addition, the Project would be belowground and unmanned. Thus, the Project would not directly or indirectly cause potential substantial adverse effects involving strong seismic ground shaking including the risk of loss, injury, or death. Under this criterion, the impact is less than significant.

Liquefaction. The fiber optic conduit is proposed to be installed approximately 36 to 42 inches below ground surface and generally within the Caltrans right-of-way and existing County roadways. In some

areas, the conduit would be installed using directional bore methods up to 30 feet deep to avoid sensitive biological resources. In addition, although there would be some above ground features such as ILAs and line markers, no habitable structures are included as part of the Project. While no areas along the alignment have been evaluated by the State for liquefaction potential, the conditions for liquefaction may exist. However, the risk of soil instability, landslide, lateral spreading, subsidence, liquefaction, or collapse resulting from the Project is considered to be low and potential impacts determined to be less than significant.

Landslides. The fiber optic conduit is proposed to be installed approximately 36 to 42 inches below ground surface, with some depths up to 30 feet, and generally within the Caltrans right-of-way and existing County roadways. In addition, no habitable structures are included as part of the project. While no areas along the alignment have been evaluated by the State for landslide potential, the conditions for landsliding may exist. However, the risk of soil instability, landslide, lateral spreading, subsidence, liquefaction, or collapse resulting from the project is considered to be low and potential impacts determined to be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact GEO-2	**Would the Project result in substantial soil erosion or the loss of topsoil?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

Project construction would involve ground-disturbing activities such as vegetation clearing, minor grading, trenching, plowing, and directional drilling. These activities would have the potential to exacerbate erosion or contribute to the loss of topsoil if soil were improperly contained during trenching or drilling, or if the construction contractor failed to adequately isolate and reapply topsoil during backfilling of excavations.

However, because the extent of earth-moving activities would be limited, and most of the Project Area is relatively flat, substantial erosion or loss of topsoil is not expected to occur. In addition, the Proposed Project owner would be required to obtain coverage under the SWRCB General Permit for Storm Water Discharges Associated with Construction Activity because Project activities would result in ground disturbance of more than 1 acre. As a result, the Proposed Project would prepare and implement a SWPPP to prevent construction-related erosion, sediment runoff, and discharge of pollutants into waterways or onto neighboring properties as required by Mitigation Measure HYDRO-1. The SWPPP would require implementation of temporary erosion control measures to control erosion from disturbed areas, sedimentation control measures, and post-construction restoration and sediment stabilization measures. As such, implementation of Mitigation Measure HYDRO-1 would further reduce any impacts associated with soil erosion or loss of topsoil, and impacts under this criterion would be less than significant.

Mitigation Measures

HYDRO-1: Prepare and Implement a Storm Water Pollution Prevention Plan (SWPPP). The Applicant shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) to prevent construction-related erosion, sediment runoff, and discharge of pollutants into adjacent waterways and onto neighboring properties. Because Project activities would result in ground disturbance of more than 1 acre, the Applicant shall obtain coverage under the State Water Resources Control Board General Permit for Storm Water Discharges Associated with Construction Activity Order No. 2009-0009-DWQ (and as amended by 2010-0014-DWQ and 2012-006-DWQ). To obtain coverage under the permit, the Applicant shall develop and submit permit registration documents—including a Notice of Intent (NOI), SWPPP, risk assessment, site map, construction drawings, certification by a Legally Responsible Person, contractor contact information, and annual fee—to the State of California's Storm Water Multiple Application and Report Tracking System (SMARTS) database and obtain a Waste Discharger Identification (WDID) number prior to initiating construction activities.

The SWPPP shall outline implementation of BMPs for each activity that has the potential to impact neighboring properties or degrade surrounding water quality through erosion, sediment runoff, dewatering, and discharge of other pollutants. BMPs to be part of the project-specific SWPPP may include but are not limited to the following control measures.

- Implementing temporary erosion control measures (such as silt fences, staked straw bales and wattles, silt and sediment basins and traps, check dams, geofabric, sandbag dikes, grass buffer strips, high-infiltration substrates, grassy swales, and temporary revegetation or other ground cover) to control erosion from disturbed areas.
- Protecting drainage facilities in downstream offsite areas from sediment using BMPs acceptable to Modoc, Lassen, and Sierra counties and the Lahontan and Central Valley RWQCBs.
- Protecting the quality of surface water from non-stormwater discharges such as equipment leaks, hazardous materials spills, and discharge of groundwater from dewatering operations.

Requirements of the SWPPP shall be coordinated with the requirements of any Section 401 Water Quality Certification issued for the project under the CWA and/or Streambed Alteration Agreement issued under California Fish and Game Code Section 1602, as applicable.

Impact GEO-3	**Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading subsidence, liquefaction or collapse?**
Impact Determination:	*Less than Significant*

Impact Discussion

The fiber optic conduit is proposed to be installed approximately 36 to 42 inches below ground surface and generally within the Caltrans right-of-way and existing County roadways. There are some areas where the conduit would be installed via directional bore up to 30 feet deep to avoid sensitive biological resources. The Project ILAs are the only above-ground structures. No areas along the alignment have been evaluated by the State for liquefaction or landslides, but the conditions for liquefaction and landslides do exist. However, the risk of soil instability, landslide, lateral spreading, subsidence, liquefaction, or collapse resulting from the Project is considered to be low and potential impacts determined to be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact GEO-4	**Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?**
Impact Determination:	*Less than Significant*

Impact Discussion

Soils along the Project alignment include expansive soils with a low to high shrink-swell potential, which could result in damage to concrete foundations associated with the ILAs if not considered during design. However, all aboveground structures would be built in accordance with the California Building Code, and all construction activities would be conducted according to applicable grading codes and best practices associated with compaction and treatment of soils. In addition, no habitable structures are included as part of the Project, and therefore, there would be no direct or indirect risks to life or property as a result of project construction or operations. Under this criterion, the impact is less than significant.

Mitigation Measures

No mitigation measures are required.

Impact GEO-5	**Would the Project require wastewater disposal, and be located on soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**
Impact Determination:	*No Impact*

Impact Discussion

No septic tanks or alternative wastewater disposal systems are proposed as part of the Project. All portions of the project are unmanned. Therefore, no impacts would occur.

Mitigation Measures

No mitigation measures are required.

Impact GEO-6	**Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

A paleontological evaluation and inventory of the Project Area analyzed existing paleontological data to determine sensitivity (Appendix E). Components of the analysis included a review of geologic maps, literature, and online databases. Reviews of literature and online databases yielded numerous vertebrate fossils recorded from sediments similar to those that occur within the project vicinity. Additionally, numerous geologic units with unknown (PFYC U) and moderate paleontological potential (PFYC 3) are encountered within 0.25 mile of the Project alignment. Ground disturbing activities within these areas may encounter important paleontological resources. Surface grading or shallow excavations in sedimentary geologic units with low paleontological potential (PFYC 2) are unlikely to uncover significant fossil vertebrate remains since these units are either too young or not conducive to fossilization. Excavations entirely within volcanic and plutonic rocks with very low paleontological potential (PFYC 1) or very low to low potential (PFYC 2 to 1) are unlikely to encounter any fossil resources because of the environments in which these rocks form.

In areas of unknown or moderate paleontological potential (PFYC U and 3), construction-related ground disturbing activities have the potential to result in significant adverse direct impacts to paleontological resources. However, the Proposed Project alignment would be mostly located within existing roadway right-of-way, portions of which have been previously graded, compacted, and backfilled. Surface grading or shallow excavations entirely within artificial fill or previously disturbed sediments are unlikely to uncover significant fossil vertebrate remains because any recovered resources would lack stratigraphic

context. However, these deposits may shallowly overlie older sedimentary deposits. Portions of the fiber optic line alignment are located at the edge of the Caltrans right-of-way where disturbance has not occurred. Additionally, several materials storage yards and staging areas would be located outside of the right-of-way and would be used for vehicle parking and short-term placement of equipment, conduit, parking, and other short-term construction uses. Accordingly, new ground disturbance would occur in these areas. Implementation of PALEO-1 and PALEO-2 would lessen the potential impact. With mitigation, the risk of directly or indirectly destroying a unique paleontological resource or site or unique geologic feature is determined to be less than significant.

Mitigation Measures

PALEO-1: Paleontological Mitigation Plan

Prior to construction, the Applicant shall prepare a Paleontological Mitigation Plan (PMP). It shall provide detailed recommended monitoring locations; a description of a worker training program; detailed procedures for monitoring, fossil recovery, laboratory analysis, and museum curation; and notification procedures in the event of a fossil discovery by paleontological monitor or other project personnel. Any subsurface bones or fossils that are unearthed during construction shall be evaluated by a professional paleontologist as described in the PMP.

PALEO-2: Paleontological Resource Monitoring

Construction excavations that disturb geologic units with moderate paleontological potential (PFYC 3) shall be monitored by a professional paleontologist in conjunction with worker environmental training to reduce potential adverse impacts on scientifically important paleontological resources to a less than significant level. The timing and frequency (e.g., part-time vs. full-time) of monitoring shall be determined by the professional paleontologist based on initial field observations and excavation activities. Additionally, excavations that disturb geologic units with unknown paleontological potential (PFYC U) shall be initially monitored in order to inspect for the presence of sensitive sediments and any resources that may be harbored within. In the event that highly fossiliferous facies is encountered, full time monitoring shall occur until excavations within those facies are complete. Environmental training of construction personnel is required for excavations within sedimentary geologic units with low paleontological potential (PFYC 2). No additional measures are recommended for excavations impacting volcanic and plutonic rock units with very low paleontological potential (PFYC 1) or very low to low potential (PFYC 2 to 1).

3.8.3.4 Cumulative Impacts

Temporary construction activities associated with the Proposed Project would involve trenching, excavation, backfilling, and directional boring for the installation of the subsurface fiber optic cable.

Cumulative impacts would only occur if other current or future projects in the area have the potential to cause, directly or indirectly, the impacts discussed above. The potential for any of these impacts to occur

during construction activities is less than significant, with the exception of the potential loss of a paleontological resource. These potential impacts can be mitigated. Therefore, the Proposed Project, when possibly combined with other projects in the area, would not pose a significant contribution to a cumulative impact. Additionally, measures presented in this section will prevent or reduce cumulative impacts from a combination of potential project impacts.

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3.9 Greenhouse Gas Emissions

This section documents the results of a Greenhouse Gas (GHG) emissions analysis. Regional and local existing conditions are presented, along with pertinent GHG emissions-related standards and regulations. The purpose of this assessment is to estimate Project-generated GHG emissions and to determine the level of impact the Project would have on the environment. Mitigation measures are provided for significant impacts. Modeling outputs are provided in Appendix B.

3.9.1 Environmental Setting

3.9.1.1 Greenhouse Gas Emissions

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 earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency 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. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed 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. According to the Intergovernmental Panel On Climate Change (IPCC), it is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (IPCC 2014).

Table 3.9-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps more than 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in *carbon dioxide equivalents* (CO_2e), which weight each gas by its global warming potential. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect

and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

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 pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013).

Table 3.9-1. Common Greenhouse Gases

Greenhouse Gas	Description
CO_2	Carbon dioxide is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
CH_4	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about 12 years.[2]
N_2O	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Sources: [1] United States Environmental Protection Agency (USEPA) 2016a, [2] USEPA 2016b, [3] USEPA 2016c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; it is sufficient to say the quantity is enormous and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of California Environmental Quality Act (CEQA), GHG impacts to global climate change are inherently cumulative.

3.9.1.2 Sources of Greenhouse Gas Emissions

In 2022, California Air Resources Board (CARB) released the 2022 edition of the California GHG inventory covering calendar year 2020 emissions. In 2020, California emitted 369.2 million gross metric tons of CO_2e ($MTCO_2e$), including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2020, accounting for approximately 38 percent of total GHG emissions in the state. Continuing the downward trend from previous years, transportation emissions decreased 27 million $MTCO_2e$ in 2020, though the intensity of this decrease was most likely from light duty vehicles after shelter-in-place orders were enacted in response to the COVID-19 pandemic. Emissions from the electricity sector account for 16 percent of the inventory and have remained at a similar level as in 2019 despite a 44 percent decrease in in-state hydropower generation (due to below average precipitation levels), which was more than compensated for by a 10 percent growth in in-state solar generation and cleaner imported electricity incentivized by California's clean energy policies. California's industrial sector accounts for the second largest source of the state's GHG emissions in 2020, accounting for 23 percent (CARB 2022).

3.9.2 Regulatory Setting

3.9.2.1 State

Executive Order S-3-05

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the State. Specifically, emissions were to be reduced to the year 2000 level by 2010, the year 1990 level by 2020, and to 80 percent below the year 1990 level by 2050.

Although dated, this EO remains relevant because a more recent California Appellate Court decision, *Cleveland National Forest Foundation v. San Diego Association of Governments* (2014) 231 Cal.App.4th 1056, examined whether it should be viewed as having the equivalent force of a legislative mandate for specific emissions reductions. While the California Supreme Court ruled that the San Diego Association of Governments did not abuse its discretion by declining to adopt the 2050 goal as a measure of significance in light of the fact that the EO does not specify any plan or implementation measures to achieve its goal, the decision also recognized that the goal of a 40 percent reduction in 1990 GHG levels by 2030 is "widely acknowledged as a necessary interim target to ensure that California meets its longer-range goal of reducing GHG emissions 80 percent below 1990 levels by the year 2050."

Assembly Bill 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code Section 38500 et seq.), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG

emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions compared to what would have been generated without such measures). AB 32 anticipates that the GHG reduction goals will be met, in part, through local government actions. CARB has identified a GHG reduction target of 15 percent from *business-as-usual* levels for local governments and notes that successful implementation relies on local governments' land use planning and urban growth decisions.

Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which was re-approved by CARB on August 24, 2011, that outlines measures to meet the 2020 GHG reduction goals. To meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels, or about 15 percent from today's levels. The Scoping Plan recommends measures for further study and possible state implementation, such as new fuel regulations. It estimates that a reduction of 174 million $MTCO_2e$ (about 191 million U.S. tons) from the transportation, energy, agriculture, and forestry sectors and other sources could be achieved should the State implement all of the measures in the Scoping Plan.

The Scoping Plan is required by AB 32 to be updated at least every five years. The first update to the AB 32 Scoping Plan was approved on May 22, 2014 by CARB. The 2017 Scoping Plan Update was adopted on December 14, 2017. The Scoping Plan Update addresses the 2030 target established by Senate Bill (SB) 32, as discussed below, and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

Executive Order B-30-15

On April 20, 2015, Governor Brown signed EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG reduction targets with those of leading international governments, such as the 27-nation European Union, which adopted the same target in October 2014. California exceeded the target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, discussed above). California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2˚ Celsius, the warming threshold at which major climate disruptions are projected, such as super droughts and rising sea levels.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which extended California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Senate Bill X1-2 of 2011 and Senate Bill 350 of 2015

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California.

In October 2015, SB 350 was signed by Governor Brown, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from renewable resources by 2030. In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings

The Building and Efficiency Standards were first adopted and put into effect in 1978 and have been updated periodically in the intervening years. These standards are a unique California asset that have placed the State on the forefront of energy efficiency, sustainability, energy independence and climate change issues. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The 2019 standards are a major step toward meeting Zero Net Energy. According to the California Energy Commission, single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards, and nonresidential buildings will use about 30 percent less energy, due mainly to lighting upgrades (CEC 2018). The most significant efficiency improvement to the residential Standards is the introduction of photovoltaic into the perspective package and improvements for attics, walls, insulation, water heating and lighting. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. These new standards apply only to certain non-residential building types, as specified in the requirements.

3.9.2.2 Local

The Proposed Project spans multiple counties and multiple local air quality districts. The Modoc County Air Pollution Control District (MCAPCD) has jurisdiction over Modoc County, Lassen County Air Pollution Control District (LCAPCD) has jurisdiction over Lassen County, and Northern Sierra Air Quality Management District (NSAQMD) has jurisdiction over Sierra County. Currently, these air quality districts have not established post-2020 GHG emissions thresholds for emissions generated from construction or operations of development projects or guidance on evaluating GHG impacts consistent with the statewide GHG-reduction goals of SB 32. To evaluate impacts of GHG emissions, Project emissions would be compared to the GHG threshold established by the nearby Placer County Air Pollution Control District (PCAPCD). PCAPCD updated their thresholds to reflect post-2020 timeframes to contribute to GHG

emissions reduction goals set by AB 32, SB 32, the Scoping Plan, and EOs. Since construction activities would be similar across geographies, PCAPCD's annual GHG thresholds of 10,000 and 1,100 $MTCO_2e$ per year ($MTCO_2e$/yr) for construction and operations, respectively were used for the Project (PCAPCD 2017). This threshold is appropriate because the PCAPCD GHG thresholds were formulated based on similar geography, climate patterns, and land use patterns as found throughout the Project Area.

3.9.3 Impact Analysis

3.9.3.1 Significance Determination

According to Appendix G of the CEQA Guidelines, climate change impacts are considered significant if implementation of the Proposed Project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The Appendix G thresholds for GHG emissions do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance-based standards" (14 California Code of Regulations [CCR] 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change" (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that:

> "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)).

The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130(f)). As a note, the CEQA Guidelines were amended in response to SB 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

In *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal. 4th 2014, 213, 221, 227, following its review of various potential GHG thresholds proposed in an academic study [Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203], the California Supreme Court identified the use of numeric *bright-line* thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found numeric bright line thresholds designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, Public Resources Code Section 21003(f) provides it is a policy of the state that:

> "[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment."

The Supreme Court-reviewed study noted:

> "[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the

> statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant climate change impacts." (Crockett 2011), 4 Golden Gate U. Envtl. L. J. 203, 221, 227.)

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Specifically, the Project is compared to the PCAPCD's annual GHG thresholds for of 10,000 and 1,100 $MTCO_2e$/yr for construction and operations. This threshold is appropriate as the PCAPCD GHG thresholds were formulated based on similar geography, climate patterns, and land use patterns as found throughout the Project Area.

3.9.3.2 Methods of Analysis

Onsite construction (including worker commutes and vendor deliveries), operational area source and energy source, water/wastewater pumping, and solid waste hauling and decomposition emissions were CalEEMod version 2022.1. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects.

As described in Section 2 of this document, construction is anticipated to begin in mid- to late-2023 and take approximately 6 months to complete. As many as 11 crews will be working concurrently on the Project, with many of the activities occurring simultaneously. Construction emissions were calculated using the equipment listed in Section 2 of this document.

Operational emissions associated with maintenance were estimated using amortized construction emissions. This is considered representative of the GHG emissions from mobile sources related to intermittent maintenance. Emergency generator maintenance and testing was calculated separately utilizing CalEEMod, and the emissions surrounding energy usage associated with the three in-line amplifiers was calculated using emission factors derived from CalEEMod and *worst case* conservative estimates for annual energy usage. CalEEMod modeling calculations were conducted to ensure that generator maintenance emissions were significantly lower than the amortized emissions.

3.9.3.3 Project Impacts and Mitigation Measures

Impact GHG-1	**Project implementation could, either directly or indirectly, generate greenhouse gas emissions that may have a significant impact on the environment.**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

In view of the above considerations in Sections 3.9.3.1 and 3.9.3.2, this assessment quantifies the Project's total annual GHG emissions.

Construction

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 3.9-2 illustrates the specific construction generated GHG emissions that would result from construction of the Project.

Table 3.9-2. Construction-Related Greenhouse Gas Emissions

Emissions Source	Greenhouse Gas Emissions ($MTCO_2e/yr$)
Construction Year One	151
Total Emissions	**151**
PCAPCD Significance Threshold	*10,000*
Exceeds Threshold?	**No**

Source: CalEEMod 2022.1

As shown in Table 3.9-2, Project construction would result in the generation of approximately 151 $MTCO_2e$ over the course of construction, which is below the significance threshold. The generation of these GHG emissions would cease upon completion of construction. The predominate source of GHG emissions would be off-road equipment. As such, the implementation of BMPs (Mitigation Measure GHG-1) during Project construction is required to reduce GHG emissions.

Operations

The operational emissions were conservatively quantified by amortizing the calculated construction emissions over the expected 30-year life of the Project. Emissions from operations will be minimal from the following sources: mobile emissions for maintenance worker transportation, emergency generator maintenance and testing, and electrical generation from the three inline amplifiers. Maximum emissions for maintenance and testing of each of the three potential 100-kW generators were calculated at 100 hours of operation per year using CalEEMod. Emissions generated from energy usage from the inline amplifiers were calculated as a *worst-case* scenario utilizing generator size and constant operation. Because the infrastructure is un-crewed, worker trips will only be as-needed with minimum annual CO_2e emissions. Thus, the amortized construction emissions have been determined to conservatively represent operational emissions from the Project.

The modeled operational GHG emissions attributable to the Project are identified in Table 3.9-3.

Table 3.9-3. Operational-Related GHG Emissions	
Emissions Source	**Greenhouse Gas Emissions ($MTCO_2e/yr$)**
As-needed Maintenance/Repairs	1
Generator(s) Maintenance and Testing	3
In-Line Amplifiers	26
Total Emissions	**30**
PCAPCD Significance Threshold	*1,100*
Exceeds Threshold?	**No**

Sources: CalEEMod versions 2022.1

As shown in Table 3.9-3, Project operations would generate 30 $MTCO_2e/yr$, which is below the PCAPCD operational threshold for land use projects.

Mitigation Measures

GHG-1: Greenhouse Gas Emissions Reduction During Construction.

The following measures shall be implemented as best management practices to avoid or minimize greenhouse gas emissions from all construction sites wherever possible:

- If suitable park-and-ride facilities are available in the Project vicinity, construction workers shall be encouraged to carpool to the job site.
- The Applicant shall develop a carpool program to the job site, consistent with state and federal requirements.
- On-road and off-road vehicle tire pressures shall be maintained to manufacturer specifications.
- Tires shall be checked and re-inflated at regular intervals.
- Demolition debris shall be recycled for reuse consistent with state and federal requirements.
- The contractor shall use line power instead of diesel or other portable generators at all construction sites where line power is available.
- The contractor shall maintain construction equipment per manufacturer specifications.

Impact GHG-2	**Project implementation could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

As a statewide plan, California's 2017 Climate Change Scoping Plan adopted by CARB on December 14, 2017 would be applicable to the Project. The 2017 Climate Change Scoping Plan Update addressed SB 32 to achieve a 40 percent below 1990 statewide GHG emissions limit no later than 2030.

Many of the measures included in the 2017 Scoping Plan are implemented on a statewide level and do not specifically apply to the Project. However, by using cleaner construction equipment, the Project would participate in generating fewer short-lived climate pollutants consistent with the State's Short-Lived Climate Pollutant Reduction Strategy for black carbon (see Mitigation Measure AIR-2 in Section 3.4, Air Quality). The construction worker and haul fleet would also be subject to cleaner fuels as regulations are implemented at the statewide level. The Project would not be inconsistent with any of the state's strategies included in the 2017 Scoping Plan, and as such, would not conflict with this Plan.

The Project would comply with CARB's Airborne Toxic Control Measures, which would reduce excessive GHG emissions from heavy duty truck idling during construction and equipment would be properly maintained according to the manufacturer's specifications to ensure efficient engine performance. Overall, the Project would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions; therefore, impacts would be less than significant with Mitigation Measure GHG-2.

Mitigation Measures

GHG-2: Greenhouse Gas Emissions Reduction During Operations.

The following measures shall be implemented as best management practices to minimize greenhouse gas emissions during operations wherever possible:

- On-road and off-road vehicle tire pressures shall be maintained to manufacturer specifications.
- Tires shall be checked and re-inflated at regular intervals.
- Battery power will be used as back-up in place of generators where feasible.

3.9.4 Cumulative Impacts

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have much longer atmospheric lifetimes of one year to several thousand years, which allows them to be dispersed around the globe.

As mentioned above the PCAPCD has established GHG significance thresholds for operational GHG emissions to be *cumulatively considerable*. This level is 1,100 $MTCO_2e$/yr, which is above the maximum estimated emissions of 30 $MTCO_2e$/yr. It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. The CEQA

Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130(f)). Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the Project.

3.10 Hazards and Hazardous Materials

This section describes the environmental setting for hazards and hazardous materials, including the existing site conditions and regulatory setting, impacts that would result from the Proposed Project, and, if significant impacts are identified, the mitigation measures that would reduce these impacts.

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 a 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 that 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 or combination of 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 irreversible or incapacitating reversible illness[, or] [p]ose a substantial present or potential hazard to human health or the environment … when improperly treated, stored, transported, disposed of, or otherwise managed.

Section 25532(j) of the Health and Safety Code defines *regulated substances accident risk* to mean a potential for the accidental release of a regulated substance into the environment that could produce a significant likelihood that persons exposed may suffer acute health effects resulting in significant injury or death.

Section (j) defines *regulated substance* to mean any substance that is either of the following (20 CFR Article 2 Section 25532):

(1) A regulated substance listed in Section 68.130 of Title 40 of the CFR pursuant to paragraph (3) of subsection (r) of Section 112 of the Clean Air Act (42 USC Sec. 7412(r)(3)).

(2) An extremely hazardous substance listed in Appendix A of Part 355 (commencing with Section 355.10) of Subchapter J of Chapter I of Title 40 of the CFR that is any of the following:

   i. A gas at standard temperature and pressure.

   ii. A liquid with a vapor pressure at standard temperature and pressure equal to or greater than 10 millimeters mercury.

iii. A solid that is one of the following:

I. In solution or in molten form.

II. In powder form with a particle size less than 100 microns.

III. Reactive with a National Fire Protection Association rating of 2, 3, or 4

IV. A substance that the office determines may pose a regulated substances accident risk pursuant to subclause (II) of clause (i) of subparagraph (B) or pursuant to Section 25543.3.

3.10.1 Environmental Setting

3.10.1.1 Hazardous Materials Report

The majority of the Project is located within the existing right-of-way of public roads or immediately adjacent to previously disturbed areas; therefore, a Phase I Environmental Site Assessment of the Project was not conducted. To determine existing hazardous materials along the planned conduit route, the regulatory agency database search report was obtained from Environmental Data Resources, Inc. (EDR), a third-party environmental database search firm (Stantec 2020).

The EDR database was reviewed to evaluate if properties located adjacent to or in close proximity to the planned conduit route represented an environmental concern or concerns to the conduit placement. Those concerns include the potential presence of hazardous materials that could contaminate soil, soil vapor, or groundwater within the planned average construction depth of 4 to 10 feet below ground surface, and boring depths of up to 15 feet below the water body bed for stream crossings and up to 30 feet for cultural resources.

The locations of the listed facilities are depicted on individual Focus Maps included in the Project Application PEA (Stantec 2020), ranging from the northern tip of the Project alignment on the California-Oregon border (Focus Map 1, PEA Appendix F) to the southeastern tip on the California-Nevada border (Focus Map 79, PEA Appendix F).

Table 3.10-1 shows hazardous material or hazardous waste sites within or adjacent to the Project alignment with potential to adversely affect the Project.

Table 3.10-1. Hazardous Material or Hazardous Waste Sites in Proximity to the Proposed Project

Listed Facility Name/Address	Database Listing	Distance to the Project	Site Type	Site Status	Analysis
Wayside Inn Mini Mart 718-710 Highway 395 Standish, CA 96128	CA UST; CA CERS; CA CUPA; CA LUST; CA Cortese	Adjacent to US 395	UST	Active, multiple minor spill violations	Risk of potential surface and groundwater pollution
Termo Store 713-785 Highway 395 Termo, CA 96132	CA CPS-SLIC	Approximately 20 feet from construction footprint	Water well contamination	Open, Site Assessment Phase	Risk of likely groundwater pollution
XL Ranch Rancheria / XL Ranch – Hay Loading Area Madeline, CA 96119	Indian Reservation/ Open Dumps/ CA NPDES; CA CIWQS	Adjacent to US 395	Contains an open dump	Multiple dump sites, some active, some open dump cleanups	Risk of likely surface pollution
PacifiCorp – Alturas Substation Northwest Side of US Highway 395 at intersection with County Road 265 Alturas, CA 96101	CA CERS	Adjacent to US 395	Chemical storage facility	Status unknown	Low risk
Federated Community Church First and East Streets Alturas, CA 96101	CA HIST UST	Adjacent to US 395	UST	Status unknown, historic record	Low risk
Riverside Texaco / B&B Liquor 103 East Carlos Street Alturas, CA 96101	EDR HIST Auto; CA SWEEPS UST; CA HIST Cortese	Adjacent to US 395	UST	None available, historic record	Low risk
Monitoring Station / US Forest Services 600 South Main Street Madeline, CA 96119	FINDS; CA CERS; CA HAZNET; CA HWTS; RCRA-LQG	Adjacent to US 395	Air quality monitoring station	Haz Waste LQG and T&D at same address, no records in past decade	Low risk
Caltrans – Alturas 406 East Hwy 395 Alturas, CA 96101	CA AST; CA CERS	Adjacent to US 395	AST	Active, multiple violations, no spills	Low risk
Modoc National Forest 700 South Main Street Alturas, CA 96101	CA HAZNET; CA HWTS	Adjacent to US 395	Offsite disposal area with inorganic solid waste	Status unknown, only transport offsite	Low risk

Table 3.10-1. Hazardous Material or Hazardous Waste Sites in Proximity to the Proposed Project

Listed Facility Name/Address	Database Listing	Distance to the Project	Site Type	Site Status	Analysis
Alturas Ranches – Alturas Shop 65A County Road 187 C Alturas, CA 96101	CA CERS; CA AST	Adjacent to US 395	UST	Status unknown, no violations	Low risk
Likely General Store 3260 Highway 395 Alturas, CA 96101	CA CERS	Adjacent to US 395	UST	Active, multiple violations, no spills	Low risk
Walter Sphar Trucking 3112 Highway 395 Likely, CA 96116	FINDS; CA AST	Adjacent to US 395	AST	Status unknown, no violations, no spills	Low risk
Bureau of Land Management 474-000 Highway 395 Litchfield, CA 96117	CA CUPA, CA CERS	Adjacent to US 395	Chemical storage facility	Status unknown, no violations, no spills	Low risk
Sierra Cascade Aggregate 474-315 Highway 395 Madeline, CA 96119	CA CERS; CA CUPA	Adjacent to US 395	AST	Active, multiple violations, no spills	Low risk
Mapes Lane Bridge 7C-02 Replacement Susanville, CA 96130	CA CIWQS; CA CERS	Adjacent to US 395	Dredge/fill site	Terminated, no violations	Low risk
Milford Yard 450-040 US Highway 3 Milford, CA 96121	CA CERS; CA CUPA; CA AST; FINDS	Adjacent to US 395	AST – petroleum	Active, no violations	Low risk
Ross Ranch 454-175 US Highway 395 N Milford, CA 96121	CA HIST UST	Adjacent to US 395	UST	Status unknown, historic record, no violations	Low risk
Donald Morgan 450-415 US Highway 395 Milford, CA 96121	CA HIST UST	Adjacent to US 395	UST	Status unknown, historic record, no violations	Low risk
The Mark 445-625 Highway 395 Herlong, CA 96113	CA CERS; CA CUPA; CA AST	Adjacent to US 395	AST – petroleum	Active, multiple violations, no spills	Low risk

Table 3.10-1. Hazardous Material or Hazardous Waste Sites in Proximity to the Proposed Project

Listed Facility Name/Address	Database Listing	Distance to the Project	Site Type	Site Status	Analysis
Payless Gas and Grocery / Doyle Payless Highway 395 and Rachel Drive 745-7500 Rachel Drive Doyle, CA 96130	CA HIST UST; CA SWEEPS UST; EDR HIST Auto; CA HIST UST; FINDS; CA AST; CA CERS; CA CUPA;	Adjacent to US 395	UST	Multiple active tanks, multiple violations, no spills	Low risk
02 4E4204 Bordertown 02 LAS 395 PM 0 0 5 6 02 sie 395 pm 0 0 3 1 Chilcoot, CA 96105	CA NPDES; CA CIWQS; CA CERS	Adjacent to US 395	Construction site with stormwater permit	Active, no violations	Low risk
Modoc Road Department – Davis Creek Shop 41900 Hwy 395 Davis Creek, CA 96108	CA AST; CA CERS	Adjacent to US 395	AST – petroleum	Active, No Spills/Releases	Low risk
Bureau of Land Management Highway 395 Ravendale, CA 96128	CA CUPA; CA CERS; CA AST	Adjacent to US 395	AST – petroleum	Active, no violations	Low risk
B&B Deli 130 Carlos Street E Alturas, CA 96101	CA LUST; CA CERS	Adjacent to US 395	LUST	Cleanup Case Closed	Risk of potential groundwater pollution
Heard's Market 473-525 Market Street Litchfield, CA 96117	CA LUST; CA SWEEPS UST; CA HIST UST; CA CERS	Adjacent to US 395	LUST	Cleanup Case Closed	Risk of potential groundwater pollution
Lassen County Road Department District 3 718-950 Church Street Standish, CA 96128	CA CUPA; CA CERS	Adjacent to US 395	Chemical storage facility	Active, no violations	Low risk
Sierra Lady Placer Claims P.O. Box 34719	CA Mines	Adjacent to US 395, approximately 100 feet west of the construction footprint	Mining operations	Active, no violations	Low risk

Table 3.10-1. Hazardous Material or Hazardous Waste Sites in Proximity to the Proposed Project

Listed Facility Name/Address	Database Listing	Distance to the Project	Site Type	Site Status	Analysis
Hindle Pit-Modoc 202 West 4th Street	CA Mines	Adjacent to US 395, approximately 230 feet southeast of the construction footprint	Mining operations	Active, no violations	Low risk
Pozzolan Hill Pit-Reclaimed 608 SE 50th Avenue County of Lassen, CA	CA Mines	Adjacent to US 395, approximately 270 feet southeast of construction footprint	Mining operations	Reclamation complete, no violations	Low risk
Surian Litchfield Pit 707-010 Wingfield Road County of Lassen	CA Mines	Adjacent to US 395, approximately 270 feet southeast of construction footprint	Mining operations	Closed, reclamation in progress, no violations	Low risk
Madeline Pit 1657 Riverside Drive County of Lassen, CA	CA Mines	Adjacent to US 395, approximately 280 feet east of the construction footprint	Mining operations	Idle, no violations	Low risk
Holdorff's Recycling 605 North Court Street Altura, CA 96101	CA SWRCY	Adjacent to US 395, approximately 330 feet west of construction footprint	Recycling center	Active, no violations	Low risk
Davis Creek Transfer / Davis Creek Disposal 1 MI S Davis Creek / County Road 133B Davis Creek, CA	CA SWF/LF; CA CERS	Adjacent to US 395, approximately 400 feet east of the construction footprint	Waste collection facility	Transfer: Active Disposal: Closed	Low risk

Table 3.10-1. Hazardous Material or Hazardous Waste Sites in Proximity to the Proposed Project

Listed Facility Name/Address	Database Listing	Distance to the Project	Site Type	Site Status	Analysis
Schmidt Equipment Repair 705-065 US Highway 395 E Susanville, CA 96130	CA CUPA; CA CERS	Adjacent to US 395	Hazardous Waste Generator	Active, multiple violations, no spills/releases	Low risk

Source: Stantec 2020
Notes:

AST	aboveground storage tank
CA	California
CERS	California Environmental Reporting System
CIWQS	California Integrated Water Quality System
Cortese	California Hazardous
CPS-SLIC	Cleanup Program Sites – Spills, Leaks, Investigations, and Cleanups
CUPA	Certified Unified Program Agency
DOD	United States Department of Defense
FINDS	Facility Index System/Facility Registry System
HAZNET	Facility and Manifest Data
HIST	historical
HWTS	Hazardous Waste Tracking System
LUST	Leaking Underground storage tank
NPDES	National Pollution Discharge Elimination System
RCRA-LQG	Resource Conservation and Recovery Act – Large Quantity Generator
SWEEPS	Statewide Environmental Evaluation and Planning System
SWRCY	Recycling Facilities in California Database
SWF/LF	Solid Waste Information System/Landfill
US 395	United States Highway 395
UST	underground storage tank

3.10.1.2 Airports and Airport Land Use Plans

The following airports are located within 2 miles of US 395 along the Project alignment (Stantec 2020):

- *Alturas Municipal Airport*. This airport is a city-owned public use airport located approximately 1 mile west of the Project alignment.
- *Bates Field Airport*. This is a private use airport located approximately 1.25 miles west of the Project alignment.
- *Ravendale Airport*. This airport is a publicly owned public use airport located approximately 0.25 mile northeast of the Project alignment.

There are no commercial flights from these airports. There are no Airport Land Use Plans pertinent to the Project Area.

3.10.1.3 Fire Hazard

As further discussed in Section 5.20, Wildfire, the Proposed Project alignment traverses through areas with Local Responsibility Area (LRA), State Responsibility Area (SRA), and Federal Responsibility Area (FRA) classifications, which relate to the jurisdiction of wildfire response. Both the California Department of

Forestry and Fire Protection (CAL FIRE) and CPUC have mapped high fire severity areas within or adjacent to the Project alignment. Fire hazards are not discussed in detail in this section but are discussed in detail in Section 5.20.

3.10.1.4 Metallic Objects

Several electric power lines run along US 395 adjacent to the Project alignment that provide regional electrical power to much of the area. Additionally, several pipelines run under or adjacent to US 395, particularly in more populated areas like the City of Alturas. Because the Project itself includes the placement of a fiber optic line underground within existing roadway right-of-way, it would not provide a source of alternating current. The placement of the fiber optic line would be located away from any utility lines, if present, and would not cause corrosion. Additionally, the fiber optic line would be shielded with 3.2-centimeter (cm)-diameter HDPE, which would prevent the cable from interacting with any nearby metallic objects. Because the Project is not an electrical project, metallic objects within 25 feet of the Project are not identified in this EIR.

3.10.1.5 Hazardous Air Pollutants

The USEPA defines hazardous emissions, also known as Hazardous Air Pollutants (HAP), as those pollutants that are known or suspected to cause cancer or other serious health effects. These pollutants can come from sources such as gasoline, motor oils, asbestos, and paint strippers and can be inhaled or ingested. Fuels, such as diesel and gasoline, that are required for the operation of construction equipment are considered Class 3, flammable liquid. These are considered hazardous materials that can lead to fires or explosions if handled incorrectly. Additionally, oils and lubricants for operation of equipment are also considered Class 3 hazardous materials.

Asbestos

A review of the USGS Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California map showed no known occurrences of naturally occurring asbestos (NOA) or ultramafic rock formations in Modoc or Lassen Counties. Some NOA occurrences are located within Sierra County; however, these occurrences are located in the western portion of Sierra County, well outside of the Project Area (Stantec 2020). This map is only intended for use by government agencies and private industry to inform the likelihood of NOA in particular regions of California and it is not intended as final determination of the presence or lack of presence of NOA. However, a site-specific review of the NRCS Web Soil Survey also showed no ultramafic rock present along US 395. Therefore, the likelihood of the presence of NOA within or near the Project alignment is very low to none and is not discussed or analyzed further in this EIR.

3.10.1.6 Schools

The following schools are located within 0.25 mile of the Project alignment:

- *State Line Elementary School*. This school is located in New Pine Creek approximately 350 feet west of US 395.

- *Modoc High School*. This school is located approximately 60 feet east of US 395 in the City of Alturas.
- *Shaffer Elementary School*. This school is located in Litchfield approximately 80 feet north of US 365.
- *Janesville Elementary School*. This school is located in Buntingville approximately 1,300 feet west of US 395.
- *Long Valley School-Doyle*. This school is located in Doyle approximately 200 feet east of US 395.

3.10.2 Regulatory Setting

3.10.2.1 Federal

Resource Conservation and Recovery Act/Comprehensive Environmental Response, Compensation, and Liability Act

The USEPA regulates hazardous substance sites under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 regulates hazardous waste from the time that waste is generated through its management, storage, transport, and treatment, until its final disposal.

49 Code of Federal Regulations 100-185, Hazardous Materials Regulations

The U.S. Department of Transportation (USDOT) Pipeline and Hazardous Materials Safety Administration is responsible for regulating and ensuring the safe and secure movement of hazardous materials to industry and consumers by all modes of transportation. Title 49 of CFR Parts 100 through 185 addresses hazardous materials classification, packaging, hazard communication, emergency response information, and training.

Hazardous Materials Transportation Act

The transport of hazardous materials is regulated by the USDOT under the Hazardous Materials Transportation Act (HMTA). To accomplish this, the Federal Aviation Administration, Federal Motor Carrier Safety Administration, Federal Railway Administration, Pipeline and Hazardous Materials Safety Administration, and the U.S. Coast Guard have been given authority to enforce hazardous material transport regulations.

Occupational Safety and Health Administration

The Occupational Safety and Health Act of 1970 created the Occupational Safety and Health Administration (OSHA), which is responsible for protecting the health of workers, such as during the handling of hazardous materials. OSHA has created regulations to set federal standards of workplace safety including exposure limits, mandatory workplace training, accident and injury reporting, and safety procedures. These regulations are recorded in the CFR Title 29.

3.10.2.2 State

California Regional Water Quality Control Board

The primary responsibility for the California RWQCBs is to provide protection of water quality in California, and there are nine RWQCBs within California. The RWQCBs set policy for implementation of state and federal laws and regulations within the state. The RWQCBs adopt and implement Water Quality Control Plans (Basin Plans) that recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities (Stantec 2020).

Lahontan Regional Water Quality Control Board

The Lahontan RWQCB (Region 6) jurisdiction extends from the Oregon border to the northern Mojave Desert and includes all of California east of the Sierra Nevada crest. Counties under the jurisdiction include Modoc (east), Lassen (east side and Eagle Lake), Sierra, Nevada, Placer, El Dorado, Alpine, Mono, Inyo, Kern (east), San Bernardino, and Los Angeles (northeastern corner).

California Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) is a part of the California Environmental Protection Agency (CalEPA) and regulates the generation, handling, treatment, and disposal of hazardous wastes in California. DTSC enforces the RCRA program in California.

According to the Government Code Section 65962.5(a), DTSC "shall compile and update as appropriate, but at least annually, and submit a list of the following to the Secretary for Environmental Protection:

1. All hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code
2. All land designated as hazardous waste property or border zone property pursuant to Article 11 (commencing with Section 25220) of Chapter 6.5 of Division 20 of the Health and Safety Code"

California Environmental Protection Agency

CalEPA develops, implements, and enforces environmental laws that regulate air, water and soil quality, pesticide use and waste recycling and reduction. Senate Bill 1082 (1993) requires that CalEPA do the following:

- Grant to either DTSC or the SWRCB and RWQCBs the sole authority to implement and enforce the requirements of Article 6 (commencing with Section 66264.90) of Chapter 14 of, and Article 6 (commencing with Section 66264.90) of Chapter 15 of, Division 4.5 of Title 22 of the CCR and of Article 5 (commencing with Section 2530) of Chapter 15 of Division 3 of Title 23 of the CCR.
- Develop a process for ensuring that each hazardous waste facility cleans up or abates the effects of a release of hazardous substance pursuant to Section 13304 of the Water Code, takes corrective action for a release of hazardous waste or constituents pursuant to Section 25200.10, or

both. Sole jurisdiction over the supervision of these actions (meaning oversight of those corrective action activities) is vested in either DTSC or SWRCB and RWQCBs.

- Develop a unified hazardous waste facility permit issued by the department that incorporates all conditions, limitations, and requirements imposed by SWRCB or the RWQCBs to protect water quality, and incorporate all conditions, limitations, and requirements imposed by the department.
- Develop a consolidated enforcement and inspection program that is designed to ensure effective, efficient, and coordinated enforcement of the laws implemented by DTSC or SWRCB and RWQCBs, as those laws relate to facilities conducting offsite hazardous waste treatment, storage, or disposal activities, and to facilities conducting onsite treatment, storage, and disposal activities, which are required to receive a permit under SB 1082.

Cortese List Government Code Section 65962

Government Code Section 65962 was enacted in 1985 and amended in 1992. It is used as a planning tool to comply with CEQA and requires information about locations of hazardous materials release sites. It states that through the combined efforts of the DTSC, the Department of Health Services, SWRCB, and local enforcement agencies, a list of potentially hazardous areas and sites will be compiled and will remain up to date (updated annually, at minimum). The list is consolidated by the Secretary for Environmental Protection and is distributed to each city and county where sites on the list are located. The list can be found on the DTSC's data management system known as EnviroStor, which includes information from the SWRCB GeoTracker database.

California Department of Transportation

Caltrans manages interregional transportation, including the management and construction of the California highway system. In addition, Caltrans is responsible for the permitting and regulation of state roadways and requires that permits be obtained for transportation of oversized loads and transportation of certain materials, such as hazardous materials, and for construction-related traffic disturbance.

California Environmental Quality Act

CEQA (PRC Section 21151.4. (a)) states that an EIR shall not be certified or a negative declaration shall not be approved for any project involving the construction or alteration of a facility within 0.25 mile of a school that might reasonably be anticipated to emit hazardous air emissions, or that would handle an extremely hazardous substance or a mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code, that may pose a health or safety hazard to persons who would attend or would be employed at the school, unless certain notification and consultation requirements with the school district have been met.

Division of Occupational Safety and Health

The Division of Occupational Safety and Health (DOSH or CalOSHA), is responsible for enforcing workplace safety regulations and requirements in California, including hazardous materials requirements

recorded under CCR Title 8. These regulations include requirements for safety training, availability of safety equipment, accident and illness prevention programs, warnings about hazardous substance exposure (such as asbestos), and preparation of emergency action and fire prevention plans.

DOSH also enforces hazard-communication program regulations that contain training and information requirements. Such requirements include procedures for identifying and labeling hazardous substances, for communicating information about hazardous substances and their handling, and for preparing health and safety plans to protect workers and employees at hazardous waste sites. Under the hazard-communication program, employers must make Safety Data Sheets (SDS) available to employees and document employee information and training programs.

California Emergency Services Act

The California Emergency Services Act provides the basic authority for conducting emergency operations following a proclamation of emergency by the governor and/or appropriate local authorities. Local government and district emergency plans are considered to be extensions of the California Emergency Plan, established in accordance with the Emergency Services Act.

The California Emergency Management Agency (CAL EMA) is the state agency responsible for establishing emergency response and spill notification plans related to hazardous materials accidents. CAL EMA requires specific businesses to prepare an inventory of hazardous materials (CCR Title 19). CAL EMA is also the lead state agency for emergency management and is responsible for coordinating the state-level response to emergencies and disasters.

Fire Protection

California state fire safety regulations apply to SRAs during the time of year designated as having hazardous fire conditions. CAL FIRE has developed a fire hazard severity scale that considers vegetation, climate, and slope to evaluate the level of wildfire hazard in all SRAs. An SRA is defined as the part of the state where CAL FIRE is primarily responsible for providing basic wildland fire protection assistance. Areas under the jurisdiction of other fire protection services are considered to be Local Responsibility Areas or on federal lands are considered FRAs.

During the fire hazard season, these regulations include the following:

(a) restrict the use of equipment that may produce a spark, flame, or fire;

(b) require the use of spark arrestors on any equipment that has an internal combustion engine;

(c) specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and

(d) specify fire suppression equipment that must be provided onsite for various types of work in fire-prone areas.

CAL FIRE has primary responsibility for fire protection within SRAs.

3.10.2.3 Local

Modoc County General Plan

The Modoc County General Plan was adopted in September 1988 and includes the following policies related to hazards that are relevant to the Project (Modoc County 1988, as amended):

Goal: To protect the public health and safety through limitation of development in hazardous areas

Policy: Recommendations within the state Fire Safe Guide should be implemented wherever practicable in Modoc County.

Lassen County General Plan

The Lassen County General Plan was adopted in September 1999 and includes the following goals related to hazards that are relevant to the Project (Lassen County 1999, as amended):

Goal O-6: To support the protection of the public from natural hazards and from threats to health and safety which could result from damage to or contamination of public resources.

Sierra County General Plan

The Sierra County General Plan was first adopted in 1996 and includes the following goals and policies related to hazards that are relevant to the Project (Sierra County 1996, as amended):

Goal: It is the County's goal to maintain a high level of safety for people and property by limiting the exposure of its residents to safety hazards, including seismic and geologic hazards, flooding and fire.

Policy 23: Provide for the identification, safe use, storage, transport, and disposal of hazardous materials.

Certified Unified Program Agency

A Certified Unified Program Agency (CUPA) are local agencies certified by DTSC, SWRCB or RWQCBs to conduct the Unified Program established by SB 1082 (as explained under Section 5.9.2.2, State). DTSC, the Modoc County Department of Environmental Health, the Lassen County Department of Environmental Health, and the Sierra County Department of Environmental Health are the CUPAs with jurisdiction in the vicinity of the Project.

Modoc County Department of Environmental Health. The Modoc County Department of Environmental Health has legal authority for local environmental health programs as cited in the California Health and Safety Code, CCR Titles 17 (Drinking Water) and 22 (Environmental Health), and local ordinances. As the CUPA, Modoc County conducts site inspections of hazardous materials programs (aboveground storage tanks [ASTs], underground storage tanks [USTs], hazardous waste tiered treatment, hazardous waste generators, hazardous materials management and response plans, and the California Fire Code). The county also provides permits to drill, destroy, deepen, or recondition a water well (Stantec 2020).

Lassen County Department of Environmental Health. The Lassen County Department of Environmental Health is responsible for the programs designed to control or prevent disease, improve the overall environment, and enhance the general welfare and health of the community. The environmental health programs include body art, food safety, hazardous material management, liquid waste management, medical waste, recreation waters, septic systems and onsite sewage disposal, solid waste, USTs, water supply protection, water wells, water systems, and other insect and disease control programs. As the CUPA, Lassen County conducts site inspections of hazardous materials programs (ASTs, USTs, hazardous waste tiered treatment, hazardous waste generators, hazardous materials management and response plans, and the California Fire Code). The Lassen County Department of Environmental Health also provides emergency response to hazardous materials events, performing health and environmental risk assessment and substance identification (Stantec 2020).

Sierra County Department of Environmental Health. The Sierra County Department of Environmental Health is the local agency for implementing state and local laws affecting the public health of Sierra County. The Sierra County Department of Environmental Health responds to code complaints involving surfacing sewage, food facilities, hazardous materials, public pools, water systems, noise, and other un-permitted land use issues. Under the CUPA, Sierra County performs and oversees site inspections of hazardous materials programs, the California Accidental Release Prevention (CalARP) Program, the Underground Storage Tank Program, the Above-ground Petroleum Storage Act (APSA) Program, Hazardous Waste Generator and Onsite Hazardous Waste Treatment (Tiered Permitting) Programs, Area Plans for Hazardous Materials Emergencies, and the California Fire Code (Stantec 2020).

3.10.3 Environmental Impacts

3.10.3.1 Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines. For the purposes of this EIR, implementation of the Proposed Project would result in a potentially significant impact associated with hazards and hazardous materials if it would do 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 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 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 reading or working in the Project Area.

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.
- Create a significant hazard to air traffic from the installation of new power lines and structures.
- Create a significant hazard to the public or environment through the transport of heavy materials using helicopters.
- Expose people to a significant risk of injury or death involving unexploded ordnance.
- Expose workers or the public to excessive shock hazards.

3.10.3.2 Methods of Analysis

This impact analysis examines the potential for the construction, operation, and maintenance of the Proposed Project to result in release of hazardous materials into the environment. Construction, operation, and maintenance of the Project would comply with all applicable laws, permits, and legal requirements pertaining to hazards and hazardous materials, as discussed above.

3.10.3.3 Project Impacts and Mitigation Measures

Impact HAZ-1	**Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

Construction

Temporary construction activities associated with the Project would involve the transport and use of gasoline, diesel fuel, hydraulic fuel, solvents, and oils typically associated with operation of construction equipment and vehicles. Non-toxic, non-hazardous bentonite drilling fluid would be used for directional boring, and a mineral-based, non-toxic, non-hazardous lubricant would be used for conduit proofing. These materials would primarily be contained within construction equipment but may also be stored appropriately, transported to, or replenished onsite periodically. Table 3.10-2 below provides the hazardous materials typically used for construction that may be encountered during the Proposed Project activities.

Table 3.10-2. Hazardous Materials Typically Used in Construction		
ABC fire extinguisher	Contact cleaner	Mastic coating
Acetylene gas	Diesel de-icer	Methyl alcohol
Air tool oil	Diesel fuel	Motor oil
Ammonium hydroxide	Diesel fuel additive	Paint thinner
Antifreeze (ethylene glycol)	Eyeglass cleaner (methyl chloride)	Propane
Asphalt	Gasoline	Puncture seal tire inflator
Automatic transmission fluid	Gasoline treatment	Starter fluid
Battery acid	Hot stick cleaner (polydimethylsiloxane)	Circuit breakers (sulfur hexafluoride)
Bottled oxygen	Hydraulic fluid	Two-cycle oil (distillates and hydro-treated heavy paraffin)
Brake fluid	Insect killer	Wasp and hornet spray (1,1,1-trichloroethene)
Canned spray paint	Insulating oil (inhibited, non-polychlorinated biphenyl [PCB])	WD-40
Chain lubricant (methylene chloride)	Lubricating grease	ZEP (safety solvent)
Connector grease (PENETROX®)	–	–

Source: Stantec 2020

These chemicals would be used, stored, and transported onsite during Project construction, as well as transported along public roadways. Should any hazardous soil be encountered during construction, such material would be disposed of properly at an approved hazardous waste disposal facility in California such as the Kettleman Hills Facility in Kettleman City, California. Federal, state, and local laws governing the hauling, storage, and transport of these and other hazardous materials and spill response are discussed in Section 3.10.2, Regulatory Setting, and compliance with these laws would be required for storage and transport of Project hazardous materials. These regulations are established to prevent the improper use of materials and reduce the risk of exposure to the public.

Accidental release of potentially hazardous materials during construction could cause a potentially significant impact if not properly managed. However, compliance with Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and implementation of the SWPPP (HYDRO-1) would be required to ensure that potentially hazardous material releases are contained in accordance with all applicable laws and regulations and to ensure that construction workers are properly trained on the potentially hazardous conditions in the Project Area. Mitigation Measures HAZ-1, HAZ-2, and HYDRO-1 would be implemented throughout construction activities and would ensure that impacts related to the routine transport, use, or disposal of hazardous materials are reduced to a less than significant level with mitigation.

Operation and Maintenance

The Project consists of an underground fiber optic line and ancillary aboveground structures. As described in Section 2.4, Project infrastructure would be monitored remotely, and routine maintenance checks would be performed by checking aboveground infrastructure and stopping to open vault hatches. Repairs to Project components would require similar hazardous materials as listed in Table 3.10-2 and any wastes generated would be subject to laws regarding their transport and disposal. Routine inspections would have no impact related to hazards and hazardous materials. If repairs are needed, depending on the extent of the repair, similar effects to those described for construction would occur, but to an area localized at the repair. With the implementation of Mitigation Measures HAZ-1, HAZ-2, HAZ-3 and HYDRO-1, impacts related to larger repairs would be less than significant.

Mitigation Measures

HAZ-1: **Hazardous Materials Management Plan.** The Applicant shall create and implement a hazardous materials management plan to govern the use and handling of hazardous materials during construction, operation, and maintenance. The plan shall identify control measures to prevent the release of hazardous materials, as well as a detailed action plan to respond to an incidental spill in compliance with all local, state, and federal regulations relating to the handling of hazardous materials. These plans shall be implemented in conjunction with the Stormwater Pollution and Prevention Plan (SWPPP). All drilling muds, slurries, oils, oil-contaminated water, and other waste materials removed from the Project or otherwise used during the Project shall be disposed of at a permitted landfill, other appropriately permitted site, or at an upland site approved in advance by the RWQCB. Specific measures of these plans shall include the following:

- Hazardous Materials Inventory and SDS recordkeeping.
- Site-specific buffers to be used if work occurs adjacent to any hazardous sites, and remediation or containment efforts to be taken if construction activities occur in a hazardous site.
- Analytical testing of soil within and adjacent to known hazardous materials sites prior to the start of construction activities.
- Development of a Lead Compliance Plan outlining procedures to be implemented should aerially deposited lead be discovered.
- Emergency response and reporting procedures.
- Proper disposal of potentially hazardous materials.
- Containment of spills from construction equipment and vehicles (also required through the preparation of a Spill Prevention, Control, and Countermeasure [SPCC] Plan), which would include the following:
  - Maintenance and inspection of all construction vehicles.
  - Refueling and parking restrictions to prevent fuel from entering adjacent waterbodies.

- Secondary containment for stationary diesel generators.
- Specifications for the availability of spill containment and response equipment.
- Designation of responsibilities and communication and reporting procedures in the event of a spill.
- Spill response procedures.

HAZ-2: **Worker Environmental Awareness Program for Hazardous Materials.** Prior to commencing construction activities the Applicant shall prepare a Worker Environmental Awareness Program (WEAP) for Hazardous Materials. The purpose of the WEAP for Hazardous Materials is to educate personnel (i.e., construction workers) about the existing onsite and surrounding resources, measures required to protect these resources, and how to avoid potential hazards within these sites. The WEAP shall include materials and information on potential hazards resulting from construction within the Project Area, and applicable precautions personnel shall take to reduce potential impacts.

The WEAP presentation shall be given to all personnel who enter the Project construction area. The WEAP presentation shall be given prior to the start of construction and as necessary throughout the life of the Project as new personnel arrive onsite. The Applicant is responsible for ensuring that all onsite personnel attend the WEAP presentation, receive a summary handout, and sign a training attendance acknowledgement form to indicate that the contents of the program are understood and to provide proof of attendance. Each participant of the WEAP presentation shall be responsible for maintaining their copy of the WEAP reference materials and making sure that other onsite personnel are complying with the recommended precautions. The contractor shall keep the sign in sheet onsite and submit copies of the WEAP sign-in sheet to the Applicant's Project Manager, who shall keep it on file at their offices.

The following information and implementation steps shall be prepared, presented, and executed prior to and during construction to prevent exposure and raise awareness of potential site hazards:

- Inform personnel about potentially hazardous sites within the Project Areas and how to identify hazardous materials sites.
- Signs of potential contamination within soils may include stained soils, discolored or oily water, previously unknown underground storage tanks, etc.

Work shall be stopped if any of these signs are identified within the Project Area, and HAZ-1 shall be implemented before work shall resume.

HAZ-3: **Surface Spill and Hydrofracture Contingency Plan.** Construction of the Project may involve drilling under water bodies. To minimize the potential for an accidental release of bentonite drilling fluid caused by a fracture in the rock underlying a water body (an event known as a *frac-out*), prior to commencing drilling operations the Applicant shall prepare a Surface Spill and Hydrofracture Contingency Plan. The Applicant shall monitor drill mud

pressure and volume at all times during drilling to ensure that hydrofracture or other loss of drill muds has not occurred. In the event of sudden loss in pressure or volume, the Applicant shall take appropriate steps described in the plan to ensure that drilling muds are not discharged. At a minimum, the plan shall include the following preventative measures:

- Visual inspection of the bore path at all times during drilling operations.
- Personnel stationed upstream and downstream of the bore path to monitor water conditions when water is flowing.
- When boring is necessary adjacent to wetlands and waters, the bore rigs shall be located as specified in the Surface Spill and Hydrofracture Contingency Plan.
- Specifications for availability of containment and cleanup equipment in the event of a frac-out.
- Designation of responsibilities, communication protocols, and reporting procedures in the event of a frac-out.

HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan (SWPPP). See Section 3.11, Hydrology

Impact HAZ-2	**Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

Construction

The potential for release of hazardous materials into the environment could result from discovery of hazardous materials in soil excavated during construction or from spills related to construction equipment and activities. Directional boring activities would utilize a nontoxic bentonite clay drill slurry, or mud, which lubricates the passage of the drill bit through soil, cools and insulates electronics in the drill head and rods, supports the walls of the bore to prevent collapse, and captures and transports soil (cuttings) to the exit pits. Construction equipment uses oil, fuel, and other potentially flammable substances that have the potential to be released into the environment if not handled properly. The volume of these materials required for equipment maintenance would not cause a significant hazard to the public if released because the volume of fuel and oil tanks are relatively minor. In addition, the contractor would take steps to fuel and maintain vehicles in such a manner as to prevent the accidental release of potentially hazardous materials to the environment. Secondary containment, spill kits, and other appropriate Best Management Practices (BMPs) would be utilized where appropriate to prevent, or reduce, the possibility of accidental release. However, given the possibility of accidental release of hazardous materials during

construction, Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and HYDRO-1 would be required. These would include measures for containment of potentially hazardous materials and spills from leaving the Project site, as well as a WEAP to educate construction workers on the proper identification, handling, and disposal of hazardous materials that may occur onsite. Therefore, construction of the Project would result in a less than significant impact with mitigation.

Operation and Maintenance

As described above, the Project facilities would be unmanned and monitored remotely. Routine inspections would not result in a risk of release of hazardous substances to the environment, but if large repairs are needed, similar effects to those described for construction would occur, but to an area localized at the repair. With the implementation of Mitigation Measures HAZ-1, HAZ-2, HAZ-3 and HYDRO-1, impacts related to larger repairs would be less than significant.

Mitigation Measures

- HAZ-1: Hazardous Materials Management Plan
- HAZ-2: Worker Environmental Awareness Program for Hazardous Materials
- HAZ-3: Surface Spill and Hydrofracture Contingency Plan
- HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan

Impact HAZ-3	**Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

Construction, Operation & Maintenance

Five schools are located within 0.25 mile of the Project, as listed in Section 3.10.1.6. As discussed under impact questions (1) and (2), construction of the Project has the potential to use hazardous materials in the form of gasoline, diesel fuel, and hydraulic oil. Construction activities would occur within 0.25 mile of schools along US 395; however, because linear construction activities would not occur in any one location for extended periods of time, potential impacts from emissions of hazardous materials near schools would be extremely temporary, likely to not last for more than a week's time. No individual school would be exposed to substantial emissions from construction activities. Additionally, PRC Section 21151.4 (Section 3.10.2, Regulatory Setting), requires that Projects located within 0.25 mile of a school that might reasonably be anticipated to emit hazardous air emissions, that would handle an extremely hazardous substance or a mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code, or that may pose a health or safety hazard to persons who would attend or would be employed at

the school, would either need to consult with the school or give written notification of the potential for release of hazardous air emissions to the school. For compliance with PRC Section 21151.4, the Applicant shall notify appropriate school personnel of construction activities that require hazardous materials or may potentially emit hazardous emissions within 0.25 mile of the school. Additionally, the Applicant shall follow applicable rules and regulations governing transport and use of hazardous materials as discussed herein. Further, hazardous materials emissions would be minimized through Mitigation Measure HAZ-1 and through compliance with standard fugitive dust measures required by local and state regulations, which would prevent, or reduce, the possibility for hazardous materials or substances from leaving the Project site and impacting nearby schools. Therefore, the construction, operation, and maintenance of the Project would have a less than significant impact to schools with mitigation.

Mitigation Measures

- HAZ-1: Hazardous Materials Management Plan

Impact HAZ-4	**Would the Project 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 create a significant hazard to the public or the environment?**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

Construction

As shown in Table 3.10-1, several potentially hazardous materials sites are located within and adjacent to the construction work area. A significant hazard could potentially occur if construction activities were to result in the release of hazardous materials or spread of existing contamination associated with these potentially hazardous materials sites.

Active construction within hazardous materials sites would be avoided, where possible. However, due to the Project's proximity to known hazardous sites, potential impacts related to the release of hazardous materials to the public or the environment could occur. Mitigation Measures HAZ-1 and HAZ-2 would be implemented for construction activities that occur near hazardous materials sites identified in Table 3.10-1. Mitigation Measure HAZ-1 includes measures for analytical testing of soils within and adjacent to known hazardous materials sites, preparation of a Lead Compliance Plan as applicable, and measures for proper containment and treatment of potentially hazardous materials should contact with these sites be unavoidable. Therefore, the potential for the construction of the Project to be located on a site defined by Government Code Section 65962.5 that could result in a significant hazard to the public or the environment is considered less than significant with mitigation.

Operation and Maintenance

As described above, the Project facilities would be unmanned and monitored remotely. Routine inspections would not result in a risk of release of hazardous substances to the environment, but if large repairs are needed, similar effects to those described for construction would occur, but to an area localized at the repair. With the implementation of Mitigation Measures HAZ-1 and HAZ-2, impacts related to larger repairs would be less than significant.

Mitigation Measures

- HAZ-1: Hazardous Materials Management Plan
- HAZ-2: Worker Environmental Awareness Program for Hazardous Materials

Impact HAZ-5	**For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the Project Area?**
Impact Determination	*Less than Significant*

Impact Discussion

Construction

Project construction would not affect local airports; therefore, the Project would not create significant safety hazard or excessive noise related to airport activities for people residing in the Project Area. The only potential risk lies with people working in the Project Area (i.e., Project construction workers).

Three airports are located within 2 miles of the project: Alturas Municipal Airport, Bates Field Airport, and Ravendale Airport. None of these airports have commercial operations or heavy incoming and outgoing airplane traffic. No Airport Land Use Plans are pertinent to the Project Area.

During construction, workers may be exposed to periodic minor noise levels from nearby airports. However, linear projects entail short work duration at any given location. Workers would not remain in one site for extended periods of time, and thus would not be exposed to excessive noise while working in the Project Area. Furthermore, the above-mentioned airports experience minimal air traffic, so any noise generated would be temporary. Therefore, impacts related to construction activities would be less than significant.

Operation and Maintenance

Once constructed, the Project would be located entirely underground and would not include any uses for human habitation or for onsite workers. Therefore, impacts related to operation and maintenance activities would be less than significant.

Mitigation Measures

No mitigation is required.

Impact HAZ-6	**Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

Construction, Operation & Maintenance

The majority of the Project would be located within the roadway right-of-way, which could potentially interfere with emergency personnel accessing local or regional emergencies. Additionally, if there were a larger emergency in the area, such as a fire or earthquake, the public and emergency personnel would likely use US 395 as a major exit highway to the north or south. As such, to ensure that construction activities do not interfere with any potential emergency access or evacuations, Mitigation Measure TRA-1 would be implemented. Mitigation Measure TRA-1 includes preparation and implementation of a Project-wide traffic control plan, which would include notification to emergency agencies of the construction schedule and location and a construction contact in the event of an emergency. With implementation of this mitigation measure, emergency personnel would be appropriately notified, and construction, operation, and maintenance work would not interfere with any local or regional emergency or evacuation efforts on US 395. Therefore, impacts related to interference with adopted emergency response plans or emergency evacuation plans would be less than significant with mitigation.

Mitigation Measures

- TRA-1: Traffic Management Plan (Section 3.18, Transportation)

Impact HAZ-7	**Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

Impacts related to wildland fire are discussed in Section 3.21, Wildfire.

Impact HAZ-8	**Would the Project create a significant hazard to air traffic from the installation of new power lines and structures?**

Impact Determination	*No Impact.*

Impact Discussion

Construction, Operation & Maintenance

As described in Section 2.3.1, the Project consists of underground fiber optic cable, three ILAs, vaults, and line markers. The fiber optic cable and vaults would remain entirely underground, and thus would have no potential to interfere with air traffic. ILAs consist of a concrete or steel regeneration hut, covering approximately 420 square feet, and stand 11 feet high, not rising past one story; therefore, ILAs would have no potential to interfere with air traffic. Line markers are 4 feet tall, not rising past one story; therefore, line markers would have no potential to interfere with air traffic. Therefore, there would be no impact related to air traffic hazards from the Project.

Mitigation Measures

No mitigation is required.

Impact HAZ-9	**Would the Project create a significant hazard to the public or environment through the transport of heavy materials using helicopters?**
Impact Determination	*No Impact.*

Impact Discussion

Construction

Construction of the Project does not involve the use of helicopters to transport heavy materials to the area. The entire Project alignment can be accessed via existing roadways. The Project would be installed underground using an excavator or directional drill rig or strung beneath existing roadway bridges. Therefore, construction of the Project would not impact the public or environment involving transport of heavy materials using helicopters.

Operation and Maintenance

Once constructed, the new fiber optic line would not involve the use of any helicopters for maintenance activities. The entire Project alignment can be accessed via existing roadways. Therefore, operation and maintenance of the Project would not impact the public or environment involving transport of heavy materials using helicopters.

Mitigation Measures

No mitigation is required.

Impact HAZ-10	**Would the Project expose people to a significant risk of injury or death involving unexploded ordnance?**
Impact Determination	*No Impact.*

Impact Discussion

Construction, Operation and Maintenance

The Project Area is not located in an area of known unexploded ordnance. The Project Area would be made up of the existing roadway right-of-way, with the exception of some adjacent ancillary features, which is a previously disturbed area that has received traffic in the form of vehicles, bicyclists, and pedestrians, there is little to no potential for any undiscovered ammunition to occur within the area. While the Potential Hazardous Sites query shows the Sierra Army Depot within 900 feet of the Proposed Project alignment, satellite imagery shows that the facility is located over 3 miles away from the Proposed Project alignment. Regardless of this discrepancy, the Sierra Army Depot is an established and regulated facility that does not pose a risk to construction activities. Therefore, construction, operation, and maintenance of the Project would not adversely affect the public or environment involving exposing people to a significant risk of injury or death involving unexploded ordnance.

Mitigation Measures

No mitigation is required.

Impact HAZ-11	**Would the Project expose workers or the public to excessive shock hazards?**
Impact Determination	*No Impact.*

Impact Discussion

Construction, Operation & Maintenance

Fiber optic cable transmits light, not electricity, and therefore does not pose a shock hazard. Electrical power for the ILAs would be supplied to nodes by the local power company through interconnections with adjacent distribution lines. Interconnection would occur within underground vaults that are not accessible to members of the public. In installing these interconnections, the contractor selected for the Project owner would be required to follow all standard electrical safety and worker safety regulations for electrical equipment usage. Therefore, there would be no impacts related to excessive shock hazards.

Mitigation Measures

No mitigation is required.

3.10.4 Cumulative Impacts

Temporary construction activities associated with the Project would involve the transport and use of non-hazardous, and potentially hazardous materials typically associated with the operation of construction equipment and vehicles (see Table 3.10-2). These materials would be stored appropriately on the Project Site during construction and transported along public roadways. Should any hazardous soil be encountered during construction, such material would be disposed of properly at an approved hazardous waste disposal facility in California. Additionally, the Project would be located within 0.25 mile of several schools along the alignment and may have the potential to emit or release hazardous materials near these schools. As discussed previously, potential impacts would be minimized through compliance with federal, state, and local and through Project-specific mitigation measures.

Cumulative impacts could occur if other reasonably foreseeable current or future projects in the area have the potential to cause an accidental release or potentially expose sensitive receptors to additional hazards in combination with the Project. Other cumulative projects in the area are related to infrastructure and transportation, with the exception of one development project, all of which would involve similar types of construction-related impacts as the Project. Like the Project, these other projects would also be required to comply with federal, state, and local regulations governing hazardous materials during construction activities and the procedures taken in the event of a hazardous materials spill. All impacts related to hazardous materials would be temporary and would incorporate these standard hazardous materials safety measures to reduce potential impacts related to construction activities.

Therefore, the Project, when combined with other projects in the area, would not have a considerable contribution to a cumulative impact.

3.11 Hydrology and Water Quality

This section describes the environmental setting for hydrology and water quality, including the existing site conditions and regulatory setting, impacts that would result from the construction, operation and maintenance of the Proposed Project, and if significant impacts are identified, the mitigation measures that would reduce these impacts. Information on surface water and groundwater in the Project Area was obtained from published studies prepared by state, county, and local water and related agencies. The following analysis concludes that Project impacts to hydrology and water quality would be less than significant.

3.11.1 Environmental Setting

The Project Area is located within the North Lahontan and Sacramento River Hydrologic Regions, which cover approximately 4 million and 17 million acres, respectively, within Modoc, Lassen, and Sierra counties. The North Lahontan and Sacramento River Hydrologic Regions receive water through precipitation, stormwater, runoff, and groundwater.

The Project Area elevation averages approximately 4,658 feet above MSL and ranges from approximately 4,006 feet above MSL near Honey Lake to 5,568 feet above MSL near Madeline, California. The surface topography within the Project site is relatively flat and surrounded by high mountains with a maximum slope of 5.3 percent. Most of the land surrounding the Project Area consists of high desert lands with some agricultural and isolated rural residential areas.

The Project Area is located in a warm-summer Mediterranean climate zone typical of the north-eastern areas of California. The zone is characterized by warm, dry summers and cool winters. The average annual precipitation is approximately 12.5 inches, with approximately 78 percent of all rain falling between the months of November and May (USCD 2021). Periods of abundant rainfall and prolonged droughts are frequent in the historical record.

3.11.1.1 Water Bodies

Numerous types of water bodies are present within and adjacent to the Project alignment, including ephemeral, intermittent, and perennial streams; irrigation canals; nonvegetated ditches; and vegetated ditches as well as several different types of wetlands (Stantec 2020). Table 3.11.1 provides a breakdown of the total acres for each water body type. There is a total of 238.212 acres potential Waters of the U.S. delineated with 205.808 acres identified as wetlands (Stantec 2020). For a detailed discussion on wetlands and the number of temporary impacts along the Project alignment, refer to Section 3.4, Biological Resources.

Table 3.11-1. Water Body Types and Acreage	
Water Body Type	**Total Acreage**
Wetlands	
Fresh Emergent Wetland	67.233
Riparian Fresh Emergent Wetland	26.475
Riparian Wetland	14.249
Seasonal Wetland	94.700
Wetland Seep Spring	1.749
Wetland Swale	1.402
Other Waters	
Perennial Stream	12.753
Intermittent Stream	2.324
Ephemeral Stream	3.758
Vegetated Canal	3.816
Vegetated Ditch	0.016
Non-Vegetated Ditch	0.123
Pond	9.624

Source: Stantec 2020

3.11.1.2 Water Quality

Section 303(d) of the federal CWA and 40 CFR 130.7 require states to identify water bodies that do not meet water quality standards and are not supporting their identified beneficial uses. These waters are placed on the Section 303(d) List of Water Quality Limited Segments (303[d] List), also known as the 303(d) List of Impaired Waterbodies. The 303(d) List identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. Placement on the 303(d) List generally triggers development of a pollution control plan and a Total Maximum Daily Load (TMDL) for each water body and associated pollutant and stressor. The following water bodies are on the state 303(d) List:

- **Pit River.** The Proposed Project alignment crosses the North Fork of the Pit River in the City of Alturas. The alignment crosses the South Fork of the Pit River approximately 1.5 miles south of the City of Alturas. The proposed alignment crosses the South Fork twice more, at approximately 5 miles and 19 miles south of the City of Alturas. The State of California has listed the North and South Forks of the Pit River in Modoc County, which combined are approximately 55 miles in length, as a 303(d) listed water for pH and salinity levels outside allowable levels. The Pit River's

beneficial uses include municipal and domestic supply as well as cold freshwater habitat. TMDLs are scheduled to be adopted in 2021 according to the 303(d) List report (Stantec 2020).

- **Susan River.** The Proposed Project alignment crosses the Susan River approximately 7.5 miles east of Susanville, and then runs roughly parallel to the river towards Susanville where it is approximately 1,500 feet south of the river at the nearest point. The upper and lower reaches of the Susan River, approximately 23 miles in length, in Lassen County, are included on the 303(d) List for mercury, total dissolved solids, and turbidity from agriculture and other natural sources. TMDLs are scheduled to be adopted for the Susan River in 2021 according to the 303(d) List report.
- **Honey Lake.** The 665-acre Honey Lake Wildfowl Management Ponds (1.7 miles from US 395) and 57,700-acre Honey Lake (approximately 2,500 feet from US 395) are included on the 303(d) List within Lassen County. Primary water quality concerns include arsenic, salinity, total dissolved solids, chlorides, and trace metals, primarily originating from nearby agriculture and geothermal springs, sediment resuspension, and other natural sources. Beneficial uses of the Honey Lake and Honey Lake Wildfowl Management Ponds are cold freshwater habitat, warm freshwater habitat, water contact recreation, and agricultural supply. TMDLs were established for these two water bodies in 2019.

3.11.1.3 Groundwater Basins

The Sustainable Groundwater Management Act (SGMA) categorizes groundwater basins as very low, low, medium, and high priority, which is based on a technical process involving eight components that are identified in the California Water Code Section 10933(b). The Project alignment traverses through eight groundwater basins identified by EPA and California Department of Water Resources. Localized areas of perched groundwater, particularly in the vicinity of streams, irrigation canals, and reservoirs, are common; however, groundwater is typically encountered at depths greater than 50 feet below ground surface (bgs). Depth to groundwater has the potential to be relatively shallow in the vicinity of surface water bodies such as Honey Lake and the Fork Pit River. Table 3.11.2 shows the groundwater basins and their associated shallow groundwater depths near the Project Area within each county.

Table 3.11-2. Groundwater Basins

County	Groundwater Basins (Recent Groundwater Levels feet bgs)
Modoc	Goose Lake – Fandango Valley (10-25), Goose Lake – Goose Valley (70 – 80), Joseph Creek (unknown), Alturas Area – South Fork Pit River (5 – 10)
Lassen	Madeline Plains (50 – 60), Secret Valley (80 – 100), Honey Lake Valley (5 – 50)
Lassen & Sierra	Long Valley (50 – 80)

Source: Stantec 2020
bgs = below ground surface

3.11.1.4 Groundwater Wells and Springs

Publicly available data for groundwater well locations were accessed through the DWR Well Completion Report Portal (Stantec 2020). The DWR data identified 67 water supply wells in Modoc County, 208 in Lassen County, and 7 in Sierra County that lie within the groundwater basins along the Proposed Project alignment (Stantec 2020).

Four wetland seep springs were identified within 150 feet of the Proposed Project alignment, and cumulatively cover approximately 1.75 acres (Stantec 2020). Wetland seep springs are wetlands that are supported by the discharge of groundwater (i.e., a seep or a spring). These are typically found at the base of hillsides or escarpments in hilly landscapes. Wetland seep springs may be perennial or seasonal, depending on the nature of the groundwater discharge.

3.11.1.5 Groundwater Management

All groundwater basins identified in Section 3.11.1.3, Groundwater Basins, are considered low or very low priority, are not adjudicated, and are not in a critically overdraft condition (Stantec 2020). Because of the low and very low priority of these basins, formation of Groundwater Sustainability Agencies (GSAs) and preparation of Groundwater Sustainability Plans (GSPs) are not required by the SGMA.

3.11.1.6 Special Flood Hazard Areas

In Lassen County, the Federal Emergency Management Agency (FEMA) 100-year floodplain is approximately 790 acres and crosses the Proposed Project alignment four times. Within Modoc County, the FEMA 100-year floodplain is approximately 220 acres and crosses the Project alignment 19 times (Stantec 2020). Short-term staging areas would be established within or immediately adjacent to the proposed alignment, which would be restored following completion of construction. No long-term Project staging or laydown areas are proposed.

3.11.2 Regulatory Setting

3.11.2.1 Federal

Clean Water Act Section 404

Section 404 of the CWA (33 USC Section 1251 et seq.) requires a permit from the USACE for the discharge of dredged or fill material into Waters of the U.S., the definition of which is the subject of a new rulemaking. On June 9, 2021, the USEPA and Department of the Army announced their intent to initiate a new rulemaking process that restores the protections in place prior to the 2015 Waters of the U.S. implementation and develops a new rule to establish a durable definition of Waters of the U.S. This rulemaking process follows a review conducted by the agencies as directed by January 20, 2021, EO 13990 on "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis." The agencies are interpreting Waters of the U.S. consistent with the pre-2015 regulatory regime until further notice.

Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b).

National Flood Insurance Program

FEMA is responsible for determining flood elevations and floodplain boundaries based on USACE studies. FEMA is also responsible for distributing the Flood Insurance Rate Maps (FIRM) (Stantec 2020) used in the National Flood Insurance Program (NFIP) (42 USC Ch 50, Section 4102).

FIRMs identify the locations of special flood hazard areas, including 100-year floodplains. FEMA allows non-residential development in the floodplain but include criteria to "constrict the development of land which is exposed to flood damage where appropriate," and "guide the development of proposed construction away from locations which are threatened by flood hazards." Federal regulations governing development in a floodplain are set forth in Title 44 CFR Part 60, enabling FEMA to require municipalities that participate in NFIP to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains.

Section 10 of the Rivers and Harbors Appropriation Act of 1899

Section 10 of the Rivers and Harbors Act of 1899 requires authorization through USACE for the construction of any structure in or over any navigable Waters of the U.S. Structures or work outside the limits defined for navigable Waters of the U.S. require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. Section 10 permits are required for work on facilities within navigable waters, including transmission towers and boardwalks, as well as for work on power lines that cross over navigable waters.

3.11.2.2 State

Clean Water Act Section 303(d)

CWA Section 303(d) (33 USC Section 1313) requires states, territories, and authorized Tribes to develop a list of waters within its boundaries that do not meet water quality standards even after point sources of pollution have installed the minimum required levels of pollution control technology. The law further requires that these jurisdictions establish priority rankings for water on the lists and develop action plans to improve water quality. The SWRCB, through their RWQCBs implement this federal regulation in California.

Clean Water Act Section 401

CWA Section 401 (33 USC Section 1251 et seq.) requires states to certify whether projects subject to federal permits meet state water quality standards. In California, RWQCBs and the SWRCB issue such certifications. The Project is under the jurisdiction of the Central Valley and Lahontan RWQCBs. a federal Water Quality Certification would need to be obtained from USACE if required.

Clean Water Act Section 402

Under CWA Section 402 (33 USC Section 1251 et seq.), the NPDES controls water pollution by regulating point sources of pollution to Waters of the U.S. The SWRCB administers the NPDES permit program in California. Projects that disturb 1 or more acres of soil are required to obtain coverage under the state NPDES General Permit for Discharges of Storm Water Associated with Construction Activity. A SWPPP must be developed and implemented for each project covered by the general permit. The SWPPP must include BMPs that are designed to reduce potential impacts to surface water quality during project construction.

Porter-Cologne Water Quality Control Act (California Water Code, Division 7)

Under the Porter-Cologne Act, the SWRCB has authority over state waters and water quality. Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code Section 13050[e]). Examples include but are not limited to rivers, streams, lakes, bays, marshes, mudflats, unvegetated and seasonally ponded areas, drainage swales, sloughs, wet meadows, natural ponds, vernal pools, diked bay lands, seasonal wetlands, and riparian woodlands. The RWQCBs have local and regional authority. The RWQCBs prepare and periodically update Basin Plans (water quality control plans), which establish beneficial uses of water designated for each protected water body, water quality standards for both surface water and groundwater, and actions necessary to maintain these water quality standards.

Projects that would discharge waste to waters of the state must file a report of waste discharge with the appropriate RWQCB if the discharge could affect the quality of Waters of the State (Article 4, Section 13260). The RWQCB would issue waste discharge requirements or a waiver of the waste discharge requirements for the Project. The requirements would implement any relevant water quality control plans that have been adopted and must take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose (Article 4, Section 13263).

Fish and Game Code Section 1602

This section of California law protects the natural flow, bed, channel, and bank of any river, stream, or lake under the jurisdiction of CDFW. Notification to CDFW is required for activities that would:

- Substantially divert or obstruct the natural flow of a jurisdictional river, stream, or lake
- Substantially change or use material from the bed, channel, or bank of a jurisdictional river, stream, or lake
- Deposit or dispose of debris, waste, or other material containing crumbed, flaked, or ground pavement where it can flow into a river, stream, or lake

CDFW reviews the notification and determines if the activity may substantially adversely affect fish and wildlife resources. If so, the CDFW would require a Streambed Alteration Agreement for the activity.

Fish and Game Code Section 5650

This section of California law makes it unlawful to deposit in, permit to pass into, or place where it can pass into waters of the state specific pollutants or any substance or material deleterious to fish, plant life, mammals, or bird life.

3.11.2.3 Local

Modoc County General Plan

The Conservation and Open Space Element of the Modoc County 1998 General Plan includes policies related to the protection of water resources. None of these policies are relevant to the Project.

Lassen County General Plan

The Natural Resources Element of the 2000 Lassen County General Plan includes the following goals and policies related to water resources:

Goal N-3: *Water supplies of sufficient quality and quantity to serve the needs of Lassen County, now and in the future.*

> ***NR 13 Policy:*** *The County recognizes the critical importance and future value of its water resources and shall support the conservation of water supplies and protection of water quality.*

Sierra County General Plan

The Water Resources Element of the Sierra County 2012 General Plan contains the following goals and policies:

Goal 1: *It is the County's goal to protect and maintain its water resources for the benefit of County residents and natural habitats and to assure protection of its watersheds as a primary land use constraint.*

> ***Policy 14:*** *Cooperate with State and federal agencies in the requirement of reasonable Best Management Practices (BMPs).*
>
> ***Policy 22:*** *Protect natural swales and wetlands, plus a buffer from those features, for water quality protection.*
>
> ***Policy 31:*** *Preserve the integrity of water courses throughout the County.*

3.11.3 Environmental Impacts

3.11.3.1 Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines. For purposes of this EIR, implementation of the Proposed Project would have a significant adverse impact on hydrology and water quality if it would result in 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 project 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 which would:
    - Result in substantial erosion or siltation on- or offsite;
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
    - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
    - Impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.11.3.2 Methods of Analysis

Impacts on hydrology and water quality resources that could result from the construction and operation of the Project were evaluated based on general locations and proposed construction activities. Hazards that could potentially result from installation of the proposed underground fiber optic network, and that could expose people to injury and infrastructure to damage were considered in terms of adverse impacts on public safety. Impacts to wetlands and waters jurisdictional to the U.S. or the State of California are discussed in Section 3.5, Biological Resources.

3.11.3.3 Project Impacts and Mitigation Measures

Impact HYD-1	**Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?**
Impact Determination:	*Less than Significant with Mitigation.*

Impact Discussion

Staging of equipment is expected to only occur in previously disturbed areas within the right-of-way, and these staging areas will only need minor clearing of vegetation or grading to improve the staging area or to reduce potential fire hazards. Project work areas and access routes have been located to avoid wetlands and other water bodies wherever possible; however, these features would need to be crossed in some locations. The preferred crossing method would be to hang the fiber optic cable conduit from a bridge or other structure. If a structure is not available, the other crossing method is directional boring. Directional boring is the preferred method for cable installation beneath waterbodies to avoid or minimize impacts on wetlands, other water bodies, and other sensitive surface resources. For cable installation beneath water bodies, the directional boring depth will be a minimum of 4 feet bgs, which complies with the Caltrans standards for 2- to 6-inch-diameter boreholes (Stantec 2020). However, boring depths may reach up to 15 feet below the water body bed depending on local conditions.

Directional boring activities use a nontoxic bentonite clay slurry, or *mud*, which lubricates the drill bit and cools the electronics in the drill head and rods. The slurry supports the walls of the borehole to prevent collapse and captures and transports the soil cuttings to the exit pits. The entry and exit pits contain the bentonite slurry and groundwater in-flows, if any. The contractor installs containment measures around the entry and exit pits as secondary containment and an onsite vacuum truck and/or tank is used for clearing the pits. Following installation of the cable conduits, the bore pits are backfilled with clean compacted soil or completed as concrete vaults. This work is performed in accordance with the requirements of federal and state permits under CWA Sections 404 and 401, the Porter-Cologne Act, and the Fish and Game Code Section 1602, as applicable.

By these activities, the Project has the potential to adversely affect water quality during construction as a result of erosion and subsequent sedimentation, as well as from frac-out via the directional boring bentonite. These potential impacts will be mitigated by instituting mitigation measures HYDRO-1, BIO-14, BIO-15, BIO-17, HAZ-1, and HAZ-3.

If the Project is approved, Zayo and its contractors will assess the risk to water quality based on site-specific soil characteristics, topography, and the construction schedule to develop a SWPPP that addresses potential site-specific water quality concerns. The SWPPP will specify site-specific measures for each activity that has the potential to degrade surrounding water quality through erosion, sediment runoff, and the presence of other pollutants. These measures will be implemented and monitored throughout the Project duration by a Qualified Stormwater Practitioner (QSP).

The potential for accidental release of hazardous materials, such as diesel fuel, hydraulic fluid, or oils and grease and frac-out of the directional boring bentonite slurry exists. These potential impacts will be minimized by implementing BIO-14, BIO-15, BIO-17, HAZ-1 and HAZ-3 in conjunction with HYDRO-1. Due to the proposed construction methods and activities, and the preparation and implementation of the required mitigation measures, the Project should not violate any water quality standards or waste discharge requirements. Therefore, impacts to water quality would be less than significant with mitigation.

Mitigation Measures

The following mitigation measures shall apply to the Proposed Project.

HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan (SWPPP). The Applicant shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) to prevent construction-related erosion, sediment runoff, and discharge of pollutants into adjacent waterways and onto neighboring properties. Because Project activities would result in ground disturbance of more than 1 acre, the Applicant shall obtain coverage under the State Water Resources Control Board General Permit for Storm Water Discharges Associated with Construction Activity Order No. 2009-0009-DWQ (and as amended by 2010-0014-DWQ and 2012-006-DWQ). To obtain coverage under the permit, the Applicant shall develop and submit permit registration documents, including a Notice of Intent, SWPPP, risk assessment, site map, construction drawings, certification by a Legally Responsible Person, contractor contact information, and annual fee, to the State of California's SMARTS database. The contractor shall also obtain a WDID number prior to initiating construction activities.

The SWPPP shall outline implementation of BMPs for each activity that has the potential to impact neighboring properties or degrade surrounding water quality through erosion, sediment runoff, dewatering, and discharge of other pollutants. BMPs to be part of the project-specific SWPPP may include but are not limited to the following control measures.

- Implementing temporary erosion control measures (such as silt fences, staked straw bales and wattles, silt and sediment basins and traps, check dams, geofabric, sandbag dikes, grass buffer strips, high-infiltration substrates, grassy swales, and temporary revegetation or other ground cover) to control erosion from disturbed areas.
- Protecting drainage facilities in downstream offsite areas from sediment using BMPs acceptable to Modoc, Lassen, and Sierra counties, the City of Alturas, and the Lahontan and Central Valley RWQCBs.
- Protecting the quality of surface water from non-stormwater discharges such as equipment leaks, hazardous materials spills, and discharge of groundwater from dewatering operations.

SWPPP requirements shall be coordinated with the Section 401 Water Quality Certification issued for the Project under the CWA and/or Streambed Alteration Agreement issued under California Fish and Game Code Section 1602, as applicable.

BIO-14: **Minimum Bore Depth** See Section 3.5 Biological Resources

BIO-15: **Wetlands and Waters Impacts** See Section 3.5 Biological Resources

BIO-17: **Compliance with Other Laws, Regulations, and Permits.** See Section 3.5 Biological Resources

HAZ-1: **Hazardous Materials Management Plan.** See Section 3.10 Hazards and Hazardous Materials

HAZ-3: **Surface Spill and Hydrofracture Contingency Plan.** See Section 3.10 Hazards and Hazardous Materials

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact HYD-2	**Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?**
Impact Determination:	*No Impact.*

Impact Discussion

The water is expected to be obtained from local municipal sources, and a water truck would be used to support Project construction activities and dust suppression. The Project's negligible water use during construction is not expected to deplete or interfere with groundwater supply or recharge. The ground surface above the fiber optic line is soil. The combined new impervious surface for the ILAs would be 1.15 acres and vaults/markers would be 0.42 acres. Therefore, the Project would not interfere substantially with groundwater recharge and no significant impact would occur.

Mitigation Measures

No mitigation measures are required.

Impact HYD-3	**Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:** **(i) result in substantial erosion or siltation on- or off-site;** **(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;** **(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or** **(iv) impede or redirect flood flows?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

Result in substantial erosion or siltation on- or offsite.

The Project would not alter the course of a stream or river or substantially alter the drainage pattern of the Project Area. Directional boring is anticipated for some surface water body crossings because it avoids direct disturbance to the water body. All boreholes advanced beneath water bodies would be a minimum of 4 feet, and possibly up to 15 feet, below ground surface. The contractor would utilize BMPs to protect water bodies from sedimentation and minimize erosion during construction activities. Minor surface contouring may be needed to improve Project access or to establish equipment staging areas. Upon Project completion, disturbed areas would be recontoured to pre-project conditions, to prevent or reduce post-construction erosion. Mitigation Measure HYDRO-1 would mitigate impacts related to erosion.

Through project design and implementation of BMPs, the temporary short-term impacts from erosion or offsite discharge of sediment would be mitigated and the impacts to site drainage patterns and runoff would be less than significant.

Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site

Because the majority of Project infrastructure would be underground, the Project would not substantially alter existing drainage patterns, increase impervious surfaces, or otherwise cause increased surface water runoff, or require substantial modification of any upland sites that would increase the potential for any on, or offsite, flooding. The aboveground elements (ILAs and vaults/markers) would have less than 2 acres of impervious surface combined and would not substantially increase the amount or rate of surface runoff. Therefore, under this criterion, no impact would occur.

Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff

Construction activities are not anticipated to substantially alter existing drainage patterns within the Project Area because they would be temporary, confined to a small footprint, and would leave few aboveground or impervious components.

Much of the Project Area is located within rural or undeveloped parcels where municipal or otherwise-developed stormwater collection systems are not established. The stormwater conveyance systems that are present along US 395 generally consist of open stormwater ditches and waterways along the route, where stormwater is allowed to infiltrate. The Proposed Project does not substantially increase the amount of impervious surface, nor does the Project modify the gradient or runoff conditions along the Project route; therefore, the Project would not create or contribute additional runoff that could exceed the capacity of existing stormwater systems. Mitigation measure HYDRO-1 would minimize any potential impacts from polluted runoff.

To reduce or avoid potential impacts during construction, appropriate BMPs would be implemented in accordance with the SWPPP. Accordingly, the impact for exceeding the capacity of unlined drainage ditches along US 395 is less than significant.

Impede or redirect flood flows

In Lassen County, the Project alignment crosses FEMA 100-year floodplain four times, and within Modoc County, the Project crosses the FEMA 100-year floodplain four times. No long-term project staging or laydown areas are proposed within the 100-year floodplain. The Project consists of the installation of a subsurface fiber optic line; therefore, no impacts to flood flows are anticipated from the fiber optic line. Short-term equipment and material staging areas would be established within the Project footprint, which would be restored/recontoured following completion of construction. The only permanent above ground structures included in the Project are three small buildings to serve as amplifier sites (ILAs) and vaults/markers. Selection of ILAs, staging areas, and material storage yards prioritized locations outside the 100-year floodplain, and within the existing roadway right of-way or on previously disturbed parcels. No impedance or redirection of flood flows are anticipated as a result of the completed Project, nor will temporary work areas impede or redirect flood flows. Mitigation Measure HYDRO-1 would mitigate flood-flow impacts during construction.

Through project design and implementation of the appropriate BMPs in accordance with the SWPPP, the Project impact on flood flows would be less than significant.

Mitigation Measures

Mitigation Measure HYDRO-1, listed previously, would apply to this impact.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact HYD-4	**Would the Project, if in a flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation?**
Impact Determination:	*No Impact.*

Impact Discussion

The Project is not located in tsunami, or seiche zones and would not risk release of pollutants due to inundation. Therefore, no impact would occur. Impacts related to flood hazards are discussed under Impact HYD-3, above.

Mitigation Measures

No mitigation measures are required.

Impact HYD-5	**Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

The Project alignment crosses through the Goose Lake–Fandango Valley, Goose Lake–Goose Valley, Joseph Creek, Alturas Area–South Fork Pit River Basin, Madeline Plains, Secret Valley, Honey Lake Valley, and Long Valley groundwater basins, which are managed under the water quality control plans for the Central Valley and Lahontan RWQCBs (Stantec 2020). The Project does not include any waste discharges that would conflict with the water quality control plans. Activities associated with Project construction would not result in substantial additional sources of polluted runoff due to the low impact and shallow construction methods. A SWPPP would be prepared and implemented to further reduce any impacts. The Project's negligible water use during construction would not deplete or interfere with groundwater supply or recharge. Therefore, the Project would not conflict with or obstruct the water quality control plan or a sustainable groundwater management plan. Therefore, the potential impacts to water quality control plans or sustainable groundwater management plans would be less than significant with the implementation of Mitigation Measure HYDRO-1.

Mitigation Measures

Mitigation Measure HYDRO-1, listed previously, would apply to this impact.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

3.11.3.4 Cumulative Impacts

Temporary construction activities associated with the Proposed Project would involve trenching, plowing, excavation, backfilling, and directional boring for the installation of the subsurface fiber optic cable.

Cumulative impacts would only occur if other current or future projects in the area have the potential to cause, directly or indirectly, the impacts discussed above. The potential for any of these impacts to occur during construction activities is less than significant, with the exception of flood-related hazards or water quality control/groundwater management which were determined to present no potential for impact. Therefore, the Project, when possibly combined with other projects in the area, would not pose a significant contribution to a cumulative impact. Additionally, measures presented in this document will prevent or reduce cumulative impacts from a combination of potential project impacts.

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3.12 Land Use and Planning

This section describes existing land uses on and near the Project site. This section also describes plans and regulations pertaining to land use management in the Project Area and evaluates project consistency with relevant land use plans, goals and policies and addresses project compatibility with adjacent land uses. Mitigation measures are provided for any significant impacts.

3.12.1 Environmental Setting

The Proposed Project within California spans approximately 194 miles in eastern California from the northern edge of Modoc County and the City of Alturas through Lassen County, and into the eastern edge of Sierra County, primarily in existing roadway right-of-way. In this part of California, US 395 extends along the Modoc Plateau, a high, flat terrain that is bordered by the eastern slopes of the Cascade and Sierra Nevada mountain ranges and the western edge of the Great Basin.

In Modoc County, the Project traverses the City of Alturas and the unincorporated communities of New Pine Creek, Davis Creek, Ramsey, and Likely. Within Lassen County, the Project traverses the communities of Sage Hen, Pinnio, Madeline, Brockman, Moran, Termo, Litchfield, Standish, Buntingville, Milford, and Doyle. The Project does not pass through any cities or census-designated communities in Sierra County. Land uses within the Project Area range from agricultural, very-low to low- to medium-density residential, open space and public lands, urban reserve, and planned development.

The area immediately surrounding US 395 is sparsely developed, with the exception of concentrated development within the City of Alturas in Modoc County and the unincorporated communities of Standish and Buntingville in Lassen County.

3.12.1.1 Land Use and Zoning

The portion of the Project that crosses California would extend approximately 194 miles across the northern edge of Modoc County (59.8 miles) and the City of Alturas (1.6 miles), through Lassen County (129.6 miles), and through the northeast corner of Sierra County (3.1 miles). In Modoc County, a majority of the Project line traverses land designated as Open Space and Public Lands, some Agricultural land and some Low Density Residential. Within the City of Alturas, the Project line traverses land designated as Low Density Residential, Open Space and Public Lands, and Urban Reserve. Within Lassen County, the Project line mainly traverses land designated as Agricultural with small segments crossing through Planned Development and Very Low to Medium Density Residential. Within Sierra County, the Project line traverses through land designated as Open Space and Public Lands (Figures 2-1.1 through 2.1-5).

Table 3.12-1 presents land ownership of the land crossed by the Project alignment. The Project would be entirely located along US 395, with the exception of an 8-mile segment between the communities of Standish and Buntingville in Lassen County. The 8-mile portion of the line between the communities of Standish and Buntingville in Lassen County, would follow the county roads Standish Buntingville Road (Lassen County Road A3) for 7.35 miles and Cummings Road for 1.15 miles before returning to the right-of-way parallel to US 395.

Table 3.12-1. Jurisdiction of Lands Crossed by Project Line	
Public Land	**Miles Crossed by Project Alignment**
Federal	
Bureau of Indian Affairs	6.5
Bureau of Land Management	38.5
US Fish and Wildlife Service	1.0
Total Federal	*46*
State	
California Department of Fish and Wildlife	6.2
California State Lands Commission	2.6
Total State	*8.8*
Local (not Federal or State)	
Unincorporated Modoc County	46.8
Unincorporated Lassen County	89.6
Unincorporated Sierra County	1.3
City of Alturas	1.6
Total Local	*139.3*
Total	**194.1**

Modoc County

Approximately 59.8 miles of the alignment would traverse unincorporated Modoc County, including 1.6 miles through the incorporated City of Alturas. Beginning at the Oregon-California state line, the Project alignment would traverse lands designated as very-low- and low-density residential, agricultural, open space and public lands, and urban reserve. The Project alignment traverses adjacent to Goose Lake in the northern portion of the county, the Modoc National Forest throughout the entirety of the county, and the Modoc National Wildlife Refuge southeast of the City of Alturas.

Within Modoc County, the alignment would be located entirely within existing roadway right-of-way, with the exception of one staging area, one ILA, and one potential material storage yard locations An ILA is a collection of equipment that regenerates fiber optic signals and provides tie-ins to regional wireless service providers. Material storage yards are offsite, long-term location identified for worker staging and parking, materials storage, equipment maintenance, and placement of construction trailers. The ILA and staging area would be located in the City of Alturas on land within a generalized land use designation of low density residential. The material storage yard location would be located in the unincorporated community of Likely on land designated as urban reserve.

Lassen County

Approximately 129.6 miles of the alignment would traverse unincorporated land in Lassen County. Beginning at the Modoc and Lassen County line, within Lassen County, the Project alignment would be constructed within the US 395 roadway right-of-way adjacent to lands designated for Agricultural uses, and small pockets of Very-Low to Low- to Medium-Density Residential uses and Planned Development uses. Land uses in and around the communities of Litchfield, Standish, Janesville, Milford, and Doyle consist of Very-Low to Low- to Medium-Density Residential uses and Planned Development uses. Between these communities is land designated as having Agricultural uses. A portion of Modoc National Forest lands exist in the northern portion of Lassen County and borders US 395 on the east and west. The Plumas National Forest borders Lassen County to the south, beginning near the community of Janesville.

Within Lassen County, the Project alignment would be located entirely within existing roadway right-of-way. Two ILAs (Spanish Springs ILA and Herlong ILA), nine staging areas, and two material storage yard locations will be located above ground. The Herlong ILA will be placed in an area with a zoning designation of General Agriculture and Highway Commercial. The Spanish Springs ILA will be constructed within the road-right-of-way on land designated Highway Commercial. Nine staging areas will be established in Lassen County. These staging areas will be located in the following zoning designations: Planned Development, Low-Density Residential, and Agriculture. Two material storage yard locations will be set up in Lassen County. The material storage yards are located on land designated for Agricultural and Very Low-Density Residential uses.

Sierra County

Approximately 3.1 miles of the alignment would traverse unincorporated land in Sierra County. Beginning at the Lassen and Sierra County line, within Sierra County, the Project alignment would be constructed within the US 395 roadway right-of-way adjacent to lands designated as open space, agriculture, and forest lands. No established communities exist along the Sierra County portion of the Project. The Humboldt-Toiyabe National Forest occurs south and west of US 395, before the Project alignment crosses the Nevada state line. No ILA locations, staging areas or material storage yards will take place within Sierra County.

3.12.1.2 Special Land Uses

The Project Area traverses lands managed by BLM, the USFS (Modoc National Forest, Humboldt-Toiyabe National Forest, and Plumas National Forest), the State of California (CSLC and CDFW), BIA, USFWS (Modoc National Wildlife Refuge), and NRCS (Wetlands Reserve Program [WRP]). The Project Area does not cross any National or State Wild and Scenic Rivers or coastal zones. Additionally, the Project does not traverse any area subject to an approved habitat conservation plan. No national landmarks exist within 1 mile of the Project Area.

3.12.2 Regulatory Setting

3.12.2.1 Federal

Wetlands Reserve Program

The WRP is a voluntary program offering landowners the opportunity to protect, restore, and enhance wetlands on their property. The USDA NRCS provides technical and financial support to help landowners with their wetland restoration efforts. Lands within this program are enrolled in a permanent conservation easement, 30-year easement, restoration cost-share agreement, or 30-year contract (for tribal lands) (NRCS 2020). Funding for this program ended in 2014 following the establishment of the Agricultural Conservation Easement Program (ACEP); however, any contract, agreement or easement entered into prior to February 7, 2014, was not affected by ACEP and remains valid. Several portions of US 396 pass near WRP lands; however, the Project does not directly pass through or conflict with any of these lands.

Modoc National Forest Land and Resource Management Plan

The Modoc National Forest Land and Resource Management Plan (LRMP) was adopted by the USFS in 1999 and guides all natural resource management activities and stablishes management standards and guidelines for the Modoc National Forest (USFS 1999). Relevant standards to the Project include:

> Facilities – 5(A). Limit allocations of single-purpose transmission and transportation corridors. Place new transportation and utility facilities within or contiguous to existing corridors. Encourage the use of private lands, where appropriate, for new corridors. Appropriateness is determined at the site-specific project level.

Plumas National Forest Land and Resource Management Plan

The Plumas National Forest LRMP was adopted by the USFS in 1988 and directs the management of the Plumas National Forest and 15,000 acres of the Lassen National Forest. This LRMP includes general goals and missions as well as standards and guidelines for the Plumas National Forest. Relevant standards to the Project include (USFS 1988):

> Lands – Underground all new utility lines except those for power transmission in excess of 35 kv, unless and analysis shows that PNF resources and environmental values are better protected by aerial construction.
>
> Lands – Designate transportation and utility corridors where needed to avoid proliferation of rights-of-way. Prohibit corridors through Wilderness and the Wild and Scenic Zones of the Wild and Scenic River. Where possible, locate new corridors along existing corridors. Avoid recreation areas, summer home sites, Special Interest Areas, Semi-primitive Areas, high site timberland, ridgetops, and canyon crossings.
>
> Soil – Develop and apply erosion control plans to road construction, mining, recreation development and other site disturbance projects. Develop specific mitigation measures for each project site as needed.

Humboldt-Toiyabe National Forest Land Resource Management Plan

The Humboldt-Toiyabe National Forest LRMP was adopted by the USFS in 1986. This LRMP includes general goals and missions as well as standards and guidelines for the Humboldt-Toiyabe National Forest. Relevant standards to the Project include:

> Special Uses - (13) Utility lines generally will be buried if necessary to meet visual quality objectives. Exceptions to underground utility lines will be allowed where technological, economic, or resource protection requirements indicate that such lined should be overhead.

- Management Direction: Utility Corridors. Minimize potential adverse impacts associated with utility corridors.
  - Standards and Guidelines: Place all new utility facilities within designated corridors when practicable. (USFS 1986)

3.12.2.2 State

No state laws, regulations, and policies relate to land use and planning and the Proposed Project.

3.12.2.3 Local

Modoc County General Plan

The Modoc County General Plan, adopted in 1998 and updated in 2018, serves as the County's foundational land use and development policy document and establishes the type, density, and extent of land uses permitted in unincorporated areas of the County. Modoc County is typically rural in land use and population and housing density, with a 2021 population in unincorporated areas of 6,605 (CDOF 2022). The Modoc County General Plan Land Use Map contains categories of land use including exclusive agriculture, general agriculture, timber production, rural residential, urban areas, and public lands. The Land Use Chapter of this General Plan sets goals, policies, and programs to guide future growth and development in the unincorporated areas of Modoc County. Applicable policies in the County's General Plan include:

> *LUE 2: Development should generally be discouraged in areas of high wildland fire hazard where vegetation management programs, including the creation and maintenance of fuel breaks to separate urban uses would result in unacceptable impacts on open space, scenic and ecological conditions (refer to Safety Element) (SB-1241).*
>
> *LUE 3: All urban and rural development, existing and proposed, should be provided with adequate water supply and fire protection facilities and services. Facilities serving hill area development should be adequate to provide both structural and wildland fire protection. The primary responsibility falls upon the owner and the developer (refer to Safety Element) (SB-1241).*

Lassen County General Plan

The Lassen County General Plan was adopted in September 1999 and includes the following goals related to land use that are relevant to the Project (Lassen County 1999, as amended):

Goal L-1: To maintain a system of land use designations which sets forth the County's policies pertaining to the general distribution and intensity of land uses, and which strives to ensure compatibility between land use types by providing for efficient and complimentary patterns and mixtures of land uses.

Goal L-4: Compatibility between land use types by providing for complementary mixtures and patterns of land uses.

Sierra County General Plan

The Sierra County General Plan was adopted in 1996 and includes the following goals and policies related to land use that are relevant to the Project (Sierra County 1996, as amended):

Fundamental Goals of the General Plan 1: It is the County's most fundamental goal to maintain its culture, heritage, and rural character and preserve its rural quality of life.

Fundamental Goals of the General Plan 5: It is the County's goal to provide a comprehensive Plan for all lands and uses within the County regardless of ownership or governmental jurisdiction.

Land Use Goal 5. It is the goal of the County to implement development standards which streamline procedures, maximize public involvement, and which protect environmentally sensitive and natural resource industry areas.

City of Alturas General Plan

The City of Alturas General Plan was adopted in June 1987 and includes the following goals and policies related to land use relevant to the Project (City of Alturas 1987, as amended):

Land Use Goal 6: To provide for orderly development within well-defined urban boundaries.

Modoc County Zoning

Title 18 of the Modoc County Zoning Code describes the counties zoning designations and allowed uses therein. Utility uses are permitted in the following zoning districts: Open Space Forestry and Grazing (OFG) and Low Intensity (LI).

Lassen County Zoning

Title 18 of the Lassen County Zoning Code describes the counties zoning designations and allowed uses therein. Utility uses are permitted in the following zoning districts: General Agricultural Designation (A-1), Highway Commercial (C-H), Open Space (O-S).

Sierra County Zoning

Title 15 of the Sierra County Zoning Code describes the zoning districts within Sierra County and the allowed land uses therein. Utility transmission lines are conditionally permitted in the Timberland Production Zone District (TPZ) and the Public Service District (PS).

City of Alturas Zoning

Article 2, Section 28.20 and 28.22 of the City of Alturas Zoning Ordinance describe the City's zoning districts and their allowed uses. Communication facilities and public utility infrastructure can be allowed in all zones with an administrative permit pursuant to Section 28.52.010 or a conditional use permit pursuant to Section 28.52.020.

3.12.3 Environmental Impacts

3.12.3.1 Thresholds of Significance

The following threshold of significance is based on Appendix G of the CEQA Guidelines. For purposes of this EIR, implementation of the Proposed Project may have a significant adverse impact on land use and planning if it would:

- Physically divide an established community.
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.12.3.2 Methods of Analysis

The analysis of land use and planning impacts was qualitative in nature and involved comparing aspects of the Project and alternatives to the significant criteria described below.

3.12.3.3 Project Impacts and Mitigation Measures

Impact LU-1	**Would the Project physically divide an established community?**
Impact Determination:	*No Impact.*

Impact Discussion

The Project would consist of an underground fiber optic cable that would not result in the division of any communities. As discussed in Section 3.12.1.1, the Project would be located entirely in unincorporated, rural areas of the three counties (Modoc, Lassen, and Sierra), with the exception of a 1.6-mile segment that would traverse the incorporated City of Alturas in Modoc County. Project construction would occur within the existing roadway right-of-way. Construction staging areas, material lay down yard locations, and ILA locations would be constructed within or adjacent to the right-of-way. The Project crosses

through multiple established communities and construction activities could result in short term disruptions to these communities; however, these disruptions would be temporary and would not result in any permanent division to established communities.

Once constructed, the Project alignment would be located entirely underground, with the exception of three above ground ILA locations and line markers (one approximately every 2,500 to 3,500 feet along the alignment). One ILA would be located in Modoc County in the incorporated City of Alturas. The remaining two ILAs would be located in Lassen County (one in the unincorporated community of Spanish Springs and one in the unincorporated community of Herlong). The Project would not result in any permanent divisions of any established communities. There would be no impact related to physically dividing established communities.

Mitigation Measures

No mitigation measures are required.

Impact LU-2	**Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?**
Impact Determination:	*Less than Significant with Mitigation.*

Impact Discussion

Land Use and Zoning Consistency

As described previously, the Project alignment within California spans approximately 194 miles from the northern edge of Modoc County and the City of Alturas through Lassen County, and into the eastern edge of Sierra County, entirely in existing roadway right-of-way. In Modoc County, the Project crosses through the City of Alturas and the unincorporated communities of New Pine Creek, Davis Creek, Ramsey, and Likely. Within Lassen County, the Project traverses the unincorporated communities of Sage Hen, Pinnio, Madeline, Brockman, Moran, Termo, Litchfield, Standish, Buntingville, Milford, and Doyle. The Project does not pass through any cities or census-designated communities in Sierra County.

Once constructed, the Project would be located underground, with the exception of three aboveground ILA ancillary facilities that would provide tie-ins to regional wireless service providers. Two ILAs are proposed in Lassen County in the unincorporated communities of Herlong (0.78 acre) and Spanish Springs (0.12 acre) and one is proposed within Modoc County in the City of Alturas (0.25 acre). Within each ILA area, the regeneration hut would consist of a prefabricated concrete or steel structure erected on a concrete pad with a surrounding perimeter fence around the hut. The regeneration hut structure would be setback from the fence line, would be approximately 420 square feet (0.01 acre), and would be approximately 11 feet in height. The regeneration hut structures would be required to be built to the specification of the underlying policies of the local land use jurisdiction.

The zoning designations for each site include Light Industrial for the Alturas ILA, General Agriculture and Highway Commercial for the Herlong ILA, and Highway Commercial for the Spanish Springs ILA. Utilities are considered a compatible use under the City of Alturas Light Industrial zoning designation and a compatible use with a use permit in the General Agriculture and Highway Commercial zoning designations under Lassen County's Municipal Code. Each of the three ILA locations would be permanent structures but would be constructed within vacant and previously disturbed sites. Accordingly, the project would not conflict with the allowable uses for these sites and would be consistent with the relevant zoning codes. The project would have a less than significant impact related to conflicts with existing land use designations and zoning designations.

General Pan Consistency

The Project would be consistent with each the General Plans of Modoc County, Lassen County, and Sierra County. The project would be largely located within existing roadway right-of-way and would not result in any conversion of land with exception to the three permanent ILA locations. Mitigation measure LU-1 would require the Applicant to obtain all necessary permits and permissions from Modoc, Lassen and Sierra County and the City of Alturas prior to construction of the Project in order to mitigate potential conflict with local land use jurisdiction policies.

Wetlands Reserve Program Consistency

Several portions of US 395 pass near Wetlands Reserve Program lands; however, the Project would not directly pass through or conflict with any of these lands. The Project would have no impact related to conflict with WRP lands.

Land and Resource Management Plans Consistency

The Project Area passes near three national forests managed by the USFS: Modoc National Forest, Plumas National Forest, and Humboldt-Toiyabe National Forest. Each of these national forests have LRMPs for that include several goals, standards, and guidelines, particularly for placement of utility lines or infrastructure, such as transmission and electrical lines, and roads within their boundaries. Generally, the LRMPs require any new utility lines should be limited to areas within previously designated corridors, where possible. The Project would be constructed in the existing right-of-way of US 395; therefore, no new corridors would be established within these national forests. Once Project construction is complete, the Project alignment would be located entirely underground and would not be visible within the forest corridors. The Project would be consistent with the LRMPs for each national forest.

Conclusion

As discussed in the analysis above, the Project would be consistent with all relevant plans, policies, and goals. Although the Project would cross through multiple jurisdictions, the Project would be constructed within existing roadway right-of-way and would not result in any permanent conversions of land uses or zoning designations. Once constructed, the Project alignment would be located entirely underground, with the exception of the above-ground ILA's and vault markers. Easements from agencies such as the California State Lands Commission, BLM, USFS, and the BIA would be obtained for underlying rights. Additionally, leases would be obtained as necessary for Project components located on private land. In

the event an easement or lease is required, the Applicant would coordinate with the appropriate agency and submit an application indicating the Project Area, Project description, environmental impact analyses, and any other required documents. The Applicant would coordinate with Caltrans and local jurisdictions to obtain encroachment permits to work within their roadway rights-of-way. Therefore, the Project would have a less than significant impact related to conflict with plans, policies, and goals.

Mitigation Measures

LU-1: **Obtain Necessary Permits and Permissions.** Prior to construction, the Applicant shall obtain all necessary permits and permissions from California State Lands Commission, BLM, USFS, BIA, Caltrans, Modoc, Lassen and Sierra Counties and the City of Alturas.

3.12.4 Cumulative Impacts

Impacts related to land use and planning would be limited to construction activities along the length of the Project alignment. Once construction is complete, management of the telecommunications infrastructure would generally occur remotely, with onsite maintenance only as necessary. Implementation of the Project will not result in an increase in population, housing, or employment. The Project is unlikely to contribute to cumulative impacts regarding land use and planning.

3.13 Mineral Resources

This section describes the existing mineral resources in the vicinity of the project and analyzes potential impacts to mineral resource impacts associated with the construction, operation, and maintenance of the Project.

3.13.1 Environmental Setting

Mineral resources are generally finite and occur in sporadic deposits, which often create a relative scarcity and a need to protect access to supplies. Many mineral resources are important to global, national, state, and local economies. In 2015, California had approximately 1,042 active mines responsible for approximately 4.7 percent of the United States' non-fuel mineral production (Stantec 2020). The largest component of this production was derived from sand and gravel mining. Primary mineral resources within the Project Area generally include diatomite, gravel, and sand. Active mining sites within the Project Area and aggregate material resources are discussed in further detail below.

3.13.1.1 Active and Historic Mines

A desktop review of the California Department of Conservation's (DOC) Mines Online database was conducted for the project. Numerous historic mines are within 1 mile of the Project Area that have an operation status of closed, idle, or reclaimed; however, only four mines are listed as active. The four active mines are (Stantec 2020):

- Hindle Pit–Modoc, Modoc County (sand and gravel)
- Gravier Pit, Lassen County (sand and gravel)
- Viewland Properties #2, Lassen County (sand and gravel)
- Sierra Lady Placer Claims, Lassen County (diatomite)

3.13.1.2 Aggregate Material Resources

Aggregate material (i.e., sand and gravel) used for construction is California's primary mineral resource. As required by the Surface Mining and Reclamation Act of 1975 (SMARA), CGS defines several geographic areas that collectively cover a single mineral classification study area as Production-Consumption Regions (P-C Regions). The CGS identifies Mineral Resource Zones (MRZs) for each P-C Region, mine/quarry, or other geographic area included in a mineral classification study. MRZs are areas classified by the presence or absence of significant sand, gravel, or stone deposits that are suitable as sources of aggregate, as described in Section 5.13.2.2.

Lands not addressed by the CGS, either within a P-C Region or outside a mineral classification area, are defined as *unclassified* Based on review of the California DOC CGS Mineral Land Classification database, no MRZs are within or directly adjacent to the Project Area (Stantec 2020).

3.13.2 Regulatory Setting

3.13.2.1 Federal

There are no federal plans, policies, regulations, or laws pertaining to mineral resources that are applicable to the Project.

3.13.2.2 State

Surface Mining and Reclamation Act

SMARA was enacted in response to land use conflicts between urban growth and essential mineral production. SMARA (PRC Section 2710 et seq., subsequently amended) is the primary regulation for onshore surface mining in the State. SMARA mandated that aggregate resources throughout the state be identified, mapped, and classified by the state geologist so that local governments could make land use decisions in light of the presence of aggregate resources and the need to preserve access to those resources. Local jurisdictions are required to enact specific plan procedures to guide mineral conservation and extraction at particular sites, and to incorporate mineral resource management policies into their general plans. The State Mining and Geology Board (SMGB) has prepared Mineral Land Classification Maps for aggregate resources. The Mineral Land Classification Maps designate four different types of resource sensitivities. The four MRZ sensitivity types are described below.

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

3.13.2.3 Local

Modoc County General Plan

The Modoc County General Plan was adopted in September 1988 and includes the following policies related to mineral resources that are relevant to the project (Modoc County 1988, as amended):

Goal: *To preserve, protect, and enhance the valuable natural, cultural, and historical resources of the County*

Policy 1 (Minerals): Preserve, wherever practical, the mineral resources of the county through limitations on incompatible development on or adjacent to identified resource areas.

Lassen County General Plan

The Lassen County General Plan was adopted in September 1999, and although it includes a discussion and goals and policies related to mineral resources, there are no goals or policies that are directly relevant to the Project, nor are there any local mineral resource areas that are of local importance within the vicinity of the project (Lassen County 1999, as amended).

Sierra County General Plan

The Sierra County General Plan was first adopted in 1996 and includes the following goals and policies related to mineral resources that are relevant to the project (Sierra County 1996, as amended):

Mineral Management Goal 1: It is the goal of the Mineral Management Element to encourage, enhance, and protect mining and mining related activities in the County, consistent with the fundamental goals of the County General Plan by developing clear and concise policies that coordinate agency jurisdiction over the mineral extraction industry; that clearly establishes compatible, post-mining land uses for previously mineralized areas; and, that identifies and protects existing and potential mineralized areas.

3.13.3 Environmental Impacts

3.13.3.1 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, mineral resources impacts are considered significant if implementation of the Proposed Project would:

- 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.
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

3.13.3.2 Methods of Analysis

Review of officially designated mineral resource zones is the primary method used to evaluate the Project's potential impacts on mineral resources.

3.13.3.3 Project Impacts and Mitigation Measures

Impact MIN-1	**Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**
Impact Determination	*No Impact.*

Impact Discussion

As discussed in Section 3.13.2, Regulatory Setting, the Project Area is not located in a designated MRZ, which is a land classification created by the CGS used to designate sites with known deposits of commercially viable mineral or aggregate materials in California. While there are four active mines within 1 mile of the Project Area, the Project would not result in direct impacts to these mines because construction would occur primarily within the US 395 right-of-way and along county roads. Once constructed, the new fiber optic line would be located underground, almost entirely within the US 395 right-of-way. Three ILAs, line markers, and vaults would be the only above-ground structures; none of these facilities would be in the vicinity of any of the active mines. Therefore, the Project would not have the potential to adversely affect any of the current or future mining operations in the area and would not result in the loss of availability of a known mineral resource that is of value to the region or residents of the state. No impact would occur.

Mitigation Measures

No Mitigation Measures are required.

Impact MIN-2	**Would the Project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?**
Impact Determination	*No Impact*

Impact Discussion

No locally important mineral resource recovery sites are directly located within the Project Area. Based on review of the applicable general plans (Modoc County, Lassen County, and Sierra County General Plans), no locally important mineral resources occur within the Project Area. Even though four active mines are within 1 mile of the Project Area (described above), all construction activities associated with the project would occur primarily within the US 395 right-of-way and along county roads and would not permanently affect the operation of these mines. Once operational, the new fiber optic line would be located underground, almost entirely within the US 395 right-of-way, and would have no potential to affect any current or future mineral resource recovery sites in the area. Three ILAs, line markers, and vaults would be the only above-ground structures; none of these facilities would be in the vicinity of any of the active mines. Therefore, the Project would not result in the loss of availability of a locally-important mineral resource site delineated on a local general plan, specific plan, or other land use plan. No impact would occur.

Mitigation Measures

No Mitigation Measures are required.

3.13.4 Cumulative Impacts

Temporary construction activities associated with the Project would involve trenching, plowing, excavation and directional drilling for the installation of the buried fiber optic cable.

Cumulative impacts could occur if other reasonably foreseeable current or future projects in the area would have the potential to lose the availability of mineral resources. However, it has been determined this Project would have no impact to mineral resources. Therefore, the Project, when possibly combined with other projects in the area, would not be expected to have a significant contribution to a cumulative impact.

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3.14 Noise

The purpose of this section is to document potential noise impacts caused by the Proposed Project and to propose measures to lessen any detrimental impacts that are identified. The analysis of the existing and future noise environments is based on empirical observations. This section describes the environmental setting for ambient noise environments encompassing the Project, including a discussion of noise fundamentals and regulatory setting. This section was based on information provided in the PEA (Stantec 2020).

3.14.1 Environmental Setting

3.14.1.1 Noise Fundamentals

Noise is generally defined as sound that is loud, disagreeable, or unexpected. The selection of a proper noise descriptor for a specific source is dependent on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in L_{eq}) and the average daily noise levels/community noise equivalent level (in L_{dn}/CNEL). The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- **Equivalent Noise Level (L_{eq})** is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- **Day-Night Average (L_{dn})** is a 24-hour average L_{eq} with a 10-dBA *weighting* added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 A-weighted decibel (dBA) 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
- **Community Noise Equivalent Level (CNEL)** is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 pm to 10:00 pm and a 10-dBA weighting added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source (Stantec 2020). Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface

characteristics (Stantec 2020). Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed (Stantec 2020).

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60- to 70-dBA range, and high, above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA, the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of one dBA cannot be perceived by humans.
- Outside of the laboratory, a three-dBA change is considered a just-perceivable difference.
- A change in level of at least five dBA is required before any noticeable change in community response would be expected. An increase of five dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

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. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

Starting at the Oregon-California state line, the Project traverses through sparse residential areas mixed with agricultural facilities and open space within Modoc County. The Project alignment passes directly through the center of the City of Alturas, which includes smaller rural and farming residences as well as businesses and commercial structures closer to downtown. One ILA and staging area would be located in the City of Alturas on land within a generalized land use designation of low density residential; the material storage yard location would be located in the unincorporated community of Likely on land designated as urban reserve. Lassen County has a similar land use characterization as Modoc County with sparsely populated residential areas amongst predominantly agricultural lands. The population becomes denser near the communities of Standish, Milford, and Doyle. The fiber optic line, two ILAs (in Spanish Springs and Herlong), nine staging areas, and two materials storage areas would be located in Lassen County. There are no communities along the Sierra County portion of the Project, and therefore, minimal sensitive receptors are located along the Project Area in that County.

Most receptors along the alignment are located at least 250 feet from construction activities. The least amount of separation between the work area and residential receptors is in the City of Alturas, with approximately 25 feet between the residential property line and the construction area and a proposed ILA (Table 3.14-1). In addition, some sensitive receptors are located near planned temporary staging or materials storage yard sites across the alignment. No sensitive receptors are located near the Herlong ILA or the Spanish Springs ILA sites.

Table 3.14-1. Sensitive Receptors within 1,000 Feet

Jurisdiction	Distance from Project					Total
	1-50 feet	50-100 feet	100-250 feet	250-500 feet	500-1,000 feet	
Modoc County	18	54	91	136	245	544
Lassen County	12	49	142	187	265	655
Sierra County	0	2	0	4	0	6
City of Alturas	5	19	20	45	139	228
Total	35	124	253	372	649	1,433

Source: Stantec 2020

3.14.1.2 Vibration Fundamentals

Trenching and boring activities may create vibration that potentially could be felt in nearby residences. Vibration is energy transmitted in waves through the ground, and therefore is often referred to as groundborne noise. Because energy is lost during the transfer of energy from one particle to another, and because noise energy spreads out as it propagates, vibratory energy is reduced with increasing distance from the source. Human perception of vibration varies with the individual and is a function of physical setting and the type of vibration. Groundborne vibration can be measured several ways to quantify the

amplitude of vibration produced. This can be through peak particle velocity (PPV), or root mean square velocity. These velocity measurements measure maximum particle at one point or the average of the squared amplitude of the signal, respectively. Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level. Groundborne noise/vibration is almost never annoying to people who are outdoors; without the effects associated with the shaking of a building, the rumble noise of vibrations is not perceptible. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures. Higher levels of vibration can cause structural damage, especially to older buildings. Existing Ambient Noise Environment

Existing ambient noise levels along the entire Project Area widely vary for a number of reasons, such as changes in traffic volumes, seasonal agricultural activities, population density, or environmental conditions.

The American National Standards Institute (ANSI) Standard 12.9-2013/Part 3 "Quantities and Procedures for Description and Measurement of Environmental Sound–Part 3: Short-Term Measurements with an Observer Present" provides a table of approximate background sound levels in L_{dn}, dBA; daytime L_{eq}, dBA; and nighttime L_{eq}, dBA, based on land use and population density. The ANSI standard estimation divides land uses into six distinct categories. Descriptions of these land use categories, along with the typical daytime and nighttime levels, are provided in Table 3.14-2. At times, one could reasonably expect the occurrence of periods that are both louder and quieter than the levels listed in the table. ANSI notes, "95% prediction interval [confidence interval] is on the order of ±10 dB." The majority of the Project Area would be considered ambient noise Category 4, 5 or 6; however, given the highway traffic and agricultural land uses in the area, residents likely experience periodic noise associated with vehicular traffic and agricultural activities.

Table 3.14-2. ANSI Standard 12.9-2013/Part 3 A-weighted Sound Levels Corresponding to Land Use and Population Density

Category	Land Use	Description	People per Square Mile	Typical L_{dn} (dBA)	Day L_{eq} (dBA)	Night L_{eq} (dBA)
1	Noisy Commercial and Industrial Areas and Very Noisy Residential Areas	Very heavy traffic conditions, such as in busy, downtown commercial areas; at intersections for mass transportation or for other vehicles, including elevated trains, heavy trucks, and other heavy traffic; and at street corners where many motor buses and heavy trucks accelerate.	63,840	67	66	58

Table 3.14-2. ANSI Standard 12.9-2013/Part 3 A-weighted Sound Levels Corresponding to Land Use and Population Density

Category	Land Use	Description	People per Square Mile	Typical L_{dn} (dBA)	Day L_{eq} (dBA)	Night L_{eq} (dBA)
2	Moderate Commercial and Industrial Areas and Noisy Residential Areas	Heavy traffic areas with conditions similar to Category 1, but with somewhat less traffic; routes of relatively heavy or fast automobile traffic, but where heavy truck traffic is not extremely dense.	20,000	62	61	54
3	Quiet Commercial, Industrial Areas, and Normal Urban and Noisy Suburban Residential Areas	Light traffic conditions where no mass transportation vehicles and relatively few automobiles and trucks pass, and where these vehicles generally travel at moderate speeds; residential areas and commercial streets, and intersections, with little traffic compose this category.	6,384	57	55	49
4	Quiet Urban and Normal Suburban Residential Areas	These areas are similar to Category 3, but for this group, the background is either distant traffic or is unidentifiable; typically, the population density is one-third the density of Category 3.	2,000	52	50	44
5	Quiet Residential Areas	These areas are isolated, far from significant sources of sound, and may be situated in shielded areas, such as a small, wooded valley.	638	47	45	39
6	Very Quiet, Sparse Suburban, or Rural Residential Areas	These areas are similar to Category 4, but are usually in sparse suburban or rural areas; and, for this group, there are few if any near sources of sound.	200	42	40	34

Source: ANSI S12.9-2013/Part 3

3.14.2 Regulatory Setting

3.14.2.1 Federal

The USEPA has established guidelines for assessing the impact of increased noise (Stantec 2020). These guidelines have been used as industry standard to determine the potential impact of noise increases on communities. Most people will tolerate a small increase in background noise (up to about 5 dBA) without

complaint, especially if the increase is gradual over a period of years (such as from gradually increasing traffic volumes). Increases greater than 5 dBA may cause complaints and interference with sleep. Increases above 10 dBA (heard as a doubling of perceived loudness) are likely to cause complaints and should be considered a serious increase. Table 3.14-3 defines each of the traditional impact descriptions, their quantitative range, and the qualitative human response to changes in noise levels.

Table 3.14-3. Environmental Protection Agency Impact Guidelines

Increase over Existing or Baseline Sound Levels	Impact Per USEPA Guidelines	Qualitative Human Perception of Difference in Sound Levels
0 dB to 5 dB	Minimum Impact	Imperceivable or Slight Difference
6 dB to 10 dB	Significant Impact	Significant Noticeable Difference – Complaints Possible
More than 10 dB	Serious Impact	Loudness Changes by a Factor of Two or Greater. Clearly Audible Difference – Complaints Likely

Source: Stantec 2020

3.14.2.2 State

The state government sets noise standards for transportation noise sources such as automobiles, light trucks, and motorcycles. However, there are no state policies that are applicable to the Proposed Project.

3.14.2.3 Local

Because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, the Project is not subject to local discretionary noise requirements. However, this section includes a summary of local noise standards or ordinances in the Project Area for informational purposes and to assist with CEQA review.

Modoc County General Plan

The Modoc County General Plan (1988, updated 2018) states the following regarding noise conditions:

> Because Modoc County is presently considered a very quiet environment, the expectations of its citizens for maintaining this condition are greater than those of persons living in more densely developed areas. An offsetting factor in Modoc County, however, is also a general perception that individuals have property rights which allow them to undertake activities which may be noisy, provided that the noise does not interfere with others' use and enjoyment of their property. This apparent tolerance for relatively noisy activities (especially those perceived as beneficial to the community) is exemplified by the proximity of seasonal industrial operations such as sawmills and agricultural facilities to residential areas.

Lassen County General Plan

As stated in the Lassen County General Plan Noise Element (1999, updated 2020), the overall goals of the document are to protect the citizens of Lassen County from the harmful and annoying effects of exposure to excessive noise, and to protect the economic base of Lassen County by preventing encroachment of incompatible land uses within areas affected by existing noise-producing uses.

According to the Lassen County General Plan Noise Element, highways are considered potential major noise sources, and analytical noise modeling and noise measurements were used to develop generalized L_{dn} noise contours for major roadways, including for Highway 395. The noise contour data estimates that in 2008, Highway 395 would generate 60 dB at the following locations and distances:

- Between the south County Line and Route A-3 – 238 feet
- Between Route A-3 to Highway 36 – 269 feet
- Between Highway 36 and the north County line – 245 feet

Sierra County General Plan

The Sierra County General Plan (2012) states "It is the County's most fundamental goal to maintain its rural character and preserve its rural quality of life."

Table 3.14-4 provides the following noise exposure and land use compatibility guidelines from the Sierra County General Plan (2012).

Table 3.14-4. Maximum Allowable Noise Exposure for Transportation Sources

Land Use	Outdoor Activity Areas[1]	Indoor Activity Areas
	L_{dn}/CNEL dB	L_{dn}/CNEL dB
Residential Transient Lodging	60[2]	45
Hospitals, Nursing Homes	60[2]	45
Theaters, Auditoriums, Music Halls	-	45
Churches, Meeting Halls	60[2]	35[3]
Office Buildings	60[2]	40[3]
Schools, Libraries, Museums	60[2]	45[3]
Playgrounds, Schools, Neighborhood Parks	70	45[3]

Source: Sierra County General Plan 2012
Notes:
[1]Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
[2]Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn} /CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn} /CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
[3]As determined for a typical worst-case hour during periods of use.

Land use compatibility noise guidelines for development:

- Residential, theatres, auditoriums, music halls, meeting halls, churches
  - Acceptable 60 dBA L_{dn} /CNEL and below
  - Conditionally Acceptable 61-70 dBA L_{dn} /CNEL
  - Unacceptable 71 dBA L_{dn}/CNEL and above
- Schools, libraries, museums, hospitals, nursing homes
  - Acceptable 60 dBA Ldn/CNEL and below
  - Conditionally Acceptable 61-75 dBA Ldn/CNEL
  - Unacceptable 76 dBA Ldn/CNEL and above
- Playgrounds, neighborhood parks
  - Acceptable 70 dBA Ldn/CNEL and below
  - Conditionally Acceptable 71-75 dBA Ldn/CNEL
  - Unacceptable 76 dBA Ldn/CNEL and above

City of Alturas

The City of Alturas General Plan was first adopted in June 1987. It is the intent of this Noise Element to mitigate noise conflicts where they presently exist and to minimize future noise conflicts by the adoption of policies designed to achieve land use compatibility for proposed development. The following noise goals or policies in the City of Alturas General Plan are relevant to the Project.

Policy 1: *Areas within Alturas exposed to existing or projected future exterior noise levels exceeding 60 dB Ldn should be designated as noise-impacted areas.*

Policy 5: *Noise level criteria applied to land uses other than residential or other noise-sensitive uses should be consistent with recommendations of the California Office of Noise Control.*

3.14.3 Environmental Impacts

3.14.3.1 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, noise impacts are considered significant if implementation of the Proposed Project would result in:

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

- Generation of excessive groundborne vibration or groundborne noise levels.
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the Project Area to excessive noise levels.

3.14.3.2 Methods of Analysis

This analysis of the existing and future noise environments is based on noise prediction modeling and empirical observations. Predicted construction noise levels were calculated utilizing the FHWA's Roadway Construction Model (2006). Groundborne vibration levels associated with construction-related activities for the Project have been evaluated utilizing typical groundborne vibration levels associated with construction equipment. Potential groundborne vibration impacts related to structural damage and human annoyance were evaluated, taking into account the distance from construction activities to nearby structures and typically applied criteria for structural damage and human annoyance.

3.14.3.3 Project Impacts and Mitigation Measures

Impact NOI-1	**Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.**
Impact Determination	*Less than Significant.*

Impact Discussion

Project Construction Noise. Construction noise from the Project would have a short-term effect on ambient noise levels. The expected equipment noise levels were modeled using the Federal Highway Administration's Roadway Construction Noise Model (RCNM). The construction equipment used for the Project would generally not be operated continuously, nor would the equipment always operate simultaneously. Therefore, there would be times when no equipment is operating, and noise in the vicinity of the Project would remain at ambient levels. Table 3.14-5 provides construction equipment sound levels per construction phase, adjusted to reflect a typical workday, expected at various distances, from 25 feet to 500 feet, covering a range of distances to nearby sensitive receptors.

Table 3.14-5. Construction Noise Levels Based on Distance by Construction Phase

Equipment Type by Construction Method	Equipment Quantity	Equipment Noise Level (L_{eq})						Phase Duration at Location
		At 25 Feet	At 50 Feet	At 100 Feet	At 250 Feet	At 500 Feet	At 1,000 Feet	
Plowing-In								
Cable Plow	1	86	80	74	66	60	54	0.25 Day
Water Truck	1	78.5	72.5	66.5	58.5	52.5	46.5	
Excavator	2	82.8	76.7	70.7	62.8	56.7	50.7	
Backhoe	1	79.6	73.6	67.6	59.6	53.6	47.6	
Pickup Truck	3	77	71	65	57	51	45	
Lowboy Tractor Trailer	1	78.5	72.5	66.5	58.5	52.5	46.5	
Total		**90.7**	**84.6**	**78.6**	**70.7**	**64.6**	**58.6**	
Open Trench								
Excavator	2	82.8	76.7	70.7	62.8	56.7	50.7	1 Day
Dozer	1	83.7	77.7	71.7	63.7	57.7	51.7	
Front End Loader	1	81.2	75.1	69.1	61.2	55.1	49.1	
Pickup Truck	3	77	71	65	57	51	45.0	
Rock Saw	1	88.6	82.6	76.6	68.6	62.6	56.6	
Total		**92.1**	**86.1**	**80.1**	**72.1**	**66.1**	**60.1**	
Directional Boring								
Drill Rig	1	N/A[1]	76	70	62	56	50	2 Days
Support Equipment	1	N/A[1]	73.6	67.6	59.6	53.6	47.6	
Pickup Truck	2	N/A[1]	71	65	57	51	45	
Vac Truck	1	N/A[1]	81.3	75.3	67.3	61.3	55.3	
2-ton Truck	1	N/A[1]	72.5	66.5	58.5	52.5	46.5	
Total		**N/A[1]**	**83.8**	**77.8**	**69.8**	**63.8**	**57.8**	
Bridge Attachments								
Excavator	1	N/A[1]	76.7	70.7	62.8	56.7	50.7	1 Day
Pickup Truck	2	N/A[1]	71	65	57	51	45	
Bridge Truck	1	N/A[1]	72.5	66.5	58.5	52.5	46.5	

Table 3.14-5. Construction Noise Levels Based on Distance by Construction Phase

Equipment Type by Construction Method	Equipment Quantity	Equipment Noise Level (L_{eq})						Phase Duration at Location
		At 25 Feet	At 50 Feet	At 100 Feet	At 250 Feet	At 500 Feet	At 1,000 Feet	
Lowboy Tractor Trailer	1	N/A[1]	72.5	66.5	58.5	52.5	46.5	
Total		**N/A[1]**	**80.3**	**74.3**	**66.3**	**60.3**	**54.3**	
Blowing Fiber/Splicing								
Air Compressor	6	79.7	73.7	67.7	59.7	53.7	47.7	1 Day
Pickup Truck	6	77	71	65	57	51	45	
Total		**89.4**	**83.3**	**77.3**	**69.4**	**63.3**	**57.3**	

Source: Stantec 2020. The following equations are used by the RCNM to calculate L_{eq}:
[1]Calculate L_{eq} at the closest point on the lot-line for each item of equipment using the following equation:
L_{eq} (equipment)= E.L. - 20 log (D/50) + 10 log (U.F.%/100)
E.L. and D are as defined above in Article 1.07.B.4.a.1.
U.F. is the *usage factor*, and is used to time-average the noise levels associated with an operating piece of equipment. The U.F. is expressed as the percentage of time that the equipment is operated at full power while on site. This factor shall be estimated by the Contractor or the Acoustical Engineer. Guidelines for the selection of usage factors are provided by the U.S. Environmental Protection Agency ("Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," U.S. Environmental Protection Agency Report NTID 300.1, December 31, 1971).
[2]Combine the individual contributions of each piece of equipment to obtain the overall construction Leq at the lot-line as follows:
L_{eq}(overall) = 10 log S 10 [L_{eq}(equipment)/10]
Notes:
1. The nearest receptors to directional boring and bridge attachment activities would be 50 feet.
See text preceding this table for the parameters of this noise modeling scenario.

The calculated construction equipment noise levels in Table 3.14-5 assume a direct line-of-sight between the equipment and the receptor with no additional noise reduction measures, such as berms or buildings, in the path of sound propagation. These noise levels also assume that all equipment during each phase would operate simultaneously and at the same location, which would not generally be the case, and therefore represents a worst-case-scenario.

The USEPA recommends maintaining environmental noises within enclosed buildings to below 70 dBA over 8 hours (typical construction day) to prevent noise induced hearing loss. According to Caltrans, the exterior façade of residential structures can provide approximately 25 dBA of noise level attenuation from exterior to interior with the window closed (Stantec 2020). Therefore, a daytime 95 dBA L_{eq} noise exposure significance threshold for construction noise at an exterior façade of residential properties is used for the Project. A construction noise level of 95 dBA at the exterior of a residential structure would result in a maximum 70 dBA noise level within the interior of the residence assuming a 25 dBA noise attenuation from the exterior façade. This construction noise level significance threshold is appropriate in the absence of any adopted construction noise regulations (Modoc County, Lassen County, Sierra County, and City of

Alturas do not regulate construction noise with numeric thresholds) and considering construction-generated noise would only occur at a single receptor from a few hours to two days maximum.

Construction noise levels from the Project would be below the 95 dBA significance threshold at 25 feet, as shown in Table 3.14-5 and described in detail below.

Modoc County

There are few receptors along most of the proposed Project alignment and staging areas in unincorporated Modoc County. Based on the rural character of Modoc County, it is anticipated that daytime ambient noise levels at residences along Highway 395 would be near 45-50 dBA L_{eq}. Construction noise levels at these receptors would exceed ambient levels and could reach 92.1 dBA L_{eq} using the trenching construction method. However, about 500 feet of conduit can be installed per day, therefore, increased noise levels would be short-term, lasting only about one day at a given receptor. The other installation method that could occur within 25 feet of receptors would be plowing. Plowing could produce noise levels at 90.7 dBA L_{eq} at 25 feet. Therefore, construction noise levels from the Project would be below the 95 dBA significance threshold. Furthermore, the plowing crew can install 2,000 feet of conduit per day and therefore noise generated during plowing activities would be considered short-term and would last only a couple of hours at any given receptor.

Lassen County

Approximately 13 miles of the Project alignment that traverses through Lassen County is within towns that are sparsely populated. Within these sparely populated areas, construction activities associated with the fiber optic line, ILAs, and staging areas located in Lassen County could still be approximately 25 feet from residential properties. The loudest construction activity would be the trenching method, which could generate noise levels of 92.1 dBA L_{eq} at 25 feet. A crew can typically install 500 feet of conduit per day using the trenching method, therefore, noise levels experienced by any given receptor would exceed ambient conditions, but the increase would be short-term, and last only for about 1 day. Plowing activities could produce noise levels at 90.7 dBA L_{eq} at 25 feet. Therefore, construction noise levels from the Project would be below the 95 dBA significance threshold. Furthermore, the plowing crew can install 2,000 feet of conduit per day. Therefore, noise generated during plowing would be considered short-term and would last only a couple of hours at any given receptor. Noise generated from the ILAs, temporary staging areas, and material storage yards would be less than generated from active construction activity.

Sierra County

The nearest sensitive receptors along this 3.15-mile segment of the Project would be located approximately 250 feet to 300 feet from construction activities. Therefore, it is anticipated that noise levels could reach 70.7 dBA L_{eq} if the plowing-in construction method is used or 69.5 dBA L_{eq} if the open trenching method is used. In addition, this segment of Highway 395 is a well-traveled, divided four-lane highway, and most of the surrounding residential properties have existing noise barriers, such as vegetation. Although construction noise levels could temporarily exceed ambient noise conditions, the rise in noise levels would be interim, lasting approximately 1 day at any given receptor. Nevertheless,

construction noise levels from the Project would be below the 95 dBA significance threshold at these sensitive receptors.

City of Alturas

Approximately 2.5 miles of the Project extend through the City of Alturas, and receptors are located as close as 25 feet from the Project alignment, a proposed ILA, and temporary staging areas or materials storage yards. Again, the loudest construction activity would be the trenching method, which could generate noise levels of 92.1 dBA L_{eq} at 25 feet. Plowing activities could produce noise levels at 90.7 dBA L_{eq} at 25 feet. Therefore, construction noise levels from the Project would be below the 95 dBA significance threshold. Furthermore, the plowing crew can install 2,000 feet of conduit per day; therefore, noise generated during plowing would be considered short-term and would last only a couple of hours at any given receptor. Noise generated from the ILAs, temporary staging areas, and material storage yards would be less than generated from active construction activity.

Noise impacts from Project construction would be considered less than significant.

Project Operational Noise. The Project would not result in a permanent increase in ambient noise levels because the Project, after construction, would generate no sound. Once constructed, the system would be monitored remotely, and crews would be sent out only if maintenance is required. Maintenance requirements are expected to be minimal and for these reasons, permanent noise impacts would be negligible.

Mitigation Measures

No mitigation measures are required.

Impact NOI-2	**Would Project implementation generate excessive groundborne vibrations and groundborne noise during construction.**
Impact Determination	*Less than Significant*

Impact Discussion

Construction Vibration. Construction activities (e.g., ground-disturbing activities, including the movement of heavy construction equipment) may generate localized groundborne vibration and noise. However, Project construction would not involve the use of impact equipment, such as pile drivers, which can generate groundborne vibration. Operation of heavy equipment that may be used for Project construction is not anticipated to result in excessive groundborne vibration. Table 3.14-6 summarizes potential vibration impacts on surrounding receptors.

Table 3.14-6. Construction-Related Vibration Impacts					
Type of Equipment	**Peak Particle Velocity (inches/second)**			**Threshold at which Human Annoyance Could Occur**	**Potential for Proposed Project to Exceed Threshold**
	at 25 feet	**at 50 feet**	**at 100 feet**		
Caisson Drilling	0.089	0.031	0.011	0.10	None
Loaded Trucks	0.076	0.027	0.010	0.10	None
Small Bulldozer	0.003	0.001	0.000	0.10	None

Source: Stantec 2020

As shown, the maximum predicted peak vibration at 25 feet from the construction area is 0.089 inches/second and would be well below the standard of 0.1 inches/second. Additionally, any groundborne vibration and groundborne noise would occur during daytime hours and would be brief, lasting only one to two days at each receptor, maximum. Therefore, construction of the Project would result in a less than significant vibration impact.

Operational Vibration. Project operations would not include the use of any large-scale stationary equipment that would result in excessive vibration levels. Therefore, the Project would not result groundborne vibration impacts during operations. No impact would occur.

Mitigation Measures

No mitigation measures are required.

Impact NOI-3	**For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project Area to excessive noise levels.**
Impact Determination	*Less than Significant.*

Impact Discussion

Two publicly owned airports and one private airstrip are located within 2 miles of the Project alignment. The Alturas Municipal Airport is located about 1 mile from the Project alignment and accommodates approximately 54 flights per day. The Ravendale Airport is also publicly owned and is 30 feet from the Project alignment. The Ravendale Airport receives only about one flight per day. Bates Field is a privately owned airstrip about 1 mile from the Project alignment. None of these airports have adopted land use plans or developed noise contours. Therefore, considering the number of daily flights at each airport or

airstrip, it is not anticipated that the Project would expose people working on the Project to excessive noise, and impacts would be considered less than significant.

Mitigation Measures

No mitigation measures are required.

3.14.4 Cumulative Impacts

Construction activities associated with the Proposed Project and other construction projects in the area may overlap, resulting in construction noise in the area. However, construction noise impacts primarily affect the areas immediately adjacent to the construction site. Construction noise for the Proposed Project was determined to be less than significant following USEPA recommendations. Cumulative development in the vicinity of the Project Site could result in elevated construction noise levels at sensitive receptors in the Project Area. However, each project would be required to comply with the applicable noise limitations on construction. Therefore, the Project would not contribute to cumulative impacts during construction. Once construction is complete, the Project would not result in a permanent increase in ambient noise levels.

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3.15 Population and Housing

This section describes the environmental setting for population and housing, including the existing site conditions and regulatory setting, impacts that would result from the Project, and, if significant impacts are identified, the mitigation measures that would reduce these impacts.

3.15.1 Environmental Setting

The Project spans 194 miles through three California counties: Modoc, Lassen and Sierra; 192.3 miles of the Project would be located in unincorporated areas in the three counties and the remaining 1.6 miles would be located within the incorporated City of Alturas. Above-ground ILAs, a collection of equipment that regenerates signals and provides tie-ins to regional wireless service providers, are currently planned to occupy properties in the unincorporated communities of Herlong and Spanish Springs in Lassen County, and the incorporated City of Alturas in Modoc County.

Population

In general, the unincorporated areas in any county are less population-dense and developed than the areas within city limits. In 2020, the population density of Modoc, Lassen, and Sierra counties was 2.1, 6.9, and 3.4 persons per square mile, respectively (U.S. Census Bureau 2020).

The Project crosses through Modoc County, including the City of Alturas and unincorporated communities in New Pine Creek, Davis Creek, Ramsey, and Likely. Within Lassen County, the Project traverses the unincorporated communities of Sage Hen, Pinnio, Madeline, Brockman, Moran, Termo, Litchfield, Standish, Buntingville, Milford, and Doyle. Within Sierra County, the Project does not cross through any cities or census-designated communities.

Table 3.15.1 presents past population counts and population growth projections for Modoc, Lassen and Sierra Counties. As shown in the table, total population in each county is projected to follow a gradual decline through 2060. The most recent data from the California DOF estimates the population of Modoc County is 9,491, Lassen County is 27,572, and Sierra County is 3,189 (DOF 2021).

Table 3.15-1. Regional Historical and Projected Population

Location	2010	2020	2030	2040	2050	2060	Projected Percent Change (2010-2060)
Modoc County	9,688	9,416	9,134	8,567	8,028	7,587	-21.7%
Lassen County	34,789	28,872	28,894	27,293	25,569	24,082	-30.8%
Sierra County	3,233	3,117	2,903	2,757	2,591	2,456	-24.1%

Table 3.15-2 presents regional economic characteristics for Modoc, Lassen, and Sierra counties and the City of Alturas. The percentage of the population below the poverty line is 18.8 percent in Modoc County, 13.5 percent in Lassen County, 9.7 percent in Sierra County, and 18.1 percent in the City of Alturas.

Table 3.15-2. Regional Economic Characteristics

Location	Population 16 years and older	Total in Civilian Labor Force	Unemployed	Unemployment Rate (%)	Median Household Income (2019)	Percentage Below Poverty Line
Modoc County	7,365	3,235	278	8.6	$45,507	18.8%
City of Alturas*	2,025	1,075	138	12.8	$37,917	18.1%
Lassen County	26,650	9,209	598	6.5	$56,352	13.5%
Sierra County	2,589	1,339	71	5.3	$52,148	9.7%

Source: U.S. Census Bureau 2020
Notes: *Figures for the City of Alturas are included in the Modoc County totals.

Workforce

Table 3.15-3. Regional Employment Characteristics, 2019

Industry	Employment		
	Modoc County	Lassen County	Sierra County
Agriculture, forestry, fishing and hunting, and mining	666	563	146
Construction	89	489	255
Manufacturing	30	167	67
Wholesale trade	119	112	0
Retail trade	201	661	54
Transportation and warehousing, and utilities	83	273	108
Information	18	111	0
Finance and insurance, and real estate and rental and leasing	84	216	28
Professional, scientific, and management, and administrative and waste management services	146	394	75
Educational services, and health care and social assistance	723	1,902	218
Arts, entertainment, and recreation, and accommodation and food services	314	637	133
Other services, except public administration	201	240	27
Public administration	283	2,846	157
Civilian employed population 16 years and over	2,957	8,611	1,286

Source: U.S. Census Bureau 2020

In 2019, Modoc, Lassen and Sierra counties had a combined labor force of 12,854, including a workforce of 833 individuals in Construction and 464 in the Transportation and Utilities industry sectors (U.S. Census Bureau 2019).

The California Employment Development Department (EDD) reports that in Lassen County, between 2014 and 2020, the construction sector saw the most growth while the farming sector experienced the largest decline (EDD 2021). In Modoc County, between 2014 and 2020, the hospitality sector experienced the most growth while the trade and transportation industries experienced the most decline (EDD 2021). In Sierra County, between 2014 and 2020, local government experienced the largest employment growth while farming experienced the largest decline in employment (EDD 2021).

In Modoc County, the unemployment rate decreased from 11.4 percent in 2010 to 8.6 percent in 2019 (U.S. Census Bureau 2020). In Lassen County, the unemployment rate decreased from 9.2 percent in 2010 to 6.5 percent in 2019 (U.S. Census Bureau 2020). In Sierra County, the unemployment rate decreased from 9.4 percent in 2010 to 5.3 percent in 2019 (U.S. Census Bureau 2020).

Housing

Table 3.15-4 presents regional housing statistics for Modoc, Lassen and Sierra counties and the City of Alturas. Vacancy rates for the same jurisdictions were provided for the year 2021.

Table 3.15-4. Regional Housing Characteristics, 2021

Location	Total Housing Units	Occupied Housing Units	Vacant Housing Units	Vacancy Rate (%)
Modoc County	5,283	3,877	1,406	26.6
City of Alturas*	1,405	1,209	196	14.0
Lassen County	12,778	9,410	3,368	26.4
Sierra County	2,356	1,479	877	37.2

Source: California DOF 2021
Notes: *The numbers for the City of Alturas are included in the Modoc County totals.

Modoc County issued six housing building permits between August 31, 2019 and October 28, 2020. All six were for moderate income housing units (County of Modoc 2020). In Lassen County, residential development was at its highest in 2004 with approximately 149 building permits issued for both single-family and multifamily units (County of Lassen 2004). No data between 2004 and 2020 was reported by Lassen County (Housing and Community Development [HCD] 2021). In 2018, Sierra County issued nine residential building permits (County of Sierra 2018). No data between 2019 and 2020 was reported by Sierra County (HCD 2021).

3.15.2 Regulatory Setting

3.15.2.1 Federal

No federal regulations are applicable to population and housing in relation to the Project.

3.15.2.2 State

State planning and zoning law requires each city and county to adopt a general plan for its future growth (California Government Code, Section 65300). The general plan must include a housing element that identifies housing needs for all economic segments and provide opportunities for housing development to meet those needs. Each city and county must update its general plan housing element on a regular schedule, typically every four to eight years, depending on the jurisdiction. Among other things, the housing element must incorporate policies and identify potential sites that would accommodate the City's and the County's share of the regional housing need. The 2017 Modoc County Housing Element, 2014 Lassen County Housing Element, 2017 Sierra County Housing Element and 2019 City of Alturas Housing Element identify policies to accommodate housing to provide for each jurisdiction's share of the regional housing need. Each of these elements is described below.

3.15.2.3 Local

Modoc County General Plan

The Modoc County General Plan Housing Element establishes the county's programs and policies for meeting the housing needs of existing and future residents (County of Modoc 2020). General Plan Housing Element goals and policies that may be applicable to the Project include:

Objective 2: Maintain Housing Opportunities.

> *Policy 2: Encourage a variety of housing opportunities for all segments of the community.*

Lassen County General Plan

The Lassen County General Plan Housing Element establishes the county's programs and policies for meeting the housing needs of existing and future residents (County of Lassen 2019). General Plan Housing Element goals that may be applicable to the Project include:

Goal HE-GP-1: Housing Need – Ensure that there is an adequate number of housing units at a range of densities sufficient to meet the current and future needs of County residents.

Sierra County General Plan

The Sierra County General Plan Housing Element establishes the county's programs and policies for meeting the housing needs of existing and future residents (County of Sierra 2019). General Plan Housing Element goals that may be applicable to the Project include:

Overall Housing Goal: To provide an adequate supply of sound, affordable housing units in a safe and pleasant environment that enhance community quality of life for the present and future residents of the County, regardless of race, age, religion, sex, marital status, ethnic background or disabilities.

City of Alturas General Plan

The City of Alturas Housing Element establishes the city's programs and policies for meeting the housing needs of existing and future residents (City of Alturas 2019a). General Plan Housing Element goals that may be applicable to the Project include:

Goal 1: Housing Need – Ensure there are an adequate number of housing units in good conditions, and in a range of sizes and densities, sufficient to meet the current and future needs of City residents at all income levels.

3.15.3 Environmental Impacts

3.15.3.1 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on the environment if it would:

- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

3.15.3.2 Methods of Analysis

This impact analysis describes the impacts on population and housing associated with the implementation of the Project. Population data generated by the California DOF provides an estimated forecast for population demographics in the Projects' region over the next 40 years. Housing data from the U.S. Census and the DOF provides information on the estimated number of housing units over the next 10 years. Using these data, potential impacts of the Project were evaluated qualitatively with respect to the significance criteria below.

3.15.3.3 Project Impacts and Mitigation Measures

Impact POP-1	**Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**
Impact Determination:	*Less than Significant.*

Impact Discussion

No new homes or businesses are proposed as part of the Project, and the Project is not anticipated to induce population growth either directly or indirectly. Population projections for each County estimate a steady decrease from 2020 to 2040 (DOF 2021). As described in Chapter 2, Project Description, construction of the Project would take approximately 6 months. At the peak of construction, it is estimated that construction of the Project would require eleven crews of six people, or a maximum of 66 construction workers at various locations along the Project route simultaneously. It is anticipated that construction workers would be hired from the local area. The Project Area has adequate hotels and motels available to provide accommodations to any construction workers that may temporarily relocate to the area during construction. If local, workers would likely commute from their residences. If living too great a distance to commute, workers would likely stay in temporary lodging (most likely hotels or motels in the Project Area). Due to the relatively short-term 6-month construction duration, it is unlikely that non-local workers would take up permanent residence in the area. Given the small number of construction workers needed for the job, the short-term lodging that may be required for the Project construction workers is expected to be accommodated by existing units.

Although the Project would extend fiber optic broadband infrastructure into the area, the Project would serve the existing population and would not induce substantial unplanned population growth. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact POP-2	**Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**
Impact Determination:	*No Impact.*

Impact Discussion

The project would extend 194 miles of fiber-optic cable within existing roadways across portions of Modoc, Lassen, and Sierra Counties. Such activities would require encroachment permits from Caltrans and each of the three counties but would not result in conversion of land or displacement of existing housing. The proposed installations and construction staging associated with the project would occur mostly within existing roadway right-of-way, with the exception of some ancillary facilities that would be placed immediately adjacent to the existing roadway in several locations. The Project would not displace existing housing, nor require replacement housing; therefore, replacement housing will not be constructed.

Mitigation Measures

No mitigation measures are required.

3.15.4 Cumulative Impacts

Impacts related to population and housing would be limited to construction activities along the length of the Project alignment. Once construction is complete, management of the telecommunications infrastructure would generally occur remotely, with onsite maintenance only as necessary. No population growth or increase in housing is projected as part of the Project. The Project is unlikely to contribute to cumulative impacts regarding population and housing.

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3.16 Public Services

This section describes the environmental setting for public services, including the existing site conditions and regulatory setting, impacts that would result from the Proposed Project, and, if significant impacts are identified, the mitigation measures that would reduce these impacts.

3.16.1 Environmental Setting

Emergency response units and facilities, schools, and other public services in the Project Area are described in the following sections.

3.16.1.1 Emergency Response Units and Facilities

Fire

Fire history, high risk fire areas, fuels, and values at risk are discussed in Section 3.21, Wildfire. The Project Area falls within FRAs, SRAs, and LRAs. CAL FIRE is responsible for providing fire protection services to all SRA lands. In addition, fire protection services within the Project Area are provided by Modoc, Lassen, and Sierra counties; the City of Alturas Fire Department; and other volunteer fire districts such as Davis Creek, Doyle, and Standish-Litchfield.

In Modoc County, the Project traverses the fire protection districts of Willow Ranch, Davis Creek, Alturas, and Likely. Each of these fire protection districts participate in a Mutual Aid Agreement with CAL FIRE that provides assistance for wildland fire in SRAs. Additionally, each of the fire protection districts is a member of a Master Agreement that provides for assistance for fire and other emergency services that exceed the capacity of any individual district.

Fire protection and suppression services in Sierra County are provided by the USFS, California Department of Forestry and Fire Protection (CAL FIRE), and various community fire protection districts.

In Lassen County, fire protection is managed by a variety of federal, state, special districts, and municipal organizations. These include BLM, US Forest Service (USFS), National Park Service (NPS), United States Army Depot Fire Department (SAID), CAL FIRE, and the California Correctional Center (Lassen LAFCo 2020). Lassen County has 14 fire departments. The closest fire departments to the Project alignment are listed in Table 3.16-1.

CAL FIRE's Lassen-Modoc-Plumas Unit works closely with other agencies including the BLM, Lassen National Forest, Modoc National Forest, Plumas National Forest, State Department of Fish and Game, Caltrans, California Highway Patrol (CHP), and county and city agencies.

Table 3.16-1. Fire Services within 1 Mile of the Project Alignment

Name	Location	Distance from Project Alignment (miles)
US Fire Control Office Fire Station	Lassen County	0.02
Davis Creek Volunteer Fire Station	Modoc County	0.07
Milford Volunteer Fire Station	Lassen County	0.10
Alturas Fire Department Fire Station	Modoc County	0.14
Doyle Fire Department Volunteer Fire Station	Lassen County	0.22
Alturas Cal Fire Station	Modoc County	0.25
Likely West Valley Fire State	Modoc County	0.48
Likely Fire Department	Modoc County	0.48
Alturas Rural Fire Hall Fire Station	Modoc County	0.51
Janesville Fire District Fire Station	Lassen County	0.99

Source: Stantec 2020

The Modoc County Sheriff's department handles both medical aid and emergency fire dispatch. According to the Center for Public Safety Excellence (formerly the Commission on Fire Accreditation International), the fire response time guideline is 5 minutes and 50 seconds at least 90 percent of the time, with response time measured from the 911 call time to the arrival time of the first responder at the scene. Rural fire departments may not always meet these standards due to the distance from the fire department to the area where the service is needed (Modoc LAFCo 2017). The Alturas City Fire Department's response time within the city is approximately 5 minutes (Modoc LAFCo 2009).

Fire protection efforts throughout Modoc County rely heavily on volunteer efforts in conjunction with state and federal agencies. Due to the scarcity of resources throughout the County, there is a heavy reliance on volunteer personnel in the local departments in the more remote unincorporated areas. The City of Alturas (the only incorporated city in Modoc County) is the only department that relies on paid firefighter personnel (Modoc LAFCo 2017). The City of Alturas Fire Department is comprised of one full-time fire marshal and approximately 40 volunteers (City of Alturas 2014). The Alturas City Fire Department maintains mutual aid agreements with USFS, the Alturas Rancheria, and the Modoc County Hospital. (Modoc LAFCo 2017).

Lassen County follows the guideline established by the National Fire Protection Association (NFPA) for fire response times at 6 minutes at least 90 percent of the time, with response time measured from the 911-call time to the arrival of the fire-responder at the scene (Lassen LAFCo 2020). Average response time for the City of Susanville Fire Department (within Susanville) is approximately 3 minutes, with a maximum of 6 minutes to remote parts of the city; response times for the other fire agencies including Susan River, Doyle and Westwood vary from 2 to 45 minutes, respectively (Lassen LAFCo 2020).

Sierra County also uses the fire response guideline established by the NFPA (fire response times of 6 minutes at least 90 percent of the time). Typically, Sierra County Fire Department's response time is 10-15 minutes. As noted in Sierra LAFCo's Municipal Service Review, the Sierra County Fire Department does not always meet suggested NFPA guidelines because the county contains several rural settings where homes are not accessible in the winter and have a greater than 45-minute response time in the summer (e.g., Jackson Meadows, Webber Lake, Independence Lake, and Ground Hog Rock). The Sierra County Fire Department provides service to areas outside the boundaries only by Mutual Aid. These include Truckee, Sierra City, Loyalton, Beckwourth, Sierra Valley, and Loyalton (Sierra LAFCo 2018).

Police

Police protection in Modoc County is provided by the Modoc County Sheriff's Office. The Modoc County Dispatch Center is responsible for answering all phone lines into the Sheriff's Office which includes six 911 Administrative lines, and two Next Generation 911 lines (Modoc County Sheriff's Office 2021).

Police protection in Lassen County is provided by the Lassen County Sheriff's Office. The Sheriff maintains and staffs a Public Safety Dispatch Center 24 hour per day, 365 days per year that serves as the primary PSAP (public safety answering point) for the majority of Lassen County and all of the City of Susanville (Lassen County Sheriff's Office 2021). The Public Safety Dispatch Center handles all 911 calls for law enforcement, fire, and medical aid and also receives all emergency and non-emergency calls for both the Sheriff's Office and the Police Department (Lassen County 2021).

Police protection in Sierra County is provided by the Sierra County Sheriff-Coroner Department. The Sierra County Sheriff's Department provides dispatch for all of Sierra County emergency services (Sierra LAFCo 2018).

Police protection in the City of Alturas is provided by the Alturas Police Department. The Alturas Police Department consists of seven paid sworn officers including the Chief, Lieutenant, Sergeant and four Officers (Modoc LAFCo 2009). The Sheriff provides the 911 emergency dispatch services (Modoc LAFCo 2009).

Lassen County reported the average response time was approximately 24 minutes for dispatch and response (Lassen County Sheriff's Office 2021). Response times for the police services in Sierra County, Modoc County, and the City of Alturas are unavailable.

Police stations within 1 mile of the Project alignment are identified in Table 3.16-2.

Table 3.16-2. Police Departments within 1 Mile of the Project Alignment

Name	County	Distance from Project Alignment (miles)
Modoc County Criminal & Civil Sheriff's Department	Modoc	0.01
Modoc County Sheriff	Modoc	0.07
Alturas Police Department	Modoc	0.11
California Highway Patrol	Modoc	0.50

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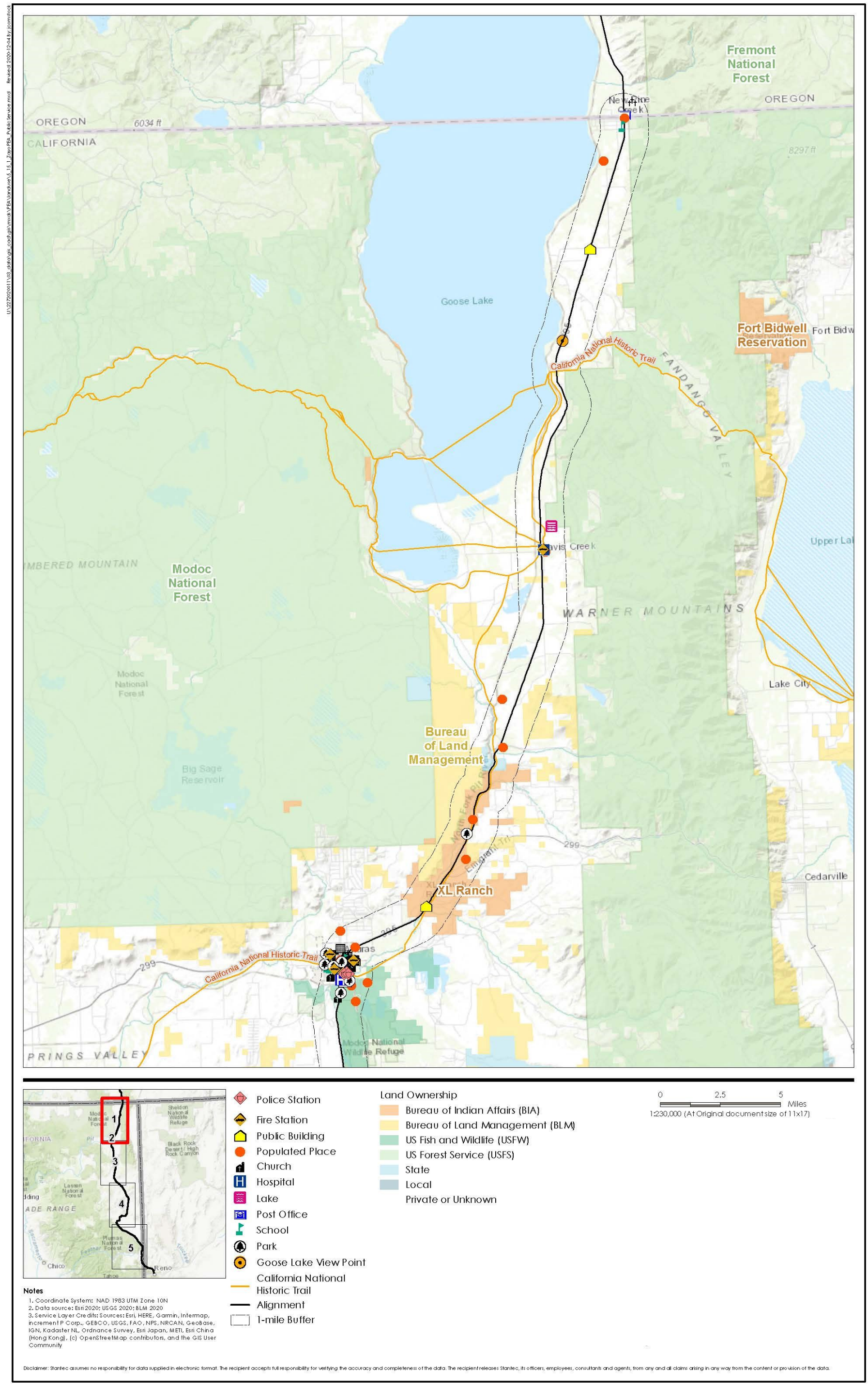

Source: Stantec

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Figure 3.16-1 Public Services within One Mile of the Project
Sheet 1 of 5

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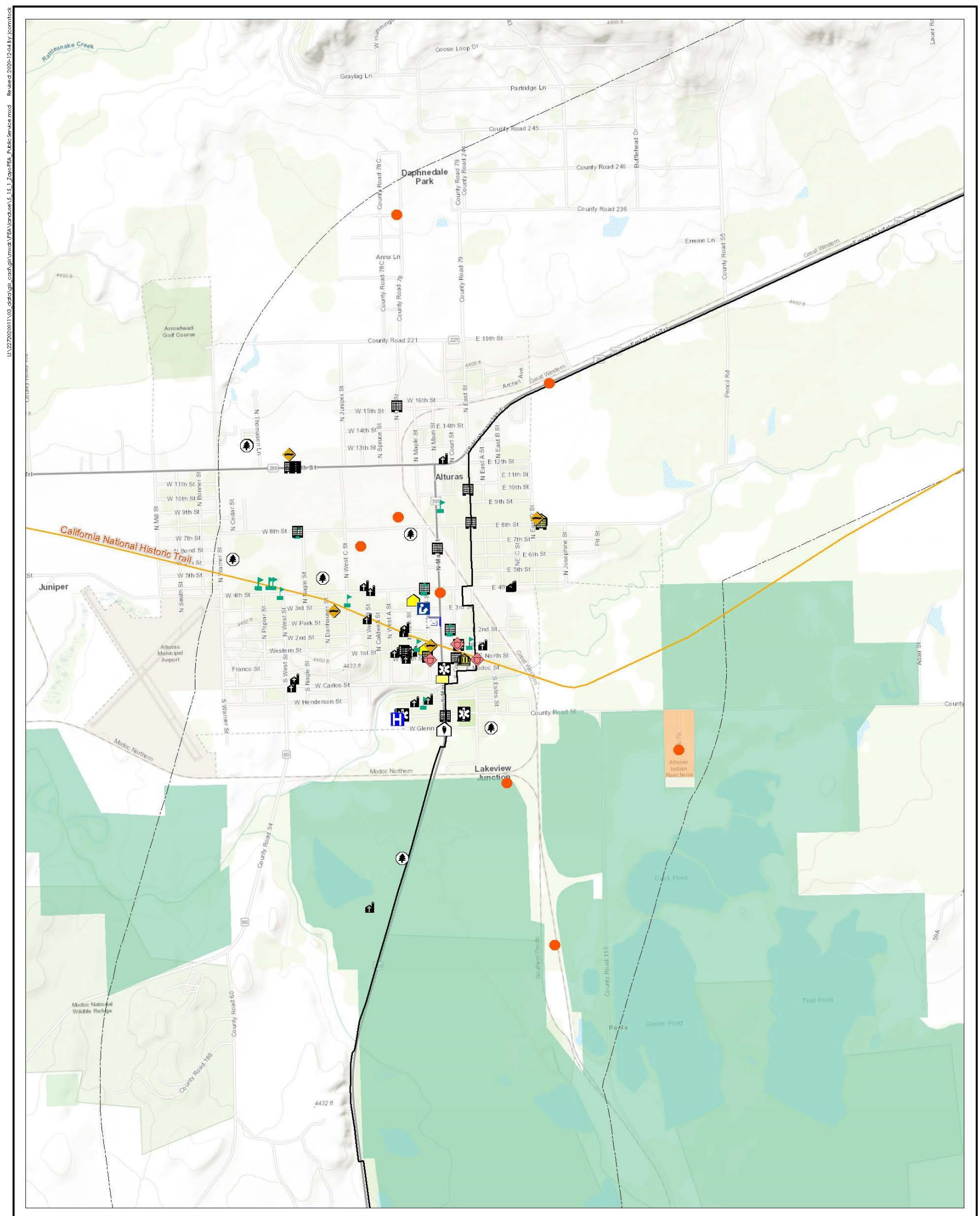

Notes

1. Coordinate System: NAD 1983 UTM Zone 10N
2. Data source: Esri 2020; USGS 2020; BLM 2020
3. Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Source: Stantec

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Figure 3.16-1 Public Services within One Mile of the Project

Sheet 2 of 5

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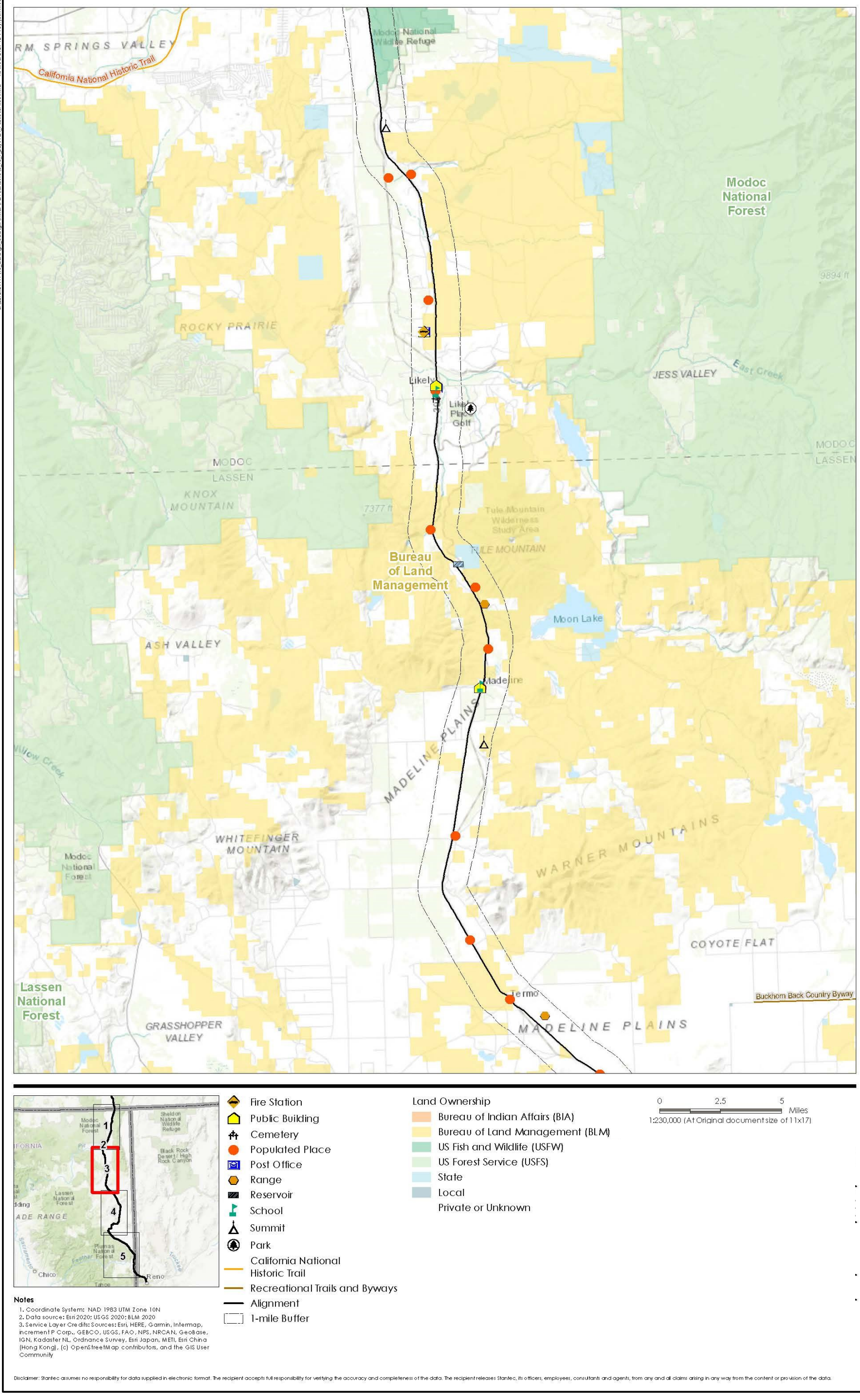

Source: Stantec

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Figure 3.16-1 Public Services within One Mile of the Project

Sheet 3 of 5

2020-196.01 Zayo's Prineville to Reno Fiber Optic Line

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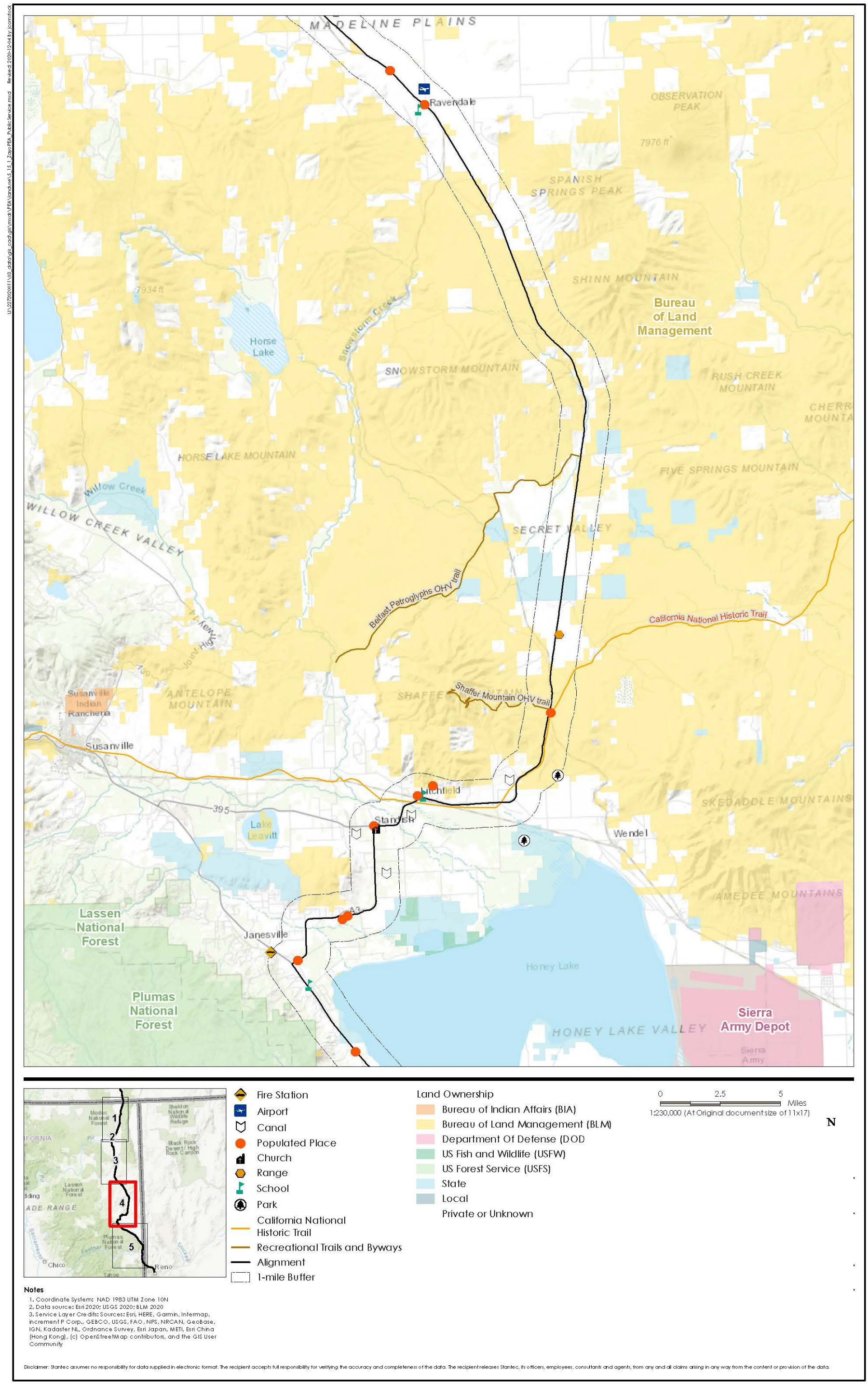

Source: Stantec

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Figure 3.16-1 Public Services within One Mile of the Project

Sheet 4 of 5

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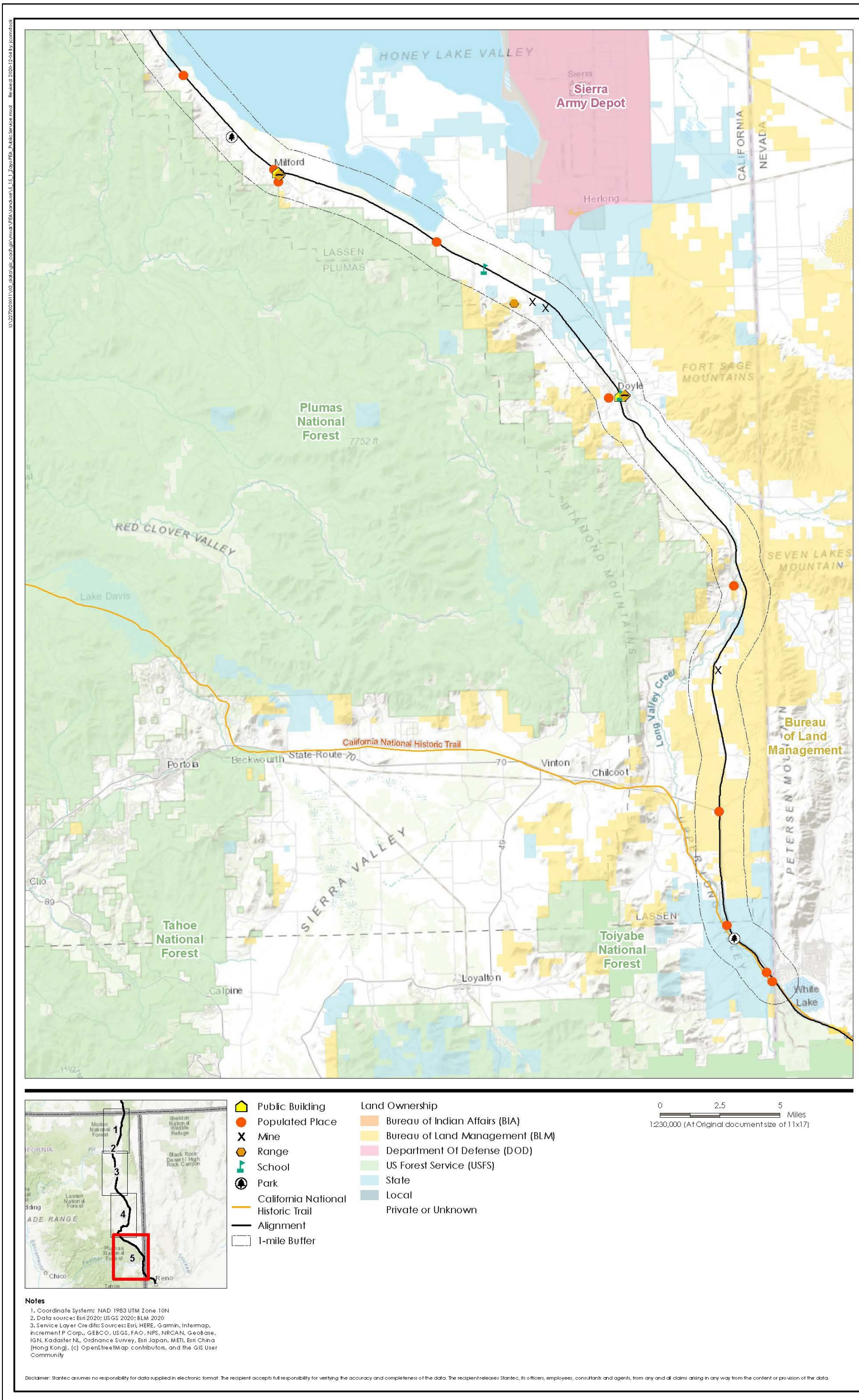

Notes

1. Coordinate System: NAD 1983 UTM Zone 10N
2. Data source: Esri 2020; USGS 2020; BLM 2020
3. Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Source: Stantec

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Figure 3.16-1 Public Services within One Mile of the Project

Sheet 5 of 5

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Medical

In Modoc County, the closest medical facility to the Project is the Modoc Medical Center in Alturas, approximately 0.6 mile from the Project. This facility is operated by the Last Frontier Healthcare District and serves the community of Alturas and the unincorporated area around the city, including other small communities in Modoc County. Additionally, Lake District Hospital located in Oregon, provides general medical and surgical care for Modoc County (Modoc LAFCo 2019). The hospital is a 1-hour drive from Alturas. The rural fire departments in Modoc County will provide for emergency medical services to the extent that they are trained and available (Modoc LAFCo 2019).

3.16.1.2 Schools

Modoc County

Public education in Modoc County is managed by the Modoc County Office of Education. There are three school districts within Modoc County: Modoc Joint Unified School District (MJUSD), Surprise Valley Joint Unified School District, and Tulelake Basin Joint Unified School District (Modoc County Office of Education 2018). The Project Area traverses the MJUSD boundary. The MJUSD contains six schools and serves approximately 870 students from Alturas, Cedarville, Canby, Likely, Davis Creek, New Pine Creek, Madeline, and the surrounding areas (MJUSD 2019). The six schools that make up the district are as follows: one traditional high school, one middle school, one continuation high school, one community day school and two elementary schools.

Lassen County

Public education in Lassen County is managed by the Lassen County Office of Education. The Project Area is within the boundaries of the Ravendale-Termo Elementary School District (RTESD), Lassen Union High School District, and Fort Sage Unified School District. The RTESD is a K-8 District with one K-8 School, Juniper Ridge Elementary School, located in Termo, CA, located approximately one hour North of Susanville, CA in Lassen County. The school site serves approximately 12 students in transitional kindergarten through eighth grade (RTESD 2021). The Lassen Union High School District encompasses a large geographic area, which includes the following districts: Janesville Union Elementary School District, Johnstonville Elementary School District, Richmond Elementary School District, Shaffer Union Elementary School District, and Susanville School District (Lassen Union High School District 2020). The Lassen Union High School District serves approximately 800 students grades 9 through 12 (Lassen Union High School District 2020). The Fort Sage Unified School District is a Transitional K-12 school district. The district consists of three schools and a charter school (Mt. Lassen Charter School), Sierra Primary (Transitional Kindergarten – 6), Fort Sage Middle School (7 – 8), and Herlong High School (9 – 12) (Fort Sage Unified School District 2021).

Sierra County

The Sierra-Plumas Joint Unified School District and Sierra County Office of Education serves all of Sierra County and the eastern quarter of Plumas County. The Sierra-Plumas Joint Unified School District serves

approximately 411 students and has three schools: Loyalton Elementary School, Loyalton High School and Downieville School (Sierra County Office of Education 2021).

Schools within 1 mile of the Project are listed in Table 5.16-3 by distance from the Project alignment.

Table 3.16-3. Schools within 1 Mile of the Project Alignment

School	Location	Distance from Project Alignment (miles)
Modoc Early Head Start	Modoc County	Adjacent
Modoc Child Care Council	Modoc County	0.01
Modoc High School	Modoc County	0.01
Alturas State Pre-School	Modoc County	0.02
South Fork Elementary School	Modoc County	0.02
Shaffer Elementary School	Lassen County	0.02
Long Valley Elementary School	Lassen County	0.03
Long Valley Charter School	Lassen County	0.04
Bird Flat School	Lassen County	0.05
Madeline School	Lassen County	0.06
State Line Elementary School	Modoc County	0.07
Modoc County Office of Education	Modoc County	0.09
Lake School	Lassen County	0.09
Shaffer Elementary School	Lassen County	0.09
Modoc High School	Modoc County	0.12
University of California Cooperative Education	Modoc County	0.15
Modoc County Office of Education	Modoc County	0.16
Modoc Charter School	Modoc County	0.19
Janesville Elementary School	Lassen County	0.25
Ravendale Elementary School	Lassen County	0.28
Modoc Joint Unified School District	Modoc County	0.69
Warner High School	Modoc County	0.75
Alturas Elementary School	Modoc County	0.77
Modoc Middle School	Modoc County	0.81

3.16.1.3 Parks and Other Public Facilities

Parks

There are multiple federal, state, and local parks within 1 mile of the Project alignment as identified in Table 3.17-1 in Section 3.17, Recreation. Additional information about recreation facilities is provided in Section 3.17, Recreation.

Other Public Facilities

Table 3.16-4 lists other public facilities within 1 mile of the Project alignment. Some of these facilities include museums, childcare centers, and libraries.

Table 3.16-4. Other Public Facilities within 1 Mile of the Project Alignment

Name	Location	Distance from Project Alignment (miles)
Modoc County Museum	Modoc	0.01
Modoc Child Care Resource	Modoc	0.04
Likely Cemetery	Modoc	0.05
Modoc County Veterans Services Office	Modoc	0.06
TEACH Senior Services	Modoc	0.09
Modoc Child Care Council	Modoc	0.12
Davis Creek Library	Modoc	0.12
Modoc County Library	Modoc	0.16
Cedarville Rancheria	Modoc	0.21
Ravendale Airport	Lassen	0.48

3.16.2 Regulatory Setting

3.16.2.1 Federal

No Federal laws, regulations, or policies are applicable to public services in relation to the Project

3.16.2.2 State

No State laws, regulations, or policies relate directly to public services and the Proposed Project, reasonably foreseeable distribution components, or alternatives. Refer to Section 3.21, Wildfire, for discussion of state laws, regulations, and policies related to wildfire prevention.

3.16.2.3 Local

Modoc County General Plan:

LUE 2: Development should generally be discouraged in areas of high wildland fire hazard where vegetation management programs, including the creation and maintenance of fuel breaks to separate urban uses would result in unacceptable impacts on open space, scenic and ecological conditions (refer to Safety Element) (SB-1241).

LUE 3: All urban and rural development, existing and proposed, should be provided with adequate water supply and fire protection facilities and services. Facilities serving hill area development should be adequate to provide both structural and wildland fire protection. The primary responsibility falls upon the owner and the developer (refer to Safety Element) (SB-1241).

LUE II: Continue to submit relevant development applications to appropriate federal and state agencies and utility and service providers for review and comment as a part of the normal development application review procedures.

Circulation Policy L. The County shall identify primary emergency vehicle routes and links between the medical facilities, fire and police facilities (refer to Safety Element) (SB-1241).

Lassen County General Plan:

GOAL L-14: A rate and the location of community growth which does not result in a significant burden to existing levels of public services and facilities, including schools, fire protection, and community sewer and water facilities.

LU36 POLICY: Public facilities and services should be based upon a projection of reasonably expected population increase and economic growth, and should recognize the limits of the County's human, financial, and natural resources.

LU37 POLICY: The County shall periodically evaluate the impacts of general development trends on public services and, within its authority and in consultation with public service providers, encourage and facilitate mitigation of significant adverse cumulative impacts.

3.16.3 Environmental Impacts

3.16.3.1 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, public services impacts are considered significant if implementation of the Proposed Project would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:
- Fire Protection
- Police Protection
- Schools
- Parks
- Other Public Facilities

3.16.3.2 Methods of Analysis

Public service impacts related to Project construction and operational increases in employment population and land use intensity were evaluated based on information provided by the fire departments, police departments, and school districts with jurisdiction. This information addressed service capabilities, service ratios, response times, and performance objectives.

3.16.3.3 Project Impacts and Mitigation Measures

Impact PUB-1	**Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:** • **Fire protection?** • **Police protection?** • **Schools?** • **Parks?** • **Other public facilities?**
Impact Determination	*Less than Significant.*

Impact Discussion

Fire Protection

The Project alignment would be constructed in an existing roadway corridor and the finished alignment and ILAs would be unstaffed facilities. Access for emergency vehicles and public evacuation would be maintained throughout construction, and no full roadway closures would be required. During

construction, up to 11 crews of six people (or a maximum of 66 construction workers) may be working at various locations at the same time. However, Project construction activities would be temporary, estimated to be six months. These workers are presumed to primarily be local, and therefore would not increase the local demand on fire protection level of service. These workers are considered part of the existing demand on fire protection services. Moreover, implementation of the Project would not result in new residents at the site or a substantial increase in employees accessing the site on a permanent basis. As such, construction, operation, and maintenance of the Project would not result in the need for new or altered facilities, such as a new or expanded fire station. Additionally, as discussed in Section 3.21, Wildfire, the Project alignment is located along an existing transportation right-of-way that is maintained clear of vegetation and other fire hazards, creating an intrinsic fuel break. Therefore, the risk of wildfire vegetation ignition in the Project Area is considered to be low. The Project would not affect service ratios, response times, or other performance objectives for any public services, and impacts would be less than significant.

Police Protection

Potential police protection service effects would primarily be confined to the construction period for the Project. As mentioned previously, during peak activities, a maximum 66-person crew would be required to construct the Project. However, Project construction activities would be temporary, estimated to be six months, and construction workers are presumed to primarily be local, and therefore part of the existing demand on police protection services. If the workers were not local, a temporary increase in population of 66 workers would not increase the need for police protection services to a degree that would require new or physically altered sheriff or police facilities. Therefore, construction of the Project would not require new or physically altered police protection facilities (No Impact).

Once constructed, the Project's infrastructure components will be unmanned, aside from occasional onsite maintenance. No security or law enforcement will be needed on a regular basis; however, the Applicant will conduct inspections. The Project may require monitoring in the form of police response to potential trespassing if the situation were to occur. Each ILA would be equipped with an exterior motion-sensor floodlight, an air conditioner, and 100-kilowatt backup power generator. The interior of the ILA would house an electrical cabinet with control cabling and surge suppressor; a heating, ventilation, and air conditioning (HVAC) control panel; an exhaust fan; a security alarm, HVAC and generator fail alarms; and emergency exit lighting. All electrical components would be grounded, and a wired smoke detector would also be installed inside. Furthermore, implementation of the Project would not result in new residents at the site or a substantial increase in employees accessing the site on a permanent basis. Therefore, operation and maintenance of the Project would not result in the need for new or altered police protection facilities.

Schools

Construction and operation of the Project would not result in any adverse effects on existing schools and no schools would require removal, modification, or closure to accommodate the Project. The Project would not directly or indirectly result in substantial unplanned population growth such as to place increased demand on school resources. Therefore, the Project would not require the construction of new

or expanded school facilities, which could result in substantial adverse physical environmental effects. No impact would occur.

Parks

There are several parks, trails, and other open space areas within the vicinity of the Project. These facilities are intended to serve a large segment of the population. Residential uses are not proposed as part of the Project; thus, no direct increase in the number of park users is expected to result from the Proposed Project. It is presumed that the construction workers and permanent employees and their families would already reside locally, and so would be part of the existing demand on park facilities. If construction workers do not reside locally, the increase in park users would be temporary (i.e., six months) and not substantial enough to warrant construction or expansion of park facilities (i.e., the maximum increase in park users would be 66 crew members plus family members). Therefore, the Project would not require the provision of new or physically altered park facilities and no impact would occur.

Other Public Facilities

For similar reasons to those discussed under previous subsections, the Project would not require or result in the need to construct new or expanded other public facilities (e.g., hospitals, senior centers, libraries). The Proposed Project would not directly impact any of these facilities during construction and would not substantially increase unplanned population growth over the long term, such as to place increased demand on these facilities. There would be no impact.

Mitigation Measures

No mitigation measures are required.

3.16.4 Cumulative Impacts

Impacts related to public services would be limited to construction activities along the length of the Project alignment. Once construction is complete, management of the telecommunications infrastructure would generally occur remotely, with onsite maintenance only as necessary. Implementation of the Project would not result in new residents at the site or a substantial increase in employees accessing the site on a permanent basis, therefore an increased need for public services would not occur. The Project is unlikely to contribute to cumulative impacts regarding public services.

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3.17 Recreation

This section describes the environmental setting for recreation, including the existing site conditions and regulatory setting, impacts that would result from the Proposed Project, and, if significant impacts are identified, the mitigation measures that would reduce these impacts.

3.17.1 Environmental Setting

The Project alignment would be located within unincorporated land of Modoc, Lassen and Sierra counties and the incorporated City of Alturas, as discussed in Section 2.0, Project Description. The Project would be located within or pass adjacent to recreation areas under the jurisdiction of the BLM, USFS, CDFW, CSLC, City of Alturas, and private entities. There are no National State Wild and Scenic Rivers, coastal zones, or national landmarks within 1 mile of the Project Area.

In Modoc County, the Modoc National Forest borders the Project site on both the east and west. The Modoc National Wildlife Refuge is located directly east of US 395 near the City of Alturas. Additionally, the Project would pass adjacent to Goose Lake. The northern portion of Lassen County also contains some of the Modoc National Forest lands that border US 395 on both the east and the west; and the Plumas National Forest extends into the southern portion of Lassen County, beginning near the community of Janesville. Also in Lassen County is the Honey Lake Wildlife Area (CDFW). The Hallelujah Junction Wildlife Area (CDFW) staddles the border of Lassen and Sierra Counties, on both sides of US 395.

Table 3.17-1 lists the identified recreation facilities within 1 mile of the Project Area. Refer to Figure 3.16-1 in Chapter 3.16, Public Services, for a map of parks and recreational facilities within 1 mile of the project.

Table 3.17-1. Recreation Facilities within Project Area

Recreation Facility	Managing Entity	Facilities/Uses
Modoc National Forest	USFS	Camping, fishing, hiking, nature viewing, picnicking, rockhounding, scenic driving, water activities, winter sports
BLM Land	BLM Northern California District	Biking, camping, hunting, off-highway vehicles, rockhounding, target shooting
SCLC Land	CSLC	State Resource Management Area
Alturas City Park	City of Alturas	Playground, lawn/field, picnic
Alturas Rotary Fields	City of Alturas	Athletic fields
Warmer Street Park	City of Alturas	Athletic fields
Modoc National Wildlife Refuge	USFWS	Hunting, fishing, wildlife viewing and photography
Hallelujah Junction Wildlife Area	CDFW	Hiking, wildlife viewing, birdwatching, nature photography, and hunting
Likely Place Golf & RV Resort	Private	RV Park, campground, golf, playground, clubhouse, restaurant

Table 3.17-1. Recreation Facilities within Project Area		
Recreation Facility	**Managing Entity**	**Facilities/Uses**
Plumas National Forest	USFS	Bicycling, camping, climbing, fishing, hiking, horse riding, hunting, nature viewing, OHV riding, outdoor learning, picnicking, rockhounding, scenic driving, water activities, winter sports
Honey Lake Campground	Private	Campground
Honey Lake Wildlife Area	CDFW	Bird watching, picnicking, hiking, camping, warm-water fishing, and waterfowl hunting
Devil's Garden Ranger District Office	USFS	Ranger station
Sully's RV Park	Private	RV and Mobile Home Park
Nifty RV & Mobile Home Park	Private	RV and Mobile Home Park
California Historic Trail	BLM/National Park Service	National Scenic and Historic Trail - auto touring, educational programs and visitor centers to present-day gold seekers and explorers
Shaffer Mountain Trail	BLM	Hiking, walking, trail running
Belfast Petroglyphs OHV Trail	BLM	Off road driving
Buckhorn Backcountry Byway	BLM	Fishing, backcountry camping

Notes:
OHV = off-highway vehicle RV = recreational vehicle

3.17.2 Regulatory Setting

3.17.2.1 Federal

Modoc National Forest Land Management Plan

Applicable goals and design criteria identified in the Modoc National Forest Land Management Plan include:

1. (G) Establish and maintain appropriate recreation facilities and services to:

A. Service present and future outdoor recreation needs, and ensure customer satisfaction.

B. Prevent unsanitary conditions, water and air pollution, fires, or other impairment of resources.

Plumas National Forest Land Management Plan

Applicable goals and design criteria identified in the Plumas National Forest Land Management Plan include:

1a. Provide for a variety of forest-related recreation.

3.17.2.2 State

No state laws, regulations, or policies are applicable to recreation in relation to the Project.

3.17.2.3 Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project. Therefore, no local laws, regulations, or policies in relation to recreation have been identified.

3.17.3 Environmental Impacts

3.17.3.1 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, recreation impacts are considered significant if implementation of the Proposed Project would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

3.17.3.2 Methods of Analysis

This section considers the potential impact to and disruption of recreational resources as they relate to construction and operation of the Project. Loss of recreational resources is anticipated to be minor as the Project is located primarily in an already existing roadway corridor and the line would be placed in previously disturbed land. However, as portions of the corridor are currently used for recreation, temporary impacts to recreation are likely to occur during construction when the recreation areas would be temporarily unavailable to the nearby users or when a nearby recreation area would be affected by indirect impacts.

3.17.3.3 Project Impacts and Mitigation Measures

Impact REC-1	**Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**
Impact Determination:	*Less than Significant.*

Impact Discussion

Increases in demand for recreational facilities are typically associated with substantial increases in population. The Project does not contain a residential component that would result in increased use of existing parks and recreational facilities. As further discussed in Section 3.15, Population and Housing, the number of construction workers that would be required to construct the Project, at its peak, would be approximately 66 crew members per day. Many of these workers are likely to be hired from local areas, although some may travel from outside areas and stay in the Project Area for the duration of the Project construction. During construction periods, it is possible that workers may visit nearby recreation areas; however, the use of parks and other recreation facilities by this small, temporary population would be too low to have a substantial impact on existing facilities. The Project construction activities would be temporary, lasting approximately six months, and would not result in additional staffing at the ILA buildings or along the alignment. The Project therefore would not result in a substantial increase in the existing demand for parks and recreation-related facilities, and implementation of the Project is not expected to result in any substantial physical deterioration of existing facilities. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact REC-2	**Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**
Impact Determination:	*No Impact.*

Impact Discussion

The Project does not include the construction or expansion of any recreational facilities. As discussed in Impact REC-1, the potential use of parks and other recreation facilities resulting from the Proposed Project would be too low to have a substantial impact on existing recreational facilities. Therefore, no impact would occur.

Mitigation Measures

No mitigation measures are required.

Impact REC-3	**Would the Project reduce or prevent access to a designated recreation facility or area?**
Impact Determination:	*Less than Significant with Mitigation.*

Impact Discussion

The Project alignment would be placed within existing Caltrans- and county-maintained roadway rights-of-way, with the exception of some ancillary facilities that would be placed immediately adjacent to the existing roadway in several locations. During Project construction, parks and recreation facilities within or adjacent to the Project Area may be temporarily affected by construction-generated noise, traffic congestion, or access limitations. Multiple trails cross or are accessed via US 395, including Shaffer Mountain Trail near Litchfield (MP 77.3), Belfast Petroglyphs OHV Trail near Litchfield (MP 93.4), Buckhorn Backcountry Byway (MP 115.2) and the California Historic Trail (MPs 21.9, 29.2, 29.5, 30.2, 31.1, 34, 42.8, 42.9, 43.1, 43.9, 50.6, 72.5, 76.4, 77.6); however, it is unlikely that construction activities would impact access beyond minor delays. Any closures that are required for public safety during Project construction would be temporary and short-term. REC-1, which requires coordination with BLM and notification of planned closures, would further reduce the project's less-than-significant impacts. The Project would not permanently reduce or prevent access to a designated recreation facility or area. The impact on these facilities would be less than significant after mitigation.

Mitigation Measures

REC-1: **Coordination with BLM.** The Applicant shall coordinate closely with the BLM Northern California District Office to communicate potential disruptions of trail access during project construction activities, including Shaffer Mountain Trail near Litchfield (MP 77.3), Belfast Petroglyphs OHV Trail near Litchfield (MP 93.4), Buckhorn Backcountry Byway (MP 115.2), and California Historic Trail (MPs 21.9, 29.2, 29.5, 30.2, 31.1, 34, 42.8, 42.9, 43.1, 43.9, 50.6, 72.5, 76.4, 77.6). Signs advising recreational facility users of construction activities and potential trail closures will be posted at access points to trails identified by BLM. Information on trail closures and any temporary displacement shall be made available on the project website. The Applicant will document preconstruction conditions at the trail locations and will repair or replace facilities inadvertently damaged during construction activities.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact REC-4	**Would the Project substantially change the character of a recreational area by reducing the scenic, biological, cultural, geologic, or other important characteristics that contribute to the value of recreational facilities or areas?**
Impact Determination:	*Less than Significant.*

Impact Discussion

The Project alignment would be placed within existing Caltrans- and county-maintained roadway rights-of-way, with the exception of some ancillary facilities that would be placed immediately adjacent to the existing roadway in several locations. As discussed in Impact REC-3, during Project construction, parks and recreation facilities within or adjacent to the Project Area may be temporarily affected by construction-generated noise, traffic congestion, or access limitations. Detailed analyses of visual impacts resulting from the Project are discussed in Section 3.1, Aesthetics. Section 3.1 found that the Project would not result in impacts to visual character during construction. Section 3.5, Biological Resources, determined the Project would not impact biological resources within the recreational areas. Noise related to construction could temporarily exceed ambient noise conditions, however, the rise in noise levels would be temporary, lasting approximately 1 day at any given receptor and therefore would have less than significant impacts to recreational visitors. The Project would not change the character of any recreational areas by reducing the scenic, biological, cultural, geologic, or other important characteristics that contribute to the value of recreational facilities, therefore, the impact on these facilities would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact REC-5	**Would the Project damage recreation trails or facilities?**
Impact Determination:	*Less than Significant with Mitigation.*

Impact Discussion

The Project alignment and ancillary equipment would be constructed within existing Caltrans roadway rights-of-way and in roadway rights-of-way maintained by the three counties, with the exception of three ILAs (one in Modoc County in the City of Alturas and two in Lassen County in the unincorporated communities of Spanish Springs and Herlong) that would be placed adjacent to the existing roadway. The Project would not result in any permanent affect to recreational trails or facilities. Once construction is complete, the Project Area would be inspected to ensure the area is restored to the specifications of the permitting entity. Work areas would be graded to restore contours and natural drainage patterns consistent with the surrounding area. In accordance with REC-1, any damaged facilities would be repaired

or replaced upon completion of the Project. The Project would not result in permanent damage to recreational trails or facilities. Impacts would be less than significant with Mitigation Measure REC-1.

Mitigation Measures

REC-1: Coordination with BLM

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

3.17.4 Cumulative Impacts

Impacts related to recreation would be limited to construction activities along the length of the Project alignment. Once construction is complete, management of the telecommunications infrastructure would generally occur remotely, with onsite maintenance only as necessary. Implementation of the Project will not result in an increase in population, housing, or employment. The Project is unlikely to contribute to cumulative impacts regarding recreation.

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3.18 Transportation

This section describes the environmental setting for transportation, including the existing site conditions and regulatory setting, impacts that would result from the Proposed Project, and the mitigation measures that would reduce these impacts.

3.18.1 Environmental Setting

3.18.1.1 Circulation System

Most of the 194 miles of the Project Area is parallel to US 395, which extends across portions of Modoc, Lassen, and Sierra counties, except for 7.35 miles along Standish Buntingville Road (Lassen County Road A3) and 1.15 miles along Cummings Road, which are county roads between communities of Standish and Buntingville in Lassen County, California. Ancillary equipment such as ILAs, vaults, and line markers are also proposed. The Project is located in a largely rural area that is served by transit in specific routes but is mostly dependent on personal vehicles. It has limited pedestrian and bicycle facilities.

3.18.1.2 Existing Roadways and Circulation

The Project would be accessible using existing roadways and local arterials, generally limited to US 395 and along small portions of Standish Buntingville Road and Cummings Road. In Lassen County, US 395 is mostly a two-lane north-south principal arterial that connects the county to Reno, Nevada (139 miles). In Modoc County, US 395 is a two-lane paved route that runs in a north-south direction and connects the Lassen County border to the Oregon border (61 miles). In Sierra County, US 395 runs through the northeastern corner of the county (3 miles) and is functionally equivalent to the Lassen segment. As noted above, Standish Buntingville Road and Cummings Road in Lassen County are classified as county roads and provide one lane of travel in each direction.

Construction would generally occur within roadway right-of-way. Construction vehicles and short-term placement of equipment, conduit, and cable are expected to be staged or parked within or adjacent to the rights-of-way, approved temporary construction easements such as designated staging areas, or along the existing access roads. Offsite materials storage yards would be located at existing, leased industrial or commercial space in Alturas, Termo, and/or Standish (see Figures 2.1-1 through 2.1-5 in Chapter 2).

Table 5.17-1 provides the average annual daily traffic (AADT) and other operating conditions of the affected road segments in the Project Area obtained from the Caltrans Traffic Census Program for the most recent available year (Caltrans 2017a, 2017b). Level of Service (LOS) is a qualitative measure of the performance of a transportation system element. The LOS for traffic is designated A through F, with LOS A representing free-flowing conditions and LOS F representing severe traffic congestion. As shown in Table 3.18-1, all the road segments currently operate at LOS B, C, or D under existing conditions, which is generally considered acceptable.

Table 3.18-1. Existing Level of Service

Roadway Segment	Jurisdiction	Lanes	Facility Type	Annual Average Daily Traffic	Peak Hour Volume	Level of Service	Target LOS Threshold
U.S. 395 MP 3.059 - Sierra/Lassen County Line	Sierra	4	Four-Lane Rural Highway	9,000	660	B	D
U.S. 395 MP 4.615 - Junction SR 70 West	Lassen	2	Two-Lane Rural Highway	9,900	730	D	D
U.S. 395 MP 29.840 - Garnier Road	Lassen	2	Two-Lane Rural Highway	6,800	560	C	D
U.S. 395 MP 51.870 - Standish Road	Lassen	2	Two-Lane Rural Highway	6,200	430	C	D
U.S. 395 MP 70.120 - Standish, County Road A-3	Lassen	2	Two-Lane Rural Highway	1,650	110	B	D
U.S. 395 MP 3.216 - Likely, Jess Valley Road	Modoc	2	Two-Lane Rural Highway	1,150	260	B	D
U.S. 395 MP 22.070 - Alturas, First Street	Modoc	2	Two-Lane Rural Highway	5,900	440	C	D
U.S. 395 MP 28.285 - Junction SR 299 East	Modoc	2	Two-Lane Rural Highway	1,650	660	B	D

Source: Caltrans 2017a, 2017b
Notes:
MP = Mile Post
SR = State Route
U.S. 395 = U.S. Highway 395

3.18.1.3 Transit and Rail Services

Lassen Transit Service Agency provides the public transit system for Lassen County. It provides commute route services operated by Lassen Rural Bus. The East and South County Bus Route use U.S. 395. Modoc Transportation Agency Sage Stage Reno line uses U.S. 395 to provide public transit services both within Modoc County and to nearby regional centers. No passenger rail service is available in Lassen and Modoc counties. Sierra County has no public transit service within the Project Area.

3.18.1.4 Bicycle Facilities

According to the Lassen Regional Transportation Plan (Stantec 2020) and Lassen County Bikeway Master Plan (Stantec 2020), there are few designated bikeways in Lassen County. U.S. 395 is classified as a Class III bike route, providing for shared use with pedestrian and motor vehicle traffic, with Share the Road signage placed along the highway. Similarly, according to the Modoc Regional Transportation Plan (Stantec 2020) there is limited shoulder area to ride bicycles along most roadways in Modoc County. Roads within rural Modoc County communities are generally narrow and lack sidewalks. According to the Draft U.S. 395 Transportation Concept Report (Stantec 2020), the Modoc Line Trail located along U.S. 395 is open to bicycles, pedestrians, equestrians, and OHVs, although portions of the trail are not yet complete. As noted in the Sierra County Regional Transportation Plan (Stantec 2020), there are no designated bicycle routes in Sierra County, and the state highways have little to no shoulders.

3.18.1.5 Pedestrian Facilities

According to the Lassen Regional Transportation Plan (Stantec 2020) and Lassen County Bikeway Master Plan (Stantec 2020), U.S. 395 is classified as a Class III bike route that provides for shared use with pedestrian and motor vehicle traffic, with Share the Road signage placed along the highway. Many communities in Lassen County lack appropriate pedestrian facilities, including sidewalks, signage and crosswalks. Standish Buntingville Road and Cummings Road do not have any pedestrian facilities. Similarly, according to the Modoc Regional Transportation Plan (Stantec 2020) there is limited shoulder area to walk along most roadways in the Modoc County region. Roadways within rural Modoc communities are generally narrow and lack sidewalks. According to the Draft U.S. 395 Transportation Concept Report (Stantec 2020), the Modoc Line Trail located along U.S. 395 is open to bicycles, pedestrians, equestrians, and OHVs, although portions of trail are not yet complete. As noted in the Sierra County Regional Transportation Plan (Stantec 2020), the existing pedestrian circulation is a non-continuous network of limited sidewalks.

3.18.1.6 Vehicle Miles Traveled

Vehicle miles traveled (VMT) is a measure of vehicle activity that is annually reported as part of the Federal Highway Performance Monitoring System. California Public Road Data provides daily VMT estimates derived from these data. The most recent available year (Caltrans 2019) estimates of the daily VMT on the state highway system for Lassen, Modoc, and Sierra counties are provided in Table 3.18-2.

Table 3.18-2 State Highway Vehicle Miles Travelled Estimates by County

County	Daily Vehicle Miles Traveled (1,000s)
Lassen	564.72
Modoc	416.29
Sierra	251.79

Source: Caltrans 2018

3.18.2 Regulatory Setting

3.18.2.1 Federal

Title 23, Code of Federal Regulations, Highways

The USDOT sets policy regarding the placement of utility facilities within highway rights-of-way. Federal statutes specify requirements for facilities that receive federal assistance, including interstate freeways and U.S. highways, most state routes, and certain local roads. FHWA regulations require that each state develop its own policy regarding the accommodation of utility facilities within highway rights-of-way. Once FHWA has approved a state's policy, the state can approve any proposed utility installation without referral to FHWA unless it does not conform to the federally approved policy. Federal law does not directly control how states accommodate utilities within highway rights-of-way, but in determining whether a right-of-way on a federally aided highway should be used for accommodating a utility facility, the Secretary of Transportation must do the following: 1) ascertain the effect that accommodation of utilities would have on highway and traffic safety since no such use may be authorized or permitted that would adversely affect safety; 2) evaluate the direct and indirect environmental and economic effects of any loss of productive agricultural land or any impairment of its productivity that would result from disapproving accommodation of the utility facility; and 3) consider the environmental and economic effects together with any interference with or impairment of the use of the highway that would result from accommodation of the utility facility (23 USC Section 109[l]). In addition, 23 USC Section 116 requires that state transportation agencies ensure proper maintenance of highway facilities, which implies adequate control over non-freeway facilities such as utility facilities. Finally, 23 USC Section 123 specifies when federal funds can be used to pay for the costs of relocating utility facilities in connection with highway construction projects (McCarthy 2004).

Title 49, Code of Federal Regulations, Sections 171-177

Title 49 governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of vehicles carrying hazardous material. The administering agencies for Title 49 in California are the CHP and the USDOT, Pipeline and Hazardous Materials Safety Administration.

3.18.2.2 State

California Department of Transportation

Caltrans is one of several departments in California's Business, Transportation and Housing Agency. Caltrans' Right-of-Way and Asset Management Program, administered through Caltrans' district offices, is primarily responsible for acquisition and management of property required for state transportation purposes. Transportation purposes may include roads, mass transit and related facilities, airports, shops, maintenance stations, storage yards, material sites, and any other purpose that may be necessary for Caltrans operations (Caltrans 2008a). The responsibilities of the Right of Way and Asset Management Program include managing Caltrans' real property for transportation purposes, reducing the costs of

operations, disposing of property no longer needed, and monitoring right-of-way activities on federally assisted local facilities.

As defined in Streets and Highways Code Section 660, an encroachment can be any tower, pole, pole line, pipe, pipeline, fence, billboard, stand, or building, or any structure or object of any kind or character that is within the right-of-way but not a part of the Caltrans facility. The authority for Caltrans to control encroachments within the state roadway is contained in the Streets and Highways Code beginning with Section 660.

Encroachments allow temporary or permanent use of roadway rights-of-way by a utility, a public entity, or a private party. Encroachments include all public and private utilities within state rights-of-way, such as communication, electric power, water, gas, oil, petroleum products, steam, sewer, drainage, irrigation, and similar facilities. Encroachments also include any temporary or permanent break in access or use of the roadway rights-of-way for grading, excavating, or filling or removing materials by public agencies, developers, or private individuals (Caltrans 2008b).

Encroachment permits are issued by Caltrans to other agencies or parties that perform construction activities within its rights-of-way. Typical projects performed by other agencies or parties that require encroachment permits include construction of roadway improvements and utility work. Under an encroachment permit, Caltrans requires the agency or party to implement an appropriate SWPPP. Caltrans retains ultimate responsibility for ensuring that the portion of the project within the Caltrans right-of-way is in compliance with federal, state, and local stormwater protection regulations.

Caltrans specifically has interest in projects that may structurally modify deck slabs (not including raised sidewalks or utility attachments), girders (not including utility attachments), bottom slabs of superstructures, columns and supporting foundations, and abutments and supporting foundations.

California Streets and Highways Code, Section 117

Unless otherwise specified, the acquisition of any right-of-way over any real property for state highway purposes includes the right of Caltrans to issue permits for any structures or fixtures necessary for telegraph, telephone, or electric power lines or of any ditches, pipes, drains, sewers, or underground structures located in the public rights-of-way under Chapter 3 (commencing with Section 660). The administering agency for this statute is Caltrans.

California Vehicle Code, Sections 660, 670, 672, 1450, 1460, 1470, 1480 et seq.

This code defines highways and encroachments and requires encroachment permits for projects involving excavation in state highways and county and city streets. This law is generally enforced at the local level. The administering agencies for this regulation relevant to the Proposed Project are Caltrans and Lassen, Modoc, and Sierra counties.

California Manual on Uniform Traffic Control Devices, Part 6

This regulation requires a temporary traffic control plan be provided for, "continuity of function (movement of traffic, pedestrians, bicyclists, transit operations) and access to property/utilities" during any

time that the normal function of a roadway is suspended. The administering agencies for this regulation relevant to the Proposed Project are Caltrans and Lassen, Modoc, and Sierra counties.

3.18.2.3 Local

The Lassen County Regional Transportation Plan (RTP) is developed by the Lassen County Transportation Commission, which is the designated Regional Transportation Planning Agency (RTPA) for Lassen County. The Lassen County RTP guides transportation investments in Lassen County involving local, state and federal funding over the next 20 years. Lassen County's RTP must be updated every four years to be compliant with Caltrans' guidelines and to be eligible for many sources of funding.

The Modoc County RTP is a 20-year planning document developed by Modoc County Transportation Commission, which is the RTPA for the Modoc region. The goal of the Modoc County RTP is to provide a safe, balanced, coordinated, and cost-effective transportation system that conserves energy, preserves air quality, serves the needs of the region, and is consistent with local, state, and federal plans and programs. Modoc County's RTP includes programs and policies for congestion management, transit, bicycles and pedestrians, roadways, freight, and finances.

As Sierra County's RTPA, the Sierra County Transportation Commission is required by California law to adopt and submit an updated RTP to the California Transportation Commission and to Caltrans every five years. The purpose of the RTP is to provide a transportation vision for the region by identifying transportation related needs and issues with goals for the 10- and 20-year planning horizons.

3.18.3 Environmental Impacts

3.18.3.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. Transportation impacts are considered significant when the project would:

- Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities.
- Conflict or be inconsistent with CEQA Guidelines Section 1564.3, subdivision (b).
- Substantially increase hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

3.18.3.2 Methods of Analysis

Vehicle Miles Travelled (VMT) Analysis

SB 743 was approved by California legislature in September 2013 and requires changes to CEQA, specifically directing the Governor's Office of Planning and Research (OPR) to develop alternative metrics to the use of vehicular LOS for evaluating transportation projects. Caltrans provided updated

Transportation Analysis guidelines on May 20, 2020, which took effect on July 1, 2020. The new guidelines use impacts on VMT as a threshold, replacing LOS. VMT measures the per capita number of vehicle trips generated by a project and distances vehicles will travel to and from a project, rather than congestion levels at intersections.

Some projects are presumed to have a less than significant impact on VMT and therefore a less than significant impact on transportation because they do not lead to a "measurable and substantial increase in VMT". Transportation impacts associated with the construction of a project may also require VMT analysis, but a qualitative analysis of VMT impacts associated with the construction of the project is appropriate.

3.18.3.3 Project Impacts and Mitigation Measures

This section describes the approach for evaluating transportation and traffic impacts. The analysis of transportation- and traffic-related impacts of the project during construction is based on the project characteristics, including type, location, trip generation, trip distribution, and duration of activities. The project would result in temporary construction activity with no ongoing operational changes to traffic generation or traffic patterns.

Impact TR-1	**Would the Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

Roadway impacts are estimated using VMT, as discussed above. Some projects are presumed to not require a detailed analysis of impacts to VMT. A utility line, such as the one proposed by the Applicant, can be assumed to have negligible project related trips after construction is complete, and thus create no measurable or substantial increase in VMT. The Project does not contribute to the construction of new facilities that would lead to a long-term and sustained increase in VMT.

However, the Project will generate vehicle trips during construction. An analysis of the vehicle trips expected to be generated during the construction of the utility line is provided to better gauge and understand the VMT impact.

The analysis of construction trip generation for the Project is based on the Project-generated ADT during construction on a typical day. Heavy-vehicle trips are converted to passenger car equivalents (PCE) for this impact analysis.

The Project is expected to generate a total PCE volume of approximately 688 ADT during the entire period of construction based on the construction activity, vehicle trips, and schedule data provided by the Applicant. Although the temporary traffic volume increases would be spread out over the entire Project alignment, to present a conservative estimate of the potential impacts, the analysis considers a maximum

of 700 PCE ADT during construction and considers the worst-case scenario for the impacts of construction traffic on each roadway segment based on 100 percent of construction impacts at any given location.

Table 3.18-5 summarizes the results of the roadway segment analysis for the Project.

Table 3.18-3. Construction Traffic by Roadway Segment

Roadway Segment	Jurisdiction	Lanes	Facility Type	Annual Average Daily Traffic	Project Average Daily Traffic Volume
U.S. 395 MP 3.059 - Sierra/Lassen County Line	Sierra	4	Four-Lane Rural Highway	9,700	660
U.S. 395 MP 4.615 - Junction SR 70 West	Lassen	2	Two-Lane Rural Highway	10,600	730
U.S. 395 MP 29.840 - Garnier Road	Lassen	2	Two-Lane Rural Highway	7,500	560
U.S. 395 MP 51.870 - Standish Road	Lassen	2	Two-Lane Rural Highway	6,900	430
U.S. 395 MP 70.120 - Standish, County Road A-3	Lassen	2	Two-Lane Rural Highway	2,350	110
U.S. 395 MP 3.216 - Likely, Jess Valley Road	Modoc	2	Two-Lane Rural Highway	1,850	260

Notes:
LOS = Level of Service
MP = Mile Post
SR = State Route
U.S. 395 = U.S. Interstate 395

As noted above, construction vehicles associated with the Project would cause a temporary and short-term increase in traffic due to the additional number of vehicles on the roads. Vehicle trips used for construction purposes will be temporary, and any generated VMT is minor, limited to construction equipment and personnel, and would not result in long-term trip generation.

There are only a limited number of pedestrian and bicycle facilities in the Project Area and these would not be affected by the construction activity except for limited circumstances. To address these circumstance, a traffic management plan will be prepared as a mitigation measure (TRA-1). The Project would follow Caltrans' guidelines for work area traffic control, which includes providing accommodations for pedestrians and bicyclists when applicable. Implementation of TRA-1 will ensure that traffic controls and other traffic safety measures are in place to accommodate the additional vehicle trips during temporary construction activities. Signage indicating the presence of construction, including the duration of the activity and impacted area, will be present on site and described in the traffic management plan, and allow people to make alternative trip plans to avoid the construction traffic. Therefore, Project construction would not cause a conflict with a program plan, ordinance, or policy related to the circulation

system, including transit, roadway, bicycle, and pedestrian facilities, and the impact would be less than significant.

Mitigation Measures

TRA-1: **Traffic Management Plan.** Prior to commencing construction activities, the Applicant shall prepare a Traffic Management Plan (TMP) to address heavy equipment and building material deliveries, potential street or lane closures, signing, lighting, and traffic control device placement. The Applicant will obtain any necessary transportation and encroachment permits from Caltrans and the local jurisdictions, as required, and will implement temporary traffic controls as required to prevent congestion or traffic hazards, maintain emergency access, provide accommodations for pedestrians and bicyclists when applicable, and provide locations for alternate transit stops when applicable. Construction activities that are in, along, or cross local roadways will follow BMPs and local jurisdictional encroachment permit requirements, such as traffic controls in the form of signs, cones, and flaggers, to minimize impacts on traffic and transportation in the Project Area. When working on state highways, the Applicant shall follow traffic control guidelines outlined in the California Manual on Uniform Traffic Control Devices.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact TR-2	**Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?**
Impact Determination:	*Less than Significant*

Impact Discussion

The Project does not propose new housing, businesses, or other land use changes that would induce population growth in the area or result in a permanent increase of VMT. The Project also would not add capacity to an existing or proposed new roadway. Construction of the Project could result in a temporary increase in local traffic as a result of construction-related workforce traffic and material deliveries and construction activities occurring within the public right-of-way; however, these short-term construction-related changes in VMT are not the subject of CEQA Guidelines Section 15064.3, subdivision (b). The primary impacts from the movement of construction trucks would include localized, short-term, and intermittent effects on traffic operations because of slower movements and the larger turning radii of the trucks compared to passenger vehicles. Potential increases in vehicle-trip generation as a result of Project construction would vary based on the construction activity, location, equipment needs, and other factors as discussed above. However, once construction is completed, construction-related traffic would cease, and VMT levels would return to pre-project conditions. The Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact TR-3	**Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment)?**
Impact Determination:	*No Impact*

Impact Discussion

There are no proposed changes or modifications to any geometric design features to alter any public roadways or intersections during the construction. The Project would follow Caltrans guidelines for work area traffic control, which include providing for standard geometric design of any necessary temporary traffic control features. Also, there would be no incompatible uses introduced to the Project Area. Therefore, the Project would not increase hazards due to geometric design features of roadways or incompatible uses. No impact would occur.

Mitigation Measures

No mitigation measures are required.

Impact TR-4	**Would the Project result in inadequate emergency access?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

Emergency access routes would be maintained throughout project construction with the implementation of Mitigation Measure TRA-1. Construction vehicles and equipment are anticipated to access Project construction areas by using existing roadways, and work would generally occur within the roadway right-of-way. Construction vehicles and equipment are expected to be staged or parked within Project Area rights-of-way, approved temporary construction easements such as staging areas, or alongside existing access roads. During and after construction, roads would continue to operate at the same acceptable traffic flow as the pre-project condition, with similar travel speeds and no capacity deficiencies. Therefore, the impact would be less than significant with mitigation.

Mitigation Measures

Mitigation Measure TRA-1 would apply to the Project.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact TR-5	**Would the Project create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

The Project's construction related activity would be temporary and short-term and would be spread out over the entire Project alignment, with differing activity occurring in localized and small areas at any given time. The construction activities would occur within the public right-of-way and immediately adjacent areas. The primary impacts from the movement of construction trucks would include short-term and intermittent effects on traffic operations because of slower movements and larger turning radii of the trucks compared to passenger vehicles. However, once construction is completed, construction-related traffic and activity would cease. As noted above, there are only a limited number of pedestrian and bicycle facilities in the Project Area and these would not be affected by the construction activity except for localized and brief circumstances. A traffic management plan (TRA-1) will be prepared as mitigation for these circumstances. The Project would follow Caltrans guidelines for work area traffic control, which include providing accommodations for pedestrians and bicyclists when applicable. It will also provide locations for alternate transit stops if work is taking place at or near an existing transit stop. Project construction, therefore, would not create any potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations, assuming the adoption of a traffic management plan as discussed in the mitigation measures, and the impact would be less than significant.

Mitigation Measures

Mitigation Measure TRA-1 would apply to the Project.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact TR-6	**Would the Project interfere with walking or bicycling accessibility?**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

Many communities in the Project Area lack appropriate bicycle and pedestrian facilities, including sidewalks, signage and crosswalks. There is limited shoulder area to walk or ride a bicycle along most segments of the Project Area roadways. U.S. 395 is classified as a Class III bike route, providing for shared

use with pedestrian and motor vehicle traffic, with Share the Road signage placed along the highway. Implementation TRA-1 will ensure that traffic controls and other traffic safety measures are in place to maintain proper traffic flow during temporary construction activities. At times during Project construction, pedestrian or bicycle access along the construction corridor may be limited for safety reasons. Access in any one location would be brief because the construction related activity would be temporary and short-term and work areas would move along project alignment, opening access as work is completed. Project construction activity would, therefore, not substantially interfere with walking or bicycling accessibility with adoption of Mitigation Measure TRA-1, and the impact would be less than significant.

Mitigation Measures

Mitigation Measure TRA-1 would apply to the Project.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact TR-7	**Would the Project substantially delay public transit?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

The Project's construction-related activity would be temporary and short-term and would be spread out over the entire Project alignment, with activity occurring in localized and small areas at any given time. The primary impacts from the movement of construction trucks would include short-term and intermittent effects on traffic operations because of slower movements and the larger turning radii of the trucks compared to passenger vehicles. Once construction is completed, construction-related traffic and activity would cease. Project construction would, therefore, not delay public transit, and the impact would be less than significant.

Mitigation Measures

Mitigation Measure TRA-1 would apply to the Project.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

3.18.4 Cumulative Impacts

All Project transportation impacts are considered to be less than significant after mitigation. Past, present, and reasonably foreseeable future projects include those proposed near the Project Area within the unincorporated areas within each county and the City of Alturas. Cumulative project development would be subject to County transportation policies and implementation programs that address transportation

impacts and mitigate potential cumulative impacts to these resources. Therefore, the Proposed Project would result in a less than cumulatively considerable contribution to agriculture and forestry resource impacts.

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3.19 Tribal Cultural Resources

This section describes the environmental setting for tribal cultural resources, including the existing site conditions, regulatory setting, impacts that would result from the Proposed Project, and, if significant impacts are identified, the mitigation measures that would reduce those impacts.

CEQA defines a tribal cultural resource as a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe that is either included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR) or a local historical register, or determined by the lead agency to be to be one based on substantial evidence (Public Resources Code [PRC] Section 20174(a)). A cultural landscape that meets this definition is a tribal cultural resource to the extent that the landscape is geographically defined in terms of size and scope (PRC Section 20174(b)). A historical resource or archeological resource that meets this definition might also be a tribal cultural resource, if identified as such by a consulting tribe (PRC Section 20174(c)).

The following analysis of the potential environmental impacts related to tribal cultural resources is derived primarily from the following sources and agencies:

- tribal consultation record between CPUC and culturally affiliated tribes under Assembly Bill (AB) 52 and CPUC's tribal consultation policy;
- records search information from the California Historical Resources Information System, as described in Section 3.6, Cultural Resources;
- numerous sources of scholarly ethnographic literature cited by Stantec (2022a); and
- confidential cultural resources inventory, testing, and evaluations reports prepared by professionally qualified staff from Stantec (2022a).

3.19.1 Environmental Setting

The environmental setting for tribal cultural resources was prepared by Stantec (2022a) and is presented below. This incorporates by reference the prehistoric context summarized in Section 3.6, Cultural Resources.

3.19.1.1 Ethnographic Setting

Modoc Uplands Ethnography and Ethnohistory

Early historical accounts of the Modoc and Pit River Indians come from the journals of John Work during his journeys in Pit River territory between 1831 and 1833. Other histories are based on early expeditions to establish trails and routes through Pit River territory, like the Klamath Falls-to-Sacramento Valley trail set by the Hudson Bay Company in 1829. Throughout the early 1800s, a great animosity prevailed between the Modoc and Pit River Indians and Euro-American explorers and settlers. The 1848 Gold Rush exacerbated these tensions as thousands of Euro-Americans poured into California. Newspapers reported raids and further acts of retribution (Stantec 2022a).

The Modoc language is classified as a member of the Sahaptin-Chinook branch of the Penutian linguistic stock. Although considered linguistically isolated, the Modoc and their neighbors to the north, the Klamath, share an almost identical dialect. The cultural position of the Modoc has been debated anthropologically. Kroeber originally associated them with the California culture area, but later found a Great Basin affiliation to be more accurate. Others place the Modoc culturally with the Plateau groups (Stantec 2022a).

Ethnographically, the Modoc occupied 5,000 square miles east of the Cascades in southern Oregon and northern California. Formally, Modoc territory included Little Klamath Lake, Modoc Lake, Tule Lake, Lost River Valley, and Clear Lake, and ranged as far south as Goose Lake. Modoc tribal territory was divided into three areas: the Gumbatwas (people of the west), Kokiwas (people of the far out country), and Paskanwas (river people). These divisions were purely geographical, not ethnic or political. The territorial boundaries between Modoc bands were quite fluid; however, the outer boundaries were well-defined, and for other tribes to encroach these boundaries would certainly have resulted in warfare (Stantec 2022a).

The 11 bands or tribelets that occupied the Pit River and its lesser drainages at the time of Euro-American contact are collectively designated the Pit River Indians and are divided into two linguistically related groups: the Achumawi and the Atsugewi. The Achumawi consist of nine mutually intelligible bands: Hammawi, Kosalektawi, Hewisedawi, Astariwawi, Atwamsini, Ajumawi, Illmawi, Itsatawi, and Madesi. Ethnographically, they held the northern part of Pit River territory. The Atsugewi comprised two bands, Atsuge and Aporige, and their ethnographic territory centered around Hat Creek and Eagle Lake. Together, the Achumawi and Atsugewi languages make up the Palaihnihan branch of the Hokan linguistic superfamily (Stantec 2022a).

Ethnographic Pit River territory encompassed a relatively large area in northeastern California, extending from Mount Shasta and Goose Lake near the Oregon border in the north to Mount Lassen and the Madeline Plains to the south, and from the Warner Mountains in the east to Montgomery Creek in the west. This vast region exhibits diverse environments and considerable differences in topography and habitat. North of the Pit River is high, dry lava country with marshy meadows, springs, and abundant pine and fir timber. Kniffen and Kroeber (Stantec 2022a) concluded that the region was not occupied permanently, but was visited and used seasonally, such as for forays to Glass Mountain to obtain obsidian. Within the Pit River territory, Hewisedawi territory stretched from the southern portion of Goose Lake in the north to include Big Sage Reservoir in the southwest and the western slopes of the Warner Mountains in the east between Cedar and Fandango Peaks. Kosalektawi territory stretched from the area around the confluence of the north and south forks of the Pit River (the site of the present-day City of Alturas) to include Warren Peak to the southeast and Cedar Peak to the northeast. The main Kosalektawi village, identified by Kniffen as Kosale'kta and by Merriam as Ko'se-al-lek'-tah, was located at the site of the present-day City of Alturas (Stantec 2022a).

Northern Paiute territory stretched from present-day eastern Oregon and southwestern Idaho through northeastern California and northern Nevada (approximately 78,000 square miles). The Northern Paiute language is a Western Numic language of the Uto-Aztecan family. Twenty-one autonomous bands make up the Northern Paiute. The Surprise Valley area was inhabited by one of these bands, the Kidutokado, whose 5,000-square-mile territory spanned from the eastern slopes of the Warner Mountains across the

present-day California-Oregon border to the northern end of Goose Lake, east to the border between Lane and Harney counties in Oregon, then southwest through the northwestern corner of Nevada, and west to the Warner Mountains, just south of Lower Alkali Lake (Stantec 2022a).

Modoc and Achumawi subsistence regimes reflected a strong riverine orientation, and fishing provided the staple food. The early spring sucker run was an important component of the Modoc *seasonal round*. Trout, tui chub, minnows, and freshwater mussels were plentiful for the Modoc along Lost River and for the Achumawi along Pit River and Goose and Eagle Lakes. The Achumawi kept salmon dried in slabs or ground into meal for year-round consumption. Voegelin reports that fishing places more than hunting grounds were owned and guarded by the Achumawi (Stantec 2022a).

The Pacific Flyway migration route for waterfowl meant that lakes and marshes always held multiple species of waterfowl, regardless of the season. Ducks, geese, and swans were present in the winter, while pelicans, loons, and gulls were in residence year-round, making the latter group a reliable resource at any time. Terrestrial faunal resources included deer and small game, such as quail and squirrels, and occasionally elk and bear. Game was captured using various strategies, including nets, blinds, and drives, and game capture represented both individual and communal pursuits (Stantec 2022a).

Both groups exploited a variety of plants for food, medicine, cordage, and basket-making. Camas bulbs were collected from the bottomlands, water lily seeds were found around the lakes, and various grass seeds, nuts, and fruits were collected in the hills and mountains. Tule was a plentiful and reliable resource. Plants were used for diet, medicine, clothing, and baskets. Tobacco was the only cultivated crop among the Achumawi and was smoked in both tubular pipes and two-piece wooden and stone pipes (Stantec 2022a).

Well-watered areas were important to both groups. The Modoc made their permanent winter villages mainly near the shores of Tule, Lower Klamath, and Clear Lakes, as well as along the Lost River. For the Achumawi, plentiful resources were found near water courses, namely the Pit River and marshy tules, and areas around Goose and Eagle lakes. Kniffen called these areas "centers of attention" because they supported the largest Indigenous populations. Winter villages for both groups comprised between three and seven permanent, semi-subterranean, earth-covered structures. The smoke hole also functioned as a rooftop entrance, and each house was typically inhabited by an average of five members of a single family (Stantec 2022a).

Fishing forays began from the villages in March. Fishing camps were semi-permanent with less elaborate mat-covered structures built in shallow pits or temporary tule structures. The oldest type of Modoc structure is the summer dome-shaped house made from tule mats covering a frame of willow poles (Stantec 2022a).

At the conclusion of the fish runs, groups moved to epos harvesting areas, and by June or July, the family groups scattered into smaller camps to collect camas roots. Temporary sun shelters were constructed by covering poles with tule mats, weeds, or grasses. Circular windbreaks made from sagebrush were temporary shelters that could be constructed in a hurry to provide shelter from the elements. Other structures included utility huts, sun shelters, windbreaks, and sweat lodges. Utility huts were separate

cooking areas adjacent to the main dwelling that were also used for storage, women's work areas, and menstrual and birthing huts (Stantec 2022a).

This seasonal round of movement for the Modoc and the Achumawi resulted in the formation of numerous sites where different recurrent activities took place. Seasonal base camps may have been occupied for several weeks or months, with temporary resource procurement camps occupied anywhere from one to several nights. These small camps may have been surrounded by numerous task-specific sites such as butchering or stone tool manufacturing areas, hunting blinds, or milling sites. At each of these locations, evidence was left behind that forms the foundation of many ethnographic period archaeological deposits (Stantec 2022a).

In the case of the Northern Paiute, including the Kidutokado, subsistence followed seasonal and geographic patterns, but the approach was more dispersed and dedicated to foraging. The spring brought spawning fish and bird eggs; the summer, seeds; and the fall, pine nuts. Hunting contributed to the diet year-round, though to a lesser extent than gathering and fishing. Small game and deer were hunted throughout the year. Early ethnographic studies by Stewart identified distinct bands within Northern Paiute territory, each of which was typically named for a prominent food source in the area. The Kidutokado were named for the woodchuck that their diet relied on (Stantec 2022a).

The technology and material culture of the Modoc and the Achumawi were very similar, with only minor differences, often resulting from the preference for locally available raw materials, particularly obsidian. This correspondence is not unexpected given the interaction of the groups and the general similarity of their economic pursuits. Similar technological elements between these groups may represent similar adaptive strategies and are useful to examine as ethnographic analogies when attempting to understand regional prehistory.

The Modoc and the Achumawi employed a diverse range of implements used for hunting large and small game, gathering plants, roots, bulbs, seeds, and fruits, fishing, and processing food. The hunting toolkit included bone and antler tools, flaked stone knives, scrapers, and projectile points, and bows and arrows. Bones and antlers from large animals were important for making tools for cutting and scraping. Sections of antlers were used to flake obsidian to make projectile points. Knives, scrapers, and projectile points were made from obsidian, basalt, and chert. Hunting bows were made from either yew or juniper, and arrows were formed from willow and worked with pumice stone (Stantec 2022a).

Gill-nets with attached tule floats, dip nets, two-pronged spears, hooks and lines, and clubs were used for fishing. Nets enabled them to catch large amounts of suckers at once, and points were attached to shafts to spear individual fish. Chubs, minnows, trout, and eels were caught using gorgets, a bone sharpened on both ends and hung by string tied in the middle. Spears with two prongs were also used for spearing fish from banks, and spears with multiple prongs were used from canoes and rafts. The spear points were made from split pieces of deer leg bone or worked pieces of mountain mahogany. The fish were split, hung on pine racks, and dried for winter storage (Stantec 2022a).

Simple rafts were the main mode of transportation for the Modoc. The Modoc and Achumawi constructed rafts of pine, juniper, and willow-bark planks lashed onto pine frames using tule rope. Canoes made from cedar, pine, or fur were burned and carved using stone tool adzes. Paddles were usually long and narrow,

serving as both paddle and oar. Canoes were an expensive item for the Modoc because suitable trees were only present in the extreme eastern part of Modoc territory (Stantec 2022a).

Baskets, moccasins, and house mats were made from tule reeds, cattails, or cattail rushes. Bone awls were used for weaving these baskets and mats. The strong and water-resistant fiber of the nettle plant was used to make the bottom of baskets and for stringing beads. Mortars and pestles were used to process dried meat and cattail roots. Large mortars were made of vesicular lava, and smaller ones were made from lighter, porous volcanic material (Stantec 2022a).

Modoc trade networks may have been in place as early as 5,000 BC. They traded with the Shasta tribe for Olivella and dentalium shells, and later traded for colored sandstone and clay, jade, soapstone, and serpentine from the Klamath River. Slaves captured during warfare with neighboring tribes were traded with the Klamath, and the Modoc likely reciprocated with animal skins and basketry. Obsidian quarried from Glass Mountain was traded throughout Northern California (Stantec 2022a).

The Achumawi were geographically positioned to serve as a trade conduit between peoples to the west and east. Even groups with whom there was conflict, such as the Modoc, were part of the trade network. Oak trees were abundant along the Pit River, and dried acorn mash was a traded commodity. Objects that indicated wealth among the Achumawi included magnesite cylinders, dentalia, and clamshell beads. Clamshell disk beads were regularly used for currency (Stantec 2022a).

Madeline Plains Ethnography and Ethnohistory

In addition to the Kosalektawi, whose territory included the area around the present-day city of Alturas, the Hammawi band of Achumawi also inhabited the Madeline Plains area. Hammawi territory spread out from the valley of the southern fork of the Pit River, centered around the present-day town of Likely, including Grouse Mountain to the northwest, Scheffer Mountain and Signal Butte to the north, Warren Peak in the northeast, and the Jess and West Creek valleys in the east (Stantec 2022a).

Ethnographic Mountain Maidu territory spanned an area that stretched from Mount Lassen in the west to the Honey Lake Basin in the east, and south along the Diamond Mountains to the Sierra Buttes, including the area around Lake Almanor. This land includes rugged uplands, rivers, marshes, and open flats. The Mountain Maidu was one of three groups (the Nisenan or Southern Maidu, the Northeastern or Mountain Maidu, and the Konkow) that made up the Maiduan language family, which was related to fellow Penutian languages such as Miwok, Ohlone, Wintun, and Yokuts (Stantec 2022a).

The Madeline Plains and Honey Lake area was also inhabited by the smallest of the Northern Paiute bands, the Wadatkuht, whose territory ran from the present-day California-Nevada border along the eastern edge, through the present-day town of Doyle and the Diamond Mountains, then northwards to Horse Lake and McDonald Peak and eastwards to the state line (Stantec 2022a).

Hammawi and Mountain Maidu subsistence patterns resembled those of the Modoc and the Achumawi (see Modoc Uplands Ethnography and Ethnohistory). The Maidu gathered numerous fruits, nuts, and roots, including wild plums, strawberries, serviceberries, manzanita, elderberries, pine nuts, walnuts, acorns, yarrow, wild onions, and carrots. The Maidu also hunted waterfowl and collected crabs and duck

and goose eggs in wetland areas and around Honey Lake. In particular, Maidu men used dogs to help them in hunting bears for meat and for hides to use in rituals (Stantec 2022a).

Maidu villages contained approximately seven semi-subterranean multifamily houses ranging from 20 to 40 feet in diameter, each holding up to 35 people; during the summer months, when families sallied from the winter villages, they built open-sided pole-and-brush structures. The large houses were built in a conical shape around five structural poles covered with slabs of cedar bark (Stantec 2022a).

Northern Paiute subsistence was more dispersed and dedicated to foraging while still following geographic and seasonal patterns. The spring brought spawning suckers up Long Valley Creek and into Paiute nets; it also brought duck eggs. The summer brought roots and seeds, while acorns (particularly in the Diamon Mountains) and pine nuts were plentiful in the fall. The hunting of deer and small game contributed to the diet year-round, though to a lesser extent than gathering and fishing; a communal antelope drive took place in the spring. Stewart identified the Northern Paiute bands, each of which was typically named for the salient source of food in its area. The wada-seeds of the plants of genus Suaeda (including seepweeds and sea-blites) gave the Wadatkuht (wada-eaters) their name. Wadatkuht winter villages comprised a small number of houses, often fewer than 10, located near water. The conical pole framework was covered by mats of tule or other kinds of brush. During the summer, families constructed simple temporary shelters and windbreaks when they dispersed from the village (Stantec 2022a).

The technology of the Hammawi and Mountain Maidu resembles that of the Modoc and the Achumawi (see Modoc Uplands Ethnography and Ethnohistory). The Mountain Maidu and the Northern Paiute both used stone projectile points for hunting game, and knives and scrapers for processing. They used spears, hooks, nets, and poisons for fishing in lakes and rivers. For processing plant resources, they used ground stone tools, including bedrock mortars and pestles, handstones, and milling slabs. The Maidu made nets for fishing, traps for hunting game, and mats from tule. They used willow to make twined conical baskets, seed beaters, children's cradles, and hopper baskets (Stantec 2022a).

The Northern Paiute used bows and arrows, corrals, traps, and other enclosures made of brush, branches, and rocks when hunting game such as deer, antelope, and desert bighorn sheep (Fowler and Liljeblad 1986). They also hunted grouse, waterfowl, marmots, rabbits, porcupines, ground squirrels, and insects using stone projectile points, knives, and scrapers during the process. Their approaches to fishing depended on the locale; lake fishing called for hooks and lines, spears, and gill nets, while river fishing required platforms, weirs, and basket traps, in addition to nets and spears. Tule was used in various applications from rafts and fishing nets to mats, roofing material, bags, and clothing. Willow bark and branches went into making baskets, hats, and children's cradles (Stantec 2022a).

Honey Lake Ethnography and Ethnohistory

The Honey Lake Basin falls within the ethnographic territory of the Mountain Maidu and the Wadatkuht, which are discussed in Madeline Plains Ethnography and Ethnohistory.

Long Valley Ethnography and Ethnohistory

The Washoe language is a member of the Hokan linguistic stock, which includes Pomo, Yuman, and Palaihnihan. The Washoe were thus distinguished from other tribes of the Great Basin, all of whom spoke Numic languages. Ethnographically, Washoe territory centered on Lake Tahoe, from Antelope Valley on the present-day California-Nevada border to Long Valley in the south and the Honey Lake area in the north. Outside of central settlement areas, the Washoe shared resources in their territory with other neighboring groups, including the Wadatkuht of the Honey Lake Basin (Stantec 2022a).

Washoe subsistence regimes incorporated a seasonal round of hunting and gathering, making use of resources available in both the Sierra Nevada Range and the Great Basin. Numerous streams and lakes offered access to trout, suckers, and mountain whitefish in great numbers. Early spring brought roots and bulbs, such as bitterroot, camas, and wild onion. Spring also marked the arrival of migratory waterfowl such as ducks, which were hunted, and their eggs collected. Seeds and nuts were gathered through the summer and into the fall, with particular emphasis on acorns for groups living near the Diamond Mountains, such as those in Long Valley, or pine nuts for those living in more arid areas to the east. Supplemental foods came from hunting as single hunters or small groups pursued game like antelope, deer, rabbits, and mountain sheep (Stantec 2022a).

Permanent settlements were generally located on high ground in the vicinity of large valleys with access to a wide array of resources. Conical houses 12 to 15 feet in diameter were constructed of a cedar bark covering a framework of wooden poles; each might hold seven people or more. During parts of the year, small groups or entire families might establish temporary dome-shaped structures of brush while away from the permanent settlement in search of resources. Washoe groups at times ranged as far as Mono Lake in the Sacramento Valley (Stantec 2022a).

Not unlike other groups of northeastern California, the Washoe used a variety of implements in their fishing, hunting, and gathering activities. They employed hook and line, nets, spears, and traps to catch fish. Hunting used flaked stone arrows and bows. Ground stone implements, including handstones, milling stones, mortars, and pestles, were used to process botanic materials. Willow provided fiber for cordage and basket weaving (Stantec 2022a).

3.19.2 Regulatory Setting

3.19.2.1 State

Effective July 1, 2015, AB 52 amended CEQA to mandate consultation with California Native American tribes during the CEQA process to determine whether the proposed project may have a significant impact on a tribal cultural resource, and that this consideration be made separately from cultural and paleontological resources.

PRC Section 21073 defines California Native American tribes as "a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004." This includes both federally and non-federally recognized tribes.

PRC Section 21074(a) defines tribal cultural resources for the purpose of CEQA as sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either:

a. included or determined to be eligible for inclusion in the CRHR;

b. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or

c. 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.

Because criteria A and B also meet the definition of a Historical Resource under CEQA, a tribal cultural resource may also require additional consideration as a Historical Resource. Tribal cultural resources may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their tribal cultural resources and heritage, AB 52 requires that CEQA lead agencies conduct consultation with tribes at the commencement of the CEQA process to identify tribal cultural resources. Furthermore, because a significant effect on a tribal cultural resource is considered a significant impact on the environment under CEQA, consultation is required to develop appropriate avoidance, impact minimization, and mitigation measures. Consultation is concluded when either the lead agency and tribes agree to appropriate mitigation measures to mitigate or avoid a significant effect, if a significant effect exists, or when a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2[b], whereby the lead agency uses its best judgement in requiring mitigation measures that avoid or minimize impact to the greatest extent feasible.

3.19.2.2 California Public Utilities Commission

On April 26, 2018, the CPUC adopted a Tribal Consultation Policy that is separate from, but coordinates with, its consultation obligations under AB 52. The full policy is appended to a memorandum dated April 6, 2018 from the Committee on Policy and Governance, Commissioner Liane M. Randolph, and Commissioner Clifford Rechtschaffen to the CPUC Commission, which is incorporated by reference. In brief, this policy includes eight methods by which CPUC will encourage and facilitate tribal government participation in its programs and proceedings. It also recites the additional, but separate, responsibilities for complying with AB 52 and CEQA, when applicable.

3.19.3 Environmental Impacts

3.19.3.1 Summary of Tribal Consultation

Assembly Bill 52 Consultation

On February 3, 2021, CPUC determined that it was ready to initiate environmental review under CEQA for the Project. On February 11, 2021, CPUC sent project notification letters to the following California Native American tribes that had previously submitted general notification requests in writing pursuant to PRC Section 21080.3.1(d):

- Pit River Tribe of California
- Alturas Rancheria of Pit River Indians
- Cedarville Rancheria
- Fort Bidwell Indian Community of the Fort Bidwell Reservation of California
- Greenville Rancheria of Maidu Indians
- Susanville Indian Rancheria
- United Auburn Indian Community

Each recipient was provided a brief description of the Project and its location, the lead agency contact information, and a notification that the tribe has 30 days to request consultation, pursuant to PRC Section 21080.3.1(d). Multiple attempts were made to reach nonresponsive tribes by telephone and email to ensure that the tribe was in receipt of the letter and understood the opportunity to consult. The 30-day response period concluded on March 15, 2021. As a result of the initial notification letters, CPUC received the following responses.

Pit River Tribe of California

The tribe responded on April 8, 2021 to request consultation. CPUC initiated consultation on April 19, 2021. After multiple attempts to engage the tribe over the course of three months, CPUC concluded consultation on July 14, 2021, pursuant to PRC Section 21082.3(d)(2), due to failure of the tribe to engage in consultation after requesting it.

Alturas Rancheria of Pit River Indians

The tribe did not request consultation. CPUC concluded consultation on June 2, 2021 pursuant to PRC Section 21082.3(d)(3).

Cedarville Rancheria

The tribe did not request consultation. CPUC concluded consultation on June 2, 2021 pursuant to PRC Section 21082.3(d)(3).

Fort Bidwell Indian Community of the Fort Bidwell Reservation of California

The tribe did not request consultation and CPUC concluded consultation on June 2, 2021 pursuant to PRC Section 21082.3(d)(3). Subsequently, on June 9, 2021, the tribe contacted CPUC to request consultation. After multiple attempts to engage the tribe, CPUC concluded consultation on July 14, 2021 pursuant to PRC Section 21082.3(d)(2) due to failure of the tribe to engage in consultation after requesting it.

Greenville Rancheria of Maidu Indians

The tribe did not request consultation. CPUC concluded consultation on June 2, 2021 pursuant to PRC Section 21082.3(d)(3).

Susanville Indian Rancheria

The tribe did not request consultation. CPUC concluded consultation on June 2, 2021 pursuant to PRC Section 21082.3(d)(3).

United Auburn Indian Community

The tribe declined consultation on the Project on March 3, 2021.

Because CPUC initiated consultation with all AB 52 tribes that requested it, the threshold for release of the CEQA document for public review under PRC Section 21080.3.1(b) has been met. In addition, because CPUC concluded consultation with all AB 52 tribes in good faith, the threshold for the certification of an EIR under PRC Section 21082.3(d) has been met. Therefore, CPUC has completed all required consultation procedures under AB 52 for this Project.

Because all tribes either failed to request consultation, failed to engage in the consultation process, or declined consultation entirely, this EIR draws from other lines of evidence to address the CEQA checklist questions for tribal cultural resources. Such other lines of evidence include ethnographic and records search information, the results of archaeological surveys, and the result of separate consultation under CPUC's tribal consultation policies (summarized below).

CPUC Policy Consultation

On February 11, 2021, CPUC contacted the following tribes that had not previously requested notification separately under AB 52, but for which, based on information derived in part from the California Native American Heritage Commission, CPUC believes are traditionally and culturally affiliated with the Project Area:

- Honey Lake Maidu
- Washoe Tribe of Nevada and California
- Modoc Tribe of Oklahoma
- Tsi Akim Maidu
- Klamath Tribe
- Wadatkuta Band of Northern Paiute

- Shasta Nation

Project notices were mailed, and each contact was afforded 30 days to respond to request consultation on the Project. CPUC made multiple attempts to reach nonresponsive tribes by telephone and email to ensure that each tribe was in receipt of the letter and understood the opportunity to consult. Outreach is summarized below for each tribe.

Honey Lake Maidu

The tribe initially failed to respond to the opportunity to consult and the CPUC concluded consultation on June 2, 2021. Soon thereafter, Ron Morales from Honey Lake Maidu contacted CPUC to request consultation; a meeting was held on June 9, 2021 to discuss the Project. Mr. Morales requested a field tour and detailed Project maps. CPUC mailed a map set and, due to wildfire and active evacuation orders, tentatively scheduled a field meeting for after the wildfire danger passed and evacuation orders were lifted.. Before the field meeting could occur, CPUC received news from Caltrans in early 2022 that Mr. Morales had passed away, and that Trina Cunningham of the Maidu Summit Consortium would be his replacement contact. On February 17 and March 14, 2022, CPUC attempted to contact Ms. Cunningham. On March 15, 2022, she responded to indicate general concerns for sites and burials and requested monitoring during construction. Between then and November 2022, CPUC and ECORP continued to attempt to schedule a meeting to consult without success. Therefore, on December 2, 2022, CPUC concluded consultation with Ms. Cunningham in writing. However, on December 5, 2022, Ms. Cunningham responded to indicate the presence of numerous cultural resources and burial sites, and implied that tribal monitoring would be important. CPUC attempted to schedule a meeting to discuss further, without success. On December 6, 2022, CPUC contacted Ms. Cunningham with the information that CPUC will be requiring tribal monitoring during construction and asked if this would address their concerns. After no response, CPUC concluded consultation with Ms. Cunningham on December 19, 2022 by letter.

Separately, ECORP spoke with Honey Lake Chairperson Paul Garcia via telephone on April 19 and 27, 2021. Chairperson Garcia declined to comment or engage in consultation on the Project. On June 2, 2021, CPUC concluded consultation with Chairperson Garcia.

Washoe Tribe of Nevada and California

On April 26, 2021, CPUC received a message from Darrel Cruz, indicating an interest in consulting on the Project. The parties held a consultation meeting on May 3, 2021. During the meeting, Mr. Cruz noted the presence of a sensitive area north of Doyle, which he referred to as a battle site, and recommended tribal monitoring during construction. The parties agreed to pause consultation until the CEQA process was further underway and more information about the Project alignment and construction methods was known. Accordingly, CPUC re-engaged Mr. Cruz on October 27, 2022 to resume consultation and schedule a meeting for November 2022. On November 9, 2022, Mr. Cruz replied to indicate he was not sure what to meet about but was amenable to a meeting. During November 2022, CPUC and Mr. Cruz exchanged correspondence and information, and met via teleconference on November 21, 2022. A formal consultation meeting was scheduled for December 6, 2022; however, Mr. Cruz was no longer able to attend. After correspondence between CPUC and Mr. Cruz, CPUC informed him that tribal monitoring will

be required. Mr. Cruz replied to indicate that he would contact CPUC if any further questions arise. On December 19, 2022, CPUC concluded consultation with the Washoe Tribe of Nevada and California by letter.

Modoc Tribe of Oklahoma

The tribe did not respond to the opportunity to consult. On June 2, 2021, CPUC determined that consultation was complete and terminated further efforts to engage the tribe.

Tsi Akim Maidu

The tribe did not respond to the opportunity to consult. On June 2, 2021, CPUC determined that consultation was complete and terminated further efforts to engage the tribe.

Klamath Tribe

On May 3, 2021, Director of Culture and Heritage Perry Chockfoot contacted CPUC and provided comments about needing a survey, avoiding known sites, monitoring during construction, protecting culturally significant botanicals, and view sheds. CPUC attempted to follow up on May 4 and June 2, 2021 to obtain additional information. Director Chockfoot responded on June 14, 2021 and deferred to the Project archaeologists to identify and locate these resources. CPUC determined that consultation was complete on July 14, 2021 and terminated further efforts to engage the tribe.

Wadatkuta Band of Northern Paiute

The tribe did not respond to the opportunity to consult. On June 2, 2021, CPUC determined that consultation was complete and terminated further efforts to engage the tribe.

Shasta Nation

The tribe did not respond to the opportunity to consult. On June 2, 2021, CPUC determined that consultation was complete and terminated further efforts to engage the tribe.

Tribal outreach has been formally concluded with the Modoc Tribe of Oklahoma, Tsi Akim Maidu, Wadatkuta Band of Northern Paiute, Shasta Nation, the Klamath Tribe, the Washoe Tribe of Nevada and California, and the Maidu Summit Consortium. Because none of these tribes are consulting under AB 52, the objectives of completing these consultation efforts are to obtain other lines of evidence about tribal cultural resources to support the CEQA document and to comply with CPUC's policy that gives special consideration to tribal government's requests to participate in CPUC proceedings, programs, and activities. Furthermore, because none of these tribes are considered AB 52 tribes, the thresholds for concluding consultation under PRC Section 21082.3(d) do not apply; however, the information that these tribes provide will inform mitigation measures.

3.19.3.2 Tribal Cultural Resources

Tribal consultation under AB 52 and CPUC's tribal consultation policy resulted in general information about tribal cultural resources, including a possible battle site north of Doyle (Washoe Tribe), the importance of botanical resources and view sheds (Klamath Tribe), and concern for the presence of burials

(Maidu Summit Consortium). To date, CPUC has not received specific location information or descriptions from consulting tribes about these resources.

3.19.3.3 Thresholds of Significance

Following Appendix G of the CEQA Guidelines, impacts to tribal cultural resources are considered to be significant if the project would result in any of the following:

- Would the project 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, and that is:
  - Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k); or,
  - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC § 5024.1. In applying the criteria set forth in subdivision (c) of PRC § 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

Impact TCR-1a	**Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:** **a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?**
Impact Determination	*No Impact.*

Impact Discussion

Tribal consultation under AB 52 and CPUC's tribal consultation policy resulted in general comments about a possible battle site north of Doyle (Washoe Tribe), botanical resources (Klamath Tribe), view sheds (Klamath Tribe), and burials (Maidu Summit Consortium). Because none of these resources have been defined geographically in terms of their size and scope, and their locations are unknown, none of these resources are listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources as defined in the PRC. There would be no impact.

Mitigation Measures

No mitigation measures are required.

Impact TCR-1b	**Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:** **b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**
Impact Determination	*Less than Significant with Mitigation*

Impact Discussion

Excavation and trenching during Project construction could encounter previously unknown buried tribal cultural resources. If encountered, Project activity could result in a substantial adverse change in the significance of a tribal cultural resource. Tribal monitoring during ground disturbing activities, coupled with procedures to identity, evaluate, and treat the discoveries, would ensure that tribal cultural resources, if encountered, are treated with care and in a culturally appropriate manner. Implementation of these enforceable mitigation measures is sufficient to reduce impacts to tribal cultural resources to less than significant.

Mitigation Measures

The following mitigation measures shall apply to the Proposed Project.

TCR-1: **Tribal Monitoring.** One tribal monitor from a Consulting Tribe (defined herein as those tribes that consulted with CPUC for this Project) shall be retained to monitor all ground-disturbing activities associated with Project construction. Monitoring is also required when stipulated by Mitigation Measures CUL-1a and CUL-1b (such as, but not limited to, the placement or removal of temporary exclusionary fencing). Monitoring is not required for placement of equipment or fill inside excavations that were monitored, above-ground

construction activities, or redistribution of soils that were previously monitored (such as the return of stockpiles to use in backfilling).

In the event that more than one Consulting Tribe requests to provide a monitor for activities subject to this measure, CPUC will allow for the interested tribes to develop a rotating schedule that alternates monitoring between the tribes on a daily or weekly basis. In the event that none of the Consulting Tribes choose to enter into a monitoring contract, or otherwise fail to respond to the offer to do so, CPUC shall allow construction to proceed without a tribal monitor present as long as the offers to all Consulting Tribes were extended and documented.

No later than five business days prior to the start of ground disturbing activities, the construction supervisor or their designee shall notify the contracted Consulting Tribe(s) of the construction schedule. Should the contracted Consulting Tribe(s) choose not to provide a tribal monitor for any given day, or if the monitor does not report to the Project location at the scheduled time, or if the monitor is present but not actively observing activity, work may proceed without a monitor as long as the notification was made and documented. Unless there is a hiatus of construction activity that exceeds 14 days, daily updates to construction schedules can be made through email, text, phone, or other methods and frequencies agreed upon between the monitor(s) and construction supervisor. If a hiatus in ground disturbance of more than 14 days occurs, then notice of at least five business days before resuming work will be required to be given and documented.

The tribal monitor shall have the authority to temporarily pause ground disturbance within 25 feet of the discovery for a duration long enough to examine potential tribal cultural resources that may become unearthed during the activity. If no tribal cultural resources are identified at the discovery location, then construction activities shall proceed and no agency notifications are required. In the event that a tribal cultural resource is identified, the monitor shall flag off the discovery location and notify CPUC immediately to consult with tribal representatives and cooperating agencies on appropriate and respectful treatment. Work cannot resume at the stop-work location until authorized to do so by an authorized representative of CPUC.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

3.19.4 Cumulative Impacts

The Proposed Project was assessed for potential impacts to tribal cultural resources. The tribal consultation indicated that there is a potential for ground disturbing activities to impact previously undocumented tribal cultural resources. With the implementation of Mitigation Measure TCR-1, potential impacts to tribal cultural resources would be reduced to a less-than-significant level. Cumulative impacts would also be less than significant with these mitigation measures. It is anticipated that similar mitigation measures would be implemented for projects in surrounding jurisdictions that may affect tribal cultural resources.

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3.20 Utilities and Service Systems

This section describes the existing utilities and service systems in the vicinity of the Project and analyzes potential utilities and service system impacts associated with the construction, operation, and decommissioning of the Project. This section also describes environmental and regulatory settings. The Project would not result in significant impacts to water, wastewater, telecommunications, electrical power, or solid waste capacity or infrastructure and would not increase the rate of corrosion of adjacent utilities lines. This section was based partially on information provided in the PEA (Stantec 2020).

3.20.1 Utility Providers

Utility providers serving the Project Area are summarized in each subsection below.

3.20.1.1 Electrical Power

Electrical power in Modoc and Lassen counties is largely provided by Surprise Valley Electric (an energy co-op). Lassen Municipal Utility District also provides electricity to Lassen County. Additionally, Pacific Power and Light, an Oregon-based company, serves portions of Modoc County, including the City of Alturas. Electricity within the portion of the Project Area within Sierra County is provided by Plumas-Sierra Rural Electric Cooperative (Stantec 2020).

3.20.1.2 Natural Gas/Propane

Propane and natural gas in Modoc, Lassen, and Sierra counties is provided by a variety of private and public sources. Propane in Modoc County is largely provided by Bethel's. Propane in Lassen County is provided by Lassen Plumas Gas Service, Ferrellgas, Susanville Gas Department, West Coast Gas, and others. Natural gas in Sierra County is provided by High Sierra Gas, Southwest Gas Corporation, Suburban Propane, and others. Natural gas is provided via the Tuscarora Pipeline, which serves natural gas providers in northern California.

3.20.1.3 Wastewater

Much of Modoc, Lassen, and Sierra counties along the Proposed Project alignment consist of rural landscapes that do not have existing public wastewater collection systems but rather rely on septic systems to treat and discharge wastewater at individual residences. The more developed communities along the Project have established wastewater and sewer collection and treatment services. The City of Alturas Public Works Sewer Department collects and treats water for approximately 3,000 people within the city with 22.9 miles of gravity pipelines that collects and the wastewater and ultimately treats it at the Alturas Wastewater Treatment Plant (City of Alturas 2019b).

3.20.2 Utility Lines

A number of existing utilities and planned utility projects are located within the US 395 right-of-way. Table 3.1-1 in Section 3.1, Cumulative Impact Scenario, summarizes these projects and utilities. The exact

locations of existing, buried utilities, including geographic information system (GIS) data and as-builts, could not be obtained due to privacy and security restrictions. However, prior to mobilization, the construction contractor would call in a DigAlert in compliance with utility regulations to confirm the locations of existing utilities that may be within work areas. Prior to conduit installation, the contractor would locate existing utilities using a vacuum truck or via hand tools to safely expose their location. No utilities will be relocated or adversely affected by construction of the Project.

3.20.3 Approved Utility Project

As discussed further in Section 3.0, several other current and future utility projects are anticipated to occur within 2 miles of the Project. Table 3.1-1 in Section 3.1 Cumulative Impact Scenario contains the full list of these projects as well as the descriptions of each project and the approximate locations and distance to the Project. The majority of these projects are related to transportation infrastructure, with one development project. There are no other electrical power line or telecommunication projects anticipated in the Project Area.

3.20.4 Water Supplies

Water suppliers in Modoc, Lassen, and Sierra counties vary based on location and number of people served. Most residences use private water wells, especially in more remote areas of each of these counties. Water systems and suppliers in each county is provided in further detail below.

Modoc County

According to the Modoc County General Plan, Modoc County has approximately 248 square miles of water area in the county, which is the second highest water coverage in California. There are six major lakes in the county and 31 reservoirs with a greater than 1,000 acre-feet capacity (Modoc County 1988, as amended).

Water supplies to many residents in Modoc County is provided through private wells. Other organized water supplies in Modoc County include the following (Stantec 2020):

- City of Alturas (serves 3,231 people)
- Cedarville County Water District (serves 800 people)
- California Pines (serves 450 people)
- Newell County Water District (serves 300 people)
- I'sot Well #3 and #15 (serves 135 people)
- Butte Creek Trailer Park (serves 25 people)
- Cedarville Trailer Park (serves 25 people)

Lassen County

According to the Lassen County General Plan, much of Lassen County is arid and receives an average of less than 5 inches or rain per year, thus water is a critical resource in the County (Lassen County 1999, as amended). Agricultural uses have further put a strain on water supplies in the county.

Water supplies to many residents in Lassen County is provided through private wells, however, other organized water supplies in Lassen County include the following (Stantec 2020):

- City of Susanville (serves 8,892 people)
- High Desert State Prison (serves 4,924 people)
- Lake Almanor County Club (serves 3,000 people)
- Westwood Community Services District (serves 2,000 people)
- Hamilton Branch Community Services District (serves 1,425 people)
- Leavitt Lake Community Services District (serves 950 people)
- Lake Forest Mutual Water Company (serves 850 people)
- Clear Creek Community Services District (serves 400 people)
- Lassen County Water District #1 (serves 350 people)
- Susan Hills Estates Water Company (serves 250 people)
- Spaulding Hills Estates Water Company (serves 120 people)
- Pineview Mobile Home Park (serves 100 people)
- Herlong Mobile Home Park (serves 100 people)
- Little Valley Community Services District (serves 50 people)
- Lassen Mobile Home Park (serves 30 people)
- Susan River Park Water Company (serves 26 people)

Sierra County

Due to the location and diversity of topography and landscape in Sierra County, water resources and supplies vary throughout the county with higher water supplies located in the mountainous and Sierra environments and lower water supplies available in the foothill environments. Water supplies to many residents in Sierra County is provided through private wells; however, other organized water supplies in Sierra County include the following (Stantec 2020):

- City of Loyalton (serves 930 people)
- Sierra Brooks Public Services District (serves 465 people)

- Sierraville Public utilities District (serves 350 people)
- Downieville Public Utilities District (serves 325 people)
- Sierra Company #1 (serves 200 people)
- R.R. Lewis Small Water Company (serves 200 people)
- Alleghany County Water District (serves 125 people)
- Sierra City Water Works Inc. (serves 60 people)
- Mountain View Mobile (serves 45 people)
- Greene Acres Prop (serves 35 people)
- Central Town Water System (serves 22 people)

3.20.5 Landfills and Recycling

Table 3.20-1 shows the active landfills near the Project site (i.e., within 20 miles) that would be able to accept construction debris and materials. In addition to the landfills shown below, there are several transfer stations directly adjacent to US 395 in Modoc and Lassen counties and one transfer station, the Loyalton Transfer Station, in Sierra County near the Project.

Table 3.20-1. Active Landfills Near Project Area

Landfill Name	Distance to Project	Maximum Permitted Capacity (cy)	Capacity Remaining (cy)
Modoc County			
Alturas Sanitary Landfill	0.77-mile	1,600,000	176,931
Lassen County			
Bass Hill Landfill	600 feet	2,150,000	603,404
Westwood Landfill	20 miles	89,369	62,207
Sierra County			
None	-	-	-

Note:
cy = Cubic Yards
Sources: California Department of Resources Recycling and Recovery (CalRecycle; Stantec 2020)

In addition to the above landfills and transfer stations, several recycling centers are adjacent to the Project that could be used to dispose of certain construction debris. These recycling centers include the following:

- Holdorff's Recycling Center (Alturas, California)
- Bigfoot Recycling (Susanville, California)
- Bullseye Recycling (Susanville, California)

3.20.6 Regulatory Setting

3.20.6.1 Federal

There are no federal regulations pertaining to utilities and service systems that are relevant to the project.

3.20.6.2 State

California Government Code

California Government Code Sections 4216-4216.9 "Protection of Underground Infrastructure" requires an excavator to contact a regional notification center (e.g., Underground Services Alert or Dig Alert) at least 2 days prior to excavation of any subsurface installations. Anyone seeking to begin a project that could damage underground infrastructure can call Underground Service Alert, the regional notification center for Northern California. Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the Project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area prior to the start of Project activities in the area.

California Constitution, Article X

Article X (10), Section 2, of the California Constitution recognizes the need to put the state's water resources to maximum beneficial use:

> It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of by transformation (i.e., recycling) and land disposal, the State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties are required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Solid waste plans are required to explain how each city's AB 939 plan will be integrated within the respective county plan. They must promote source reduction, recycling and composting, and environmentally safe transformation and land disposal. Cities and counties that do not meet this mandate are subject to fines of $10,000 per day.

3.20.6.3 Local

Because CPUC has exclusive jurisdiction over project siting, design, and construction, the Project is not subject to local utilities and service system regulations or discretionary permits. This section identifies local utilities regulations for informational purposes and to assist with CEQA review.

Modoc County General Plan

The Modoc County General Plan was adopted in September 1988; however, it does not contain any utilities and services system goals or policies that are relevant to the project (Modoc County 1988, as amended).

Lassen County General Plan

The Lassen County General Plan was adopted in September 1999 and includes the following goals related to utilities and service systems that are relevant to the project (Lassen County 1999, as amended):

Goal N-3: Water Supplies of sufficient quality and quantity to serve the needs of Lassen County, now and in the future.

Policy NR-13: The County recognizes the critical importance and future value of its water resources and shall support the conservation of water supplies and protection of water quality.

Sierra County General Plan

The Sierra County General Plan was first adopted in 2012 (as amended) and includes the following goals and policies related to utilities and service systems that are relevant to the Project (Sierra County 1996, as amended):

Goal 1: It is the County's goal to protect and maintain its water resources for the benefit of County residents and natural habitats and to assure protection of its watersheds as a primary land use constraint.

City of Alturas

The City of Alturas General Plan was first adopted in June 1987 (City of Alturas 1987, as amended). There are no utilities or service systems goals or policies in the City of Alturas General Plan that are relevant to the Project.

3.20.7 Environmental Impacts

3.20.7.1 Thresholds of Significance

The following thresholds of significance are based on Appendix G to the CEQA Guidelines. For purposes of this EIR, implementation of the proposed project would be considered to have a significant adverse impact on utilities if it would result in any of the following:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- Insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
- Violation of any federal, state, and local management and reduction statutes and regulations related to solid waste.

3.20.7.2 Project Impacts and Mitigation Measures

Impact UTIL-1	**Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

Implementation of the Project would result in the construction and operation of a new fiber optic broadband line. Impacts from construction and operation of the Project are disclosed in this EIR. The Project would not require the construction of new or expanded water, stormwater drainage, electrical power, or natural gas facilities. Although Project construction would require the use of water and wastewater facilities by construction workers, this use would be temporary and short-term. The Project includes excavation and trenching, which could affect existing underground utilities. The Applicant would implement Mitigation Measure UTIL-1, which would require the Applicant to notify other utility companies to locate and mark existing underground structures at proposed work areas prior to any excavation activities. Therefore, implementation of the Project would result in a less than significant impact.

Mitigation Measures

The following mitigation measures shall apply to the Proposed Project.

UTIL-1: **Utility Company Coordination.** The Applicant shall notify all utility companies with utilities located within or crossing the Project right-of-way to locate and mark existing underground

utilities along the entire length of the project at least 30 days prior to construction. No subsurface work shall be conducted that would conflict with (i.e., directly or indirectly impact or compromise the integrity of) a buried utility. In the event of a conflict, areas of subsurface excavation or pole installation shall be realigned vertically and/or horizontally, as appropriate, to avoid other utilities and provide adequate operational and safety buffering. In instances where separation between third-party utilities and underground excavations is less than 5 feet, the Applicant shall submit the intended construction methodology to the owner of the third-party utility for review and approval at least 30 days prior to construction. Construction methods shall be adjusted as necessary to assure that the integrity of existing utility lines is not compromised.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact UTIL-2	**Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**
Impact Determination:	*Less than Significant*

Impact Discussion

Construction of the Project would require water for dust control, cleanup, and soil compaction along the Project alignment. As discussed in Section 3.0, Proposed Project Description, approximately 12,000 gallons of water would be used each day during construction for dust control and fire response, with the assumption of three construction crews working concurrently along the Project alignment. Each construction spread would have a 2,000-gallon water truck that would be refilled one to two times per day. Additionally, approximately 500 gallons of water per day would be used for each drill during boring, of which 200 gallons would be recovered as liquid waste. Since up to four bore crews are anticipated to be mobilized during construction, it is estimated that a maximum of 2,000 gallons of water per day would be used for boring activities, of which up to 800 gallons would be recovered as waste. Therefore, the total water needed over the approximately six-month construction period would be approximately 1.8 million gallons. Water would be obtained from local municipal sources via existing water rights and would be trucked to the project sites. Several public water systems and suppliers are in Modoc, Lassen, and Sierra counties, from which water could be purchased and used onsite during construction activities. The chosen contractor would likely choose the closest water supplier that has adequate capacity and availability of water to serve the Project's needs, depending on the location along the Proposed Project alignment. Water requirements for construction would be temporary, lasting approximately six months, and would result in a total of 1.8 million gallons of water (i.e., roughly the size of three Olympic-sized swimming pools). Therefore, construction activities would purchase water from water suppliers with adequate capacity, and use of water would be temporary and finite, resulting in a less than significant impact related to water supplies during normal, dry, and multiple dry years. Once constructed, the Project would

not require any operational water use and would not result in any long-term impacts related to water consumption. Therefore, there would be no operational impact related to water supplies during normal, dry, and multiple dry years.

Mitigation Measures

No mitigation measures are required.

Impact UTIL-3	**Would the Project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the Provider's existing commitments?**
Impact Determination:	*No Impact*

Impact Discussion

Wastewater produced as a result of the Project would be limited to construction activities associated with the placement or the new fiber optic cable. There are limited wastewater treatment providers in the Project Area because of the rural nature of most of the Project Area. Most of the liquid waste associated with construction of the Project would occur in the form of bentonite (clay-based) drilling fluid, which is not considered a hazardous material and would not require special disposal procedures. At each bore location, any excess drilling fluid that seeps from the bore hole would be captured in exit pits and siphoned into a holding tank to be reused or properly disposed of. Approximately 500 gallons of water per day would be used for each drill during boring, of which 200 gallons would be recovered as liquid waste. Since up to four bore crews are anticipated to be mobilized during construction, an estimated maximum of 2,000 gallons of water per day would be used for boring activities, of which up to 800 gallons would be recovered as waste. Unanticipated discharges would be controlled through the implementation of a SWPPP. See Section 3.11, Hydrology and Water Quality, for further detail. Most of this wastewater likely could be reused onsite; if not, it could be disposed of at one of the landfill locations listed in Table 3.20-1. Additionally, portable toilets would be provided for construction workers during construction. All sanitary waste from these portable toilets would be disposed of at appropriately licensed facilities that contract these portable toilets and would not result in noticeable capacity increases at any wastewater facility. Therefore, construction of the Project would result in a less than significant impact related to wastewater treatment capacity.

Once constructed, the Project would largely be located underground and would not include uses that could generate wastewater. Therefore, operation of the Project would result in no impact to wastewater treatment capacity.

Mitigation Measures

No mitigation measures are required.

Impact UTIL-4	**Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

Construction activities related to the Project would generate 20 pounds per day of non-hazardous solid waste related to cable trimmings, package materials, and construction debris. Waste materials would be properly disposed of in one of the landfills or recycling centers along the Project route. It is estimated that construction would result in up to 400 cy of spoils related to the displacement of soil for installation of the vaults; however, soil would be balanced on-site wherever possible. Additionally, the Project would also generate solid waste from the food, glass, paper, plastic, and packing materials consumed by the up to 66 construction workers (approximately 11 crews of six people) who would be onsite during periods of peak construction activity. The volume of waste generated is expected to be minimal for the project due to the type of construction activities and the linear nature of the project.

All construction-related waste materials would be properly disposed of in one of the landfills or recycling centers nearby the project, and dumpsters for construction waste would be provided at materials storage yards for temporary storage prior to transport to a licensed local waste management or recycling facility. Table 3.20-1 lists the currently active landfills in close proximity (i.e., within 20 miles) of the Project site. These landfills have adequate capacity remaining to serve the minimal construction waste anticipated for the project. Due to the linear nature of the Project, the construction crews would likely choose the closest landfill to construction activities to limit travel time and consumption of other resources, such as gasoline and diesel fuel. However, to be in compliance with state solid waste reduction goals, specifically AB 939, 25-percent of all solid waste would be diverted from landfill facilities. Therefore, to ensure that the project is consistent with this state waste reduction goal, Mitigation Measure UTIL-2 would be required to divert recyclable construction waste from local landfills to recycling facilities, where possible. Mitigation Measure UTIL-2 would require specific bins be placed within each construction work area and would require signage for workers to identify where recyclable materials would be placed. Therefore, with the implementation of Mitigation Measure UTIL-2, impacts associated with short-term waste disposal during construction would be reduced to a less than significant level.

Once constructed, the Project would in involve the operation of the fiber optic line and would not involve any ongoing waste producing activities. Therefore, there would be no operational impact related to generation of solid waste in excess of standards or capacities of local landfills.

Mitigation Measures

The following mitigation measures shall apply to the Proposed Project.

UTIL-2: **Recycling of Construction Materials.** During construction activities, the contractor shall use recycling centers for materials that can be recycled, rather than hauling all materials to

landfills, as required by applicable law. Materials that could be recycled may include plastics, paper, and cans and bottles. At each construction site, a designated container or vessel shall be set up at the beginning of construction activities with appropriate signage indicating where construction workers shall place recyclable materials.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact UTIL-5	**Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

As discussed under impact UTIL-4, the Project would result in minor amounts of waste from construction activities. Construction debris could possibly include glass, metal, wood and cardboard packaging, and high-density polyethylene (HDPE) conduit remnants. Once in operation, potential solid waste generated may consist of replaced parts and equipment and plants and planting materials cleared during routine maintenance, which would be removed and taken offsite for disposal. Waste from construction activities is expected to be minimal due to the type of project; however, to be in compliance with state reduction goals such as AB 939, 25 percent of all waste would be diverted from landfills. The Project would comply with this reduction goal through implementation of Mitigation Measure UTIL-2, which would require collecting recycling on-site and disposing of it at a recycling facility rather than at the landfills. Therefore, with implementation of Mitigation Measure UTIL-2, the Applicant and chosen contractor would comply with all federal, state, and local statutes and regulations related to solid waste, and the impact would be considered less than significant.

Once constructed, the Project would involve the operation of the fiber optic line and would not involve any ongoing waste-producing activities. Therefore, there would be no operational impacts related to compliance with federal. state, and local solid waste management and reduction regulations.

Mitigation Measures

The following mitigation measures shall apply to the Proposed Project.

UTIL-2: **Recycling of Construction Materials.** During construction activities, the contractor shall use recycling centers for materials that can be recycled, rather than hauling all materials to landfills, as required by applicable law. Materials that could be recycled may include plastics, paper, and cans and bottles. At each construction site, a designated container or vessel shall be set up at the beginning of construction activities with appropriate signage indicating where construction workers shall place recyclable materials.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact UTIL-6	**Would the Project increase the rate of corrosion of adjacent utility lines as a result of alternating current impacts?**
Impact Determination:	*No Impact*

Impact Discussion

Since the Project includes the placement of a fiber optic line underground within existing roadway right-of-way, it would not provide a source of alternating current. The placement of the fiber optic line would be located away from any existing utility lines and would not cause corrosion. Additionally, the fiber optic line would be shielded with three 3.2-cm-diameter HDPE, which would prevent the cable from interacting with any nearby metallic objects. Therefore, the Project would result in no impact related to corrosion of adjacent utility lines.

Mitigation Measures

No mitigation measures are required.

3.20.8 Cumulative Impacts

Impacts related to utilities and services systems would be limited to construction activities along the length of the Project alignment. Once construction is complete, management of the telecommunications infrastructure would generally occur remotely, with onsite maintenance only as necessary. Implementation of the Project would not result in new residents in the region or a substantial increase in employees accessing the site on a permanent basis, therefore an increased need for utilities and services systems would not occur. With implementation of Mitigation Measure UTIL-1, the Proposed Project would not conflict with a buried utility, and the integrity of existing utility lines would not be compromised. Implementation of Mitigation Measure UTIL-2 would ensure that recyclable materials are sent to local recycling centers. The volume of non-recyclable waste generated is expected to be minimal for the Project due to the type of construction activities and the linear nature of the project and would be disposed of in approved landfills. The Proposed Project would not create any impacts to utilities and services and would not contribute to a cumulative impact to utilities and services systems.

3.21 Wildfire

This section describes the environmental setting for wildfire, including the existing site conditions and regulatory setting, impacts that would result from the Proposed Project, and, if significant impacts are identified, the mitigation measures that would reduce these impacts.

3.21.1 Environmental Setting

The Proposed Project spans three counties—Lassen, Modoc, and Sierra—within Federal Responsibility Areas (FRAs), State Responsibility Areas (SRAs), and Local Responsibility Areas (LRAs). The areas mapped as FRAs, SRAs, and LRAs are the responsibility of federal, state, or local fire departments, respectively. The Proposed Project Area is comprised of land where the various entities (federal, state, or local district) are financially responsible for the prevention and suppression of wildfires. The Proposed Project Area is located primarily within existing roadway rights-of-way or immediately adjacent to previously disturbed areas, with landscapes consisting of foothills, plains, and mountains.

3.21.1.1 High Fire Risk Areas

CAL FIRE uses Fire Hazard Severity Zones (FHSZ) to categorize the anticipated fire-related hazard for SRAs. The Proposed Project Area is primarily located in a moderate FHSZ, as designated by CAL FIRE (Table 3.21.-1 and Figure 3.21-1). The CPUC uses High Fire-Threat District mapping system (see Rulemaking Proceedings R.08-11-005 and R.15-05-006) that includes three areas—Tier 1 (Tree Mortality High Hazard Zones), Tier 2 (Elevated), and Tier 3 (Extreme)—to identify areas with a higher risk for utility associated wildfires and where stricter fire safety regulations should apply. Portions of the Proposed Project alignment are identified by the CPUC as Tier 2, elevated risk for utility associated wildfires (Table 3.21-1). No Tier 1 or Tier 3 areas are within the Proposed Project Area.

Table 3.21-1. Linear Miles of Wildfire Designations Intersecting with the Project Alignment

Type	Lassen County	Modoc County	Sierra County	Total
Local Responsibility Area	31.79	18.88	—	50.67
State Responsibility Area	65.57	32.47	3.15	101.19
Federal Responsibility Area	32.23	10.08	—	42.31
Total	**129.59**	**61.43**	**3.15**	**194.17**
CPUC Fire Threat District				
CPUC Fire Threat Tier 2[1]	56.10	6.52	3.07	**65.69**
CAL FIRE Fire Severity Zones				
CAL FIRE Very High FHSZ	0.68	0.16	—	0.84

Table 3.21-1. Linear Miles of Wildfire Designations Intersecting with the Project Alignment				
Type	**Lassen County**	**Modoc County**	**Sierra County**	**Total**
CAL FIRE High FHSZ	—	12.33	—	12.33
CAL FIRE Moderate FHSZ	63.23	15.45	3.13	81.81
Total	**63.91**	**27.94**	**3.13**	**94.98**

Source: CAL FIRE 2007, 2021a and CPUC 2021
Notes: [1]Tier 2 of the CPUC Fire Threat Map is where there is an elevated risk for utility-associated wildfires.

3.21.1.2 Fire Occurrence

The Proposed Project Area has a history of wildfires, with 203 wildfires occurring from 2010 to 2020 (CAL FIRE 2021b) within the three counties that the Proposed Project alignment spans. Of the 203 wildfires, 27 of these wildfires were mapped within 1 mile of the Proposed Project alignment. Most of these fires were started by lightning (139 reported fires). Unknown causes accounted for 24 reported fires, railroads, miscellaneous, and equipment use accounted for seven wildfires each, and vehicles accounted for 6 wildfires. Other sources, such as powerlines, smoking, campfires, debris, arson, or playing with fire, accounted for less than 20 fires. Most of the wildfires were located within Modoc County (91 reported), followed by Lassen County (83 reported) and then Sierra County (eight reported). Twenty-one of the reported wildfires spanned multiple counties. Table 3.21-2 describes the distribution of responding agencies for mapped wildfires.

Table 3.21-2: Wildfire History and Responding Agency Along the Project Alignment (2010-2020)					
Agency	**Lassen County**	**Modoc County**	**Sierra County**	**More than One County**	**Total**
BLM	57	12	0	11	80
CAL FIRE	18	7	0	0	25
NPS	1	N/A	N/A	1	2
USFS	7	72	8	9	96
Total	**83**	**91**	**8**	**21**	**203**

Source: CAL FIRE 2021a
Notes:
BLM= Bureau of Land Management
CAL FIRE= California Department of Forestry and Fire Protection
NPS = National Park Service
USFS = United States Forest Service

Reporting for the 2021 wildfire season is not complete, but there have been five wildfires that have crossed the Proposed Project Area—Sugar, North, Loyalton, Adams, and Dixie wildfires. The Sugar Wildfire

was started by a lightning strike and burned approximately 105,000 acres (Fire EGP 2021). The Sugar Fire crossed approximately 1.5 miles of the Proposed Project alignment in Lassen County near the southern end of the Proposed Project Area. The North, Loyalton, and Adams wildfires crossed approximately 4.2 miles of the Proposed Project Area in Lassen County near the southern end of the Project alignment (Fire EGP 2021). The Dixie Wildfire has burned over 927,000 acres and is still not contained (Fire EGP 2021) and the cause is to be determined upon further investigation. The Dixie Wildfire has crossed approximately 4.8 miles of the Proposed Project alignment in Lassen County adjacent to Honey Lake as of September 9, 2021.

3.21.1.3 Fire Risk

The weather station located in Alturas, California, has been tracking wind direction and speed, relative humidity, and temperature on an hourly basis for the last 10 years. Temperatures reported from the Alturas station in the Project Area ranged from below zero to more than 100 degrees Fahrenheit (°F), with an average air temperature of approximately 50°F. Average reported relative humidity was approximately 60 percent, and average wind speed was 5 miles per hour (mph). Maximum wind speed was approximately 40 mph. The prevailing wind for the general area is southwesterly (Stantec 2020).

The Project alignment is located along an existing transportation right-of-way that is maintained clear of vegetation and other fire hazards, creating an intrinsic fuel break. Therefore, the risk of wildfire ignition in the Project Area is considered to be low.

3.21.1.4 Values at Risk

A variety of valuable public services, sensitive habitats, and biological resource management areas are located within 5 miles of the Proposed Project alignment and have the potential to be directly affected by a wildfire. The Proposed Project alignment is located near schools, churches, libraries, medical centers, and other public services, structures, and utilities that could be at risk in the event of a wildfire. Lists of schools, churches, libraries, medical centers, and other public services within 1 mile of the Project alignment are provided in the Public Services section (see Tables 3.16-3 and 3.16-4). A total of 1,433 sensitive receptors (e.g., residences, hospitals, places of worship, libraries, performance spaces, offices, and schools, as well as nature and wildlife preserves, recreational areas, and parks) are within 1,000 feet of the Proposed Project alignment (see Noise Section, Table 3.14-1).

Section 3.5, Biological Resources, details the sensitive natural vegetation communities located within the Biological Resources Survey Area (BRSA), which roughly corresponds to the US 395 right-of-way. No federally designated or proposed critical habitat occurs within the BRSA, however, one critical habitat polygon for Webber's ivesia (listed as federally threatened) abuts the BRSA between Lassen County MP 0.7 and 1.0 and five others are located within 5 miles of the BRSA. Biological resource management areas that occur within 5 miles of the BRSA include USFWS' Modoc National Wildlife Refuge; CDFW's Bass Hill Wildlife Area, Biscar Wildlife Area, Doyle Wildlife Area, Hallelujah Junction Wildlife Area, and Honey Lake Wildlife Area; and The Nature Conservancy's Matley Ranch.

3.21.1.5 Vegetation Fuels

A total of 61 vegetation communities were mapped along the Proposed Project Area, with 22 of the vegetation communities identified as sensitive natural vegetation communities by the CDFW (see Section 3.4, Biological Resources for more details). Vegetation types along the Proposed Project alignment generally include pines, junipers, aspens, montane riparian communities, brushes, chaparral, scrubs, grasslands, and meadows. As shown on Figure 3.21-1, the areas along the right-of-way with the highest fire risk occur east of Goose Lake in Modoc County and west of Honey Lake between Buntingville and Milford in Lassen County. The vegetation communities in these locations consist of fire-prone little sagebrush scrub, big sagebrush scrub, bitterbrush scrub, and Western juniper woodland. Sagebrush and juniper woodland are considered to have high fire resistance to control because they accumulate dead woody material, are thorny or dense, have a high surface-to-volume ratio (e.g., fine needles or lacey leaves), and are prone to rapid changes in moisture content (Stantec 2020). The potential for wildfire ignition, spread, and intensity varies substantially based on factors such as season, vegetation density and type, past prescribed burning regimes, past wildfire history, and both long-term and daily fire weather conditions. Some species such as quaking aspen may act as natural firebreaks, reducing the potential intensity of ignitions in their vicinity. Other species within or adjacent to the Proposed Project alignment such as ponderosa pine, juniper woodland, and chaparral have evolved with wildfires and rely on fire to maintain a healthy vegetation community.

The Standard Fire Behavior Fuel Models by Scott and Burgan (2005) categorize vegetation types (e.g., non-burnable, grass, shrub, timber) into fuel models to predict potential wildfire behavior and effects, including spread rate, intensity, smoke production, and crown fire behavior. The Proposed Project would mainly be underground and/or contained within a preexisting right-of-way except for ILAs and line markers as described in the Section 2.0, Project Description. The primary vegetation surrounding the ILAs is "4: anthropogenic areas of little to no vegetation." (Stantec 2020). This vegetation type corresponds to the "urban/developed (NB1)" Bergan-Scott fuel model type, which is considered a *non-burnable* fuel model type. Outside the immediate ILA footprint, secondary vegetation types include bitterbrush scrub (Herlong ILA) and little sagebrush scrub (Spanish Springs ILA), both of which are considered "Low Load, Dry Climate Grass-Shrub (GS1)" in the Bergan-Scott model. The Alturas ILA possesses vegetation type 4/fuel model NB1 in both primary and secondary areas. Within the GS1 designation, the primary carrier of fire is grass and shrubs. Fire spread rate is moderate, flame length is low, and the extinction moisture content[1] is low. While this vegetation type is indeed moderately fire-prone, the ILAs themselves would be enclosed, monitored, alarmed, and surrounded by 50-100 linear feet of paved or graveled surface, and would be located in developed and previously disturbed areas.

[1] Extinction moisture content is the moisture content of dead fuels at which the fire will no longer spread (Scott and Bergan 2005).

3.21.1.6 Evacuation Routes

No evacuation routes have been formally designated in the general plans or municipal ordinances for the counties of Lassen, Modoc, or Sierra, or the City of Alturas. Although not officially designated as an evacuation route, US 395 is a major highway that would likely be used if a large fire required mass evacuations in either Modoc, Lassen, or Sierra counties.

3.21.2 Regulatory Setting

3.21.2.1 Federal

National Fire Protection Association

The National Fire Protection Association provides codes and standards (including the National Electrical Code), research, trainings, and education for fire protection. The National Fire Protection Association publishes more than 300 codes and standards that are intended to minimize the possibility and effects of fire and other risks.

3.21.2.2 State

Assembly Bill 337—The Bates Bill

The Bates Bill (AB 337 enacted September 29, 1992) was a direct result of the great loss of lives and homes in the Oakland Hills Tunnel Fire of 1991. The Bates Bill requires CAL FIRE, in cooperation with local fire authorities, to identify very high FHSZs in LRAs throughout California. Local jurisdictions that do not follow the Bates system are required to follow, at a minimum, the model ordinance developed by the State Fire Marshal for mitigation purposes.

Assembly Bill 3819—The Brown Bill

The Brown Bill (AB 3819 enacted September 25, 1994) expands the roof covering requirements of the Bates Bill. The Brown Bill requires a Class A roof for all new buildings, all roof repairs and replacements, for existing buildings where 50 percent or more of the roof area is re-roofed, and for buildings located within very high FHSZs. Class A roofs provide the highest resistance to fire and include coverings such as concrete, metal, or clay roof tiles.

California Department of Forestry and Fire Protection Wildland Hazard/Building Codes

Included as part of the 2007 California Building Code (CBC), CAL FIRE established the Wildland-Urban Fire Area Building Standards, which are applicable to all structures located within an LRA very high FHSZ. These requirements establish minimum standards for materials and material assemblies and provide a reasonable level of exterior wildfire exposure protection for buildings in Wildland-Urban Interface Fire Areas.

California Building Code

The CBC contains applicable fire safety standards and the California Fire Code (CFC). The CBC follows standards recommended by the California Building Standards Commission and the latest International Fire Code. The CBC sets buildings standards, ensuring that all structures are designed to provide the required emergency access. Additionally, the CBC contains guidance on design features, including fire sprinklers, fire flow standards, emergency access roads standards, and storage of flammable materials, which comply with fire department minimum requirements.

California Fire Code (California Code of Regulations Title 24, Part 9)

Based on the 2015 International Fire Code, and as published by the California Building Standards Commission, the CFC regulates minimum fire safety requirements for new and existing buildings, facilities, storage, and processes. The CFC addresses fire prevention and protection, life safety, safe storage, and use of hazardous materials. The CFC is a design document that sets forth the minimum requirements for hazards and contains the requirements for maintaining life safety of building occupants, protecting emergency responders, and limiting damage to a building and its contents as a result a fire, explosion, or unauthorized hazardous materials discharge.

California Public Resources Codes

A number of PRC sections are applicable to the Project, as listed below:

- Code 4119: Authorizes agencies to inspect all properties except a dwelling's interior to ascertain compliance with state forest and fire laws, regulations, or use permits.
- Code 4290: Contains regulations for implementing minimum fire safety standards related to defensible space that are applicable to lands designated as very high FHSZ.
- Code 4291: Requires 100 feet of defensible space around all structures.

2018 California Strategic Fire Plan

The Board of Forestry and Fire Protection's Strategic Fire Plan provides a vision for natural environment that is more fire resilient and a built environment that is more fire resistant through the collaboration and partnerships of local, state, federal, tribal, and private entities. The main goals of the 2018 plan are:

- Improve the availability and use of consistent, shared information on hazard and risk assessment;
- Promote the role of local planning processes, including general plans, new development, and existing developments, and recognize individual landowner/homeowner responsibilities;
- Foster a shared vision among communities and the multiple fire protection jurisdictions, including county-based plans and community-based plans such as Community Wildfire Protection Plans (CWPP);
- Increase awareness and actions to improve fire resistance of man-made assets at risk and fire resilience of wildland environments through natural resource management;

- Integrate implementation of fire and vegetative fuels management practices consistent with the priorities of landowners or managers;
- Determine and seek the needed level of resources for fire prevention, natural resource management, fire suppression, and related services; and
- Implement needed assessments and actions for post-fire protection and recovery

3.21.2.3 Local

Lassen County General Plan

The Lassen County General Plan was adopted in September of 1999 and includes the following goals related to wildfires that are relevant to the Project (Lassen County 1999, as amended):

OS20 Policy: The County shall continue to make protection from fire hazards a consideration in planning, land use and zoning decisions, environmental review, and project review with special concern for areas of "high" and "extreme" fire hazard.

Implementation Measure OS-K: The County will continue to work with the California Department of Forestry and Fire Protection or other agencies of jurisdiction in identifying and mapping areas of special fire hazard, and in adopting development criteria to assist in the protection of the public from such fire hazards.

Modoc County General Plan

The Modoc County General Plan was adopted in September 1988 and includes the following policies related to wildfires that are relevant to the Project (Modoc County 1988, as amended):

Policy 3: New development should demonstrate the availability of adequate fire protection and suppression facilities.

Sierra County General Plan Safety Element

The Sierra County General Plan was first adopted in 1996 and includes the following goals and policies related to wildfires that are relevant to the Project (Sierra County 1996, as amended):

Policy 19: Land use patterns and development standards shall minimize fire hazards.

Policy 20: Encourage maintenance of high fire protection standards for all public and private development.

City of Alturas General Plan

The City of Alturas General Plan was first adopted in June 1987 (City of Alturas 1987, as amended). There are no wildfire goals or policies in the City of Alturas General Plan that are relevant to the Project.

Modoc County Community Wildfire Protection Plan

The Modoc County CWPP was developed in September 2017 by the Modoc County Fire Safe Council in cooperation with CAL FIRE, U.S. Department of Agriculture (USDA), Modoc County Rural Fire Departments, North Cal-Neva Resource Conservation and Development Council, Modoc County Office of Emergency Services, and BLM to mitigate losses from wildland fires. The Modoc County CWPP is used as a planning tool to assess the threat level and to identify measures that may be taken to reduce the danger that wildland fires pose to the communities in Modoc County. Although the Modoc County CWPP does not contain any specific goals or policies that are relevant to the Project, it does discuss the use of US 395 as one of the major highways in the county that could be used as an evacuation route in the event of a fire (Modoc County 2017).

Lassen County Community Wildfire Protection Plan

The latest Lassen County CWPP was developed in December 2021 by the Lassen County Fire Safe Council in cooperation with CAL FIRE, the USFS, BLM, and Sierra Pacific Industries to develop and monitor activities necessary to protect the communities of Lassen County from risk of wildfires. Several fuel treatment projects are identified in the CWPP, however none of the projects identified would be located near the Project Area (Lassen County 2021).

Sierra County Community Wildfire Protection Plan

The latest Sierra County CWPP was developed in December 2014 by the Sierra County fire safe council in coordination with CAL FIRE, local fire districts, and the USFS to provide a comprehensive assessment of the wildfire hazards and risks and provide potential projects to mitigate those hazards within the Sierra County. The Proposed Project alignment only passes through a small portion of Sierra County along US 395, and the Sierra County CWPP does not contain any specific goals or policies that are relevant to the Project (Sierra County 2014).

3.21.3 Environmental Impacts

3.21.3.1 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, wildfire impacts are considered significant if implementation of the Proposed Project would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan for a project located in or near state responsibility areas or lands classified as very high fire hazard severity zones.

- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire for a project located in or near state responsibility areas or lands classified as very high fire hazard severity zones.
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment for a project located in or near state responsibility areas or lands classified as very high fire hazard severity zones.
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes for a project located in or near state responsibility areas or lands classified as very high fire hazard severity zones.

3.21.3.2 Methods of Analysis

Criteria from Appendix G of the State CEQA Guidelines were used to determine if the Proposed Project would have a significant impact related to wildfire. Impacts related to wildfire were assess based on review of applicable data, such as CALFIRE Hazard Severity Zones, CPUC High Fire-Threat District map, and historic wildfire data, and applicable documents, such as the PEA.

3.21.3.3 Project Impacts and Mitigation Measures

Impact WILD-1	**If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

The majority of proposed construction activities would occur within existing roadway rights-of-way, with construction vehicles and equipment expected to be staged or parked within the rights-of-way, alongside access roads, or approved temporary easement areas (e.g., staging areas and material storage yards). The parked or staged vehicles and equipment could affect emergency personnel responding to local and regional emergencies. Although no evacuation routes have been formally designated in the general plans or municipal ordinances, US 395 would likely be used if a large fire in the area required mass evacuations in Modoc, Lassen, or Sierra counties. Emergency access routes for emergency vehicles and public evacuation would be maintained throughout construction, and no full roadway closures would be required. In addition, a traffic management plan would be prepared per Mitigation Measure TRA-1 that would coordinate traffic control procedures associated with construction. The Traffic Management Plan would implement BMPs, such as temporary traffic controls including signs, cones, and flaggers, to prevent

congestion or traffic hazards during construction activities. As access to emergency routes would be preserved during all construction activities, the Proposed Project would not impair an adopted emergency response or emergency evacuation plan. Once constructed, the Project would be located underground and would not result in any long-term impacts to emergency response or evacuation. Therefore, a less than significant would occur with mitigation.

Mitigation Measures

TRA-1: Traffic Management Plan. See Section 3.18, Transportation

Residual Impacts After Mitigation

Impacts would be less than significant after mitigation.

Impact WILD-2	**If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?**
Impact Determination:	*No Impact*

Impact Discussion

The Proposed Project would be installed underground and managed remotely and does not include the installation or operation of any residential housing units, commercial or retail businesses, or any industrial or manufacturing facilities. Therefore, there would be no occupants as a result of the Project that would be potentially affected by wildfire-mobilized pollutant concentrations or the uncontrolled spread of a wildfire. Therefore, no impact would occur.

Mitigation Measures

No mitigation measures are required.

Impact WILD-3	**If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

Primary fire risk would be during the construction and installation of the fiber optic line and ancillary facilities. The Proposed Project would be installed using a variety of techniques including trenching, plowing, and horizontal directional boring that would involve the use of vehicles and other heavy machinery, depending on the activity. Installation of the ILAs and vaults would also require the use of heavy machinery for clearing vegetation and grading. Use of machinery or "hot work" (e.g., welding) during high wind conditions or personnel smoking at a worksite could result in the ignition of a wildfire. Heavy equipment or passenger vehicles could drive through vegetated areas, which could also result in an increased risk of wildfire from heated mufflers or undercarriage near or in contact with vegetation. Additionally, mowers or plows have the potential to ignite wildfires if the equipment blades strike rocks or metal objects. Improper disposal of cigarettes or bottles with solar magnifying properties (such as glass) could potentially ignite surrounding vegetation. Implementing Mitigation Measure BIO-4 would prohibit trash dumping and prohibit smoking outside designated areas, thus, reducing potential wildfire risk.

Additionally, the construction and operation of the Proposed Project would involve the use of flammable materials including fuels such as gasoline or diesel, hydraulic oils, paints, solvents, or other industrial chemicals necessary for maintaining vehicles and equipment. The risk of fire associated with these materials is generally related to improper use or storage. These flammable materials could further exacerbate the spread of a wildfire or ignite a wildfire quicker if a spark were to occur in the vicinity of these materials. The construction crew should control any flammable materials through standard OSHA worker protection requirements.

The Proposed Project crosses 81.81 miles of moderate FHSZ, 12.33 miles of high FHSZ, 0.84 mile of very high FHSZ, and 61 vegetation communities possessing varying wildfire potential. If a fire were to ignite as a result of construction activities, it could be swept offsite by prevailing winds. Such a wildfire could, if not immediately extinguished, pose a risk to life and property adjacent to the Project alignment. However, the Project is located along existing road rights-of-way that are maintained clear of vegetation and other fire hazards, creating an intrinsic fuel break. Heavy equipment usage during construction would be temporary, and work areas would be constantly shifting along the alignment as Project components are completed. However, any wildfire that escaped control or spread into the surrounding area could result in damage to the environment, and therefore, the risk of wildfire as a result of Project construction is considered potentially significant.

In accordance with existing regulatory requirements, all construction equipment is required to be equipped with fire suppression equipment (such as a fire extinguisher). Additionally, Mitigation Measure WILD-1, would require the Applicant to prepare a Fire Protection Plan prior to construction, which would outline fire prevention and response measures. The Fire Protection Plan would include a Worker Environmental Awareness Program to train personnel on the fire hazards associated with the Project, restrict work during Red Flag conditions, and would require that workers be provided fire extinguishers and other necessary firefighting equipment to put out small fires. Implementing WILD-1, would ensure that the risk from wildfires is reduced during construction activities. Therefore, the impact would be less than significant.

During operations, management of the telecommunications infrastructure would generally occur remotely, with onsite maintenance only as necessary (as detailed in Section 3.8, Operations and Maintenance). Vaults would be accessed periodically for routine maintenance via US 395 and other existing and maintained roads. All periodic maintenance activities would comply with local and state regulations governing wildfire prevention. Maintenance crews would park on unvegetated areas, and vehicles would be equipped with standard safety gear, including fire extinguishers that could put out small wildfires, if necessary. No maintenance that would exacerbate wildfire risk or result in temporary or ongoing impacts to the environment is anticipated to be required. Therefore, construction, operation and maintenance of the fiber optic cable would result in a less than significant impact to wildfire risk with implementation of mitigation measure listed below.

Mitigation Measures

The following mitigation measures shall apply to the Proposed Project.

WILD-1: **Construction Fire Prevention Plan.** A Project-specific Construction Fire Prevention Plan for construction of the project shall be submitted for review to the CPUC and Caltrans before the start of any construction activities in areas designated as Very High or High Fire Hazard Severity Zones. Plan reviewers shall also include federal, state, or local agencies with jurisdiction over areas where project construction is located. The final Plan shall be approved by the CPUC, Caltrans, and relevant federal, state and local agencies prior to the initiation of construction activities. The Plan shall be fully implemented throughout the construction period and include the following at a minimum:

- The purpose and applicability of the Plan
- Responsibilities and duties of the Applicant
- Preparedness training and drills
- Procedures for fire reporting, response, and prevention that include:
  - Identification of daily site-specific risk conditions
  - The tools and equipment needed on vehicles and to be on hand at sites
  - Reiteration of fire prevention and safety considerations during tailboard meetings
  - Daily monitoring of the red-flag warning system with appropriate restrictions on types and levels of permissible activity
  - Coordination procedures with federal and local fire officials
  - Crew training, including fire safety practices and restrictions
  - Method(s) for verifying that all Plan protocols and requirements are being followed

A project Fire Marshal or similar qualified position shall be established to enforce all provisions of the Construction Fire Prevention Plan as well as perform other duties related to

fire detection, prevention, and suppression for the project. Construction activities shall be monitored to ensure implementation and effectiveness of the Plan.

Residual Impact After Mitigation

Impacts would be less than significant after mitigation.

Impact WILD-4	**If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**
Impact Determination:	*Less than Significant with Mitigation*

Impact Discussion

The fiber optic cable would primarily be installed underground within existing road rights-of-way. The primary aboveground Project component would be the ILAs, which would also be within existing roads rights-of-way or commercial areas that are maintained clear of vegetation and other fire hazards. The proposed construction area is relatively flat, and in instances where topography precludes burial of the conduit, it would be strung on existing bridges. Thus, Project installation would not permanently affect drainage or topography in the Proposed Project Area. Therefore, the Proposed Project would not affect the potential for people or structures to be exposed to significant risks or changes in baseline risk including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes should a wildfire occur in the vicinity of the Project. As discussed under impact WF-3, the risk of wildfire within the Proposed Project Area would be minimized through BMPs and implementing Mitigation Measures BIO-4 and WILD-1, and complying with all pertinent local, state, and federal policies and codes. A less than significant impact would occur as a result of the proposed installation or operations of the fiber optic cable with implementation of Mitigation Measures BIO-4 and WILD-1.

Mitigation Measures

The Proposed Project would implement Mitigation Measures BIO-4 (Section 3.5, Biological Resources) and WILD-1.

Residual Impacts After Mitigation

Impacts would be less than significant after mitigation.

3.21.4 Cumulative Impacts

Impacts related to wildfire risk would be limited to construction activities along the length of the Project alignment. Construction of the fiber optic line would involve the use of flammable materials and potentially spark-producing equipment, which could start a wildfire in the various vegetated areas and

areas that have a designation of *very high fire severity* along the Project if not handled appropriately. Once construction is complete, management of the telecommunications infrastructure would generally occur remotely, with onsite maintenance only as necessary. Personnel would access the vaults periodically for routine maintenance via US 395 and other existing and maintained roads. All periodic maintenance activities would comply with local and state regulations governing wildfire prevention. The primary aboveground Project component would be the ILAs. As discussed under impact WF-2, the risk that a wildfire could ignite within an ILA is low due to required design specifications.

The Proposed Project could contribute to cumulative impacts regarding wildfire risk if other transportation and infrastructure construction projects would occur in a similar or adjacent location. Modoc County Transportation Commission, Caltrans, Lassen County, and Lassen County Transportation Commission are planning infrastructure and transportation construction projects immediately adjacent or within 200 feet of the Proposed Fiber Optic Line Project and Nevada Department of Transportation and Oregon Department of Transportation are constructing 225 and 15 miles of fiber optic line as part of the Zayo Prineville-Reno Fiber Optic Project. The reasonably foreseeable future actions could have the potential to start wildfires during construction activities, further exacerbating the risk of wildfires to occur or spread. The California projects would all be required to comply with local, state, and federal regulations governing wildfire protection and may also be required to develop and implement a fire protection plan, similar to Mitigation Measure WILD-1. Any regulations or mitigation measures for the Nevada and Oregon portions of the Prineville to Reno fiber optic line project would be subject to review by the local and respective state jurisdictions' requirements for wildfire protection and care and maintenance of construction equipment and vehicles. The Proposed Project would comply with existing regulatory requirements, and with implementation of Mitigation Measure WILD-1, Construction Fire Protection Plan, which would minimize potential impacts related to wildfires. Therefore, the Proposed Project, when combined with the reasonably foreseeable future actions, would not have a considerable contribution to a cumulative impact for wildfires.

4.0 OTHER REQUIRED CEQA ANALYSIS

This section discusses additional topics statutorily required by CEQA, including growth inducing impacts; significant environmental effects that cannot be avoided if the Proposed Project is implemented; and, significant irreversible environmental changes.

4.1 Growth-Inducing Impacts

CEQA specifies that the growth-inducing impacts of a project must be addressed in an Environmental Impact Report (CCR Section 21100[b][5]). Specifically, Section 15126.2(e) of the State CEQA Guidelines states that the EIR must 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 that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Population growth could overtax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. However, the Guidelines also stress that growth in any area is not necessarily beneficial, detrimental, or of little significance to the environment.

Typically, the growth-inducing potential of a project is considered significant if it fosters growth in excess of what is assumed in an adopted planning document. In December 2019, the California Office of Planning and Research updated the growth inducement question in the CEQA Initial Study (CEQA Guidelines Appendix G) to clarify that effects from substantial growth inducement would be significant if the impacts were ***unplanned*** (emphasis added).

The State CEQA Guidelines do not provide specific methods for evaluating growth inducement and state that growth in any area is not "necessarily beneficial, detrimental, or of little significance to the environment" (State CEQA Guidelines Section 15126.2[e]). CEQA does not set significant impact criteria for growth-inducing effects and does not require separate mitigation for growth inducement because these impacts are already captured in the analysis of environmental impacts. For example, Section 3.15, Population and Housing, includes analysis of whether a project would directly or indirectly induce substantial population growth in the Project Area following the impact criteria in Section XIII of Appendix G in the CEQA Guidelines (see Chapter 3.0 Environmental Setting, Impacts and Mitigation Measures).

As discussed in Section 2.1, Project Background, the purpose of the Proposed Project is to provide broadband service to currently undeserved residences along the project alignment through the installation of fiber optic broadband facility cable. The Proposed Project would extend approximately 194 miles of fiber optic cable within existing roadways across portions of Modoc, Lassen, and Sierra counties. No new homes or businesses are proposed as part of the Project, and the Project is not anticipated to induce population growth either directly or indirectly. The population in the surrounding area in each of the counties is anticipated to decrease from 2020 to 2040, and the Project would not affect the change in population, nor would it remove obstacles to population growth. At the peak of

construction, approximately 66 construction workers working in 11 crews (six people per crew) would be located simultaneously in the Project Area. Construction workers would likely be drawn from the existing labor force in the local area. Should workers need to be brought in from outside the local labor force, the construction workforce would not likely permanently relocate to the area because of the short duration of construction (approximately 6 months). The Project Area has adequate hotels and motels available to provide accommodations to any workers that may temporarily relocate to the area during construction.

Although construction workers traveling to the Project Area may use existing public services or amenities, this potential increase in demand would be minimal and temporary and would not require new or altered government facilities. Thus, Project construction activities would not directly or indirectly induce substantial population growth. Once the Project is constructed, the system would be remotely monitored through networks in Tulsa, Oklahoma. Based on remote monitoring, the Applicant would send out crews if the infrastructure needs to be repaired or if a mandated relocation is needed. Permanent workers would not be required in the Project Area for the operation and maintenance of the Project; therefore, the project would not directly or indirectly induce population growth.

4.2 Significant and Unavoidable Impacts

Section 15126.2(c) of the State CEQA Guidelines require that an EIR describe any significant impacts, including those that can be mitigated but not reduced to a less-than-significant level. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should also be described.

A significant and unavoidable impact is one that would cause a substantial adverse effect on the environment and for which no mitigation is available to reduce the impact to a less-than-significant level. Most of the impacts of the Proposed Project would be less than significant or would be mitigated to a less-than-significant level. The impacts summarized below are those that would remain significant and unavoidable after mitigation.

The Project as proposed would have significant and unavoidable impacts to Biological Resources (BIO-1, BIO-2, and BIO-3; see Section 3.5), even after the implementation of mitigation. Impacts are from construction impacts to sensitive plant populations, sensitive natural habitats, and wetlands and Waters of the US and state that are present in the unpaved Caltrans right-of-way between the US 395 pavement and the right-of-way fence line, where the fiber optic line would be installed under the Proposed Project. Although mitigation has been proposed to avoid and restore these resources, dut to the rare nature of the resources and the uncertainty of restoration success, Project-specific and cumulative impacts would remain significant and unavoidable.

4.2.1 Significant and Irreversible Environmental Effects

Section 15126.2(d) of the State CEQA Guidelines requires that an EIR address any significant irreversible changes that would result from a Proposed Project. The State CEQA Guidelines describe three distinct categories of significant irreversible changes, including changes in land use that would commit future generations to specific uses; irreversible changes from environmental accidents; and consumption of nonrenewable resources.

The Proposed Project and the Pavement Alternative, would involve construction and operation of a fiber optic line within the right-of-way for existing roads. With both build alternatives, the fiber optic line and ancillary structures would have a limited lifetime, after which it would be abandoned or replaced. The roads involved likely will remain used to move traffic in the Project Area for the indefinite future, though at some point would likely be rebuilt or repaired in place or nearby. However, none of these actions would commit future generations to specific uses in perpetuity.

The Proposed Project is also not likely to create environmental accidents, as it involves installing features that would not cause upset or contamination, and therefore would not create irreversible changes. Also, as discussed in the Section 3.7, Energy, implementation of the Proposed Project or the Pavement Alternative would not use large amounts of fuel or other energy sources or add capacity for the purpose of serving a non-renewable energy resources, and therefore would have negligible effect on the consumption of nonrenewable resources.

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5.0 ALTERNATIVES TO THE PROPOSED PROJECT

The alternatives analysis consists of an overview of CEQA requirements for alternatives analysis, descriptions of the alternatives evaluated, a comparison between the anticipated environmental effects of the alternatives and those of the Proposed Project, and identification of an environmentally superior alternative.

5.1 Introduction

The California 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 to evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will avoid or substantially lessen the significant adverse impacts of a project to 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 based in part on the project proponent's basic project objectives 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:

> [b]ecause 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 Project. If an alternative would cause one or more significant effects, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the project 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 the 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(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, that:

> [a]mong 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 proponent, the project's potentially significant effects, and site-specific 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 CEQA lead agency's decision-making body, in this case the [Lead Agency name]. (See PRC Sections 21081.5, 21081[a] [3].)

5.2 Considerations for Selection of Alternatives

The purpose of the alternatives analysis is to determine whether an alternative to the Project or Project site avoid or minimize a potentially significant project impacts, while feasibly attaining most of the project's basic objectives.

5.2.1 Project Objectives

One of the key factors in considering project alternatives under CEQA is whether they can feasibly attain most of the basic objectives of the Project Applicant. The Proposed Project's objectives are to:

- Provide connectivity for major California business between regional hubs in Nevada and Oregon.
- Provide opportunities for improved quality of rural broadband in Nevada, California, and Oregon.
- Provide affordable broadband services to currently underserved communities.
- Remain within existing road rights-of-way to reduce impacts to undisturbed areas and to limit the number of necessary rights-of-way contract parties to a feasible number.
- In order to provide a secure and protected route, install a fiber optic trunk line cable underground.
- Avoid or minimize potential impacts to environmental resources.

5.2.2 Significant Effects of the Proposed Project

Impacts associated with implementation of the Proposed Project are evaluated in Chapters 3 and 4 of this EIR and further summarized in Table S.7-1 of the Summary. The Proposed Project would have the

potential to cause the following significant environmental impacts, which would be reduced to a less-than-significant level after mitigation:

AES-3: Would the Project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

AES-4: Would the Project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

AG-1: Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural land?

AIR-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

BIO-4: Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

BIO-5: Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

BIO-7: Would the Project create a substantial collision or electrocution risk for birds or bats?

CUL-1: Would the Project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?

CUL-2: Would the Project cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5?

CUL-3: Would the Project disturb any human remains, including those interred outside of formal cemeteries?

GEO-2: Would the Project result in substantial soil erosion or the loss of topsoil?

GEO-6: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

GHG-1: Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG-2: Would the Project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

HAZ-1: Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

HAZ-2: Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

HAZ-3: Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

HAZ-4: Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

HAZ-6: Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

HAZ-7: Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

HYD-1: Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

HYD-3: Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

(i) result in substantial erosion or siltation on- or off-site;

(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

(iv) impede or redirect flood flows?

HYD-5: Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

LU-2: Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? TR-1: Would the Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?

REC-3: Would the Project reduce or prevent access to a designated recreation facility or area?

TR-1: Would the Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?

TR-5: Would the Project create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations?

TR-6: Would the Project interfere with walking or bicycling accessibility?

TCR-1b: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

UTIL-1: Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

UTIL-4: Would the Project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

UTIL-5: Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

WILD-1: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

WILD-3: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

WILD-4: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

As discussed in the technical sections of this EIR, impacts to three biological resources categories would remain significant even after the implementation of all feasible mitigation under the Proposed Project:

BIO-1: Would project implementation have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Project-specific and cumulative impacts to special status plants would remain significant even after implementation of mitigation due to the limited availability of seed banks and long time-frame and limited expected success in restoring these special status plant species.

BIO-2: Would project implementation have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?

The Project would have a permanent direct impact on several CDFW sensitive natural communities from the permanent removal of or disturbance to those communities. In addition to sensitive natural communities, the proposed fiber optic line alignment crosses through portions of three biological resource management areas managed by either the California Department of Fish and Wildlife or the US Fish and Wildlife Service. Mitigation measures would help avoid or offset the loss of sensitive natural vegetation communities, however, due to the rare nature of each vegetation community and the uncertainty of the success in restoring each sensitive natural vegetation community, Project-specific and cumulative impacts would remain significant and unavoidable.

BIO-3: Would project implementation cause a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The Project would have a permanent direct impact wetlands and potential Waters of the US or State. Mitigation measures would minimize or offset this impact. However, due to the rare nature of wetlands and waters and the uncertainty of the success in restoring each, Project-specific and cumulative impacts would be permanent and adverse and would remain significant and unavoidable.

Construction of the Proposed Project would generally take place in the area between the pavement and the edge of the right-of-way of US 395 and two county roads in Lassen County. The Biological Resources analysis (Section 3.5) has determined that impacts associated with construction of the Proposed Project to sensitive species and wetlands as proposed by the Applicant would be significant and unavoidable even after implementing mitigation because of the extent and sensitivity of those resources within the proposed construction area.

5.3 Alternatives Considered and Eliminated from Further Evaluation

The CEQA Guidelines state that an EIR should identify alternatives that were initially considered by the lead agency but were rejected as infeasible and explain the reasons for the determination (Section 15126.6(c)). Alternatives that were considered but rejected for the Project are summarized in Table 5.3-1 and discussed below.

Table 5.3-1 Summary of Alternatives Considered but Eliminated from Further Evaluation

Alternative	Meets Project Objectives?	Potential Feasibility	Avoid/Reduce Environmental Effects?	Conclusions
Oregon/Nevada Only Alternative	Would not meet the objective to serve underserved communities in rural areas or reduce impacts to environmental resources	Would be legally feasible, but would require significant, new electrical and other infrastructure at increased cost	Likely greater environmental effects from the construction of support infrastructure	Not analyzed because environmental effects would be greater and would not meet objectives
Private Land Alternative	Would not meet objective to remain mostly within existing rights-of-way to reduce environmental effects	Would be legally feasible but would require lengthy lease negotiation and increased cost	Likely greater environmental effects from construction in previously undisturbed land	Not analyzed because environmental effects would be greater and would not meet objectives
Co-Location/Above-Ground Infrastructure Alternative	Would not meet objective to underground fiber optic cable for greater reliability	Would be legally and technically feasible	Would reduce impacts from ground-disturbing activities	Not analyzed because alternative would not meet objectives to provide a secure and protected line
US 395-Only Alternative	Would meet most of the Project Objectives	Would be legally and technically feasible	Would result in a longer fiber optic line and increased environmental impacts from ground disturbing activities	Not analyzed because impacts would be greater and route would be less efficient
Co-Location with Alturas-Reno Transmission Project	Would not meet most of the Project Objectives	Would be legally feasible but potentially technically infeasible	Would result in a longer fiber optic line constructed in known environmentally sensitive areas away from rural communities	Not analyzed because impacts would be greater and route would be further from underserved communities

5.3.1 Oregon/Nevada Only Alternative

Zayo considered latency, or transmission time delay, as a critical factor, and therefore identified the most direct route from Prineville to Reno to maximize overall system efficiency. The Applicant considered a route alternative that bypassed California, instead running from Prineville through Bend and south into rural Nevada to Reno. However, because of the sparse population along this route option, far fewer residents would have benefitted from the installation. Furthermore, because access to electrical power also influences fiber optic line routing, this option could result in new, different significant effects as this route would require the Applicant to build significant, new electrical and other infrastructure or rely upon

large batteries or solar arrays, all of which would have increased the potential environmental impact of the route option. As a result, an alternative that bypasses California could result in significant effects, and would not feasibly satisfy most of the basic project objectives and, in particular, would not meet the objective to serve underserved communities in rural areas or reduce impacts to environmental resources.

5.3.2 Private Land Alternative

Zayo considered siting the fiber optic route on private land rather than an existing, public right-of-way. However, because each of the several thousand private easements between Prineville and Reno would have required a lengthy lease negotiation, this alternative was dismissed as infeasible because it is cost- and schedule-prohibitive. In addition, a new utility corridor located on private land would have likely resulted in new potentially significant environmental impacts compared to one located within a previously disturbed public transportation corridor because it would involve a significant increase in disturbance of previously undisturbed land. As a result, an alternative that was located on private land was not feasible and would not have met the objectives to stay mostly within existing rights-of-way to reduce potential environmental impacts.

5.3.3 Co-Location/Above-Ground Infrastructure Alternative

Zayo also investigated the possibility of co-locating the line with other fiber optic providers in Northern California and identified two other providers proposing to install fiber optic cables within the US 395 rights-of-way in this region. Initially, the two other companies planned to hang their cables on new or existing poles rather than undergrounding the cables within the road right-of-way. Because undergrounding the cable was an objective of Zayo's system design to provide a secure and protected route by installing a fiber optic trunk line cable underground, this option was rejected. This is an important project objective because underground lines are more reliable because aboveground lines are more prone to outages due to snow, wind, ice, accidents, and vandalism. Furthermore, underground infrastructure would result in reduced fire risk in comparison to above-ground infrastructure. Therefore, this alternative would not meet key project objectives.

5.3.4 US 395-Only Alternative (within California)

Under the US 395-Only Alternative, the Project would connect between Prineville and Reno but would follow US 395 for the entire route. This alternative would be approximately 9 miles longer than the Proposed Project and would remain in Caltrans roadway right-of-way. The US-395-Only Alternative route would extend 203 miles across the northern edge of Modoc County (60.4 miles) and the City of Alturas (0.5 mile), through Lassen County (139 miles), and into the eastern edge of Sierra County (3.1 miles). As a result, the US-395-Only Alternative would have a larger area of disturbance than the Proposed Project. Ancillary features and work areas identified as part of the Proposed Project within Standish and Alturas would be relocated as part of the US-395-Alternative. While the location of these facilities was not determined, they would be similar in size to the Proposed Project, adjacent to the fiber optic line, and located within previously disturbed areas.

As described above, the Applicant's goal in siting the proposed fiber optic line within an existing transportation corridor (i.e., right-of-way) was to minimize impacts to environmental resources. In

addition, latency was also an important factor in identifying a route. While the US-395-Only Alternative would avoid local roadway rights-of-way by remaining on US 395, this alternative would potentially result in increased environmental impacts. Furthermore, the US-395-Only Alternative would be less direct, and therefore less efficient, than other route options.

5.3.5 Co-location with Alturas-Reno Transmission Project Alternative

Under this alternative the fiber optic line would be installed within the right-of-way for the Alturas-Reno Transmission Project, which traverses through open space between the two cities. Potentially, this Alternative would meet most of the Project objectives. However, whether this Alternative would reduce or eliminate potentially significant environmental impacts, and whether undergrounding of the fiber optic cable could be affected along the entire right of way, is uncertain. Several segments of the transmission line required aerial installation to reduce significant impacts in environmentally sensitive areas in or adjacent to the right of way. Additionally, this alternative would move the fiber optic alignment considerably further away from several communities near the Proposed Project alignment, and especially so in the Honey Lake area, where the transmission line diverts away from US 395 and traverses east of Honey Lake and into Nevada east of the Fort Sage Mountains, and therefore would require lengthy branches to serve several communities in in the greater Susanville area, which has the highest population of any community near the Project alignment. This would effectively increase the length of the project and potentially have a greater environmental effect compared to the Proposed Project.

5.4 Alternatives Considered for Detailed Evaluation

Three alternatives were selected for detailed analysis in the EIR. These alternatives are described below.

5.4.1 Description of Alternatives

5.4.1.1 No Project

Under the No Project Alternative, the Project would not be built. All potential impacts associated with construction or operation of the Project would be avoided, but none of the Project's basic objectives would be satisfied. Areas along the Proposed Project route would not benefit from the increased internet connectivity or speed offered by the Proposed Project, and connectivity between major hubs in Reno and Prineville would not improve.

5.4.1.2 Proposed Project

Under the Proposed Project, a 433.8-mile fiber optic line would be installed between Prineville, Oregon, through the northeast corner of California and into Reno, Nevada. In California, the Proposed Project alternative would extend across Modoc County (59.8 miles) and the City of Alturas (1.6 miles), through Lassen County (129.6 miles), and into the eastern edge of Sierra County (3.1 miles) for a total of 194 miles in the state. The majority of the project would follow US 395, but a portion of the line between the communities of Standish and Buntingville in Lassen County, California, would follow Standish Buntingville Road (Lassen County Road A3) for 7.35 miles, and Cummings Road for 1.15 miles before returning to the

US 395 right-of-way. This is the Project submitted by the Applicant and is discussed in detail in Chapter 2. The Proposed Project would have significant impacts to sensitive plants, sensitive natural communities, and Waters of the US and state that would remain significant even after implementation of all feasible mitigation measures.

5.4.1.3 Pavement Alternative

This alternative would be nearly identical to the Proposed Project; however, rather than installing the conduit and fiber optic cable away from the highway pavement at the edge of the highway or road right-of-way in certain locations, the fiber optic line would be installed either in or immediately adjacent to the existing roadway pavement. This same in-pavement/edge-of-pavement placement is proposed for the portions of the Proposed Project alignment in Oregon. Installation would generally involve cutting the pavement near the edge of the highway and installing the conduit using conventional trenching methods. Small portions of the fiber optic line may be installed using directional boring under this alternative to avoid known sensitive resources.

The Pavement Alternative would avoid the significant and unavoidable impacts to biological resources identified in this DEIR. The sensitive biological resources and cultural resources that are present within the buffer area (the distance between the outside edge of the shoulder and the outside edge of the right-of-way) for the roads involved are avoided with the Pavement Alternative. The Pavement Alternative would satisfy all Applicant's basic project objectives and would avoid potentially significant impacts.

This alternative would avoid the sensitive plant populations, sensitive natural communities, and wetlands and Waters of the US or State found between the edge of pavement and the edge of the right-of-way, as described in Section 3.5, Biological Resources. The Pavement Alternative would require added traffic control measures to ensure safety of workers and motorists during construction along the route, but these impacts are temporary and can be mitigated to less than significant as described in the Traffic and Transportation section of this EIR (Section 3.18).

5.4.2 Analysis of Alternatives

This section contains analyses of potential impacts in each of the 19 technical areas listed in Appendix G of the CEQA Guidelines to assess relative impacts of the No Project and Pavement Alternatives compared to the Proposed Project.

5.4.2.1 No Project Alternative and Proposed Project Comparison

Aesthetics

The No Project Alternative would result in no impacts compared to the Proposed Project to the visual character of the project vicinity because the fiber optic infrastructure would not be constructed. Surrounding sensitive receptors would continue to experience visual conditions related to vehicle traffic along the existing transportation corridors.

Agricultural and Forestry Resources

The No Project Alternative would result in no impacts compared to the Proposed Project for agricultural and forestry resources because the fiber optic line would not be constructed. Therefore, no changes to existing farmland would occur.

Air Quality

The No Project Alternative would result in fewer impacts from air quality emissions compared to the Proposed Project because the fiber optic infrastructure would not be constructed. Surrounding sensitive receptors would continue to experience emissions related to vehicle traffic along the existing transportation corridors.

Biological Resources

The No Project Alternative would result in no biological resources impacts compared to the Proposed Project because there would be less no of habitat or conflicts related to construction of the Project. The significant, unavoidable impacts described for the Proposed Project to sensitive plants, sensitive natural communities, and Waters of the US or state would not occur.

Cultural Resources

The No Project Alternative would result in no cultural resources impacts compared to the Proposed Project because the fiber optic infrastructure would not be constructed. Therefore, the potential to encounter known or unknown cultural resources would not occur.

Energy

The No Project Alternative would result in fewer energy impacts compared to the Proposed Project because the fiber optic infrastructure would not be constructed. Fuel and energy sources would continue to be used by vehicles that travel on existing roadway corridors.

Geology, Soils, and Paleontological Resources

The No Project Alternative would result in fewer impacts compared to the Proposed Project because the fiber optic infrastructure would not be constructed. Therefore, the potential to encounter known or unknown paleontological resources would not occur. The geological setting would not change.

Greenhouse Gas Emissions

The No Project Alternative would result in reduced greenhouse gas emissions compared to the Proposed Project because the fiber optic infrastructure would not be constructed. Surrounding sensitive receptors would continue to experience emissions related to vehicle traffic along the existing transportation corridors.

Hazards, Hazardous Materials, and Public Safety

The No Project Alternative would result in fewer hazards compared to the Proposed Project because the fiber optic infrastructure would not be constructed and there would be no potential to release hazardous materials as part of construction. However, US 395 would remain a major corridor for transport of goods; therefore, hazardous release events could still potentially happen from vehicular and/or freight traffic.

Hydrology and Water Quality

The No Project Alternative would result in no impacts compared to the Proposed Project because the fiber optic infrastructure would not be constructed and there would be no disturbance to existing hydrology and water quality conditions.

Land Use and Planning

The No Project Alternative would result in no impacts for land use and planning because the fiber optic line would not be constructed. Therefore, no changes to existing land uses would occur.

Mineral Resources

The No Project Alternative would result in similar impacts as the Proposed Project as no impacts to mineral resources would occur.

Noise

The No Project Alternative would result in fewer impacts from noise compared to the Proposed Project because the fiber optic infrastructure would not be constructed. Surrounding sensitive receptors would continue to experience noise related to vehicle traffic along the existing transportation corridors.

Population and Housing

The No Project Alternative would result in similar impacts as the Proposed Project as no growth-inducing effects would occur and no displacement of people or housing would be required.

Public Services

The No Project Alternative would result in similar impacts as the Proposed Project as no growth-inducing effects would occur that result in the construction of additional public service facilities.

Recreation

The No Project Alternative would result in fewer impacts as the Proposed Project as there would be no conflict with recreational resources, including BLM trails near US 395.

Transportation

The No Project Alternative would result in fewer impacts to transportation compared to the Proposed Project because the fiber optic infrastructure would not be constructed. Vehicle traffic along the existing transportation corridors would continue to occur.

Tribal Cultural Resources

The No Project Alternative would result in no tribal cultural resources impacts compared to the Proposed Project because the fiber optic infrastructure would not be constructed. Therefore, the potential to encounter known or unknown tribal cultural resources would not occur.

Utilities and Service Systems

The No Project Alternative would result in no impacts to utilities and service systems compared to the Proposed Project because the fiber optic infrastructure would not be constructed, and no use of or potential conflicts with utilities would be required. However, the surrounding community would not experience improved reliability of current telecom services.

Wildfire

The No Project Alternative would result in fewer impacts related to wildfire risk compared to the Proposed Project because the fiber optic infrastructure would not be constructed. However, the wildfire severity setting would continue to be the same.

5.4.2.2 Pavement Alternative and Proposed Project Comparison

Aesthetics

The Pavement Alternative would result in identical impacts compared to the Proposed Project to the visual character of the project vicinity because the location, scale and color of above-ground project components would not change.

Agricultural and Forestry Resources

The Pavement Alternative would result in slightly less impact compared to the Proposed Project for agricultural and forestry resources because the location of fiber optic line would move closer to the paved road and away from resources outside the highway or road right-of-way. Coordination with landowners regarding staging areas outside the road right-of-way would be similar to the Proposed Project.

Air Quality

The Pavement Alternative would result in similar impacts from most construction activities when compared to the Proposed Project because the location, length and construction techniques for the route would be identical. Cutting the pavement and trenching activities associated with this alternative may result in somewhat increased particulate emissions compared to the Proposed Project, but with implementation of standard dust control measures would be less than significant.

Biological Resources

The significant, unavoidable impacts to biological resources that would occur with the Proposed Project would be avoided by the Pavement Alternative. The Pavement Alternative would involve installing the fiber optic line either under the existing pavement or immediately adjacent to it, thus avoiding more sensitive habitat between the pavement and the edge of the right-of-way. This would result in fewer biological resources impacts compared to the Proposed Project because there would be less disruption of habitat and other construction-related Project impacts.

Cultural Resources

The Pavement Alternative would result in fewer cultural resources impacts compared to the Proposed Project because the fiber optic line would be constructed in areas previously disturbed by highway construction, rather than the relatively undisturbed areas between the edge of pavement and the edge of the right-of-way. Therefore, the potential to encounter known or unknown cultural resources would be reduced. However, it is possible that some cultural resources sites may extend under US 395 and Lassen County roads that may be disturbed with this alternative and would require the same mitigation procedures as the Proposed Project.

Energy

The Pavement Alternative would result in similar energy impacts compared to the Proposed Project because the location, length and construction techniques used would be identical.

Geology, Soils, and Paleontological Resources

The Pavement Alternative would result in somewhat reduced impact compared to the Proposed Project because construction would be moved from the relatively undisturbed area between the edge of pavement and the edge of the right-of-way to previously highly disturbed areas beneath or adjacent to the existing pavement. Therefore, the potential to encounter known or unknown paleontological resources would be less. The geological and soils setting would not change.

Greenhouse Gas Emissions

The Pavement Alternative would result in similar greenhouse gas emissions compared to the Proposed Project because the location, length and construction techniques used would be identical.

Hazards, Hazardous Materials, and Public Safety

The Pavement Alternative would result in similar hazards compared to the Proposed Project because location, length and construction techniques used would be identical.

Hydrology and Water Quality

The Pavement Alternative would result in fewer impacts compared to the Proposed Project in hydrology and water quality because the fiber optic line would be installed in previously highly disturbed areas

underneath or adjacent to the existing pavement, and would avoid the wetlands and other sensitive habitat between the edge of the pavement and the edge of the right-of-way.

Land Use and Planning

The Pavement Alternative would result in identical impacts as the Proposed Project for land use and planning because the existing land use, location and length of the Project would be identical.

Mineral Resources

The Pavement Alternative would result in similar impacts as the Proposed Project as no impacts to mineral resources would occur under either Alternative.

Noise

The Pavement Alternative would result in similar impacts from noise compared to the Proposed Project because the location, length and construction techniques used would be similar. The construction techniques used could change for any given location, but noise effects would be temporary and limited to daylight hours, and therefore less than significant.

Population and Housing

The Pavement Alternative would result in similar impacts as the Proposed Project as no growth-inducing effects would occur and no displacement of people or housing would be required.

Public Services

The Pavement Alternative would result in similar impacts as the Proposed Project regarding the need for additional public service facilities. Because construction of the Pavement Alternative may require a greater number of lane closures compared to the Proposed Project, the Pavement Alternative may have a somewhat higher adverse effect on emergency vehicle access and the use of US 395 as an evacuation route.

Recreation

The Pavement Alternative would result in similar impacts as the Proposed Project. The only conflict with recreational resources would be with multiple BLM trails that cross or are accessed via US 395 during construction. As with the Proposed Project, mitigation for temporary loss of trail access and repair or replacement of features damaged during construction would be required.

Transportation

The Pavement Alternative may result in somewhat greater impact to transportation compared to the Proposed Project because construction would take place either within or immediately adjacent to paved areas, potentially requiring more lane closures while construction takes place than the Proposed Project. Impacts would be less than significant with a Traffic Management Plan to implement temporary traffic

controls, maintain emergency access, and provide accommodations for pedestrians, bicycles, and transit as applicable, similar to the Proposed Project.

Tribal Cultural Resources

The Pavement Alternative would result in fewer cultural resources impacts compared to the Proposed Project because the fiber optic line would be constructed in areas previously disturbed by highway construction, rather than the relatively undisturbed areas between the edge of pavement and the edge of the right-of-way. Therefore, the potential to encounter unknown tribal cultural resources would be reduced. However, it is possible that some tribal cultural resources sites may extend under US 395 and Lassen County roads that may be disturbed with this alternative and would require mitigation in the form of tribal monitoring, similar to the Proposed Project.

Utilities and Service Systems

The Pavement Alternative would result in similar impacts to utilities and service systems compared to the Proposed Project because the need for utility services would be identical under either alternative.

Wildfire

The Pavement Alternative may result in somewhat reduced impact related to wildfire risk compared to the Proposed Project because construction would occur either within or immediately adjacent to the existing pavement, thereby reducing the potential for igniting combustible materials during construction.

5.5 Comparison of Alternatives Evaluated

A comparison of the environmental impacts of the Proposed Project, the No Project Alternative, and the Pavement Alternative is provided in Tables 5.5-1 and 5.5-2. The Pavement Alternative would avoid significant and unavoidable impacts to sensitive plant populations, sensitive natural communities, and wetlands and Waters of the US or state that were identified for the Proposed Project. These resources are found between the edge of pavement and the edge of the right-of-way, as described in Section 3.5, Biological Resources. Impacts would be less than significant after implementation of similar mitigation measures as those required for the Proposed Project.

The Pavement Alternative would result in greater impacts to air quality, public services, and transportation when compared to the Proposed Project; however, these impacts would be less than significant after implementation of the same mitigation required for the Proposed Project.

- The Pavement Alternative would result in similar air quality impacts from most construction activities when compared to the Proposed Project because the location, length and construction techniques for the route would be identical. Cutting the pavement and trenching activities associated with this alternative may result in somewhat increased particulate emissions compared to the Proposed Project, but with implementation of standard dust control measures as described in Mitigation Measure AIR-1 in Section 3.4 of this EIR impacts would be less than significant.

- The Pavement Alternative would result in greater public services and transportation impacts than the Proposed Project because more extensive lane closures would be required during construction. This alternative would require traffic control measures during construction to ensure safety of workers and motorists and to ensure access for emergency vehicles and the availability of US 395 as an evacuation route, but these impacts are temporary and can be mitigated to less than significant with the implementation of a Traffic Control Plan as described in Mitigation Measure TRA-1 in Section 3.18 of this EIR.

Table 5.5-1 Summary of Alternatives Fully Analyzed in the EIR

Alternative	Meets Project Objectives?	Potential Feasibility	Environmental Effects
No Project Alternative	No	Yes	All Project impacts would be avoided.
Proposed Project	Yes	Yes	Significant, unavoidable Project-specific and cumulative impacts to sensitive plants, sensitive natural communities, and Waters of the US and State after mitigation. Impacts to other resources would be less than significant or less than significant after mitigation.
Pavement Alternative	Yes	Yes	Impacts to air quality, public services, and transportation would be greater than with the Proposed Project. Impacts to all resources would be less than significant or less than significant after mitigation.

Table 5.5-2. Comparison of Impacts

Environmental Topic	Proposed Project	No Project	Pavement Alternative
Aesthetics	LTSM	NI	LTSM (Similar)
Agriculture and Forestry	LTSM	NI	LTSM (Similar)
Air Quality	LTSM	NI	LTSM (Greater)
Biological Resources	SU	NI	LTSM (Less)
Cultural Resources	LTSM	NI	LTSM (Less)
Energy	LTS	NI	LTS (Similar)
Geology, Soils and Paleontology	LTSM	NI	LTSM (Less)
Greenhouse Gas	LTSM	NI	LTSM (Similar)
Hazards and Hazardous Materials	LTSM	NI	LTSM (Similar)
Hydrology and Water Quality	LTSM	NI	LTSM (Less)
Land Use and Planning	LTSM	NI	LTSM (Similar)

Table 5.5-2. Comparison of Impacts

Environmental Topic	Proposed Project	No Project	Pavement Alternative
Mineral Resources	LTS	NI	LTS (Similar)
Noise	LTS	NI	LTS (Similar)
Population and Housing	LTS	NI	LTS (Similar)
Public Services	LTS	NI	LTS (Greater)
Recreation	LTSM	NI	LTSM (Similar)
Transportation and Circulation	LTSM	NI	LTSM (Greater)
Tribal Cultural Resources	LTSM	NI	LTSM (Less)
Utilities and Service Systems	LTSM	NI	LTSM (Similar)
Wildfire	LTSM	NI	LTSM (Similar)
Meet Project Objectives?	Yes	No	Yes

Impact Status:
NI=No Impact;
LTS = Less than Significant Impact
LTSM = Less than Significant Impact with Mitigation
SU = Significant, Unavoidable

5.6 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) indicates that an analysis of alternatives to a project shall identify an Environmentally Superior Alternative among the alternatives evaluated in an EIR. The CEQA Guidelines also state that should it be determined that the No Project Alternative is the Environmentally Superior Alternative, the EIR shall identify another Environmentally Superior Alternative among the remaining alternatives.

As demonstrated in Sections 5.4.2.1 and 5.5, the No Project Alternative would be the environmentally superior alternative, as it would result in no new environmental impacts and would avoid the Proposed Project's significant and unavoidable impacts identified for the Proposed Project related to biological resources. However, this alternative would not feasibly attain the basic objectives of the Project including the benefit of internet service to nearby communities.

The Proposed Project's significant and unavoidable impacts to biological resources would be avoided by the Pavement Alternative. With the Pavement Alternative, the fiber optic line would be installed either under or immediately adjacent to the existing pavement and would avoid the sensitive plant populations, sensitive natural habitats, and wetlands and Waters of the US and State that are present in the unpaved Caltrans right-of-way between the US 395 pavement and the right-of-way fence line. Moreover, the Pavement Alternative feasibly satisfies the basic project objectives of the Prineville to Reno Fiber Optic Line Project. Among the action alternatives, the Pavement Alternative is the Environmentally Superior Alternative.

6.0 REFERENCES

ASM Affiliates, Inc. 2022. An Extended Phase I Investigation of 61 Sites and 16 Geomorphic Locations in Modoc and Lassen Counties, California, for the Zayo Prineville-to-Reno Fiber Optic Project. Prepared for Stantec, San Francisco. Draft Final March 2022.

Burger, J. and M. Gochfeld. 2020. Franklin's Gull (*Leucophaeus pipixcan*), version 1.0. In *Birds of the World* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. Available online at: https://doi.org/10.2173/bow.fragul.01. Accessed on April 15, 2022.

California Air Pollution Control Officers Association (CAPCOA). 2013. Health Effects. Available online at: https://web.archive.org/web/20140305193823/http://capcoa.org/health-effects/. Accessed April 15, 2022.

California Air Resources Board (CARB). 2022 California Greenhouse Gas Emission Inventory 2022 Edition. Available online at: https://ww2.arb.ca.gov/ghg-inventory-data. Accessed January 19, 2023.

_____. 2021. EMFAC2021 Web Database Emissions Inventory. Available online at: https://arb.ca.gov/emfac/. Accessed January 19, 2023.

California Department of Finance (CDOF). 2022. Report E-1 Population Estimates for Cities, Counties, and the State January 1, 2021 and 2022, released May 2, 2022

_____. 2021. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark. Available online at: https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/. Accessed July 1, 2021.

California Department of Food and Agriculture. 2019. California Agricultural Statistics Review 2018-2019. Available online at: https://www.cdfa.ca.gov/statistics/PDFs/2018-2019AgReportnass.pdf. Accessed June 8, 2020.

California Department of Forestry and Fire Protection (CAL FIRE). 2021a. Fire Perimeters. Available online at: https://frap.fire.ca.gov/frap-projects/fire-perimeters/. Accessed August 12, 2021.

_____. 2021b. State Responsibility Areas for Fire Protection. Available online at: https://bof.fire.ca.gov/projects-and-programs/state-responsibility-area-viewer/. Accessed August 12, 2021.

_____. 2007. Fire Severity Map. Available online at: https://osfm.fire.ca.gov/media/6636/fhszs_map.pdf. Accessed August 12, 2021.

California Department of Housing and Community Development (HCD). 2021. APR Data Downloads. Available online at: https://www.hcd.ca.gov/HousingElements/faces/APRTables.xhtml. Accessed July 1, 2021.

California Department of Resources Recycling and Recovery (CalRecycle). 2020a. SWIS Facility Detail-Alturas Sanitary Landfill (25-AA-0001). Available online at: https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/1908. Accessed May 17, 2020.

_____. 2020b. SWIS Facility Detail – Bass Hill Landfill (18-AA-0009). Available online at: https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/962. Accessed May 17, 2020.

_____. 2020c. SWIS Facility Detail – Westwood Landfill (18-AA-0010). Available online at: https://www2.calrecycle.ca.gov/SolidWaste/Site/Details/963. Accessed May 17, 2020.

California Department of Transportation (Caltrans). 2020. List of eligible and officially designated State Scenic Highways. Available online at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed April 15, 2020.

_____. 2019. California Public Road Data. Available online at: https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/california-public-road-data/prd-2019v2-a11y.pdf. Accessed May 17, 2020.

_____. 2018. California Public Road Data. Available online at: https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/california-public-road-data/prd-2018-a11y.pdf. Accessed May 17, 2020.

_____. 2017a. Traffic Volumes. Available online at: https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes/2017. Accessed May 17, 2020.

_____. 2017b. Peak Hour Volume Data. Available online at: https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/census/peak-hour/2017-peak-hours-report-kdfactor-a11y.pdf. Accessed May 17, 2020.

_____. 2008a. Right of Way Manual.

_____. 2008b. Project Development Procedures Manual. Chapter 17 Encroachments and Utilities. Available online at: https://dot.ca.gov/-/media/dot-media/programs/design/documents/pdpm-chapters.pdf. Accessed May 17, 2020.

California Employment Development Department (EDD). 2021. Modoc County Profile. Available online at: https://www.labormarketinfo.edd.ca.gov/cgi/databrowsing/localAreaProfileQSResults.asp?selectedarea=Modoc+County&selectedindex=25&menuChoice=localAreaPro&state=true&geogArea=0604000049&countyName=. Accessed July 1, 2021.

California Energy Commission (CEC). 2020. California Energy Consumption Database. Available online at: http://www.ecdms.energy.ca.gov/Default.aspx. Accessed January 19, 2023.

_____. 2019. Website: Annual Generation – County. Available online at: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data. Accessed January 19, 2023.

_____. 2018. 2019 Building Energy Efficiency Standards- Frequently Asked Questions. Available online at: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf. Accessed January 19, 2023.

California Public Utilities Commission (CPUC). 2021. CPUC_fire_threat. Available online at: https://ia.cpuc.ca.gov/firemap/. Accessed August 4, 2021.

Cicero, C., P. Pyle, and M. A. Patten. 2020. Oak Titmouse (*Baeolophus inornatus*), version 1.0. In *Birds of the World* (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. Available online at: https://doi.org/10.2173/bow.oaktit.01. Accessed January 19, 2022.

City of Alturas. 2019a. City of Alturas General Plan, Housing Element

_____. 2019b. Sanitary Sewer Management Plan. Available online at: http://www.cityofalturas.us/2019%20SSMP%20rewrite.pdf. Accessed May 17, 2020.

_____. 2014. Fire Department. Available online at: http://www.cityofalturas.us/departments/fire/index.php. Accessed July 28, 2021.

_____. 1987. City of Alturas General Plan. Accessed June 29, 2021.

Crockett, Alexander G. 2011. Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World (July).

DeMar, David (Caltrans). 2023. Personal communication with CPUC and ECORP Consulting, Inc. January 20, 2023.

Fire Enterprise Geospatial Portal (Fire EGP). 2021. Fire EGP Data. Available online at: https://egptest.nwcg.gov/egp/default.aspx. Accessed September 27, 2021.

Fort Sage Unified School District. 2021. Local Control Accountability Plan. Available online at: http://fortsage.org/UserFiles/Servers/Server_7115552/File/District/LCAP-Annual%20Update-Budget%20Overview-District.pdf. Accessed July 29, 2021.

Fowler, Catherine S. and Sven Liljeblad. 1986. Northern Paiute. In *Handbook of North American Indians: Volume 11, Great Basin*. Edited by W. L. d'Azevedo, pp. 435-465. Smithsonian Institution, Washington, D.C.

Intergovernmental Panel on Climate Change (IPCC). 2014. Climate Change 2014 Synthesis Report: Approved Summary for Policymakers. Available online at: http://www.ipcc.ch/. Accessed July 29, 2021.

_____. 2013. Carbon and Other Biogeochemical Cycles. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Available online at: http://www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf. Accessed July 29, 2021.

Lassen County. 2021. Lassen County Community Wildfire Protection Plan 2021 Work Plan.

_____. 2019. Lassen County Community Wildfire Protection Plan. Available online at: https://www.lassenfiresafecouncil.org/wp-content/uploads/2020/01/2019-CWPP-WP.pdf. Accessed May 20, 2021.

_____. 2014. General Plan: Housing Element. Available online at: http://www.lassencounty.org/sites/default/files/departments/planning_and_building_services/FINAL%20ADOPTED%20HOUSING%20ELEMENT.pdf. Accessed July 28, 2021.

_____. 1999. Lassen County General Plan. Available online at: http://www.lassencounty.org/sites/default/files/departments/planning_and_building_services/Complete%20GP%202000.pdf. Accessed June 29, 2021.

_____. 1984. Hallelujah Junction Area Plan. Available online at: https://www.lassencounty.org/sites/default/files/departments/planning_and_building_services/Hallelujah%20Junction%20Area%20Plan%201984.pdf. Accessed March 15, 2023.

Lassen County Sheriff's Office. 2021. Sheriff's Office. Available online at: http://www.lassencounty.org/dept/sheriffs-office/sheriffs-office. Accessed July 16, 2021.

Lassen Local Agency Formation Commission (Lassen LAFCo). 2020. Fire Protection Districts MSR and SOI. Available online at: https://www.lassenlafco.org/uploads/1/1/4/5/11454087/a_lassen_fire-msr-soi_2020_d5_w_maps.pdf. Accessed July 28, 2021.

Lassen Municipal Utility District. 2020. California Utility Service Areas. Available online at: https://www.lmud.org/about/california-utility-service-areas/. Accessed May 22, 2020.

Lassen Union High School District. 2020. About. Available online at: https://www.lassenhigh.org/luhsd-district/luhsd/about/. Accessed July 29, 2021

Martin, J.W. and B.A. Carlson. 2020. Sagebrush Sparrow (*Artemisiospiza nevadensis*), version 1.0. In *Birds of the World* (A.F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. Available online at: https://doi.org/10.2173/bow.sagspa1.01. Accessed June 2, 2020.

Modoc County. 2020. General Plan: Housing Element. Available online at: https://cms5.revize.com/revize/modoc/Planning/MODOC_COUNTY_HEU_DRAFT_2019-2024%2020%2012%2004.pdf. Accessed July 28, 2021.

_____. 2019. 2019 Annual Crop Report. Available online at: https://cms5.revize.com/revize/modoc/2019%20Annual%20Crop%20Report.pdf. Accessed August 3, 2021.

_____. 2017. Modoc County Community Wildfire Protection Plan. Available online at: http://modocfiresafecouncil.org/wp-content/uploads/2018/10/MFSC-CWPP-with-Signature-Page-Inc.1-1.pdf. Accessed May 12, 2021.

_____. 2005. Modoc County Community Wildfire Protection Plan. Available online at: https://www.wildfirelessons.net/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=1448e3a5-ec08-4045-8e92-f8ac0e3a3806&forceDialog=0. Accessed May 12, 2021.

_____. 1988. Modoc County General Plan.

Modoc County Office of Education. 2018. Local Control and Accountability Plans. Available online at: https://sites.google.com/a/modoccoe.k12.ca.us/modoc-county-office-of-education/educational-services/local-control-and-accountability-plans. Accessed July 29, 2021.

Modoc County Sheriff's Office. 2021. Sheriff's Office. Available online at: https://www.modocsheriff.us/sheriffs-office. Accessed July 16, 2021.

Modoc Joint Unified School District (MJUSD). 2019. Local Control Accountability Plan. Available online at: http://www.modoc.k12.ca.us/About-Us/Local-Control-Accountability-Plan-LCAP/index.html. Accessed July 29, 2021.

Modoc Local Agency Formation Commission (Modoc LAFCo). 2019. Last Frontier Healthcare District Municipal Service Review Sphere of Influence. Available online at: https://www.modoclafco.org/uploads/1/1/4/5/11454087/item_7_last_frontier_healthcare_district__msr_and_soi__d1.pdf. Accessed July 28, 2021.

_____. 2017. Fire Protection Districts Municipal Service Review and Sphere of Influence Update. Available online at: https://www.modoclafco.org/adopted-municipal-service-reviews.html. Accessed July 28, 2021.

_____. 2009. City of Alturas Hearing Draft MSR. Available online at: https://www.modoclafco.org/uploads/1/1/4/5/11454087/alturas_msr_6-09-09_hearing_dr.pdf. Accessed July 28, 2021.

Natural Resources Conservation Service (NRCS). 2020. Wetlands Reserve Program. Available online at: https://www.nrcs.usda.gov/programs-initiatives/wre-wetland-reserve-easements. Accessed June 29, 2021.

Placer County Air Pollution Control District (PCAPCD). 2017. CEQA Handbook. Available online at: https://www.placerair.org/1801/CEQA-Handbook. Accessed April 15, 2022.

Ravendale-Termo Elementary School District (RTESD) 2021. Local Control Accountability Plan. Available online at: http://www.juniperridge.org/#. Accessed July 29, 2021.

Scott, J., and R. Bergan. 2005. Standard Fire Behavior Fuel Models; A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model. USFS Rocky Mountain Research Station General Technical Report RMRS-GTR-153. June 2005.

Sierra County Office of Education. 2021. About Sierra-Plumas Joint Unified School District. Available online at: https://sierracountyofficeofeducation.org/SPJUSD/. Accessed October 19, 2021.

Sierra County. 2017. General Plan: Housing Element. Available online at: https://www.sierracounty.ca.gov/DocumentCenter/View/2827/2014-2019-Housing-Element-Draft?bidId=. Accessed July 28, 2021.

_____. 2014. Sierra County Community Wildfire Protection Plan. Available online at: http://www.sierracounty.ca.gov/DocumentCenter/View/1468/Sierra-County-CWPP_Final?bidId=. Accessed May 22, 2020.

_____. 2012. Sierra County General Plan. Available online at: https://sierracounty.ca.gov/DocumentCenter/View/185/2012-General-Plan?bidId=. Accessed June 29, 2021.

_____. 1996. Sierra County General Plan. Available online at: https://sierracounty.ca.gov/DocumentCenter/View/185/2012-General-Plan?bidId=. Accessed April 15, 2020.

Sierra Local Agency Formation Commission (Sierra LAFco). 2018. Fire Protection District #1 MSR and SOI. Available online at: https://sierracounty.ca.gov/DocumentCenter/View/3767/SCFPD-1-Executive-Officer-Report-with-SOI?bidId=. Accessed July 28, 2021.

Stantec. 2020. *Proponent's Environmental Assessment – Zayo Prineville to Reno Fiber Optic Project.* Revised April 2021.

_____. 2021a. Report for the Bureau of Land Management, Applegate Field Office. Zayo Prineville-to-Reno Fiber Optic Project. Appendix A, Volume 2: California. Prepared for Zayo Group, LLC, Vancouver. May 10, 2021.

_____. 2021b. Report for the Bureau of Land Management, Eagle Lake Field Office. Zayo Prineville-to-Reno Fiber Optic Project. Appendix B, Volume 2: California. Prepared for Zayo Group, LLC, Vancouver. August 24, 2021.

_____. 2021c. Report for the Bureau of Land Management, Sierra Front Field Office. Zayo Prineville-to-Reno Fiber Optic Project. Appendix C, Volume 2: California. Prepared for Zayo Group, LLC, Vancouver. September 2, 2021.

_____. 2021d. Report for the Bureau of Indian Affairs XL Ranch. Zayo Prineville-to-Reno Fiber Optic Project. Appendix D, Volume 2: California. Prepared for Zayo Group, LLC, Vancouver. May 31, 2021.

_____. 2021e. Ethnographic Report. Zayo Prineville-to-Reno Fiber Optic Project. Appendix E, Volume 2: California. Prepared for Zayo Group, LLC, Vancouver. January 29, 2021.

_____. 2021f. Zayo Fiber Optic Project, Laydown Yards and Rerouted Running Line, Modoc and Lassen County, California Addendum #1: Supplemental Archaeological Survey, August 2021. Memorandum to USFS, October 11, 2021.

_____. 2021g. Archaeological Testing and Evaluation Report for CA-MOD-1324, CA-MOD-4298, and CA-MOD-4299, along US Highway 395, XL Ranch, Modoc County, California. Zayo Prineville-to-Reno Fiber Optic Project. Prepared for Zayo Group, LLC, Vancouver. March 5, 2021.

_____. 2021h. Zayo Prineville-to-Reno Fiber Optic Project. Memorandum to California Department of Transportation. June 30, 2021.

_____. 2022a. Cultural Resources Inventory Report: Zayo Prineville-to-Reno Fiber Optic Project. Volume 2: California. Prepared for Zayo Group, LLC, Vancouver.

_____. 2022b. Zayo Prineville-to-Reno Fiber Optic Project Archaeological Survey Report, Lassen, Modoc, and Sierra Counties. Appendix F, Volume 2: California. Prepared for Zayo Group, LLC, Vancouver. March 9, 2022.

_____. 2022c. Report for the Bureau of Land Management, Applegate Field Office, Lassen and Modoc Counties, California. Zayo Prineville-to-Reno Fiber Optic Project. Prepared for Zayo Group, LLC, Vancouver. May 17, 2022.

_____. 2022d. Archaeological Testing of 13 Sites Located Along Portions of US Highway 395, BLM Eagle Lake Field Office, Lassen County, California. Prepared for Zayo Group, LLC, Vancouver. July 15, 2022.

_____. 2022e. Summary Matrix of Cultural Resources, Eligibility, and Effect. Prepared for CPUC and ECORP Consulting, Inc., September 22, 2022.

_____. 2023a. Decommissioned Segments of US Highway 395 within the Zayo Prineville to Reno Fiber Optic Project Area. Memorandum to USDA Forest Service-Pacific Northwest Region. January 24, 2023.

_____. 2023b. Finding of Effect for the Zayo Prineville to Reno Fiber Optic Project, California Segment. Prepared for Bureau of Land Management. February 14, 2023.

United States Census Bureau. 2020. Census Data. Available online at: https://data.census.gov/cedsci/. Accessed April 15, 2022.

United States Climate Data (USCD). 2021. Climate Alturas – California. Available online at: https://www.usclimatedata.com/climate/alturas/california/united-states/usca0023. Accessed April 15, 2022.

United States Department of Agriculture (USDA). 2017a. Census of Agriculture – Lassen County Profile. Available online at: https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/California/cp06035.pdf. Accessed August 20, 2021.

_____. 2017b. Census of Agriculture – Sierra County Profile. Available online at: https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/California/cp06091.pdf. Accessed August 20, 2021.

United States Environmental Protection Agency (USEPA). 2016a. Overview of Greenhouse Gases – Carbon Dioxide Emissions. Available online at: https://www.epa.gov/ghgemissions/overview-greenhouse-gases#carbon-dioxide. Accessed January 10, 2023.

_____. 2016b. Overview of Greenhouse Gases – Methane. Available online at: https://www.epa.gov/ghgemissions/overview-greenhouse-gases#methane. Accessed January 10, 2023.

_____. 2016c. Overview of Greenhouse Gases – Nitrous Oxide Emissions. Available online at: https://www.epa.gov/ghgemissions/overview-greenhouse-gases#nitrous-oxide. Accessed January 10, 2023.

_____. 2002. Health assessment document for diesel engine exhaust. Prepared by the National Center for Environmental Assessment, Washington, DC, for the Office of Transportation and Air Quality; EPA/600/8-90/057F. Available from: National Technical Information Service, Springfield, VA; PB2002-107661, and online at: https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=29060. Accessed April 15, 2022.

United States Forest Service (USFS). 2020. Restricted Access Archaeological Resources Survey Report 05-09-1768 for the Zayo Fiber Optic Undertaking. NHPA Number 2020085. Dayne Crosby, June 15, 2020. Approved by M. Pamela Bumsted, Ph.D.

_____. 1999. Modoc National Forest Land and Resource Management Plan. Available online at: https://www.fs.usda.gov/main/modoc/landmanagement/planning. Accessed June 29, 2021.

_____. 1988. Plumas National Forest Land and Resource Management Plan. Available online at: https://www.fs.usda.gov/main/plumas/landmanagement/planning. Accessed June 29, 2021.

_____. 1986. Humboldt-Toiyabe National Forest Land and Resource Management Plan. Available online at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5143061.pdf. Accessed June 29, 2021.

Warkentin, I.G., N.S. Sodhi, R.H.M. Espie, A.F. Poole, L.W. Oliphant, and P.C. James. 2020. Merlin (*Falco columbarius*), version 1.0. In *Birds of the World* (S.M. Billerman, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. Available online at: https://doi.org/10.2173/bow.merlin.01. Accessed May 29, 2020.

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