

# ENVIRONMENTAL ASSESSMENT

## Zayo Prineville–Reno Fiber-Optic Project

DOI-BLM-ORWA-0000-2020-0001-EA



US Department of the Interior  
Bureau of Land Management  
Oregon/Washington State Office  
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Portland, Oregon 97204

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It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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**ACRONYMS AND ABBREVIATIONS**


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Full Phrase

ADI	area of direct impact
APE	area of potential effects
BIA	Bureau of Indian Affairs
BLM	United States Department of the Interior, Bureau of Land Management
BMP	best management practice
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CRHR	California Register of Historical Resources
EA	environmental assessment
GRSG	greater sage-grouse
HDD	horizontal directional drilling
IPaC	Information, Planning, and Conservation
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
ODOT	Oregon Department of Transportation
RMP	resource management plan
ROW	right-of-way
SWPPP	stormwater pollution prevention plan
USACE	US Army Corps of Engineers
USFS	US Forest Service
USFWS	US Fish and Wildlife Service
WEAP	worker environmental awareness program
Zayo	Zayo Group, LLC

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# Chapter I

## Introduction

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# Chapter I. Introduction

## I.1 IDENTIFYING INFORMATION

**Proposed Action Name:** Zayo Prineville–Reno Fiber-Optic Project

**National Environmental Policy Act Document Number:** DOI-BLM-ORWA-0000-2020-0001-EA

**Location of Proposal:** The proposed fiber-optic communications system would cross a total of approximately 93.24 miles of Bureau of Land Management (BLM)-administered lands. It would originate in Prineville, Oregon; cross southwestern Oregon and northeastern California; and terminate in Reno, Nevada.

**Applicant:** Zayo Group, LLC

## I.2 INTRODUCTION AND BACKGROUND

In accordance with the National Environmental Policy Act (NEPA) implementing procedures (10 Code of Federal Regulations [CFR] 1021), the BLM has prepared this document, the Zayo Prineville–Reno Fiber-Optic Project Environmental Assessment (EA). Its purpose is to evaluate the impacts associated with a fiber-optic communications system project proposed by Zayo Group, LLC (Zayo). The project would originate in Prineville, Oregon; cross southwestern Oregon and northeastern California; and terminate in Reno, Nevada. It would cross lands administered by the BLM in Oregon, California, and Nevada, for which Zayo has applied for a right-of-way (ROW).

The project would cross a variety of land jurisdictions from private to federal lands, including the lands administered by the BLM, the US Forest Service (USFS), and the US Fish and Wildlife Service (USFWS). Each agency has determined to undergo its own separate environmental review process. The BLM maintains decision authority only on the BLM-administered lands that the project would cross. This EA is for the portion of the project that would cross BLM-administered lands (the Proposed Action; see **Figure I-1**, Proposed Action Area). The Oregon BLM is the NEPA lead agency for all BLM-administered lands in the Proposed Action area.

The goal of the project is to improve the quality of rural broadband in south-central Oregon, northeastern California, and western Nevada. This project would provide broadband connectivity from the Prineville hub to Bend, La Pine, and Lakeview in Oregon; Alturas and Susanville in California; and the greater Reno/Sparks metropolitan area. The project is important to these communities for providing redundant and alternative bandwidth services to resolve reliability issues the residents experience due to their limited bandwidth infrastructure options.

To meet the needs of a truly redundant system, the fiber-optic line needs to provide expanded and alternative bandwidth in the case of an emergency or catastrophic event, such as fire and windstorms. It also needs to be separate from existing infrastructure. This is to ensure that it is not vulnerable to the same outages that the current corridors are susceptible to.

The Proposed Action would consist of three 1.25-inch-diameter, high-density polyethylene conduits that are bundled for installation and buried in a single furrow/trench. The bundle of three conduits would be

installed along the majority of the route, with additional conduits installed at the following locations for added redundancy; this would not change the conduit footprint or installation method:

- The location from the Oregon/California state line to Davis Creek, California, would have four conduits.
- The location from Davis Creek, California, to Alturas, California, would have six conduits.
- The location from Alturas, California, to Standish, California, would have five conduits.

The fiber-optic line would link distribution lines throughout the system. Related facilities would include buried fiberglass handholes or vault bodies, or both, used to house fiber-optic splice cases and pedestals; these would provide access for maintenance. Precast utility vaults would protect and provide access to fiber-optic utility cabling.

Except where conduits may be attached to bridges, the conduits and handholes/vault bodies would be buried approximately 36 inches, with access lids at the ground surface. The conduits and handholes/vault bodies would be placed, in part, approximately 5 to 8 feet off the edge of the existing pavement or gravel road. The exception would be in areas where the line is required to be at the edge of the ROWs to avoid sensitive features, or as required by another approving agency, such as the California Department of Transportation or the State Historic Preservation Office (SHPO). Vaults would be installed approximately every 2,500–3,500 feet along the entire alignment, resulting in approximately 144 to 202 vaults. The length of the buried fiber-optic line in the Proposed Action would be approximately 93.24 miles.

The following outlines the portions of the Proposed Action associated with each BLM field office:

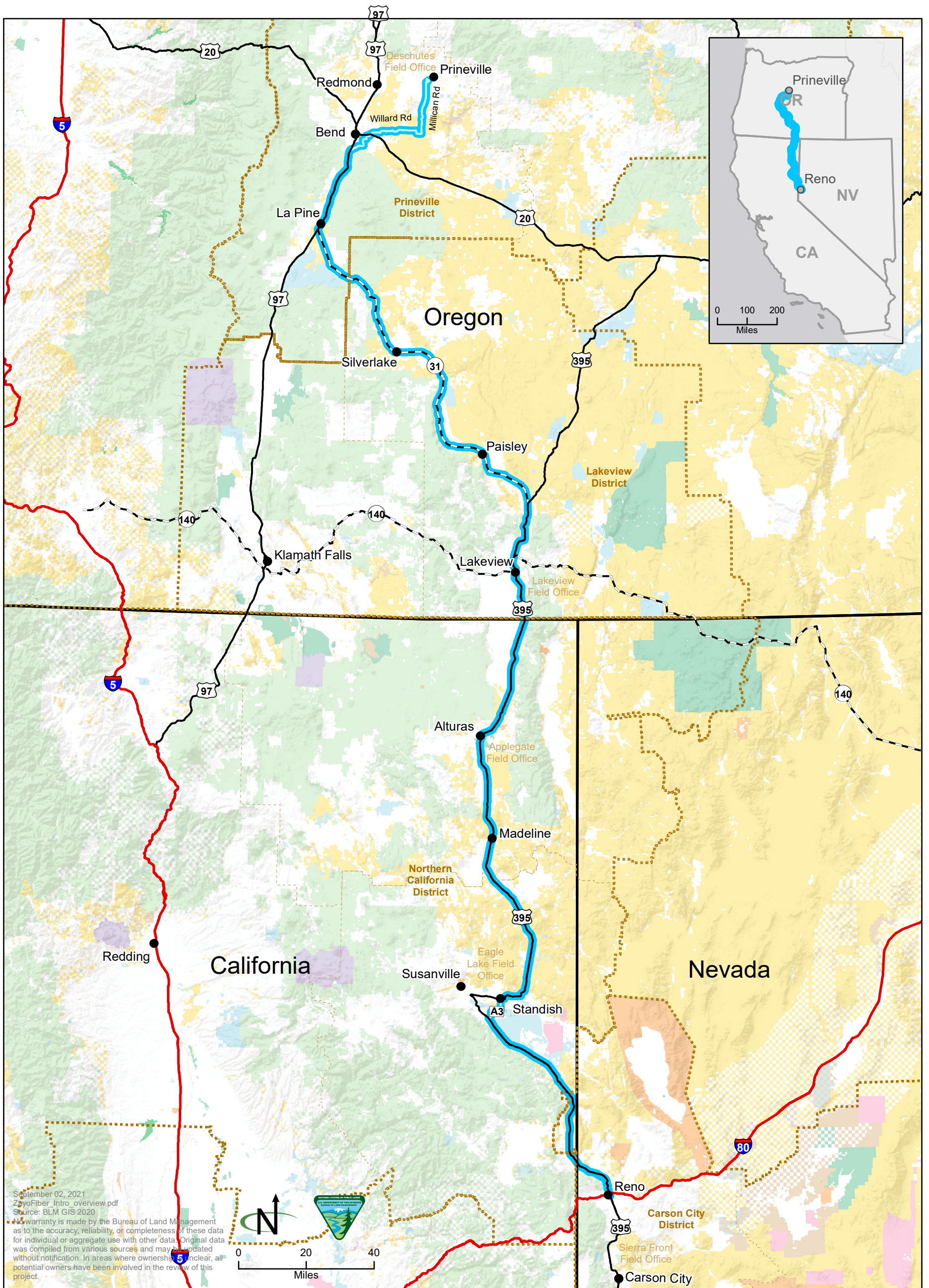
- Applegate Field Office in the Northern California District—12.81 miles
- Deschutes Field Office in the Prineville District, Oregon—30.38 miles
- Eagle Lake Field Office in the Northern California District—17.10 miles
- Lakeview Field Office in the Lakeview District, Oregon—24.41 miles
- Sierra Front Field Office in the Carson City District, Nevada—8.54 miles

The entire alignment is intended to follow existing road ROWs. Wherever possible, the alignment would be in existing disturbed areas, within the boundaries of state and county ROWs.

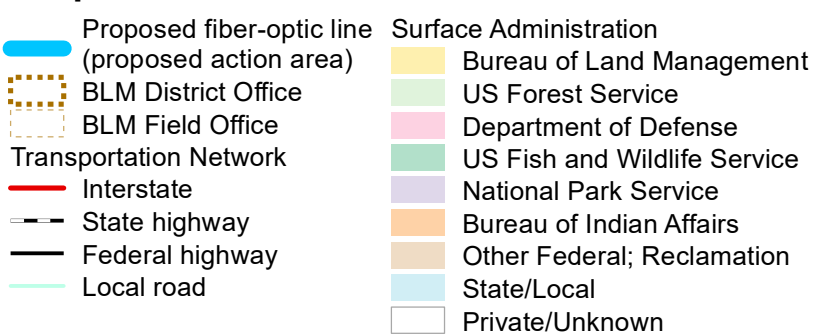
### **1.3 BLM PURPOSE AND NEED**

A ROW grant is an authorization to use a specific piece of public land for a certain project, such as roads, pipelines, transmission lines, and communication sites. A ROW grant authorizes rights and privileges for a specific use of the land for a specific period. Generally, a BLM ROW is granted for a term appropriate for the life of the project. An explanation of the BLM ROW program is found in 43 CFR 2800 and 2880.

The BLM is required to respond to a ROW application. The BLM may deny the application, grant the ROW, or grant the ROW with additional terms and stipulations. The decision must comply with all applicable regulatory requirements and be compatible with BLM land use plans.



**Figure 1-1  
 Proposed Action Area**



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The purpose of responding to a ROW grant request is to implement the Federal Land Policy and Management Act of 1976. Pursuant to this act, the BLM has the authority to grant, issue, or renew ROWs over, on, under, or through public lands. The BLM is also responsible for the multiple uses of BLM-administered lands in an environmentally sound manner under the act.

#### **I.4 DECISION TO BE MADE**

The responsible official would decide whether to deny the application, issue the ROW grant, or issue the ROW grant with additional terms and stipulations.

#### **I.5 CONFORMANCE**

The Proposed Action is subject to, and has been reviewed for conformance with, the following plans (43 CFR 1610.5-3; 516 Departmental Manual 11.5):

- Upper Deschutes Resource Management Plan, BLM, Prineville District Office, 2015
- Lakeview Resource Management Plan, BLM, Lakeview District Office, 2003
- Alturas Resource Management Plan, BLM, Northern California District, 2008
- Eagle Lake Resource Management Plan, BLM, Northern California District, 2008
- Carson City Consolidated Resource Management Plan, BLM, Carson City District, 2001
- Oregon Greater Sage-Grouse Approved Resource Management Plan (RMP) Amendment, 2015
- Nevada and Northeastern California Greater Sage-Grouse Approved RMP Amendment, 2015

#### **I.6 SCOPING AND PUBLIC INVOLVEMENT**

Scoping is essential for the environmental review process and informed decision-making; it may occur throughout the NEPA process. Public input is important in establishing the scope of issues for the environmental analysis. Scoping is one form of public involvement and is the beginning of the public participation process. It is done early in the NEPA process and generally extends through the development of alternatives.

The public, other interested parties, and federal, state, and local governments are invited to participate in the scoping process. Its purpose is to identify resource management issues of concern; potential impacts and possible mitigation measures; reasonable alternatives to the Proposed Action; reasonably foreseeable actions in and next to the Proposed Action area; and site-specific baseline information for the environmental analysis.

This issue-based EA focuses only on those issues identified by the internal BLM interdisciplinary team or by members of the public, other agencies, or tribes.

Through letters and emails, the BLM collected written comments or concerns about potential issues that should be considered in the analysis. It reviewed all submissions to identify specific issues or concerns. These submissions, a summary of the issues or concerns they contained, and the overall public outreach process can be found in the scoping report, which is available on the ePlanning website for the project at <https://go.usa.gov/xphrD>. The BLM requested that comments be submitted by March 5, 2020. In addition to the scoping process, the BLM will provide a formal opportunity to comment on the EA during a 30-day comment period.

ROW holders requested additional information about the Proposed Action. The BLM received two letters during public scoping, from the USFWS Bend Office and from the California Department of Fish and Wildlife. Their comments are captured below in **Section 1.8**, Issues Analyzed in Detail. The BLM has determined that no public scoping meetings are necessary for this project, outside of the consultation meetings requested by specific tribes.

## **I.7 CONSULTATION AND COORDINATION**

On January 30, 2020, the BLM sent letters to potentially affected tribes inviting them to consult on the proposed project. On February 18, 2020, it sent scoping letters to the tribes that may be interested; to other agencies, such as the USFWS and the state departments of fish and wildlife; and to any potentially interested members of the public. The BLM sent scoping letters to determine the public's interest in this project to help determine the need for any public meetings. The BLM received two letters because of the scoping letters. The two letters received were from the USFWS Bend Office and the California Department of Fish and Wildlife Service. Additional coordination is described under the discussion of tribal values and conditions in **Section 3.2.4**, Cultural Resources and Tribal Values.

The BLM sent consultation letters to the following tribes:

- Confederated Tribes of the Warm Springs Reservation of Oregon
- Burns Paiute Tribe
- Klamath Tribes
- Fort Bidwell Indian Community of the Fort Bidwell Reservation of California
- Pit River Tribe
- Susanville Indian Rancheria
- Greenville Rancheria
- Pyramid Lake Paiute Tribe of the Pyramid Lake Reservation, Nevada
- Washoe Tribe of Nevada and California
- Reno-Sparks Indian Colony, Nevada
- Alturas Indian Rancheria, California
- Modoc Nation

The Klamath Tribes is requesting that trenching be included as a possible construction method in the Proposed Action. Additional coordination is described under the discussion of tribal values and conditions in **Section 3.2.4**, Cultural Resources and Tribal Values.

## **I.8 ISSUES ANALYZED IN DETAIL**

The Council on Environmental Quality regulations state that NEPA documents “must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail” (40 CFR 1500.1(b)). Although many issues may arise during scoping, not all issues raised warrant analysis in an EA. Issues would be analyzed if: 1) an analysis of the issue is necessary to make a reasoned choice between alternatives, or 2) the issue is associated with a significant impact, or analysis is needed to determine the significance of the impact.

The BLM used scoping comments to focus the environmental analysis on issues or impacts of concern. In the scoping report, the BLM has identified the following preliminary issues or potential resource impacts for the environmental analysis:

- Issue 1: What would be the effect of the ROW on vegetation, including noxious and invasive species?
- Issue 2: What would be the effect of the ROW and the associated actions on Webber's ivesia (*Ivesia webberi*) and on designated critical habitat for Webber's ivesia?
- Issue 3: What would be the effect of the ROW on wetlands?
- Issue 4: What would be the effect of the ROW on bird and reptile species, mule deer, pronghorn, bighorn sheep, and elk, including their habitats, migration corridors, or mating behaviors?
- Issue 5: What would be the effect of the ROW on Swainson's hawk (*Buteo swainsoni*), bank swallow (*Riparia riparia*), greater sandhill crane (*Antigone canadensis tabida*), greater sage-grouse (*Centrocercus urophasianus*), golden eagle (*Aquila chrysaetos*), and burrowing owl (*Athene cunicularia*)?
- Issue 6: What would be the effect of timing or seasonal restrictions (such as for nesting) on migratory birds?
- Issue 7: What would be the effect of the ROW on cultural resources and tribal values?

### **I.9 ISSUES CONSIDERED BUT NOT ANALYZED IN DETAIL**

The Proposed Action would not occur in habitat for the endangered Carson wandering skipper (*Pseudocopaeodes eunus obscurus*). Also, although the Proposed Action goes through critical habitat for the threatened Oregon spotted frog (*Rana pretiosa*), project design features would mitigate effects on this species. Therefore, there is a "no effect" determination for both species; they will not be analyzed in detail. "No effect" means there will be no impacts, positive or negative, on listed or proposed resources. Generally, this means no listed resources will be exposed to action and its environmental consequences. Concurrence from the USFWS is not required.

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# Chapter 2

Proposed Action and Alternatives

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# Chapter 2. Proposed Action and Alternatives

## 2.1 PROPOSED ACTION

The Proposed Action is the installation of the proposed fiber-optic communications system along existing roads on BLM-administered lands. The Proposed Action could take place only if the BLM issues the applicant a ROW grant. It would follow existing ROWs of state transportation agencies and public roads. The applicant has requested a 20-foot-wide construction ROW along the route. The proposed conduit would be placed on BLM-administered lands under the Proposed Action in the sections, townships, and ranges listed in **Table 2-1**.

**Table 2-1  
Prineville, Oregon, to Reno, Nevada: Township, Range, and Section through BLM-Administered Lands**

<b>Township and Range</b>	<b>Section</b>	<b>BLM District (Field Office)</b>
T15S R15E	35	Prineville District (Deschutes Field Office)
T16S R15E	2, 11, 14, 15, 22, 27, 34	Prineville District (Deschutes Field Office)
T17S R13E	25, 26, 27, 29, 33, 34	Prineville District (Deschutes Field Office)
T17S R14E	26, 29, 30	Prineville District (Deschutes Field Office)
T17S R15E	3, 10, 15, 20, 22, 27, 28, 29, 30	Prineville District (Deschutes Field Office)
T21S R10E	24, 25	Prineville District (Deschutes Field Office)
T21S R11E	6, 7, 18	Prineville District (Deschutes Field Office)
T22S R10E	1, 2, 11, 14, 22, 34	Prineville District (Deschutes Field Office)
T23S R10E	2, 3, 11, 13, 14, 24, 25	Prineville District (Deschutes Field Office)
T25S R13E	31, 32	Lakeview District (Lakeview Field Office)
T26S R13E	3, 4, 9, 16, 21, 28, 33, 34	Lakeview District (Lakeview Field Office)
T27S R13E	3, 10, 11, 14, 23, 25, 36	Lakeview District (Lakeview Field Office)
T28S R13E	1	Lakeview District (Lakeview Field Office)
T28S R14E	6, 7	Lakeview District (Lakeview Field Office)
T28S R15E	22	Lakeview District (Lakeview Field Office)
T28S R16E	32	Lakeview District (Lakeview Field Office)
T29S R16E	9, 10, 15, 22, 23, 25, 26	Lakeview District (Lakeview Field Office)
T33S R18E	7, 8, 9, 10, 14, 15	Lakeview District (Lakeview Field Office)
T34S R19E	24	Lakeview District (Lakeview Field Office)
T34S R20E	28, 29, 30, 33, 34	Lakeview District (Lakeview Field Office)
T35S R20E	1, 2, 12	Lakeview District (Lakeview Field Office)
T39S R20E	15	Lakeview District (Lakeview Field Office)
T35N R13E	14, 15, 23, 26	Northern California District (Applegate Field Office)
T37N R13E	3, 10	Northern California District (Applegate Field Office)
T38N R13E	5, 8, 17, 21, 27, 28, 34	Northern California District (Applegate Field Office)
T39N R13E	5, 32	Northern California District (Applegate Field Office)
T40N R13E	5, 8, 17, 20, 29, 32	Northern California District (Applegate Field Office)
T41N R12E	24	Northern California District (Applegate Field Office)
T41N R13E	31	Northern California District (Applegate Field Office)
T45N R14E	20, 29, 32	Northern California District (Applegate Field Office)
T46N R14E	9	Northern California District (Applegate Field Office)
T29N R15E	4, 8, 9	Northern California District (Eagle Lake Field Office)
T30N R15E	15, 22, 27, 33, 34	Northern California District (Eagle Lake Field Office)
T31N R15E	2, 10, 11, 15, 22	Northern California District (Eagle Lake Field Office)

Township and Range	Section	BLM District (Field Office)
T32N R15E	3, 4, 10, 11, 14, 26, 35	Northern California District (Eagle Lake Field Office)
T33N R14E	1	Northern California District (Eagle Lake Field Office)
T33N R15E	6, 7, 17, 20, 28, 29, 33	Northern California District (Eagle Lake Field Office)
T34N R14E	5, 26, 36	Northern California District (Eagle Lake Field Office)
T35N R13E	14, 15, 23, 26	Northern California District (Eagle Lake Field Office)
T22N R17E	2, 11, 14, 23, 26	Carson City District (Sierra Front Field Office)
T23N R17E	1, 2, 11, 14, 23, 26, 35	Carson City District (Sierra Front Field Office)
T24N R17E	24, 25	Carson City District (Sierra Front Field Office)
T24N R18E	30, 31	Carson City District (Sierra Front Field Office)

### Construction

Construction is anticipated to take approximately 10 months to complete, once all permits and environmental documentation have been completed and signed. The proposed alignment would be within previously disturbed areas in the existing ROWs, to the extent feasible; however, if vegetation has regrown in the previously disturbed ROWs, some minor vegetation clearing may be required, using hand tools, such as clippers and chainsaws. Removing trees or shrubs outside the road ROWs is not anticipated. Material would be removed and disposed of at approved disposal sites outside BLM-administered lands, unless specifically authorized by the BLM. No vegetation would be affected outside previously disturbed areas without prior authorization from the BLM.

The BLM assumes a 20-foot-wide construction corridor would be necessary on one side of the road, depending on site-specific conditions and resource concerns. The long-term corridor width for operation and maintenance would average 10 feet. The BLM estimates approximately 230 acres would be disturbed during construction on BLM-administered lands. It calculated the number of acres disturbed for the entire length of the Proposed Action (93.24 miles) and a 20-foot-wide construction corridor along existing ROWs. Impacts are analyzed for both sides of a road in the event impacts on one side were to necessitate using the other side for the Proposed Action.

Staging areas would not be cleared, flattened, graded, or stripped of topsoil. Equipment would run over the existing disturbed ground surface. No long-term (multiple days, but not to exceed one week) project staging or laydown areas are proposed within the BLM ROWs; however, short-term (1 or 2 days), overnight staging of equipment on existing disturbed ground within the BLM ROWs may be needed at locations identified and approved in advance by the BLM. Several potential staging areas have been identified on BLM-administered lands, but final locations would be determined in consultation with the BLM.

**Appendix A**, Construction Figures contains construction designs and diagrams. Construction of the Proposed Action would consist of the following installation methods (depending on site-specific conditions and resource conditions) and would occur within 5–8 feet of the edge of the road or, possibly, the outer edge of the ROW (depending on site-specific conditions and resource conditions):

- “Ripping in” the conduit in areas that are conducive to this method, based on ground conditions—This method includes the use of a conduit blade that simultaneously excavates and places the conduit in a single motion. The process uses a vibrating blade to split the ground and cut a narrow furrow through the soil that can be packed as the blade moves along. The equipment cleaves a narrow furrow through the soil and dirt to the prescribed depth, with the

line immediately fed down a chute on the back of the blade and into the furrow behind the blade. Because the furrow is so narrow, dirt and surface materials fall back over the furrow, leaving essentially no exposed dirt. This method causes the least amount of ground disturbance; however, it requires ground conditions to be relatively free of rocks or other obstructions. The applicant would review available geology, geotechnical, hydrological, and soils information on BLM-administered lands along the alignment, and areas proposed for this method of installation would be identified, in consultation with the BLM.

- Trench placement of conduit—This method consists of digging a 12-inch-wide and 36-inch-deep trench to place the conduit, and backfilling it with native material, to the extent feasible, after installation.<sup>1</sup> Equipment used during this method includes excavators with rock break hammers or rock saws; it would be used in areas where ground conditions are not conducive to the ripping method or in areas containing cultural resources. Where rock hammers are needed, the disturbance width of the trench is expected to be approximately 12 inches wide, except in areas where larger boulders may need to be removed. Much of the alignment is anticipated to require this installation method; however, an effort would be made to construct the trench within the existing road prism and to avoid native material below the roadbed where feasible. The applicant would review available soils information on BLM-administered lands along the alignment, and areas proposed for this method of installation would be identified, in consultation with the BLM.
- Placement of conduit via directional boring—Directional boring consists of specialized directional boring drill equipment that places the conduit by an underground drill-and-push method. This allows placement of the conduit with minimal ground disturbance. Directional boring methods require an entry and exit pit that is approximately 6 square feet of disturbance at each end of the bore. This method is used when crossing sensitive landscape features, such as streams and slide areas, as well as hard surface crossings, such as paved roads; however, it typically requires a fairly straight approach on either side. In some locations, however, where crossings of sensitive features, such as large through fills with deeply buried culverts, would require very deep and complex boring, ripping for the conduit may be considered as an alternative to boring under the stream channel thalweg.<sup>2</sup> The directional boring method requires some minor excavation using hand tools or a small backhoe, or both, and use of drilling mud at the entry and exit points of the bore.
- Site-specific installation methods—Preliminary reconnaissance of the route in conjunction with a desktop analysis intended to identify wetlands, waterbodies, and other sensitive features identified a number of locations with challenging conditions. These areas would require site-specific installation to be developed, in consultation with the BLM and possibly other federal, state, and local agencies and landowners. This application includes geographic information systems data that illustrate the approximate location of these features.

Imported soil or gravel is anticipated to be used where ripping and boring methods take place next to the roadway or in other locations where gravel would need to be restored to preconstruction conditions. The Eagle Lake Field Office in the BLM Northern California District would require a weed-free source of any imported material (see **Appendix B**, Required Design Features). Native materials,

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<sup>1</sup> Where native material is not available or conducive for backfill, material would be imported from commercial sources consistent with BLM requirements.

<sup>2</sup> The line of lowest elevation within a valley or watercourse

such as dirt, rock, and coarse woody debris, would be temporarily placed in the authorized alignment and used to backfill the excavation. Backfill for the trench would be placed and compacted using vibratory compactors attached to excavators and consistent with BLM requirements. Material excavated for handhole vaults (approximately half a cubic yard per vault) would be removed and disposed of at approved disposal sites outside BLM-administered lands, unless the BLM specifically authorizes the material to be evenly spread out around the vault.

No in-channel work is proposed. The applicant would develop site-specific stream crossing plans, in consultation with the BLM and other regulatory agencies. To avoid disturbance to the bottom of the channel during directional boring, before construction, the existing channel width, thalweg depth, and substrate would be used to determine potential scour depth; this is consistent with BLM and state agency requirements. The directional boring design would place the conduit at least 10–15 feet, but not more than 20 feet, below the potential scour elevation. This is to avoid any accidental breakthrough or frac-out<sup>3</sup> of drilling mud during construction.

Bridge attachments would be used at all stream crossings except those with culverts. All bridge stream crossings would be equipped with a bridge attachment to house the conduit. Directional boring would also be used to cross under streams. Directional boring would take place only at stream crossings where there is a culvert. The start and end points for the directional boring would be at least 50–75 feet from the edge of the feature. Boring would be coordinated on a case-by-case basis with the BLM to minimize or avoid impacts on sensitive features. In Oregon, between Prineville and Fort Rock, there would be two creek crossings using directional boring and no bridge attachments for the conduit. Between Fort Rock and Reno, there would be 426 culvert crossings (either under or over the culvert) and 42 bridge attachments for the conduit (see **Table 2-2**, below). An entry bore pit and an exit bore pit would be needed at each crossing, and each bore pit would be approximately 4 feet by 1 foot.

**Table 2-2  
Conduit Crossings**

Crossing	Number of Culvert/Bridge Crossings
Prineville District (Deschutes Field Office)	30
Lakeview District (Lakeview Field Office)	400
Northern California District (Applegate Field Office)	86
Northern California District (Eagle Lake Field Office)	114
Carson City District (Sierra Front Field Office)	74

Approximately every 2,500–3,500 feet, a 36-inch by 48-inch by 36-inch fiberglass utility handhole/vault body would be excavated to allow fiber-optic cable splicing. Vault spacing is in part dictated by driveways or other obstructions that may require it in order to vary between 2,500 and 3,500 feet apart. A fiberglass utility handhole/vault of approximately 36 inches wide by 48 inches long by 36 inches deep, covering a 12-square foot area would be excavated. This would allow for storing and splicing sections of fiber-optic cable. The vault lids would be fabricated to conform to BLM requirements with respect to size, configuration, and color. In addition to the vaults, signage of some type identifying the presence of the conduit would be placed periodically (approximately every 500 linear feet, or less where the route

<sup>3</sup> A frac-out occurs when drilling fluid pressure in the borehole is excessive and fractures the surrounding or adjacent bedrock, allowing the drilling fluid to travel toward the earth's surface.

configuration and locations of a splice point and vault necessitate it) along the alignment (see **Appendix A**, Construction Figures).

Vaults are considered a long-term disturbance on the landscape for the duration of the permit. The applicant would review the location of each vault with the BLM to avoid impacts, such as from landslides, on sensitive resources, such as cultural sites. After the splicing is complete, the applicant would replace all excavated material and would revegetate the disturbed area, in accordance with the BLM (see **Appendix C**, Best Management Practices and Terms and Conditions, for soil management and revegetation requirements). The only impervious surfaces that would be added to the Proposed Action are the fiberglass utility handhole/vaults. These equal less than 1 percent of the Proposed Action area requested in the ROW application.

There would be work within 300 feet of perennial streams and waterbodies. The BLM performed a comprehensive wetlands delineation consistent with federal (for example, Army Corps of Engineers) and state (for example, Oregon Department of State Lands) requirements. To date, approximately 55 perennial and intermittent streams have been identified through the BLM's desktop analysis; wetland delineation would be used to refine this information. Wetlands and waters would be avoided to the extent possible by installing the fiber-optic cable in conduits along bridges or by using directional boring, following prescribed buffers and drill depths as determined in consultation with the BLM. In areas where there is not enough room in the ROWs to directionally bore under waterways, the conduit would be installed within the road prism using a "side arm" attachment on the installation equipment. This would be done to ensure that all disturbance is within the ROWs.

From Prineville to the Oregon border, there are relatively few aquatic resources abutting the proposed alignment on BLM-administered lands. Wetlands and waters are more prevalent along the route on private lands and are used mostly for agriculture. In constructing the proposed alignment, the applicant would avoid impacts on wetlands and waters along the route in Oregon by using horizontal directional drilling (HDD), bridge attachments, and work in the road shoulder.<sup>4</sup> In Nevada, preliminary potential waters of the United States occupy a total of 7.619 acres and include wetlands and other waters.<sup>5</sup> **Section 3.2.1**, Vegetation, has more detailed information about wetlands.

In addition to wetlands, other sensitive features, such as wildlife habitat and cultural sites, would also be subject to site-specific crossing plans developed in consultation with the BLM and other regulatory agencies. The start and end points for the directional boring would be at least 50–75 feet from the edge of the feature. The applicant would coordinate this on a case-by-case basis with the BLM to minimize or avoid impacts on sensitive features.

The applicant would complete site-specific engineering surveys to avoid sensitive and critical areas through consultation with the BLM. Engineering drawings and specifications for site-specific problems relating to surface use or special mitigation would also be determined through consultation with the BLM.

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<sup>4</sup> Zayo UTR Project—Wetlands and Waters Avoidance in BLM Lands—Prineville to Oregon Border

<sup>5</sup> Prineville, Oregon, to Reno, Nevada Underground Fiberoptic Network Project Delineation of Potential Waters of the United States

The Proposed Action would not discharge any wastes to the ground. No waste materials would be allowed to enter ground or surface waters. Consistent with federal, state, and local requirements, the BLM would require the applicant to develop plans to manage and protect resources. This involves the following plans:

- Stormwater pollution prevention plan—In Oregon, the applicant’s construction contractor would develop the plan with input from this EA and submit it to the BLM before the BLM issues a notice to proceed. The BLM would not approve construction until the applicant submits the plan, which would be based on BLM terms and conditions. In California and Nevada, the applicant would develop and submit the plan before the completion of this EA (**Appendix D**, Stormwater Pollution Prevention Plan).
- Hazardous materials control plan—In Oregon and Nevada, the applicant’s construction contractor would develop the plan with input from this EA and would submit it to the BLM before the BLM issues a notice to proceed. The BLM would not approve construction until the applicant submits the plan, which would be based on BLM terms and conditions. In California, the applicant would develop and submit the plan before this EA is completed (**Appendix E**, Hazardous Materials Control Plan); it would also be a part of the California Environmental Quality Act analysis.
- Traffic management and control plan—This plan would ensure the safety of the public, agency personnel, and the project implementation team. It would comply with the states’ departments of transportation requirements. In Oregon and Nevada, the applicant’s construction contractor would develop the plan with input from this NEPA analysis and would submit it to the BLM before the BLM issues a notice to proceed. The BLM would not approve construction until the applicant submits the plan, which would be based on BLM terms and conditions. In California, the applicant would develop the plan during preparation of this EA (**Appendix F**, Traffic Management and Control Plan); it would also be a part of the California Environmental Quality Act analysis.
- Design plans—The applicant would prepare initial design plans for this EA. Some of these plans may be adjusted in response to this analysis but before the BLM issues a notice to proceed.
- Bore mud control plan—This plan would include the BLM’s applicable best management practices (BMPs) to address accidental loss of drilling muds during directional boring. It also would include measures for erosion control, containment, and cleanup. The applicant would determine where these types of methods would be required, in consultation with the BLM. The applicant would develop this plan and would submit it before the completion of this EA (**Appendix G**, Bore Mud Control Plan); however, the applicant would develop a stream-specific frac-out plan after this EA, as part of the construction plan developed by the construction contractor. The bore mud control plan is available from the BLM Prineville District Office on request.
- Stream crossing plan—This is a standard approach and plan (**Appendix H**, Stream Crossing Plan) that is included in the plan of development for this EA. It also includes a standard frac-out plan.

### **Maintenance**

No new or expanded access is anticipated for operation and maintenance, and maintenance requirements of the system are expected to be minimal. Maintenance would only be required when an



outage occurs or when there is unforeseeable damage to the vaults/handhole, for example due to natural causes or vandalism. Any operation and maintenance would comply with the applicant's traffic control and management plan that was approved by the BLM and other federal, state, and local agencies.

Maintenance would take place at the handhole/vault locations, which would not result in any disturbance or require special access. If ground cover has grown over the handhole/vault, then it would need to be removed to access the handhole/vault. Only a small portion of the ground, the size of the vault lid, would need to be disturbed under this scenario. If the buried conduit is damaged, for example by a landslide, the conduit would be dug out. The level of disturbance for this type of situation cannot be predetermined. All maintenance activities would be confined to the ROWs and in accordance with the BMPs and required design features.

### **Termination and Restoration**

The applicant would remove the vaults and signs from BLM-administered land and would dispose of them at a location off BLM-administered land. At the termination of the Proposed Action, the applicant would stabilize and revegetate the area, in accordance with the BMPs agreed to. **Appendix C**, Best Management Practices and Terms and Conditions, contains restoration requirements.

The thin bundle of conduit would be left in the ground; however, the vaults would be removed, and the remaining pits would be backfilled with material approved by the BLM. The area would be graded and, if required, revegetated or otherwise left in a stable condition. Stabilization and revegetation would follow BMPs agreed to at the termination of the Proposed Action. Native vegetation and soils would be preserved, to the extent practicable.

## **2.2 NO ACTION ALTERNATIVE**

The No Action Alternative provides a baseline for comparison to aid in determining the relevance of issues and effects of the Proposed Action. Under the No Action Alternative, the applicant would not construct, operate, or maintain a fiber-optic communications system.

## **2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS**

To dismiss an alternative, it must meet one of six criteria outlined in Section 6.6.3 of the NEPA handbook (BLM NEPA Handbook H-1790-1).

The applicant considered installing aboveground, pole-mounted lines as an alternative to subsurface construction. The disadvantages of an aerial line are the increased visual disturbance, increased risk of outages from natural disasters or vandalism, and increased operation and maintenance costs. For these reasons and because it would be technically or economically infeasible, aerial construction was generally dismissed as a practicable alternative.

The Proposed Action is the shortest route considered. The applicant considered other routes, but all were longer than the proposed alignment, given the service requirements to connect the fiber-optic line through Bend and La Pine, Oregon; thus, longer routes were generally dismissed as practicable alternatives because they were economically infeasible.

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# Chapter 3

Affected Environment and Environmental Consequences

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# Chapter 3. Affected Environment and Environmental Consequences

## 3.1 INTRODUCTION

This chapter describes the affected environment, which is the existing or baseline conditions relevant to each issue identified during scoping. Following the affected environment is a description of the effects relative to each issue; these effects are analyzed under both Alternative A, the No Action Alternative, and Alternative B, the Proposed Action.

This chapter also describes the potential impacts on resources by issue. It assesses impacts from the alternatives in terms of their duration (temporary or permanent) and context (local or regional). A temporary impact is one that occurs only during implementation of the alternative, while a permanent impact could occur for an extended period after implementation of the alternative. Where appropriate, the analysis provides recommended avoidance, minimization, or mitigation measures to avoid, reduce, or otherwise offset impacts on the specified resource. These measures are described below. Any specific analysis assumptions are also identified for each issue.

Implementing environmental protection measures, as detailed in **Appendixes B through H**, would avoid, reduce, or mitigate effects. The effects under each issue consider implementation of the environmental protection measures.

The BLM has identified reasonably foreseeable future actions that overlap spatially and temporally with the Proposed Action and thus are relevant for analyzing impacts that are later in time or farther removed in distance. **Table 3-1** lists the reasonably foreseeable future actions.

**Table 3-1  
Reasonably Foreseeable Future Actions**

<b>Action</b>	<b>Brief Description</b>
ROW Maintenance	Ongoing road maintenance from each state's Department of Transportation and neighboring utility ROW holders. Maintenance may include interim reclamation (such as checking for subsidence, seeding, and erosion control), monitoring trips (single passes along ROWs each year), shoulder grading, and plowing.
Weed Treatments	Ongoing weed treatments associated with ROW holders. Weed treatments are typically done seasonally (spring or fall depending upon target species) and may include monitoring. Both actions typically involve up to three trips along the ROW each year (monitoring, treatment, and follow-up monitoring).
Fence Maintenance	Ongoing fence maintenance associated with ROW holders and livestock grazing permittees. Maintenance is typically minor (for example, replacing fence posts and splicing wire) and can include seasonal trips along the fence line.
Recreation	Recreation may include access off the highway ROW and travel near the ROW. Recreation is usually limited in duration (15 minutes to 3 hours) and might be sporadic throughout the year. Recreation actions may vary and can include, but are not limited to, hiking, hunting, mountain biking, and off-highway vehicle use.

Action	Brief Description
Lands and Realty	A small part of the Proposed Action area of potential effects near Madeline, California, overlaps with the Section 368 Energy Corridor where additional energy infrastructure is likely to occur based on current BLM guidance. US Route 395 also serves as a non-designated energy infrastructure corridor and will likely see additional aboveground and below ground additions, although the BLM has received no specific proposals to date.
Lands and Realty	US Route 395 will likely experience limited highway expansion or improvement (passing lanes, turnouts, and shoulder work) similar to previous efforts implemented elsewhere along the route. The BLM has received no specific proposals to date.
Lands and Realty	<p>The BLM has received applications from Middle Mile Infrastructure, LLC (OROR 070537), TDS (OROR 69713), and Qwest (OROR 69735) for additional fiber-optic lines within the Highway 97 ROW in La Pine, Oregon. These applications run a similar route, but they have different start and end points. They also serve different customers. In addition, it is unknown if the BLM would approve any of these applications or when the fiber-optic lines would be constructed. The construction, however, is unlikely to be at the same time. ROW applications are driven by the public, and additional ROW applications along the route may be submitted to the BLM between the review and publication of this EA.</p> <p>Zayo proposes the construction and operation of an underground fiber-optic network from Prineville, Oregon, to Reno, Nevada, spanning approximately 433 miles. This EA addresses construction of the network on only BLM-administered lands. Construction timing on other lands is unknown.</p>
Wildfire	Hotter and drier summers are expected to affect vegetation conditions and the creation of fuels for wildfires. This promotes more intense wildfires, creating conditions that take ecosystems longer to recover.

## 3.2 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

### 3.2.1 Vegetation

#### **General Vegetation Conditions**

There are six main GAP/LANDFIRE land cover types in the project area. **Table 3-2** summarizes acres and provides a brief description of each type. Approximately 90 percent of the project is composed of developed and urban land cover types.

#### **Special Status Plant Species Conditions**

There are 283 federally listed or BLM-designated special status plant species that have the potential to occur in the states that the project area crosses. Of these 283 species, 89 have the potential to occur in the BLM Lakeview and Prineville Districts, Oregon; 23 in the BLM Applegate Field Office, California; 24 in the BLM Eagle Lake Field Office, California; and 49 in the BLM Carson City District in California and Nevada (BLM 2015, 2017, and 2019).

According to botanical reports prepared for the project, there are 36 federally listed or BLM sensitive plant species that have the potential to occur in the project area in California (Stantec 2020a) and three in the BLM Prineville District in Oregon (Canham 2020). In the section of the project that traverses California, one federally threatened species, Webber's ivesia (*Ivesia webberi*) (Tonenna 2021), and five BLM sensitive species (Stantec 2020a) were mapped. The BLM sensitive species are ephemeral monkeyflower (*Erythranthe inflatula*), raven's lomatium (*Lomatium ravenii*), adobe lomatium (*L. roseanum*), volcanic beardtongue (*Penstemon sudans*), and woolly stenotus (*Stenotus lanuginosus* var. *lanuginosus*)

**Table 3-2  
GAP/LANDFIRE Land Cover Types in the Project Area**

<b>GAP Cover Type</b>	<b>Description</b>	<b>Acres</b>
Developed and Urban	Areas of intensive use, with much of the land covered with structures, such as high-density residential, commercial, industrial, transportation, mining, confined livestock operations, or less intensive uses. The land cover matrix includes both vegetation and structures (for example, low-density residential, recreation facilities, and cemeteries), including any land functionally attached to the urban or built-up activity.	202
Intermountain Dry Tall Sagebrush Steppe and Shrubland	Stands are dominated by <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> or <i>A. t.</i> ssp. <i>tridentata</i> . In some cases, they are co-dominated by dry-site shrubs, such as <i>Atriplex canescens</i> , <i>Ephedra nevadensis</i> , <i>E. viridis</i> , <i>Ericameria nauseosa</i> , or <i>Sarcobatus vermiculatus</i> . If present, the herbaceous component layer ranges from sparse and patchy to moderately dense, and it is typically dominated by dry-site graminoids with low cover of forbs. Characteristic graminoids are <i>Achnatherum hymenoides</i> , <i>A. lettermanii</i> , <i>A. pinetorum</i> , <i>A. thurberianum</i> , <i>Bouteloua gracilis</i> , <i>Bromus tectorum</i> , <i>Carex filifolia</i> , <i>Distichlis spicata</i> , <i>Elymus albicans</i> , <i>E. elymoides</i> , <i>Hesperostipa comata</i> , <i>Leymus ambiguus</i> , <i>L. salinus</i> , <i>Pleuraphis jamesii</i> , <i>Poa fendleriana</i> , <i>P. secunda</i> , <i>Pseudoroegneria spicata</i> , <i>Sporobolus airoides</i> , and <i>S. cryptandrus</i> . Associated species tend to include more semidesert species, with core distribution in the Great Basin and Colorado Plateau regions. Warm-season grasses are common in the southern and eastern portions of this land cover type's range.	9
Columbia Plateau Western Juniper Open Woodland	<i>Juniperus occidentalis</i> is the diagnostic and typically dominant species of this woodland and savanna group. This juniper species is largely restricted to the Columbia Plateau ecoregion. <i>Cercocarpus ledifolius</i> may co-dominate some stands. <i>Pinus monophylla</i> is not present in this region. The understory of stands included in this group is variable and ranges from perennial grass-dominated tree savannas and open woodlands, to open and moderately dense woodlands with a shrub-dominated understory, to wooded shrublands with a sparse <i>Juniperus occidentalis</i> tree layer (5–10 percent cover).	8
Intermountain Mesic Tall Sagebrush Steppe and Shrubland	Stands are characterized by open to sparse shrublands dominated by <i>Artemisia tridentata</i> (ssp. <i>tridentata</i> and ssp. <i>xericensis</i> ) or <i>A. tripartita</i> ssp. <i>tripartite</i> , which tend to occupy more mesic sites with well-developed soil, and <i>Purshia tridentata</i> , which tends to occupy drier, rockier soils and positions, as well as sandy dune areas. Herbaceous layers are often dense and dominated by perennial bunchgrasses, and a significant perennial graminoid layer is diagnostic of this group. Common graminoids are <i>Achnatherum hymenoides</i> , <i>A. occidentale</i> , <i>A. thurberianum</i> , <i>Carex pennsylvanica</i> , <i>Elymus lanceolatus</i> , <i>Festuca campestris</i> , <i>F. idahoensis</i> , <i>Hesperostipa comata</i> , <i>Koeleria macrantha</i> , <i>Leymus cinereus</i> , <i>Pascopyrum smithii</i> , <i>Poa secunda</i> , and <i>Pseudoroegneria spicata</i> .	2
Columbia Plateau Scabland Shrubland	This group is characterized by an open dwarf-shrub canopy, dominated or co-dominated by diagnostic species <i>Artemisia rigida</i> , <i>Eriogonum compositum</i> , <i>E. douglasii</i> , <i>E. microthecum</i> , <i>E. niveum</i> , <i>E. sphaerocephalum</i> , <i>E. strictum</i> , <i>E. thymoides</i> , and <i>Salvia dorrii</i> . <i>Poa secunda</i> and other dry-site grasses and forbs may be present, usually with low cover.	1
Recently Disturbed or Modified	Burned and harvested areas and areas in the process of regeneration across forests, forest-shrublands, shrublands, and grasslands.	1
Other	Other land cover types of less than 1 acre.	2
<b>TOTAL</b>		<b>225</b>

Sources: USGS 2011; USNVC 2019

(Stantec 2020a). No special status species were mapped in the BLM Prineville District due to the botanical waiver issued by the BLM (Canham 2020). The waiver was issued because the project is along previously disturbed, established roads where no special status species have been mapped. No surveys were included for Nevada because the route does not cross BLM-administered lands in Nevada.

### **Noxious Weeds and Nonnative, Invasive Plant Species Conditions**

Given that the project is located along existing roadways and transportation corridors, there is a high likelihood that noxious weeds and nonnative, invasive plants are present. These types of plants are generally opportunists that thrive in disturbed areas, such as roadsides. Furthermore, vehicles provide a pathway for further propagule dispersion along transportation corridors (Lázaro-Lobo and Ervin 2019).

Based on field surveys, 16 invasive plant species are found in the segment of the project area that traverses California (Stantec 2020a), and six are found along the project area in Oregon (Canham 2020). In California, 14 of these species were mapped, and an additional two species, cheatgrass (*Bromus tectorum*) and medusahead (*Taeniatherum caput-medusae*), were noted as common throughout the project area; however, they were not mapped due to their known prevalence in the region (Stantec 2020a). Mapped species included two BLM invasive plants of concern that do not have state ratings: curvseed butterwort (*Ceratocephala testiculata*) and North African grass (*Ventenata dubia*). Cheatgrass, Dalmatian toadflax (*Linaria dalmatica*), Russian knapweed (*Acroptilon repens*), Russian thistle (*Salsola tragus*), kochia (*Bassia scoparia*), and spotted knapweed (*Centaurea stoebe*) were also mapped along the segment of the project area that is in Oregon (Canham 2020).

### **Issue 1: What would be the effect of the ROW on vegetation, including noxious and invasive species?**

#### *Analysis Area*

The analysis area for vegetation, including noxious and invasive species, is the 20-foot ROW.

#### *Analysis Methods and Assumptions*

The analysis assumes ground disturbance would not take place outside of the 20-foot ROW.

#### *Effects from Alternative A: No Action*

Under the No Action Alternative, the applicant would not construct, operate, or maintain a fiber-optic communications system. Surface disturbance would not occur; therefore, there would be no effects on vegetation.

#### *Effects from Alternative B: Proposed Action*

Given that the project is located along previously disturbed, existing roadways and transportation corridors and that 90 percent of the project consists of developed and urban landcover types, effects on native vegetation would be minimal. If vegetation has regrown in the previously disturbed ROWs, some minor vegetation clearing may be required, using hand tools. This would likely occur in the remaining 10 percent of the project area that is not classified as developed or urban, which is mainly found on lands administered by the Deschutes Field Office (or Prineville District Office). Staging areas would not be cleared, flattened, graded, or stripped of topsoil. BMP measures to restore previously vegetated areas using approved seed mixes, as described in **Appendix B**, would be implemented and would further minimize any potential effects on native vegetation.



Traffic associated with construction vehicles may increase the spread of existing invasive and noxious plant species within the ROW and potentially introduce new invasive species to the project (Lázaro-Lobo and Ervin 2019). Preventive measures to control the spread of noxious and invasive species during construction and measures to manage and control the spread of any new infestations after construction would be implemented. Specific prevention and control measures are described in **Appendixes B** and **C**. These measures would minimize the potential that ground disturbance would result in further noxious and invasive plant establishment and spread.

Effects on special status plants would not occur. This is because preconstruction surveys were conducted (Tonenna 2021; Stantec 2020a), and observed populations of ephemeral monkeyflower, raven's lomatium, adobe lomatium, volcanic beardtongue, and woolly stenotus would be avoided during construction.

None of the reasonably foreseeable future actions are anticipated to occur at the same time as the Proposed Action. Also, the Proposed Action would have no impacts, or it would have minimal temporary impacts. The Proposed Action also includes implementation of BMPs and stipulations to minimize impacts. Therefore, there would be no impacts on vegetation (including noxious and invasive species) from the ROW that would occur later in time or farther removed in distance.

***Issue 2: What would be the effect of the ROW and the associated actions on Webber's ivesia and on designated critical habitat for Webber's ivesia?***

*Analysis Area*

The analysis area for Webber's ivesia and designated critical habitat for Webber's ivesia is the 20-foot ROW.

*Analysis Methods and Assumptions*

The analysis assumes ground disturbance would not take place outside the 20-foot ROW.

*Effects from Alternative A: No Action*

Under the No Action Alternative, the applicant would not construct, operate, or maintain a fiber-optic communications system. Surface disturbance would not occur; therefore, there would be no effects on Webber's ivesia or its designated critical habitat.

*Effects from Alternative B: Proposed Action*

The federally listed Webber's ivesia is not located within the ROW and would not be directly affected. In addition, BMPs detailed in the biological assessment for Webber's ivesia (Tonenna 2021) would be implemented to ensure any potential indirect effects from construction- and maintenance-related activities would not occur. These BMPs would minimize the potential that construction- and maintenance-related activities would result in further noxious and invasive plant establishment and spread, increased wildfire risk, or plant and habitat damage due to inappropriate herbicide use.

None of the reasonably foreseeable future actions are anticipated to occur at the same time as the Proposed Action. Also, the Proposed Action would have no impacts, or it would have minimal temporary impacts. The Proposed Action includes implementation of BMPs and stipulations to minimize impacts. Therefore, there would be no impacts on Webber's ivesia or its designated critical habitat from the ROW that would occur later in time or farther removed in distance.

### 3.2.2 Wetlands

#### Wetlands Conditions

According to the National Wetlands Inventory (NWI), a dataset maintained by the USFWS, approximately 418 acres of mapped wetlands are within 500 feet of the ROW, and 0.22 acres are in the ROW. The National Hydrography Dataset (NHD), a dataset maintained by the US Geological Survey, reports approximately 0.4 acres of swamp/marshlands and 1,160 linear feet of surface waters in the ROW. These datasets are different estimates of the nation's water resources and as such are not additive values. See **Table 3-3** for a summary of wetlands and surface waters by type in the ROW.

**Table 3-3  
NWI and NHD Mapped Features within 500 Feet of the ROW for BLM-Administered  
Surface Lands**

Feature	Acres/Linear Feet within 500 Feet of ROW	Acres/Linear Feet in ROW
<b>NWI Data</b>		
Freshwater emergent wetland		
Oregon	67 acres	0.02 acres
California	95 acres	0.2 acres
Nevada	0 acres	0 acres
Freshwater forested/shrub wetland		
Oregon	63 acres	0 acres
California	180 acres	0 acres
Nevada	0 acres	0 acres
Freshwater pond		
Oregon	12 acres	0 acres
California	1 acre	0 acres
Nevada	0 acres	0 acres
<b>NHD Data</b>		
Lake/pond	40 acres	0 acres
Oregon	39 acres	0 acres
California	2 acres	0 acres
Nevada	0 acres	0 acres
Swamp/marsh		
Oregon	26 acres	0 acres
California	37 acres	0.4 acres
Nevada	0 acres	0 acres
Playa		
Oregon	60 acres	0 acres
California	21 acres	0 acres
Nevada	0 acres	0 acres
Stream/river		
Oregon	4,1413 feet	469 feet
California	130,789 feet	650 feet
Nevada	0 feet	0 feet
Canal/ditch		
Oregon	4,079 feet	41 feet
California	1,601 feet	0 feet
Nevada	0 feet	0 feet

Sources: USFWS 2020; USGS 2016

Wetland delineations were conducted along portions of the project area in Oregon; the results of these investigations are described in detail in the report provided by Stantec (2020b). From Prineville, Oregon, to the southern Oregon border, there are relatively few aquatic resources abutting the proposed project route on BLM-administered lands. Wetlands and waters are more prevalent along the route on private lands, which are mostly used for agriculture. The US Army Corps of Engineers (USACE) may consider the delineated and NWI/NHD-mapped features jurisdictional Wetlands and Other Waters of the US. The USACE could place them under its jurisdiction under Section 404 of the Clean Water Act; however, coordination with the USACE would be necessary to determine the jurisdictional status of these features. The project does not cross BLM-administered lands in Nevada.

***Issue 3: What would be the effect of the ROW on wetlands?***

*Analysis Area*

The analysis area for wetlands is a 500-foot buffer from the edge of the ROW.

*Analysis Methods and Assumptions*

The analysis method assumes a conservative buffer to avoid impacts on wetlands from runoff.

*Effects from Alternative A: No Action*

Under the No Action Alternative, the applicant would not construct, operate, or maintain a fiber-optic communications system. Surface disturbance would not occur; therefore, there would be no effects on wetlands.

*Effects from Alternative B: Proposed Action*

Wetlands would be avoided by installing the fiber-optic cable in conduits along bridges or by using HDD. Horizontal drilling measures are described in **Appendixes G** and **H**. In addition, preventive measures, detailed in the stormwater pollution prevention plan contained in **Appendix D**, would be implemented to ensure any construction-related erosion, sediment runoff, and discharge of other pollutants into adjacent waterways would not occur. The required design features included in **Appendix B** further state that if wetland areas are disturbed, they would be allowed a minimum of 1 year to naturally recover.

Local BLM staff and the ROW permit holder would coordinate riparian area monitoring. ROW holder would comply with the BLM's riparian revegetation recommendations. If disturbance occurs in jurisdictional wetlands (see **Section 3.2.2**), Clean Water Act Section 404 permits may be required, and the ROW holder would implement and comply with any permit conditions. Therefore, effects on wetlands and riparian vegetation are not likely, and any disturbance would be minimal and temporary.

None of the reasonably foreseeable future actions are anticipated to occur at the same time as the Proposed Action. Also, the Proposed Action would have no impacts, or it would have minimal temporary impacts. The Proposed Action also would include implementation of BMPs and stipulations to minimize impacts. Therefore, there would be no impacts on wetlands from the ROW that would occur later in time or farther removed in distance.

### 3.2.3 Wildlife

#### General Wildlife Conditions

##### *Migratory Birds and Raptors*

There is potential habitat for raptors and migratory birds in most of the project area where trees, shrubs, and vegetation occur. A Swainson's hawk (*Buteo swainsoni*) nest is mapped along the east side of Highway 395 in T41N R12E S12 of the BLM Applegate Field Office area (Morris 2021). No raptor nests are mapped in the BLM Eagle Lake Field Office portion of the project area (Nelson n.d.). The project intersects golden eagle territory in Oregon (Ashton 2020), and there are five golden eagle nests within 1 mile of the project ROW (BLM Oregon GIS 2021).

There are no known burrowing owls or burrows in the BLM Eagle Lake Field Office portion of the project area (Nelson n.d.), and no potential habitat exists along the project ROW in Oregon (Ashton 2020). Because the project area is along existing roadways, burrowing owls are not likely to be present across the entire project.

##### *Greater Sage-grouse*

The project area intersects priority habitat management areas for greater sage-grouse on BLM-administered lands in California and Oregon. It intersects general habitat management areas and other habitat management areas in California only.<sup>6</sup> However, the project area is along roadways and transportation corridors. The project area intersects the 4-mile buffer of several leks in Oregon (Ashton 2020) for 33 miles and several leks in California for 15 miles (see **Figure 3-1**, Proposed Fiber-Optic Line Locations Overlapping with Greater Sage-Grouse Lek Buffers).<sup>7</sup> There are no known leks within 4 miles of the project area in the Carson City District (Krause 2019). Timing restrictions for greater sage-grouse seasonal habitats will be followed, as applicable (see **Appendix C**, Best Management Practices and Terms and Conditions), and project design features would be implemented to ensure no impact on the species.

##### *Mammals, Including Big Game*

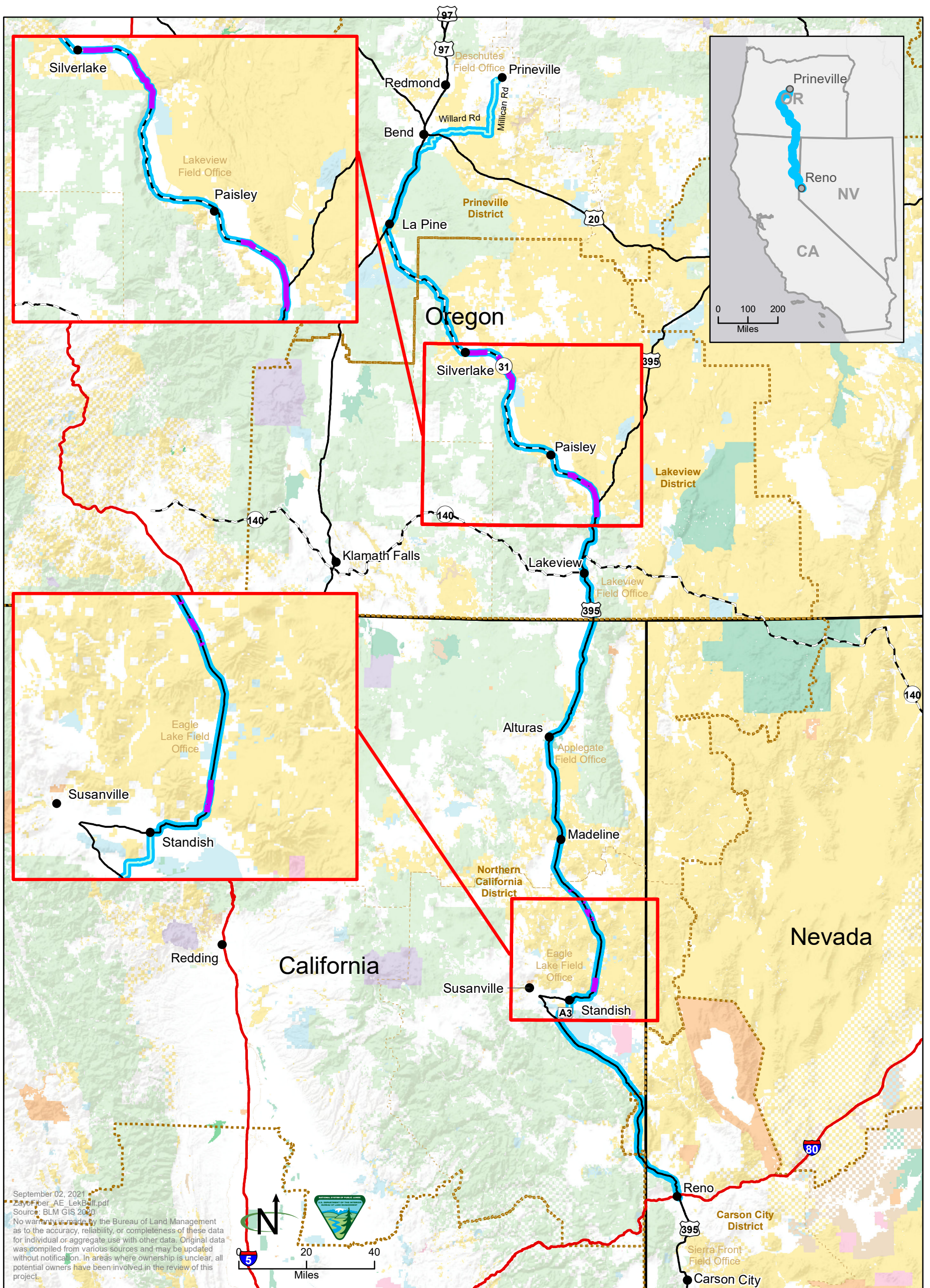
The project area overlaps mule deer, elk, bighorn sheep, and pronghorn winter range in Oregon (Ashton 2020) and various mule deer and pronghorn seasonal ranges in California.<sup>8</sup> There is no designated mule deer fawning or pronghorn kidding habitat in the Eagle Lake Field Office portion of the project area (Nelson n.d.); however, there are year-round pronghorn habitat and mule deer movement corridors and crucial winter habitat in the California portion of the Proposed Action area within the Carson City District Office boundary (Krause 2019). The project area intersects potential kit fox and modeled pygmy rabbit habitat in Oregon (Ashton 2020).

The project does not cross BLM-administered lands in Nevada, so species with the potential to occur in Nevada were not considered in this analysis.

<sup>6</sup> Melissa Nelson, BLM Eagle Lake Field Office wildlife biologist, personal communication with Holly Prohaska, EMPSi, on May 26, 2021.

<sup>7</sup> Melissa Nelson, BLM Eagle Lake Field Office wildlife biologist, personal communication with Holly Prohaska, EMPSi, on May 26, 2021.

<sup>8</sup> Melissa Nelson, BLM Eagle Lake Field Office wildlife biologist, personal communication with Holly Prohaska, EMPSi, on May 26, 2021.



**Figure 3-1**  
**Proposed Fiber-Optic Line Locations Overlapping with Greater Sage-Grouse Lek Buffers**

- |   |                                   |  |
|---|-----------------------------------|--|
| Intersected 4mi buffer of Greater Sage-Grouse Lek | Transportation Network Interstate | Surface Administration Bureau of Land Management |
| Proposed fiber-optic line (proposed action area)  | State highway                     | US Forest Service                                |
| BLM District Office                               | Federal highway                   | Department of Defense                            |
| BLM Field Office                                  | Local road                        | US Fish and Wildlife Service                     |
|   |                                   | National Park Service                            |
|   |                                   | Bureau of Indian Affairs                         |
|   |                                   | Other Federal; Reclamation                       |
|   |                                   | State/Local                                      |
|   |                                   | Private/Unknown                                  |

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### Special Status Species Conditions

On August 9, 2021, the preparers of this report consulted the USFWS's Information, Planning, and Conservation (IPaC) website. According to IPaC, one bird, one amphibian, three fish, and two insect species have the potential to occur in the project ROW (**Table 3-4**). No critical habitats were identified. These species are known to occur. However, only the species associated with the issue statements are addressed.

**Table 3-4**  
**USFWS IPaC Listed Wildlife Species**

Common Name	Scientific Name	Status
<b>Birds</b>		
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Threatened
<b>Amphibians</b>		
Oregon spotted frog	<i>Rana pretiosa</i>	Threatened
<b>Fish</b>		
Lahontan cutthroat trout	<i>Oncorhynchus clarkii henshawi</i>	Threatened
Lost river sucker	<i>Deltistes luxatus</i>	Endangered
Shortnose sucker	<i>Chasmistes brevirostris</i>	Endangered
<b>Insects</b>		
Carson wandering skipper	<i>Pseudocopaeodes eunus obscurus</i>	Endangered
Monarch butterfly	<i>Danaus plexippus</i>	Candidate

Source: USFWS 2021

In Oregon, there are 48 species that are federally listed or BLM sensitive wildlife species with the potential to occur in the BLM Lakeview District and 46 species with the potential to occur in the Prineville District (BLM 2019). In California, there are 20 species that are federally listed or BLM sensitive species with the potential to occur in the BLM Eagle Lake Field Office area and 24 species with the potential to occur in the BLM Applegate Field Office area (BLM 2014). The BLM Carson City District in Nevada has 87 potentially occurring special status species; however, the project does not cross BLM-administered lands in Nevada (BLM 2017), so species with the potential to occur in Nevada were not considered in this analysis. The greater sandhill crane (*Grus canadensis tabida*) is considered a BLM sensitive species in both the Applegate Field Office and Eagle Lake Field Office (BLM 2014) and in the Carson City District (BLM 2019). Also, **Section 1.9**, Issues Considered but Not Analyzed in Detail, addresses the Carson wandering skipper and Oregon spotted frog.

#### **Issue 4: What would be the effect of the ROW on bird and reptile species, mule deer, pronghorn, bighorn sheep, and elk, including their habitats, migration corridors, or mating behaviors?**

##### *Analysis Area*

The analysis area includes the 20-foot ROW.

##### *Analysis Methods and Assumptions*

The analysis assumes ground disturbance would not take place outside of the 20-foot ROW.

##### *Effects from Alternative A: No Action*

Under the No Action Alternative, the applicant would not construct, operate, or maintain a fiber-optic communications system. Surface disturbance would not occur; therefore, there would be no effects on

bird and reptile species, mule deer, pronghorn, bighorn sheep, and elk, including their habitats, migration corridors, or mating behaviors.

#### *Effects from Alternative B: Proposed Action*

Most wildlife species, including birds, reptiles, and big game, are mobile and need high-quality, undisturbed habitat to support their biological needs. The analysis area is 90 percent disturbed/developed communities and is considered poor-quality habitat for wildlife. Most wildlife would prefer higher-quality habitat outside the analysis area. If wildlife species do occur, most are mobile and could move out of the area during the short-term, localized construction activities. Furthermore, timing stipulations dictating when construction can occur would be implemented to avoid disturbance to mule deer, bighorn sheep, pronghorn, elk, raptors, and migratory birds during crucial nesting, breeding, or wintering periods. Spatial and temporal stipulations specific to each species are detailed in **Appendix C**.

Impacts on migration would not occur. This is because the fiber-optic line would be buried and collocated within a previously disturbed ROW; it would not create new barriers to wildlife movement. Protocols to prevent the spread of invasive species, detailed in **Appendixes B and C**, would be implemented to minimize any potential effects on wildlife habitat, including big game habitat, within the ROW. If project activities occur during the bird nesting period, a qualified wildlife biologist would survey all trees and vegetation, prior to removal, to confirm the absence of nesting migratory birds. If nesting migratory birds are located, a 300-foot no-cut buffer would be enforced around the nest site until after the young have fledged. Therefore, effects on birds, reptiles, mule deer, bighorn sheep, pronghorn, elk, and their habitats, migration corridors, or mating behaviors are not likely.

There may be reptiles present within the ROW during construction. However, individual species are anticipated to move to adjacent habitats during construction; impacts will be only temporary.

None of the reasonably foreseeable future actions are anticipated to occur at the same time as the Proposed Action. Also, the Proposed Action would have no impacts, or it would have minimal temporary impacts. The Proposed Action also would include implementation of BMPs and stipulations to minimize impacts. Therefore, there would be no impacts on the above species (including their habitats, migration corridors, or mating behaviors) from the ROW that would occur later in time or farther removed in distance.

#### ***Issue 5: What would be the effect of the ROW on Swainson's hawk, bank swallow, greater sandhill crane, greater sage-grouse, golden eagle, and burrowing owl?***

##### *Analysis Area*

The analysis area includes a 4-mile buffer from the edge of the ROW.

##### *Analysis Methods and Assumptions*

The analysis area considers the greatest (most conservative) buffer distance based on recommended wildlife stipulations. In this case, the buffer distance is based on recommendations for the greater sage-grouse in the 2015 Oregon Greater Sage-Grouse Approved RMP Amendment and the 2015 Nevada and Northeastern California Greater Sage-Grouse Approved RMP Amendment. Buffer distances vary depending on the location and time of year (see **Appendix B** and **Appendix C**).



*Effects from Alternative A: No Action*

Under the No Action Alternative, the applicant would not construct, operate, or maintain a fiber-optic communications system. Surface disturbance would not occur; therefore, there would be no effects on Swainson's hawk, bank swallow, greater sandhill crane, greater sage-grouse, golden eagle, or burrowing owl.

*Effects from Alternative B: Proposed Action*

Similar to Issue 4, above, timing stipulations dictating when construction can occur would be implemented to avoid disturbance to Swainson's hawk, greater sage-grouse, golden eagle, and burrowing owl during crucial nesting and breeding periods. Spatial and temporal stipulations specific to each species are detailed in **Appendix C**. Requirements specific to greater sage-grouse are also detailed in **Appendix B** under **Appendix B1**—Conformance Review Template and **Appendix B2**—Required Design Features Worksheet. The fiber-optic line would be buried and primarily collocated within areas that have been previously disturbed; therefore, no new disturbance would be added to greater sage-grouse priority, general, or other habitat management areas located within the ROW (**Appendix B1**).

There are no known burrowing owls in the BLM Eagle Lake Field Office portion of the project area (Nelson n.d.), and no potential habitat exists along the project ROW in Oregon (Ashton 2020). In California, the ROW does not support high-quality burrowing owl habitat due to the project occurring along existing roadways. If burrowing owls were found, work would cease immediately, and the appropriate temporal and spatial buffers would be enforced (**Appendix C**).

Bank swallows, which are migratory birds that nest communally in burrows in vertical banks along rivers, lakes, streams, and coastlines (Garrison and Turner 2020), may be present at stream crossings along the ROW. However, stream crossings and all aquatic features and associated riparian vegetation would be avoided by installing the fiber-optic cable in conduits along bridges or by using HDD that occurs at a far enough distance from banks to avoid erosion and bank collapse; therefore, there would be no effects on bank swallows within the ROW.

Greater sandhill cranes, which are migratory birds whose breeding and migration ranges intersect Oregon and Northern California, require wet meadow and shallow emergent marsh for nesting and rearing habitat (Gerber et al. 2020). Due to the project occurring along existing roadways and the lack of anticipated effects on wetlands (see Issue 3, above), the project would not affect greater sandhill cranes.

Potential effects on Swainson's hawk, greater sage-grouse, golden eagle, burrowing owl, bank swallow, and greater sandhill crane would be avoided or minimized by project measures, and they would be localized, temporary, and minimal during construction and maintenance activities.

None of the reasonably foreseeable future actions are anticipated to occur at the same time as the Proposed Action. Also, the Proposed Action would have no impacts, or it would have minimal temporary impacts. The Proposed Action also would include implementation of BMPs and stipulations to minimize impacts. Therefore, there would be no impacts on the above species from the ROW that would occur later in time or farther removed in distance.

**Issue 6: What would be the effect of timing or seasonal restrictions (such as for nesting) on migratory birds?***Analysis Area*

The analysis area includes a half-mile buffer from the edge of the ROW.

*Analysis Methods and Assumptions*

The analysis area considers the greatest (most conservative) buffer distance based on recommended wildlife stipulations. In this case, the buffer distance is based on the recommended buffer distance for golden eagles (**Appendix C**).

*Effects from Alternative A: No Action*

Under the No Action Alternative, the applicant would not construct, operate, or maintain a fiber-optic communications system. Surface disturbance would not occur; therefore, there would be no effects on migratory birds.

*Effects from Alternative B: Proposed Action*

Prior to removal, all trees and vegetation would be surveyed by a qualified wildlife biologist to confirm the absence of nesting migratory birds during the bird breeding season. If nesting migratory birds are located, a 300-foot no-cut buffer would be enforced around the nest site until after the young have fledged. Spatial and temporal stipulations specific to each species are detailed in **Appendix C**. Any additional raptor nests found would be subject to the restricted dates and buffer distances dependent on the species, as found in **Appendix C**. These measures would be implemented to avoid any disturbance to migratory birds and raptors during crucial nesting periods. Therefore, seasonal and spatial restrictions would minimize or avoid any effects on migratory birds.

None of the reasonably foreseeable future actions are anticipated to occur at the same time as the Proposed Action. Also, the Proposed Action would have no impacts, or it would have minimal temporary impacts. The Proposed Action also would include implementation of BMPs and stipulations to minimize impacts. Therefore, there would be no impacts on migratory birds from timing or seasonal restrictions that would occur later in time or farther removed in distance.

**3.2.4 Cultural Resources and Tribal Values****Cultural Resources**

Cultural resources present in the project corridor area of potential effects (APE) include archaeological sites, historic and architectural buildings and structures, other resources with important public and scientific uses, and sites that may be of traditional cultural or religious importance to Native American tribes or other specific social or cultural groups. Cultural resources may have locally or nationally significant heritage and scientific values. Cultural resource significance is normally defined by criteria set forth in 36 CFR 60.4, based on eligibility for listing to the National Register of Historic Places (NRHP). Tribal resources are usually identified through government-to-government consultation and may be protected according to specific laws and regulations. Tribes, federal land-managing agencies, and local entities have legal and regulatory responsibility to consider adverse effects on properties that are eligible for listing to the NRHP.

The ROW corridor includes lands managed in Oregon, California, and Nevada by the BLM, Bureau of Indian Affairs (BIA), USFWS, California Department of Fish and Wildlife, the states, state transportation departments, Hallelujah Junction Wildlife Area, USFS, and undetermined or private ownership. The BLM has approved an APE for considering potential effects to cultural resources resulting from the proposed project. The horizontal APE varies in width from 60 to 600 feet, depending on access, current land use, or disturbance; it averages 200 feet across. The APE includes previously surveyed areas and new surveys conducted for this project.

The APE defines all areas that may be affected from general construction activities, but no surface disturbance is proposed. The area of direct impact (ADI) defines the area that will be directly impacted by the placement of the fiber-optic line. An ADI for the project would encompass all areas of direct ground disturbance associated with construction, including all areas that would be subject to furrowing, trench installation, vault installation, and directional boring. The horizontal extent of the ADI is expected to not exceed 18 inches across for furrowing and trench installation. The vertical ADI for furrowing, trenching, and vault excavations would not exceed 42 inches, though deeper excavations would be required for directional boring to bypass sensitive areas or paved roads. The vertical ADI (height) would be approximately 11 feet for the in-line amplifier stations. Temporary staging areas would not require grading, grubbing, or clearing and would not be considered part of the ADI, though they would be confined to the ROW boundaries.

Based on the results of surveys conducted in 2019 and 2020, a summary of resources is included below by state and land management agencies. Subsequent testing and consultation work have been conducted and are still in progress. The responsible agencies are reviewing new data and reporting. The inventory results and recommendations from the initial surveys are subject to change and refinement as the phased consultation continues. National Historic Preservation Act (NHPA) Section 106 compliance under an alternative phased process would be based on the most current inventory information.

### Oregon

Surveys were conducted on the Oregon portion of the project corridor in 2019 and 2020 (see **Table 3-5**). During the 2019 survey effort, 35 previously recorded sites were revisited, and 32 new sites were recorded. Of those newly recorded sites, 15 archaeological sites were documented in or adjacent to the APE in the Oregon Department of Transportation (ODOT) ROW that crosses the BLM Lakeview District and state and private parcels.

**Table 3-5**  
**Summary of New and Previously Recorded Sites in the Oregon APE**

Land Management Agency	Previously Recorded Sites in the APE	Newly Recorded Sites in the APE	Total Sites in the APE	Number of Locations Where Subsurface Testing Is Recommended
ODOT	40	15	55	49
BLM (Prineville District)	2	5	7	4
BLM (Lakeview District)	6	12	18	29
USFS (Deschutes National Forest)	21	0	21	6
USFS (Fremont-Winema National Forest)	4	0	4	0
<b>Total</b>	<b>73</b>	<b>32</b>	<b>105</b>	<b>88</b>

Source: Stantec 2021a

In 2020, intensive pedestrian surveys were conducted within the APE that crosses parcels managed by the BLM Prineville District and USFS lands (Deschutes National Forest and Fremont-Winema National Forest). During the 2020 survey effort, another 33 previously reported sites were revisited, and 5 previously unreported archaeological sites were recorded on BLM-administered lands in the Prineville District. No new archaeological sites were identified during the 2020 pedestrian surveys along the APE in both the Deschutes National Forest and the Fremont-Winema National Forest (Stantec 2021a).

Subsurface testing is recommended at 88 locations within the APE to delineate resource boundaries and to identify the vertical extent of archaeological deposits below the existing surface grades in the ADI. If buried archaeological resources are identified, the data obtained from the subsurface testing would contribute to evaluating the integrity and significance of archaeological resources in the project APE.

The APE crosses one site that is currently listed on the NRHP and 10 additional sites that have been determined eligible for NRHP listing (see **Table 3-6**). The APE crosses one site that was tested by the University of Oregon Museum of Anthropology and recommended as eligible for NRHP listing in 2000. However, there is no indication that the SHPO concurred on a formal determination of NRHP eligibility.

Previous archaeological investigations conducted at the site determined that there are temporally diagnostic materials in buried contexts, and features are also present. Fifteen sites have not been evaluated for NRHP eligibility; however, the existing documentation suggests they may be eligible under one or more criteria. Sixty-five sites have not been evaluated; they would likely require additional data to formally evaluate these resources and determine whether their characteristics may meet any of the NRHP eligibility criteria. Subsurface testing within and adjacent to these archaeological resources is anticipated during 2021 (Stantec 2021a).

**Table 3-6**  
**NRHP Eligibility Status of Archaeological Sites in the Oregon APE**

Land Management Agency	Determined Eligible	Previously Recommended Eligible	Unevaluated (Likely Eligible)	Unevaluated (Additional Data Needed)	Determined Not Eligible	Total
ODOT	6	1	12	33	3	55
BLM (Prineville District)	0	0	0	6	1	7
BLM (Lakeview District)	3	0	3	12	0	18
USFS (Deschutes National Forest)	1	0	0	11	9	21
USFS (Fremont-Winema National Forest)	1	0	0	3	0	4
<b>Total</b>	<b>11</b>	<b>1</b>	<b>15</b>	<b>65</b>	<b>13</b>	<b>105</b>

Source: Stantec 2021a

### California

In 2020, surveys were conducted in the California portion of the APE (see **Table 3-7**) in compliance with Section 106 of the NHPA standards and guidance. All sites located in the APE were recorded or updated; however, preliminary evaluations were only applied to sites that intersect the ADI. A total of 269 sites are located in the APE.

**Table 3-7  
Summary of New and Previously Recorded Sites in the California APE**

Land Management Agency	Previously Recorded Sites in the APE	Newly Recorded Sites in the APE	Total Sites in the APE	Number of Locations Where Subsurface Testing Is Recommended
BIA XL Ranch	12	0	12	3
BLM (Applegate Field Office)	15	3	18	4
BLM (Sierra Front Field Office)	25	6	31	4*
BLM (Eagle Lake Field Office)	41	4	45	15**
Private	151	12	163	44
<b>Total</b>	<b>244</b>	<b>25</b>	<b>269</b>	<b>70</b>

Source: Stantec 2021b

\*Four sites within the Sierra Front Field Office administrative boundaries were recommended for testing; however, the tribe recommended no testing, so no testing will occur.

\*\*Fifteen sites within the Eagle Lake Field Office administrative boundaries were recommended for testing. Of these, three sites are located on Washoe ancestral lands and the tribe recommended no testing within the site boundary. With permission from the tribe, Stantec will be testing the three sites outside the recorded site boundary, at the location of proposed daylight holes, to ensure the site can be completely avoided.

Of these sites, 31 have been determined as not eligible or recommended for listing on the NRHP or California Register of Historical Resources (CRHR) (see **Table 3-8**). There are 216 sites that were not evaluated. Twenty-two sites have been determined or recommended as eligible for listing on the NRHP or CRHR.

The USFS surveyed portions of the APE in the Modoc National Forest. No cultural resources were identified on USFS property (Stantec 2021b).

**Table 3-8  
NRHP Eligibility Status of Archaeological Sites in the California APE**

Land Management Agency	Recommended or Determined Eligible	Recommended or Determined Not Eligible	Unevaluated	Total
BIA XL Ranch	0	1	11	12
BLM (Applegate Field Office)	1	0	17	18
BLM (Sierra Front Field Office)	1	7	23	31
BLM (Eagle Lake Field Office)	6	3	36	45
Private	14	20	129	163
<b>Total</b>	<b>22</b>	<b>31</b>	<b>216</b>	<b>269</b>

Source: Stantec 2021a

**Nevada**

A small segment of the APE that crosses BLM-administered, USFS, and private land was surveyed in Nevada (see **Table 3-9** and **Table 3-10**). A records search revealed that 24 previously recorded sites overlap with the APE. None of these 24 sites are considered historic properties, and they are not eligible for listing on the NRHP. Three new archaeological sites on BLM-administered land were recorded in the APE; however, they are not recommended as eligible for inclusion on the NRHP. No cultural resources were identified during the pedestrian survey of private lands and USFS land within the APE (Stantec 2021c).

**Table 3-9**  
**Summary of New and Previously Recorded Sites in the Nevada APE**

Land Management Agency	Previously Recorded Sites in the APE	Newly Recorded Sites in the APE	Total Sites in the APE	Number of Locations Where Subsurface Testing Is Recommended
BLM	24	3	27	0
USFS	0	0	0	0
Private	0	0	0	0
<b>Total</b>	<b>24</b>	<b>3</b>	<b>27</b>	<b>0</b>

Source: Stantec 2021b

**Table 3-10**  
**NRHP Eligibility Status of Archaeological Sites in the Nevada APE**

Land Management Agency	Recommended or Determined Eligible	Recommended or Determined Not Eligible	Unevaluated	Total
BLM	0	26	1	27
USFS	0	0	0	0
Private	0	0	0	0
<b>Total</b>	<b>0</b>	<b>26</b>	<b>1</b>	<b>27</b>

Source: Stantec 2021b

**Tribal Values and Conditions**

Potential tribal interests in the project area may include a wide range of overlapping economic, social, traditional, and religious practices and uses. There is a responsibility to consult with tribes to consider the conditions necessary to satisfy their concerns and to ensure they can continue traditional uses in interest areas. Confidential ethnographic studies have been prepared to support project consultation and an understanding of particular places and the tribal values associated with them.

The applicant conducted outreach and informal coordination with Native American tribes and requested information regarding the potential for affecting sensitive Native American resources, including traditional cultural properties and traditional cultural resources. The applicant sent letters to federally and non-federally recognized tribes with potential interest in the project area. The applicant also reviewed the NRHP, the Nevada State Register of Historic Places, the Oregon Historic Sites Database, the CRHR, and the California Sacred Lands File to identify any tribal resources that are already formally listed or

recorded. The applicant also conducted informational meetings regarding the project with the Burns Paiute Tribe, the Klamath Tribes, the Pit River Tribe, and the Washoe Tribe, usually with the BLM in attendance.

The Klamath, Burns Paiute, and Washoe Tribes reached out to the applicant requesting that a monitor work during testing efforts within ancestral lands. Stantec has accommodated requests for tribal monitors to be present during survey/testing and construction, and has incorporated reviews and information regarding tribal sensitivity into reporting efforts. The applicant is also in communication with the Pit River Tribe regarding the XL Ranch ROW permit.

The BLM formally initiated consultation on the overall project, as well as on the Archaeological Resources Protection Act permit, through notification letters sent to the following tribes:

- Confederated Tribes of the Warm Springs Reservation of Oregon
- Burns Paiute Tribe
- Klamath Tribes
- Fort Bidwell Indian Community of the Fort Bidwell Reservation of California
- Pit River Tribe
- Susanville Indian Rancheria
- Greenville Rancheria
- Pyramid Lake Paiute Tribe of the Pyramid Lake Reservation, Nevada
- Washoe Tribe of California and Nevada
- Reno-Sparks Indian Colony, Nevada
- Alturas Indian Rancheria of California
- Modoc Nation

Communication and consultation efforts are continuing and will continue through the life of project. Some examples include:

- Coordinating in-depth conversations with the Washoe Tribe and working with the tribe to honor its request to avoid sites rather than do test excavations
- Conducting site visits and multiple meetings with the Klamath Tribes, as well as analyzing its request for an open trench alternative in the EA
- Providing the Pit River Tribe with quarterly updates concerning the project as part of regularly scheduled information sharing meetings with the Applegate and Eagle Lake Field Offices
- Coordinating on-site tribal monitoring efforts between the Pit River Tribe and Stantec
- Inviting tribes to participate in data sharing agreements to receive reports
- Providing the Susanville Indian Rancheria with quarterly updates concerning the project as part of regularly scheduled information sharing meetings with the Applegate and Eagle Lake Field Offices
- Engaging tribes in email and phone conversations on the project during initial survey and planning efforts

Results of these searches, contacts, and inquiries indicated there are Native American cultural resources that are known within or in the immediate vicinity of the project corridor. Further consultation on a government-to-government basis with relevant tribes is continuing as part of the approval process.

***Issue 7: What would be the effect of the ROW on cultural resources and tribal values?***

*Analysis Area*

The ROW has been further characterized as the APE and ADI to describe the location of potential impacts on cultural resources and tribal values. The APE defines all areas that may be impacted from general construction activities, such as staging areas, but no surface disturbance is proposed. The horizontal APE varies in width from 60 to 600 feet, depending on access, current land use, or disturbance; it averages 200 feet across. The ADI defines the area that will be directly impacted by the placement of the fiber-optic line. The ADI for the project would encompass all areas of direct ground disturbance associated with construction, including all areas that would be subject to furrowing, trench installation, vault installation, and directional boring.

*Analysis Methods and Assumptions*

Impacts on cultural resources are assessed by applying the criteria of adverse effect, as defined in the implementing regulations for Section 106 (36 CFR 800). Completion of the parallel Section 106 process, in consultation with tribes, of identifying, evaluating, assessing effects, and resolving any adverse effects on historic properties would define and reduce impacts in consultation with tribes, land-managing agencies, and the SHPOs in the three states.

*Effects from Alternative A: No Action*

Under the No Action Alternative, the applicant would not construct, operate, or maintain a fiber-optic communications system. Surface disturbance would not occur; therefore, there would be no effects on cultural resources and tribal values.

*Effects from Alternative B: Proposed Action*

The APE has been surveyed for the presence and significance of cultural resources. There is ongoing work to refine evaluations and determine the potential for adverse effect. Consultation and coordination with tribes who have interests and values within the ROW continues. Significant cultural resources are present within the APE and the direct impact area defined by the ADI.

The BLM has prepared a programmatic agreement (**Appendix I**) with consulting parties. This programmatic agreement addresses a phased approach for submission of the cultural resource compliance reports for each state. The proposed project is an undertaking that has the potential to cause effects on historic properties. The BLM has determined that effects on historic properties cannot be fully determined prior to approval of this undertaking. Through this alternative phased process, the BLM will ensure completion of the cultural resource inventory, evaluation, and assessment of effects for each ROW segment, project stage, and component.

Resolution of any potential adverse effects will be addressed in separate treatment plans developed in consultation with the respective SHPO, affected tribes, and consulting parties. No ground disturbance or any other activity potentially affecting the integrity of the identified historic properties would be initiated prior to completion of Section 106 requirements for that ROW segment, project stage, or component. Impacts on historic properties and tribal values resulting from the project construction



would be avoided, minimized, mitigated, or resolved in a manner that would accommodate the phased construction and development of the Proposed Action, if approved. These measures would reduce the potential for impacts on cultural resources. Residual impacts could occur from unanticipated discoveries or unidentified tribal values.

No reasonably foreseeable future major actions are anticipated to occur at the same time as the Proposed Action. Cultural resources or tribal values could be impacted from actions that are not subject to review or that are inadvertent. Also, with implementation of the measures outlined in the programmatic agreement, the Proposed Action would result in a reduced potential for unmitigated impacts on cultural resources and tribal values in the ROW. Therefore, there would be no new impacts anticipated that would occur later in time or farther removed in distance.

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# Chapter 4

## Consultation and Coordination

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# Chapter 4. Consultation and Coordination

## 4.1 TRIBES, INDIVIDUALS, ORGANIZATIONS, AND AGENCIES CONSULTED

During the NEPA process for this EA, the BLM formally and informally consulted and coordinated with other federal agencies, state and local governments, Native American tribes, and the interested public. The BLM did this to ensure its compliance, in both the spirit and intent, with 40 CFR 1501.7, 1502.19, and 1503. In addition to formal scoping, the BLM implemented collaborative outreach and a public involvement process that included inviting agencies to be cooperating agencies for the EA planning process. A cooperating agency is any federal, state, or local government agency or Native American tribe that enters into formal agreement with the lead federal agency to help develop an environmental analysis.

### 4.1.1 Government-to-Government Consultation

The federal government works on a government-to-government basis with Native American tribes, as they are recognized to be sovereign governments or sovereign nations. Executive Order 13175 of November 6, 2000, directs agencies to engage in regular and meaningful consultation with tribes when developing policies or plans with the potential to affect tribes. Executive Order 13175 strengthens the relationship and consultation between the United States and tribal nations.

As a matter of practice, the BLM coordinates with all tribal governments, associated Native American communities, Native American organizations, and tribal individuals whose interests might be directly and substantially affected by activities on public lands. In addition, Section 106 of the NHPA requires federal agencies to consult with Native American tribes for undertakings on tribal lands and for historic properties of significance to the tribes that may be affected by an undertaking (36 CFR 800.2(c)(2)). BLM Manual 1780, Tribal Relations, and BLM Handbook H-1780-1, Improving and Sustaining BLM-Tribal Relations, provide guidance for Native American consultations.

Executive Order 13175 stipulates that during the NEPA process, federal agencies must consult tribes identified as being directly and substantially affected. On January 30, 2020, the BLM sent letters to potentially affected tribes inviting them to consult on the proposed project. On February 18, 2020, it sent scoping letters to the tribes that may be interested; to other agencies, such as the USFWS and the state departments of fish and wildlife; and to any potentially interested members of the public. The BLM sent scoping letters to determine the public's interest in this project to help determine the need for any public meetings. The BLM received two letters because of the scoping letters. The two letters received were from the USFWS Bend Office and the California Department of Fish and Wildlife Service. Additional coordination is described under the discussion of tribal values and conditions in **Section 3.2.4, Cultural Resources and Tribal Values**.

Consultation letters were sent to the following tribes:

- Confederated Tribes of the Warm Springs Reservation of Oregon
- Burns Paiute Tribe
- Klamath Tribes
- Fort Bidwell Indian Community of the Fort Bidwell Reservation of California

- Pit River Tribe
- Susanville Indian Rancheria
- Greenville Rancheria
- Pyramid Lake Paiute Tribe of the Pyramid Lake Reservation, Nevada
- Washoe Tribe of Nevada and California
- Reno-Sparks Indian Colony, Nevada
- Alturas Indian Rancheria, California
- Modoc Nation

The BLM will continue to consult with potentially affected tribes through the phased compliance approach, defined by the programmatic agreement, to identify concerns about historic properties; to advise on the identification and evaluation of historic properties, including those of traditional religious, spiritual, or cultural importance; and to articulate views on the undertaking's effects on such properties, pursuant to 36 CFR 800.2(c) and 36 CFR 800.4(c)(1) (**Appendix I**).

#### **4.1.2 State Historic Preservation Office and Tribal Historic Preservation Office**

In accordance with the requirements of Section 106 of the NHPA, the BLM is consulting with the Oregon, California, and Nevada SHPOs and the Pit River Tribal Historic Preservation Office. The SHPOs of the respective states and the Pit River Tribal Historic Preservation Office are signatories of the programmatic agreement that defines an alternative phased approach to the Section 106 process (**Appendix I**). The project proponent, Zayo, is an invited signatory to the programmatic agreement. The tribes are concurring parties under Section 106 and are not signatories. Concurring party signatures are not required to execute the programmatic agreement, but signatures from the signatories and invited signatories are required.

#### **4.1.3 US Department of the Interior, Fish and Wildlife Service**

Consultation with the USFWS is required under Section 7(c) of the Endangered Species Act before the BLM begins any project that may affect federally listed or endangered species or their habitat. Webber's ivesia, a federally endangered species, is not found in the ADI; however, indirect impacts, such as those from maintenance and weed treatments, may have an impact. The BLM consulted the USFWS on Webber's ivesia, a botanical species that occurs near the route in Nevada. A biological assessment was completed by the Sierra Front Field Office in February of 2021 (Tonenna 2021). It was determined that the project may affect, but was not likely to adversely affect, the botanical species Webber's ivesia.

#### **4.1.4 Cooperating Agencies**

A cooperating agency is any federal, state, or local government agency or Native American tribe that enters into a formal agreement with the lead federal agency to help develop an environmental analysis. Cooperating agencies and tribes work with the BLM, sharing knowledge and resources, to achieve desired outcomes for public lands and communities within statutory and regulatory frameworks. Although no agencies and tribal entities agreed to participate as cooperating agencies for this NEPA process, the BLM still worked with tribes to collect information, avoid sites, or honor construction method requests.

## 4.2 LIST OF PREPARERS

This EA was prepared by an interdisciplinary team of staff from the BLM and Environmental Management and Planning Solutions, Inc. (EMPSi). The following is a list of people who prepared or contributed to the development of this EA.

### 4.2.1 US Department of the Interior, Bureau of Land Management

<b>Name</b>	<b>Role/Responsibility</b>
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Penni Borghi*	Section 106 Lead
Shannon Theall*	Geographic Information Systems
Grace Haskins*	Botanist, Noxious Weeds (Executive Order 13112)
Udom Hong*	Planning and Environmental Coordinator
Lawrence Ashton*	Wildlife Biologist, Migratory Birds (Executive Order 13186), Special Status Species (Fauna), Wildlife (including Threatened or Endangered Species or Habitat)
Levi Bateman	Areas of Critical Environmental Concern, Biological Soil Crusts
Devin Snyder	American Indian Traditional Practices, Cultural Heritage
John Morris	Migratory Birds (Executive Order 13186), Fisheries
Elias Flores	Water Quality (Drinking and Ground), Wetlands/Riparian Zones (Executive Order 11990)
Heather Daniels	Lands and Realty
Emily Ryan	Areas of Critical Environmental Concern
Mary Bobbitt	American Indian Traditional Practices, Cultural Heritage, Paleontological Resources
Melissa Nelson	Migratory Birds (Executive Order 13186)
Valda Lockie	Noxious Weeds (Executive Order 13112)
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Kurt Hunt	American Indian Traditional Practices, Cultural Heritage, Paleontological Resources
Sarah Canham	Noxious Weeds (Executive Order 13112), Special Status Species (Flora), Plants (including Threatened or Endangered Species or Habitat)
Michaela Rodriguez	Lands and Realty
Rachel Crews	American Indian Traditional Practices, Cultural Heritage, Paleontological Resources
Gerrit Buma	Environmental Justice (Executive Order 12898)
Dean Tonenna	Noxious Weeds (Executive Order 13112), Special Status Species (Flora), Plants (including Threatened or Endangered Species or Habitat)
Matt Simons	Lands and Realty

\*Core interdisciplinary team member

**4.2.2 Consultant: Environmental Management and Planning Solutions, Inc.**

<b>Name</b>	<b>Role/Responsibility</b>
Holly Prohaska	Project Manager
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Shannon Regan	Vegetation, Wetlands, Wildlife
Kevin Doyle	Cultural Resources, Tribal Values
Rob Lavie	Geographic Information Systems
Megan Stone	Project Record
Emma Davis	Project Record



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# Chapter 5

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# Appendix A

## Construction Figures

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# Appendix A. Construction Figures

This appendix contains construction designs and diagrams for the Proposed Action. Construction of the Proposed Action would consist of the installation methods described in **Section 2.1**, Proposed Action in Chapter 2.



 R-100 für Telekom Leitungen  
T-100 for Telecom along Forest Roads

Photo 1: Fiber-optic conduit plow (photo credit: <https://www.youtube.com/watch?v=ZTlvfwgMqk>).



Photo 2: Fiber-optic conduit placement via trenching method (photo credit: Zayo Group, LLC).



Photo 3: Excavating a trench using a rock hammer (photo credit: Zayo Group, LLC).



Photo 4: Constructed handhole/vault.





Photo 5: Directional boring equipment (photo credit: <https://www.navigatornation.com/blog/post/maintain-horizontal-directional-drill-with-high-operating-hours>).

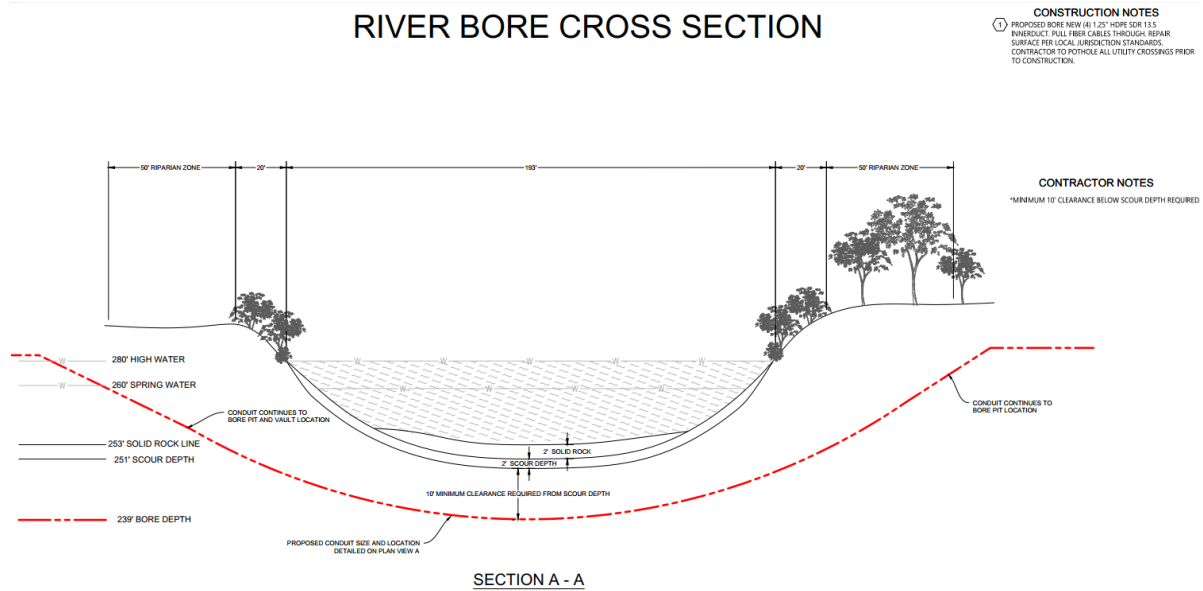


Photo 6: Directional boring detail for typical waterbody crossing. It is typically installed 10 to 15 feet below thalweg or scour depth and is offset at least 50 to 75 feet from the edge of the bank.

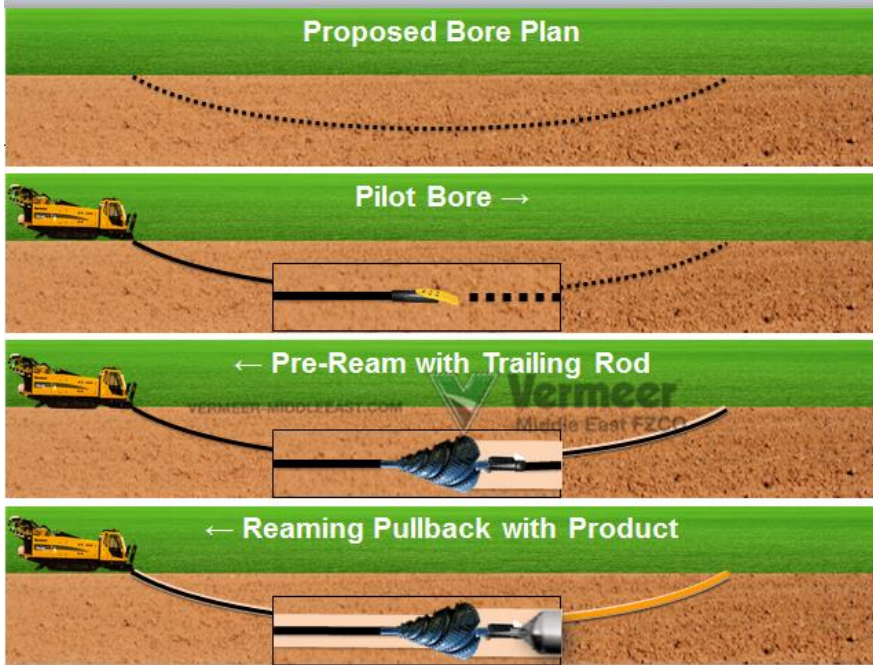


Photo 7: Directional boring plan detail.



Photo 8: Bridge attachment.

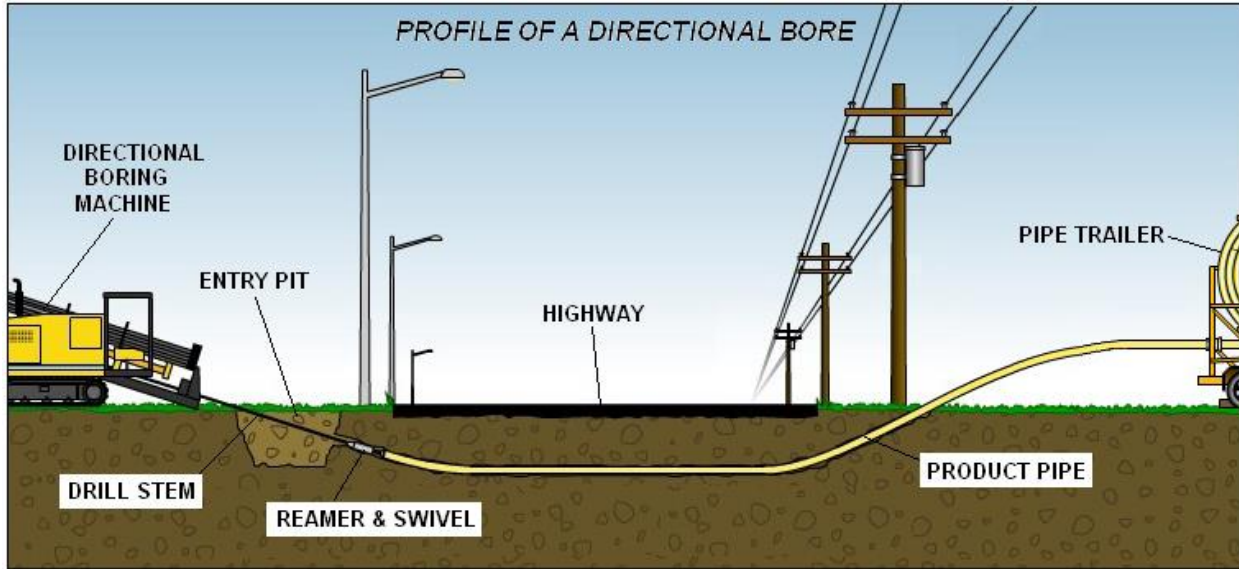


Photo 9: Direction boring schematic for typical road crossing, showing entry pit and directional boring equipment (photo credit: <http://freedomutility.com/process.php>).



Photo 10: Marker at splice points.



Photo 11: Marker for line-of-site and vault locations.

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# Appendix B

Required Design Features

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# Appendix B. Required Design Features

## *Required Design Features for Botany and Weeds*

### *Restoration Stipulations*

- Right-of-way (ROW) permit holders will restore the previously vegetated (undisturbed) area to 75 percent cover within 10 years of project completion; however, disturbance areas should be trending toward successful reclamation within 5 years. ROW permit holders should monitor vegetation recovery annually and should submit the reports to local Bureau of Land Management (BLM) field offices.
- The local BLM field office needs to approve seed mixes used for restoration before ROW permit holders purchase the seeds.
- Disturbed wetland areas will be allowed a minimum of 1 year to naturally recover. Local BLM staff and ROW permit holder will coordinate riparian area monitoring. ROW holders will comply with the BLM's riparian revegetation recommendations.

### *Weed Control Stipulations*

- ROW permit holders will be responsible for annually surveying and controlling any new weed species, weed infestations, or spread of infestation caused by the project.
- After ROW permit holders manage and control the spread of all weed species that were due to the installation of the conduit, holders will be responsible for coordinating all other invasive plant control activities in the ROW with the other ROW permit holders.
- Before using pesticides on BLM-administered land, the ROW permit holders will be responsible for preparing pesticide use proposals, which will need to be approved by the BLM field office. These proposals will need to be reviewed and submitted every 3 years.
- Annually, by October 1, permit holders will need to submit copies of pesticide application records, supporting GIS data, and pesticide use reports to the BLM district office.

### *Required Design Features for Burrowing Owls and Pygmy Rabbits*

- ROW permit holders will avoid staging on top of any burrows or other areas of evident wildlife usage.

The following required design features are in Appendixes B1 and B2 below:

- Appendix B1, Conformance Review Template, Lakeview District, Oregon
- Appendix B2, Required Design Features Worksheet, Nevada and Northeastern California

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# Appendix B I

Conformance Review Template,  
Lakeview District, Oregon

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<b>Conformance Review Template Field Office Section</b>	
<b>Project Name:</b> Zayo Fiber Optic Line-Prineville, OR to Reno, NV	
<b>BLM Project Point of Contact:</b> Tara McClain/Larry Ashton/LeeAnn Harris	<b>Date:</b> 7/27/2020
<b>Is the project within an Oregon Priority Area of Conservation (PAC), Sagebrush Focal Area (SFA), or General Habitat Management Area (GHMA)? YES or NO (Yes , if NO there is no need to fill in the remainder of this template</b>	
<b>Habitat Designation:</b> PHMA	<b>Oregon PAC Name:</b> Picture Rock
<b>List all Land Use Plan Allocation(s) (such as ACEC or RNA, if applicable):</b>	<b>Allocation modifier(s) (if and as applicable):</b> Avoid <b>Additional allocation modifiers:</b>
<b>General Project Type:</b> Lands and Realty	<b>Project Type Modifier(s), if applicable:</b>
<b>Location (include Office, County, Township/Range/Section, Lat./Long, UTM). Also, attach required maps listed at end of template:</b> Project corridor travels along HWY 31 through the Lakeview Resource Area from the Deschutes National Forest to the California border (see maps attached).	
<b>Short description of the project:</b> The Zayo group has applied for a right of way from Prineville, OR to Reno, NV. They plan to bury (cutting a line in, boring where needed, etc.) within existing highway right of ways. For the portion that goes through the Lakeview Field Office, the right of way is located along HWY 31.	
<b>Benefitting Activity:</b> Choose an item.	<b>Program Elements:</b>
<b>Have any Adaptive Management Triggers been engaged in the Oregon PAC:</b> Hard Trigger for Population: Picture Rock	
<b>Does the Proposed Project contribute towards the Disturbance Cap:</b> No  ***This type of project activity does count towards the Disturbance Cap, but the project will be collocated in an existing disturbed ROW. No new acres of disturbance are expected.***	
<b>Please describe type and acres of habitat disturbance or degradation with and without the project and the expected acres:</b> The Zayo Group will be cutting a line into the ground next to HWY 31. Once the fiber optic line is laid in the trench, the cut will be backfilled and then seeded with native vegetation. Every 0.25 miles there will be a buried junction box that is flush with the ground. The fiber optic lines will be hung under the bridge for any stream or bridge crossings.  The entire acreage of the HWY 31 ROW (75ft buffer from the centerline of the HWY) through the Picture Rock PHMA is ~139.24 acres. Estimating the width of disturbance from cutting the line in to be 12 ft in diameter, the total disturbance through the Picture Rock PHMA is 11.14 acres. The amount of disturbance on BLM managed lands within the Picture Rock PHMA is 6.65 acres.	
<b>Percent Disturbance within the PAC:</b> 1.36% or 580 acres (2015-2019)	<b>Percent Disturbance within Project Area using SDARTT:</b> Because the fiber optic line will be buried, SDARTT is not applicable.

**Please identify the Management Decisions in the Approved Resource Management Plan Amendment (ARMPA) that authorize the proposed project or otherwise appears applicable:**

Management Decision [MD] Number (from Chapter 2 of ARMPA)	Does the MD Apply?	Management Decision Text	Conformance Statement (i.e. rationale why MD doesn't apply)
MD SSS-3	Yes	If the 3% anthropogenic disturbance cap, not to exceed 1% increase per decade, is exceeded on lands (regardless of landownership) within GRSG Priority Habitat Management Areas in the affected Oregon PAC, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the General Mining Law of 1872, as amended, valid existing rights, etc.) will be permitted by BLM within GRSG Priority Habitat Management Areas in the affected Oregon PAC until the disturbance has been reduced to less than the cap.	The Picture Rock PHMA has a 1.36% (580 acre increase) disturbance level from 2015-2019. Because the fiber optic line will be buried, it is not considered a degradation type identifier in the ARMPA Table E-2 and therefore, the disturbance cap is not applicable to this project.
MD SSS-4	No	If the 3% disturbance cap, not to exceed 1% increase per decade, is exceeded on all lands (regardless of landownership) within a proposed project analysis area in Priority Habitat Management Areas, then no further anthropogenic disturbance will be permitted by BLM until disturbance in the proposed project analysis area has been reduced to maintain the area under the cap (subject to applicable laws and regulations, such as General Mining Law of 1872, as amended, valid	The Picture Rock PHMA has a 1.36% (580 acre increase) disturbance level from 2015-2019. Because the fiber optic line will be buried, it is not considered a degradation type identifier in the ARMPA Table E-2 and therefore, the disturbance cap is not applicable to this project.

		existing rights, etc.). Within existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation gain to the species will be achieved. This exception is limited to projects which fulfill the use for which the corridors were designated (ex., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location.	
MD SSS-9	Yes	Apply buffers and seasonal restrictions in Table 2-3 to all occupied or pending leks in PHMA and GHMA to avoid direct disturbance to Greater Sage-grouse. In undertaking BLM management actions, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM will apply the lek buffer-distances identified in the USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse—A Review (Open File Report 2014-1239) (Manier et al. 2014; Appendix B).	Seasonal timing restrictions will be applied.
MD SSS-10	No	In undertaking BLM management actions, and, consistent with valid existing rights and applicable law, in authorizing third party actions that result in habitat	The fiber optic line will be buried and collocated within a previously disturbed right of way. No new disturbance will be added.

		loss and degradation, the BLM will require and ensure mitigation that provides a net conservation gain to the species including accounting for any uncertainty associated with the effectiveness of such mitigation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions.	
MD SSS-11	Yes	Anthropogenic disturbances or activities disruptive to GRSG (including scheduled maintenance activities) shall not occur in seasonal GRSG habitats unless the project plan and NEPA document demonstrate the project will not impair the life-cycle or behavioral needs of GRSG populations. Seasonal avoidance periods vary by GRSG seasonal habitat as follows: In breeding habitat within four (4) miles of occupied and pending leks from March 1 through June 30. Lek hourly restrictions are from two hours before sunset to two hours after sunrise at the perimeter of an occupied or pending lek. Brood-rearing habitat from July 1 to October 31. Winter habitat from November 1-February 28	Seasonal timing restrictions will be applied for breeding habitat.
MD SSS-13	Yes	All authorized actions in Greater Sage-grouse habitat are subject to RDFs and BMPs in Appendix C and these disturbance screening criteria: Where avoidance is	-Development in the Picture Rock PHMA will not exceed the disturbance cap. Because the project will be collocated within the existing HWY 31 ROW and the project will be buried, no new disturbance is expected. -The proposed action is more than 1.0 miles

		<p>not possible, disturbance will be allowed under the following conditions:  Development in each Oregon PAC and PHMA does not exceed the disturbance cap at either the Oregon PAC scale or the project scale (Appendix E).  New anthropogenic disturbance does not occur within 1.0 mile of an occupied or pending lek in PHMA or GHMA.  Development meets noise restrictions in PHMA and GHMA (Appendix L).  Analyze through implementation level NEPA seasonal protection and timing limitations of occupied and pending leks in PHMA and GHMA. All disturbance is subject to net conservation gain mitigation to Greater Sage-grouse and its habitat (see Appendix F) in PHMA and GHMA. All new permitted activities will follow Required Design Features (Appendix C) in PHMA and GHMA. To the extent feasible, development should only occur in non-habitat areas. If this is not possible, then development must occur in the least suitable habitat for Greater Sage-grouse. Apply buffers and seasonal restrictions in Table 2-3 to all occupied or pending leks in PHMA and GHMA to avoid direct disturbance to Greater Sage-grouse.</p>	<p>away from any occupied or pending leks.  -Noise will meet the restrictions in PHMA. The disturbance will not occur between two hours before sunset to two hours after sunrise from March 1-June 30. Any noise associated with the project will occur next to the highway which has the potential to be louder than the actual work itself.  -An EA is being prepared to address impacts to sage-grouse. The EA will incorporate seasonal protection and timing limitations of occupied and pending leks in PHMA and GHMA.  -Although this project is subject to net conservation gain mitigation, no new disturbance is expected because it is collocated in a previously disturbed ROW.  -All associated RDFs and BMPs will be applied.  -The project will occur in a previously disturbed ROW corridor.  -Seasonal restrictions from Table 2-3 will be applied.</p>
MD SSS-15	Yes	Implement adaptive management responses to	Exception to Hard Trigger Response When the cause for a hard trigger is wildfire or

		<p>hard and soft triggers established in the Adaptive Management Strategy (Appendix J). Hard trigger responses will be removed, either through a plan amendment or when the criteria for recovery have been met (see Appendix J - Longevity of Responses). Removal of the hard trigger responses returns management direction in the affected Oregon PAC to the plan decisions that are in force within those Oregon PACs that have not tripped a hard trigger.</p>	<p>insect outbreak, more restrictive allocations or management actions will be implemented (see bulleted list above) within the affected Oregon PAC. However, pending and new authorizations could continue within the affected Oregon PAC if the disturbance cap has not been reached and one of the following occurs:</p> <ul style="list-style-type: none"> <li>• The project has been modified so that it would not have direct or indirect impacts on the GRSG population or habitat</li> </ul> <p>By co-locating the ROW within an existing ROW (HWY 31), the project is designed to not remove any habitat from the PAC.</p>
MD VEG 6	Yes	<p>Use adaptive management principles (for example, monitoring and adjusting seed mixes, planting methods or timing of planting to increase success rates) to provide for persistence of seeded or planted species important to Greater Sage-grouse.</p>	<p>Seed mixes appropriate for each ecosite are being drafted by each FO's botanist.</p>
MD VEG 24	Yes	<p>Wash vehicles and equipment used in field operations prior to use in areas without known infestations of invasive plants. Wash vehicles and equipment used in areas with known infestations prior to use in another area to limit the further spread of invasive species to other locations.</p>	<p>Weed washes will be implemented.</p>
MD VEG 25	Yes	<p>Locate base camps, spike camps, coyote camps, or other temporary infrastructure in areas that lack invasive plant populations. Where no such options are available</p>	<p>Staging areas will be located outside of PHMA.</p>



		provide for postoperation invasive plant treatments	
MD VEG 22	Yes	Use of approved herbicides, biocides, and bio-controls is allowed on all land allocations currently providing or reasonably expected to provide Greater Sage-grouse habitat. Follow the guidance in the 2010 Record of Decision for Vegetation Treatments Using Herbicides on BLM Lands in Oregon and subsequent step-down decision records, when complete, or successor/subsequent decisions governing the use of additional herbicides and biocides.	Weeds Specialists will review all applications/proposals for weed treatments along the ROW.
MD LR 1	Yes	All Lands and Realty actions shall comport with SSS 13 disturbance screening criteria.	MD SSS 13 was addressed above.
MD LR 3	Yes	Designate other ROWs (including permits and leases) in PHMA as avoidance areas	The proposed project route will be collocated/buried (including junction boxes) within an existing highway ROW.
MD LR 5	No	Designated ROW Corridors in PHMA and GHMA: Allow placement of new ROWs in existing designated corridors. Construct new ROWs as close as technically feasible to existing linear ROW infrastructure to limit disturbance to the smallest footprint.	The project is not located within an existing corridor, the proposed project route will be collocated/buried within an existing highway ROW.

**Required Design Features (RDF) that Seem Applicable:**

<b>RDF Name and Number (Appendix C)</b>	<b>Apply the RDF?</b>	<b>RDF Text</b>	<b>Conformance Statement (i.e. rationale why the RDF doesn't apply).</b>
Common to All #1 on C-	Yes	Cluster disturbances, operations and facilities.	RDF is included by collocating proposed ROW within an existing ROW (HWY 31).

1			
Common to All #2 on C-1	Yes	Minimize authorizations to reduce disturbance to sagebrush habitats.	The proposed ROW will be collocated with HWY 31 and buried the entire length through the PHMA. Staging areas will be located outside of PHMA.
Common to All #7 on C-2	No	Place new utility developments (power lines and pipelines, for example) and transportation routes in existing utility or transportation corridors.	The proposed ROW is not located within an existing utility or transportation corridor. But it would be collocated within an existing ROW (HWY 31).
Common to All #8 on C-2	Yes	Clean up refuse and eliminate subsidized food sources for GRSG predators.	
Common to All #9 on C-2	Yes	Train all personnel and contractors on GRSG biology, habitat requirements, and identification of local areas used by the birds.	
Common to All #10 on C-2	Yes	Locate on-site work/project camps and staging areas outside of priority habitat (PHMA only)	
Common to All #11 on C-2	Yes	Power wash all vehicles and equipment involved in land and resource management activities prior to allowing them to enter the project area to minimize the introduction and spread of invasive plant species	
Common to All #12 on C-2	Yes	Use native plant species, locally sourced where available, recognizing that use of nonnative species may be necessary, depending on the availability of native seed and prevailing site conditions.	
Common to All #16 on C-2	No	Consider using available organic material or mats to reduce vegetation disturbance for activities and for roads between closely spaced authorizations to reduce soil compaction and	Staging areas will be placed outside of designated sage-grouse habitat in previously disturbed sites.

		maintain soil structure for increasing the likelihood of vegetation reestablishment. C. Required Design Features and Best Management Practices September 2015 Oregon Greater Sage-Grouse Approved RMP Amendment C-3 Remove or incorporate cover at the decommissioning stage of the project or authorized use period.	
Common to All #19 on C-3	Yes	There will be no disruptive activities two hours before sunset to two hours after sunrise from March 1 through June 30 within 1.0 mile of the perimeter of occupied leks, unless brief occupancy is essential for routine ranch activities (e.g., herding or trailing livestock into or out of an area at the beginning or end of the grazing season). Disruptive activities are those that are likely to alter GRSG behavior or displace birds such that reproductive success is negatively affected or an individual's physiological ability to cope with environmental stress is compromised. Examples of disruptive activities are noise, human foot or vehicle traffic, or other human presence.	MD SSS-11 Timing Stipulations will be applied.
Lands and Realty on C-4	Yes	Bury distribution power lines and communication lines, preferably within existing disturbance (PHMA only).	The proposed ROW will be buried within the existing HWY 31 ROW.
Noise #1 on C-7	Yes	Limit noise at the perimeter of occupied or pending leks from two hours before to two hours after sunrise and sunset	The project will follow MD SSS-11 timing stipulations and no disruptive activities will occur at the perimeter of occupied pending leks from two hours before to two hours after

		during the breeding season to less than 10 decibels above ambient sound levels.	sunrise and sunset during the breeding season. Because of this, noise levels are anticipated to stay less than 10 decibels above ambient sound levels at the lek site during the restricted hours.
--	--	---	--

**Is Compensatory Mitigation Required:** No

**Rationale or Brief Description of Mitigation:** Compensatory mitigation is not required due to work being completed within the disturbed area of an existing ROW (along HWY 31). Work will be completed in between timing stipulated periods to limit any potential impacts to sage-grouse during sensitive seasons.

**Based on the FO review, is the project including mitigation measures in conformance with the sage-grouse ARMPA (Sept 2015):** Yes

**Rationale:**

This project is in conformance with the sage-grouse ARMPA (Sept 2015) for the following reasons: every applicable timing stipulation (and associated buffers), management decision, required design feature, and best management practice will be applied to the project. Because the project is co-located with HWY 31, the disturbance footprint is expected to be small (trenching and boring), no measurable amount of habitat will be lost, and the fiberoptic line and associated infrastructure will be buried, no mitigation is required. In accordance with the MOA set up between OR BLM and ODFW, conversations with Nigel Siedel (ODFW Sage-grouse Coordinator) on June 23<sup>rd</sup>, 2020 indicate that due to the small amount of disturbance, current timing stipulations and required design features set in place, and the co-location of the project with HWY 31, no mitigation is required. Additionally, the Sage-grouse Development Siting Tool Estimated Mitigation Report provided the following rationale: "Given the type and location of your project and existing development impacts near the project site, your mitigation burden is likely to be very low, with an estimated relative mitigation score of 12 on a scale of 1-100."

----- **State Office Use Only (this section may be omitted from district only reviews)** -----

**Reviewed by:** *[Signature]*

**Date:** [Click here to enter a date.](#) 10/29/2020

**Based on the SO review, is the project in conformance with the Sage-grouse ARMPA (Sept 2015):**  Choose an item.  yes

**If NO, describe additional needs and whether these are required or recommended changes:**

----- **Approving Official Use Only** -----

**Reviewed by Approving Official:** Yes

**Have required changes been incorporated into the project:** Yes

**If State Office changes have not been fully incorporated, will the project be rejected because the Oregon ARMPA does not allow for the proposed activity:** Choose an item., **If NO, provide rationale as to why the project may proceed:**

**Signature and Title of Approving Official:**

**JAMI LUDWIG** Digitally signed by JAMI LUDWIG  
Date: 2020.11.06 11:17:41 -08'00'

**Date:** 11/6/2020

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# Appendix B2

Required Design Features Worksheet,  
Nevada and Northeastern California

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The worksheet below includes a list of design features that would be implemented for all authorized/permitted activities, consistent with applicable law ( and consistent with the 2015 BLM Nevada and Northeastern California's Approved Resource Management Plan Amendment, MD SSS 2(C), SSS 3(B), and SSS 4. At the site-specific scale, BLM will document when an RDF is or is not applied to a particular project. If an RDF is not applied, this worksheet provides the BLM an opportunity to consistently document its rationale as to why that RDF if not applicable. This document will be placed in the project record and/or referenced in the project's NEPA analysis.

**Project Name:** Zayo Prineville-Reno Fiber Optic Project **NEPA #:**

General RDFs	Applied	If RDF not applied, select reason:
<p><b>RDF Gen 1:</b> Locate new roads outside of GRSG habitat to the extent practical.</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<p><b>Rationale if RDF is not applied:</b> N/A</p>		
<p><b>RDF Gen 2:</b> Avoid constructing roads within riparian areas and ephemeral drainages. Construct low water crossings at right angles to ephemeral drainages and stream crossings (note that such construction may require permitting under Sections 401 and 404 of the Clean Water Act).</p>	<input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<p><b>Rationale if RDF is not applied:</b></p>		
<p><b>RDF Gen 3:</b> Limit construction of new roads where roads are already in existence and could be used or upgraded to meet the needs of the project or operation. Design roads to an appropriate standard, no higher than necessary, to accommodate intended purpose and level of use.</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<p><b>Rationale if RDF is not applied:</b> N/A</p>		
<p><b>RDF Gen 4:</b> Coordinate road construction and use with ROW holders to minimize disturbance to the extent possible.</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<p><b>Rationale if RDF is not applied:</b> N/A</p>		
<p><b>RDF Gen 5:</b> During project construction and operation, establish and post speed limits in GRSG habitat to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<p><b>Rationale if RDF is not applied:</b> N/A</p>		

Project Name: \_\_\_\_\_

NEPA #: \_\_\_\_\_

<p><b>RDF Gen 6:</b> Newly constructed project roads that access valid existing rights would not be managed as public access roads. Proponents will restrict access by employing traffic control devices such as signage, gates, and fencing.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<p><b>Rationale if RDF is not applied:</b> N/A</p>	
<p><b>RDF Gen 7:</b> Require dust abatement practices when authorizing use on roads.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<p><b>Rationale if RDF is not applied:</b> N/A</p>	
<p><b>NO RDF 8 Identified</b></p>		
<p><b>RDF Gen 9:</b> Upon project completion, reclaim roads developed for project access on public lands unless, based on site-specific analysis, the route provides specific benefits for public access and does not contribute to resource conflicts.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<p><b>Rationale if RDF is not applied:</b> N/A</p>	
<p><b>RDF Gen 10:</b> Design or site permanent structures that create movement (e.g., pump jack/ windmill) to minimize impacts on GRSG habitat.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<p><b>Rationale if RDF is not applied:</b> N/A</p>	
<p><b>RDF Gen 11:</b> Equip temporary and permanent aboveground facilities with structures or devices that discourage nesting and perching of raptors, corvids, and other predators.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<p><b>Rationale if RDF is not applied:</b> N/A</p>	



Project Name: \_\_\_\_\_

NEPA #: \_\_\_\_\_

<p><b>RDF Gen 12:</b> Control the spread and effects of nonnative, invasive plant species (e.g., by washing vehicles and equipment, minimize unnecessary surface disturbance; Evangelista et al. 2011). All projects would be required to have a noxious weed management plan in place prior to construction and operations.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	
<p><b>RDF Gen 13:</b> Implement project site-cleaning practices to preclude the accumulation of debris, solid waste, putrescible wastes, and other potential anthropogenic subsidies for predators of GRSG.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	
<p><b>RDF Gen 14:</b> Locate project related temporary housing sites outside of GRSG habitat.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b> N/A	
<p><b>RDF Gen 15:</b> When interim reclamation is required, irrigate site, in accordance with state laws, to establish seedlings more quickly if the site requires it.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	
<p><b>RDF Gen 16:</b> Utilize mulching or other soil amendment techniques to expedite reclamation and to protect soils if the site requires it.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	

Project Name:

NEPA #:

<p><b>RDF Gen 17:</b> Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.</p>	<input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<b>Rationale if RDF is not applied:</b>		
<p><b>RDF Gen 18:</b> When authorizing ground-disturbing activities, require the use of vegetation and soil reclamation standards suitable for the site type prior to construction.</p>	<input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<b>Rationale if RDF is not applied:</b>		
<p><b>RDF Gen 19:</b> Instruct all construction employees to avoid harassment and disturbance of wildlife, especially during the GRSG breeding (e.g., courtship and nesting) season. In addition, pets shall not be permitted on site during construction (BLM 2005b).</p>	<input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No	<input checked="" type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<b>Rationale if RDF is not applied:</b>		
<p><b>RDF Gen 20:</b> To reduce predator perching in GRSG habitat, limit the construction of vertical facilities and fences to the minimum number and amount needed and install anti-perch devices where applicable.</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<b>Rationale if RDF is not applied:</b>		
N/A		
<p><b>RDF Gen 21:</b> Outfit all reservoirs, pits, tanks, troughs or similar features with appropriate type and number of wildlife escape ramps (BLM 1990; Taylor and Tuttle 2007).</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<b>Rationale if RDF is not applied:</b>		
N/A		

Project Name: \_\_\_\_\_

NEPA #: \_\_\_\_\_

<p><b>RDF Gen 22:</b> Load and unload all equipment on existing roads, pull outs, or disturbed areas to minimize disturbance to vegetation and soil.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<p><b>Rationale if RDF is not applied:</b></p>	

In addition to the General RDFs, apply Lands and Realty RDFs to PHMA, GHMA, and OHMA as appropriate and consistent with applicable law:

Project Name: \_\_\_\_\_ NEPA #: \_\_\_\_\_

Lands and Realty RDFs*	Applied	If RDF not applied, select reason:
<p><b>RDF LR-LUA 1:</b> Where new ROWs associated with valid existing rights are required, co-locate new ROWs within existing ROWs or where it best minimizes impacts in GRSG habitat. Use existing roads or realignments of existing roads to access valid existing rights that are not yet developed.</p>	<input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat. Rationale if RDF is not applied:
<p><b>RDF LR-LUA 2:</b> Do not issue ROWs to counties on newly constructed energy/mining development roads, unless for a temporary use consistent with all other terms and conditions included in this document.</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat. Rationale if RDF is not applied: N/A
<p><b>RDF GEN (LR-LUA) 3:</b> Where necessary, fit transmission towers with anti-perch devices (Lammers and Collopy 2007) in GRSG habitat.</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat. Rationale if RDF is not applied: N/A
<p>*These RDFs also apply to other land use authorizations such as leases and permits</p>		

In addition to the General RDFs, apply Fuels and Fire Management RDFs to PHMA, GHMA, and OHMA as appropriate and consistent with applicable law:

Project Name: \_\_\_\_\_

NEPA #: \_\_\_\_\_

Fuels and Fire Management RDFs	Applied	If RDF not applied, select reason:
<p><b>RDF WFM 1:</b> Power-wash all firefighting vehicles, including engines, water tenders, personnel vehicles, and all-terrain vehicles (ATVs), prior to deploying in or near GRSG habitat to minimize the introduction and spread of undesirable and invasive plant species. (This is not applicable to initial attack vehicles.)</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat. Rationale if RDF is not applied:
<p><b>RDF WFM 2:</b> Protect wildland areas from wildfire originating on private lands, infrastructure corridors, and recreational areas.</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat. Rationale if RDF is not applied:
<p><b>RDF WFM 3:</b> Reduce the risk of vehicle or human-caused wildfires and the spread of invasive species by planting and maintaining perennial vegetation (e.g., greenstrips) paralleling road rights-of-way.</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat. Rationale if RDF is not applied:

In addition to the General RDFs, apply Fluid Minerals RDFs to PHMA, GHMA, and OHMA as appropriate and consistent with applicable law:

Project Name: \_\_\_\_\_

NEPA #: \_\_\_\_\_

Fluid Minerals RDFs	Applied	If RDF not applied, select reason:
<b>RDF Lease FM 1:</b> Co-locate power lines, flow lines, and small pipelines under or immediately adjacent to existing roads (Bui et al. 2010) in order to minimize or avoid disturbance.	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	
<b>RDF Lease FM 2:</b> Cover, create barriers, or implement other effective deterrents (e.g., netting, fencing, birdballs, and sound cannons) for all ponds and tanks containing potentially toxic materials to reduce GRSG mortality.	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	
<b>RDF Lease FM 3:</b> Require installation of noise shields to comply with noise restrictions (see Action SSS 7) when drilling during the breeding, nesting, brood-rearing, and/or wintering season. Require applicable GRSG seasonal timing restrictions when noise restrictions cannot be met (see Action SSS 6).	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	
<b>RDF Lease FM 4:</b> Ensure habitat restoration meets GRSG habitat objectives (Table 2-2) for reclamation and restoration practices/sites (Pyke 2011).	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	

Project Name: \_\_\_\_\_

NEPA #: \_\_\_\_\_

<p><b>RDF Lease FM 5:</b> Maximize the area of interim reclamation on long-term access roads and well pads, including reshaping, topsoil management, and revegetating cut-and-fill slopes.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	
<p><b>RDF Lease FM 6:</b> Restore disturbed areas at final reclamation to the pre-disturbance landforms and meets the GRSG habitat objectives (Table 2-2).</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	
<p><b>RDF Lease FM 7:</b> Use only closed-loop systems for drilling operations and no reserve pits within GRSG habitat.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	
<p><b>RDF Lease FM 8:</b> Place liquid gathering facilities outside of GRSG habitat. Have no tanks at well locations within GRSG habitat to minimize vehicle traffic and perching and nesting sites for aerial predators of GRSG.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	
<p><b>RDF Lease FM 9:</b> In GRSG habitat, use remote monitoring techniques for production facilities and develop a plan to reduce vehicular traffic frequency of vehicle use (Lyon and Anderson 2003).</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	

Project Name: \_\_\_\_\_

NEPA #: \_\_\_\_\_

<p><b>RDF Lease FM 10:</b> Use dust abatement practices on well pads.</p>	<input type="checkbox"/> Yes          <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.  <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____  <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<p><b>Rationale if RDF is not applied:</b></p>		
<p><b>RDF Lease FM 11:</b> Cluster disturbances associated with operations and facilities as close as possible, unless site-specific conditions indicate that disturbances to GRSG habitat would be reduced if operations and facilities locations would best fit a unique special arrangement.</p>	<input type="checkbox"/> Yes          <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.  <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____  <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<p><b>Rationale if RDF is not applied:</b></p>		
<p><b>RDF Lease FM 12:</b> Apply a phased development approach with concurrent reclamation.</p>	<input type="checkbox"/> Yes          <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.  <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____  <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<p><b>Rationale if RDF is not applied:</b></p>		
<p><b>RDF Lease FM 13:</b> Restrict pit and impoundment construction to reduce or eliminate augmenting threats from West Nile virus (Dougherty 2007).</p>	<input type="checkbox"/> Yes          <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.  <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____  <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<p><b>Rationale if RDF is not applied:</b></p>		



**Project Name:** [Redacted]

**NEPA #:** [Redacted]

<p><b>RDF Lease FM 14:</b></p> <p>In GRSG habitat, remove or re-inject produced water to reduce habitat for mosquitoes that vector West Nile virus. If surface disposal of produced water continues, use the following steps for reservoir design to limit favorable mosquito habitat (Doherty 2007):</p> <ul style="list-style-type: none"> <li>• Overbuild size of ponds for muddy and non-vegetated shorelines</li> <li>• Build steep shorelines to decrease vegetation and increase wave actions</li> <li>• Avoid flooding terrestrial vegetation in flat terrain or low lying areas</li> <li>• Construct dams or impoundments that restrict down slope seepage or overflow</li> <li>• Line the channel where discharge water flows into the pond with crushed rock</li> <li>• Construct spillway with steep sides and line it with crushed rock.</li> <li>• Treat waters with larvicides to reduce mosquito production where water occurs on the surface</li> </ul>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<p><b>Rationale if RDF is not applied:</b></p>		
<p><b>RDF Lease FM 15:</b></p> <p>Consider using oak (or other material) mats for drilling activities to reduce vegetation disturbance and for roads between closely spaced wells to reduce soil compaction and maintain soil structure to increase likelihood of vegetation reestablishment following drilling.</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable. <input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____ <input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
<p><b>Rationale if RDF is not applied:</b></p>		

In addition to the General RDFs, apply Locatable Minerals RDFs to PHMA, GHMA, and OHMA as appropriate and consistent with applicable law:

Project Name:

NEPA #:

Locatable Minerals RDFs	Applied	If RDF not applied, select reason:
<p><b>RDF LOC 1:</b> Install noise shields to comply with noise restrictions (see Action SSS 7) when drilling during the breeding, nesting, brood-rearing, and/or wintering season. Apply GRSG seasonal timing restrictions when noise restrictions cannot be met (see Action SSS 6).</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<p><b>Rationale if RDF is not applied:</b></p>	
<p><b>RDF LOC 2:</b> Cluster disturbances associated with operations and facilities as close as possible, unless site-specific conditions indicate that disturbances to GRSG habitat would be reduced if operations and facilities locations would best fit a unique special arrangement.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<p><b>Rationale if RDF is not applied:</b></p>	
<p><b>RDF LOC 3:</b> Restrict pit and impoundment construction to reduce or eliminate augmenting threats from West Nile virus (Dougherty 2007).</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<p><b>Rationale if RDF is not applied:</b></p>	

**Project Name:** \_\_\_\_\_

**NEPA #:** \_\_\_\_\_

<p><b>RDF LOC 4:</b></p> <p>Remove or re-inject produced water to reduce habitat for mosquitoes that vector West Nile virus. If surface disposal of produced water continues, use the following steps for reservoir design to limit favorable mosquito habitat (Doherty 2007):</p> <ul style="list-style-type: none"> <li>• Overbuild size of ponds for muddy and non-vegetated shorelines</li> <li>• Build steep shorelines to decrease vegetation and increase wave actions</li> <li>• Avoid flooding terrestrial vegetation in flat terrain or low lying areas</li> <li>• Construct dams or impoundments that restrict down slope seepage or overflow</li> <li>• Line the channel where discharge water flows into the pond with crushed rock</li> <li>• Construct spillway with steep sides and line it with crushed rock.</li> <li>• Treat waters with larvicides to reduce mosquito production where water occurs on the surface</li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<p><b>Rationale if RDF is not applied:</b></p>	
<p><b>RDF LOC 5:</b></p> <p>Address post reclamation management in reclamation plan such that goals and objectives are to protect and improve sage-grouse habitat needs.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<p><b>Rationale if RDF is not applied:</b></p>	
<p><b>RDF LOC 6:</b></p> <p>Maximize the area of interim reclamation on long-term access roads and well pads including reshaping, topsoiling, and revegetating cut and fill slopes.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<p><b>Rationale if RDF is not applied:</b></p>	
<p><b>RDF LOC 7:</b></p> <p>Cover (e.g., fine mesh netting or use other effective techniques) all pits and tanks regardless of size to reduce sage-grouse mortality.</p>	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<p><b>Rationale if RDF is not applied:</b></p>	

In addition to the General RDFs, apply Comprehensive Travel and Transportation Management RDFs to PHMA, GHMA, and OHMA as appropriate and consistent with applicable law:

Project Name:

NEPA #:

Comprehensive Travel and Transportation Management RDFs	Applied	If RDF not applied, select reason:
<b>RDF CTTM 1:</b> Rehabilitate roads, primitive roads, and trails not designated in approved travel management plans.	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	
<b>RDF CTTM 2:</b> Reclaim closed duplicate roads by restoring original landform and establishing desired vegetation in GRSG habitat in accordance with GRSG habitat objectives (Table 2-2) as identified in travel management planning.	<input type="checkbox"/> Yes	<input type="checkbox"/> A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that
	<input type="checkbox"/> No	<input type="checkbox"/> An alternative RDF is determined to provide equal or better protection for GRSG or its habitat. Alternative RDF # _____
		<input type="checkbox"/> A specific RDF will provide no additional protection to GRSG or its habitat.
	<b>Rationale if RDF is not applied:</b>	

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# Appendix C

Best Management Practices and Terms and Conditions

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# Appendix C. Best Management Practices and Terms and Conditions

By accepting a grant, Zayo Group, LLC (Zayo) agrees to comply with and be bound by terms and conditions outlined in Code of Federal Regulations Title 43—Public Lands: Interior, 2800—Rights-Of-Way Under the Federal Land Policy and Management Act, Subpart 2805—Terms and Conditions of Grants. Also, Zayo must follow the stipulations below. The figures of the nine segments appear after the stipulations for the nine segments.

## Timing Stipulations

### Oregon

#### Segment 1 (see map page 1 below)

##### *Descriptive Location*

Highway 126 (just west of Prineville), south on Millican Road, east on Alfalfa Market Road to Powell Butte Highway to Highway 20, south on Ward Road, west on Stevens Road, south on SE 27th to Highway 97

##### *Timing Stipulations*

Species	Timing Stipulation	Legal Location
Mule deer and elk winter range	December 1–April 30	T16, SR5E, Sec 34; T17, SR15E, Sec 3, 10, 15, 19, 20, 22, 27, 28, 29; T17, SR14E, Sec 30
Pronghorn winter range	December 1–April 30	T16, SR15E, Sec 22, 27, 34; T17, SR15E, Sec 3, 10, 15, 19, 20, 22, 27, 28, 29, 30
Golden eagle	February 1–August 31	T17, SR15E, Sec 10

#### Segment 2 (see map page 2 below)

##### *Descriptive Location*

Highway 97 (at Knott Road) through LaPine to Highway 31 to Lakeview District Office boundary

##### *Timing Stipulations*

Species	Timing Stipulation	Legal Location	Comments
Elk and mule deer winter range	December 1– April 30	T21, SR11E, Sec 6, 7, 18; T21, SR10E, Sec 25; T22, SR10E, Sec 22, 34; T23, SR10E, Sec 2, 3, 11, 13, 14, 24, 25	None

<b>Species</b>	<b>Timing Stipulation</b>	<b>Legal Location</b>	<b>Comments</b>
Oregon spotted frog	April 1–July 31	T22, SR10E, Sec 15, 22, 27, 34	Informal consultation (in person) completed with US Fish and Wildlife Service on March 10, 2020

**Segment 3 (see map page 3 below)**

*Descriptive Location*

Highway 31 in Deschutes National Forest to 12 miles passed Silver Lake, Oregon

*Timing Stipulations*

<b>Species</b>	<b>Timing Stipulation</b>	<b>Legal Location</b>	<b>Comments</b>
Pygmy rabbit	None	T26S, R13E, Sec 3, 4, 9, 16, 28	Avoid burrows where observed
Golden eagle	February 1–July 30	T28S, R16E, Sec 32; T29S, R16E, Sec 4	None
Mule deer winter range	None	T25S, R13E, Sec 31, 32; T26S, R13E, Sec 3, 4, 9, 10, 16, 21, 28, 33, 34; T27S, R13E, Sec 3, 10, 11, 14, 23, 25, 26, 36; T28S, R13E, Sec 1; T28S, R14E, Sec 6, 7; T28S, R15E, Sec 20, 21, 22; T28S, R16E, Sec 4	None
Elk winter range	None	T25S, R13E, Sec 31, 32; T26S, R13E, Sec 3, 4, 9, 10, 16, 21, 28, 33, 34; T27S, R13E, Sec 3, 10, 11, 14, 23, 25, 26, 36; T28S, R14E, Sec 6, 7; T28S, R15E, Sec 19, 20, 21	None
Greater sage-grouse	In breeding habitat within four (4) miles of occupied and pending leks from March 1 through June 30. Lek hourly restrictions are from 2 hours before sunset to 2 hours after sunrise at the perimeter of an occupied or pending lek.	T28S, R16E, Sec 30, 29, 32; T29S, R16E, Sec 4	None



**Segment 4 (see map page 4 below)**

*Descriptive Location*

Highway 31 southeast of Silver Lake, Oregon, to 15 miles southeast of Paisley, Oregon

*Timing Stipulations*

<b>Species</b>	<b>Timing Stipulation</b>	<b>Legal Location</b>	<b>Comments</b>
Pygmy rabbit	None	T29S, R16E, Sec 23	Avoid burrows where observed
Golden eagle	February 1–July 30	T29S, R16E, Sec 9, 10, 15, 22, 23	None
Mule deer winter range	None	T29S, R16E, Sec 4, 9, 15, 22, 23, 26, 25, 36; T30S, R16E, Sec 1, 12, 13, 14, 23, 26, 27, 34; T31S, R16E, Sec 3, 10, 15, 22, 26, 27, 35; T32S, R16E, Sec 2, 11, 14, 23, 24, 25, 26, 36; T32S, R17E, Sec 31; T33S, R17E, Sec 4, 5, 6, 9, 10, 11, 12; T33S, R18E, Sec 7, 8, 9, 13, 14, 15; T33S, R19E, Sec 30, 31; T34S, R19E, Sec 6, 7, 8, 15, 16, 17, 21, 22, 23, 24	None
Greater sage-grouse	In breeding habitat within four (4) miles of occupied and pending leks from March 1 through June 30. Lek hourly restrictions are from 2 hours before sunset to 2 hours after sunrise at the perimeter of an occupied or pending lek.	T34S, R20E, Sec 19, 29, 30, 33, 34; T35S, R20E, Sec 2, 3; T34S, R19E, Sec 23, 24; T30S, R16E, Sec 1, 12, 13 T29S, R16E, Sec 4, 9, 10, 15, 22, 23, 25, 26, 36	None

**Segment 5 (see map page 5 below)**

*Descriptive Location*

Highway 31 15 miles southeast of Paisley, Oregon, to the Oregon/California border

*Timing Stipulations*

<b>Species</b>	<b>Timing Stipulation</b>	<b>Legal Location</b>
Greater sage-grouse	In breeding habitat within four (4) miles of occupied and pending leks from March 1 through June 30. Lek hourly restrictions are from 2 hours before sunset to 2 hours after sunrise at the perimeter of an occupied or pending lek.	T35S, R20E, Sec 1, 2, 12, 13; T35S, R21E, Sec 18, 19, 30, 31; T36S, R21E, Sec 6, 7, 18, 19
Mule deer winter range	None	Entire stretch <b>EXCEPT</b> T38S, R20E, Sec 33; T39S, R20E, Sec 4

**California—Applegate Field Office**

**Segment 6 (see map page 6 below)**

*Descriptive Location*

Oregon/California border on Highway 395 to 5.5 miles south of Alturas, California.

*Timing Stipulations*

There is a documented Swainson’s hawk (*Buteo swainsoni*) nest tree on the east side of Highway 395 in T41N, R12E, Sec 12, approximately 5.5 miles south of Alturas. Since the nest status is currently unknown, the nest should be considered active. Table 2.24-3, Seasonal Restrictions and Distance Buffers for Wildlife in the resource management plan (RMP) stipulates a 0.5-mile line-of-sight distance buffer for Swainson’s hawk nests with seasonal restriction dates of April 15 to August 15. If the project plan allows for flexibility in project alignment relative to Highway 395, the fiber-optic cable should be routed along the west side of Highway 395 in T41N, R12E, Sec 12.

**California—Eagle Lake Field Office**

**Segment 7 (see map page 7 below)**

*Descriptive Location*

Starting 5.5 miles south of Alturas, California, for approximately 52 miles along Highway 395

*Timing Stipulations*

<b>Species</b>	<b>Timing Stipulation</b>	<b>Legal Location</b>
Greater sage-grouse nesting habitat	April 1–June 30 No work allowed during this time unless approved by an authorized officer	T33N, R15E, Sec 6, 7, 8, 17, 18, 20, 28, 29, 33; T33N, R14E, Sec 1; T34N, R14E, Sec 5, 6, 8, 9, 15, 22, 23, 25, 26, 36
Greater sage-grouse brood-rearing habitat	May 15–September 15 No work allowed during this time unless approved by an authorized officer	T33N, R15E, Sec 6, 7, 8, 17, 18, 20; T33N, R14E, Sec 1; T34N, R14E, Sec 5, 6, 8, 9, 15, 22, 23, 25, 26, 36

<b>Species</b>	<b>Timing Stipulation</b>	<b>Legal Location</b>
Greater sage-grouse winter habitat	November 1–February 28 No work allowed during this time unless approved by an authorized officer	T32N, R15E, Sec 4, 10, 14, 23, 26; T33N, R15E, Sec 6, 7, 8, 17, 18, 20; T33N, R14E, Sec 1; T34N, R14E, Sec 5, 6, 8, 9, 15, 22, 23, 25, 26, 36; T35N, R13E, Sec 14, 15 (private), 23, 25, 26, 36 (private)

**Segment 8 (see map page 8 below)**

*Descriptive Location*

Approximately 13 miles north of Honey Lake along Highway 395 to 20 miles south of Standish-Buntingville Road along Highway 395

*Timing Stipulations*

<b>Species</b>	<b>Timing Stipulation</b>	<b>Legal Location</b>
Greater sage-grouse nesting habitat	April 1–June 30 No work allowed during this time unless approved by an authorized officer	T29N, R15E, Sec 3, 4; T30N, R15E, Sec 15, 22, 27, 33, 34
Greater sage-grouse brood-rearing habitat	May 15–September 15 No work allowed during this time unless approved by an authorized officer	T29N, R15E, Sec 3,4; T30N, R15E, Sec 15, 22, 27, 33, 34

Burrowing owls: No known burrowing owls/burrows are known within the Eagle Lake Field Office portion of the project footprint. If found, work would cease immediately, and the 1/4-mile buffer restricted distance would be enforced from March 1 to August 31, as stated in Table 2.25-1 of the Eagle Lake Field Office RMP. The August 31 date is extended for the Eagle Lake Field Office as long as owls are still seen at the site.

Raptors: No currently known raptor nests are located within the Eagle Lake Field Office portion of the project. Any raptor nests found would be subject to the restricted dates and buffer distances stated in Table 2.25-1, Buffer Zones and Seasonal Restrictions for Raptors and Other Wildlife Species from the Eagle Lake Field Office RMP:

<b>Species</b>	<b>Buffer Zone—Distance</b>	<b>Seasonal Restriction Dates</b>
Bald eagle	Nest: 1/2-mile line of sight; 1/4-mile non-line of sight; 1.0-mile blasting (January–August)  Winter roosts: 1/2 mile (December–April)	January 1–August 31 December 1–April 1 No work allowed during these times, unless approved by an authorized officer
Golden eagle	Nest: 1/2-mile line of sight; 1/4-mile non-line of sight	February 1–August 31 No work allowed during these times, unless approved by an authorized officer

<b>Species</b>	<b>Buffer Zone—Distance</b>	<b>Seasonal Restriction Dates</b>
Northern goshawk	Current nest: 1/4 mile Previous year's nest: 1/2 mile	March 1–August 31 No work allowed during these times, unless approved by an authorized officer
Cooper's hawk	Nest: 1/4 mile	March 1–August 31 No work allowed during these times, unless approved by an authorized officer
Sharp-shinned hawk	Nest: 1/4 mile	March 1–August 31 No work allowed during these times, unless approved by an authorized officer
Ferruginous hawk	Nest: 1/2-mile direct line of sight; 1/4 mile with visual buffer	March 1–August 1 No work allowed during these times, unless approved by an authorized officer
Red-tailed hawk	Nest: 1/4 mile	March 1–August 31 No work allowed during these times, unless approved by an authorized officer
Swainson's hawk	Nest: 1/4 to 1/2 mile	April 15–August 15 No work allowed during these times, unless approved by an authorized officer
Peregrine falcon	Nest: 1.0 mile	January 1–August 15 No work allowed during these times, unless approved by an authorized officer
Prairie falcon	Nest: 1/4 to 1/2 mile	March 15–August 15 No work allowed during these times, unless approved by an authorized officer
Osprey	Nest: 1/4 mile	March 1–August 31 No work allowed during these times, unless approved by an authorized officer
Burrowing owl	Nest: 1/4 mile	March 1–August 31 No work allowed during these times, unless approved by an authorized officer
Flammulated owl	Nest: 1/4 mile	April 1–September 30 No work allowed during these times, unless approved by an authorized officer
Great gray owl	Nest: 1/4 mile	March 1–July 31 No work allowed during these times, unless approved by an authorized officer

Species	Buffer Zone—Distance	Seasonal Restriction Dates
Great blue heron	Nest: 660 feet to 1/4 mile	March 15–July 15 No work allowed during these times, unless approved by an authorized officer
Townsend’s big-eared bat	Hibernaculum: November–April Nursery: April–October	November 1–April 15 April 15–October 31 No work allowed during these times, unless approved by an authorized officer

Migratory birds: Prior to removal, all trees and vegetation shall be surveyed by a qualified wildlife biologist to confirm the absence of nesting migratory birds. If nesting migratory birds are located, a 300-foot no-cut buffer will be enforced around the nest site until after the young have fledged.

Bats: Prior to removal, all trees shall be surveyed by a qualified wildlife biologist to confirm the absence of bats. If bats are located, the tree(s) will not be removed and the Zayo wildlife lead will be notified.

Greater sage-grouse (GRSG):

Nevada and Northeastern California Greater Sage-Grouse Approved RMP Amendment 2015 version:

- Approved Resource Management Plan Amendment (2015) GRSG seasonal restriction dates, pages 2-8, 2-9, and 2-10:
  - MD SSS 2: In [priority habitat management areas], the following conditions will be met in order to avoid, minimize, and mitigate any effects on GRSG and its habitat from the project/activity:<sup>9</sup>
    - E. Seasonal restrictions will be applied during the period specified below to manage discretionary surface-disturbing activities and uses on public lands to prevent disturbances to GRSG during seasonal life-cycle periods:
      - 1. In breeding habitat within 4 miles of active and pending GRSG leks from March 1 through June 30
        - a. Lek—March 1 to May 15
        - b. Lek hourly restrictions—6 p.m. to 9 a.m.
        - c. Nesting—April 1 to June 30
      - 2. Brood-rearing habitat from May 15 to September 15
        - a. Early—May 15 to June 15
        - b. Late—June 15 to September 15
      - 3. Winter habitat from November 1 to February 28

The seasonal dates may be modified due to documented local variations (e.g., higher/lower elevations) or annual climatic fluctuations (e.g., early/late spring, long/heavy winter), in coordination with [Nevada Department of Wildlife] and California Department of Fish and Wildlife (CDFW), in order to better protect GRSG and its habitat.

<sup>9</sup> The conditions would not be applicable to vegetation treatments being conducted to enhance GRSG habitat, with the exceptions of seasonal restrictions and noise.

- MDSSS 3: In [general habitat management areas], the following conditions will be met in order to avoid, minimize, and mitigate any effects on GRSG or its habitat from the project/activity:<sup>10</sup>
    - D. Seasonal restrictions will be applied during the period specified below to manage discretionary surface-disturbing activities and uses on public lands to prevent disturbing GRSG during seasonal life-cycle periods, as follows:
      - 1. In breeding habitat within 4 miles of active and pending GRSG leks from March 1 through June 30
        - a. Lek—March 1 to May 15
        - b. Lek hourly restrictions—6 p.m. to 9 a.m.
        - c. Nesting—April 1 to June 30
      - 2. Brood-rearing habitat from May 15 to September 15
        - a. Early—May 15 to June 15
        - b. Late—June 15 to September 15
      - 3. Winter habitat from November 1 to February 28
- The seasonal dates may be modified due to documented local variations (e.g., higher/lower elevations) or annual climatic fluctuations (e.g., early/late spring, long/heavy winter), in coordination with Nevada Department of Wildlife and California Department of Fish and Wildlife, in order to better protect GRSG and its habitat.

Other species: If species such as elk, American badger, snowshoe hare, or other “unusual” species are observed, a specific location should be noted (Universal Transverse Mercator or legal location) and reported back to the Zayo wildlife lead or the Eagle Lake Field Office wildlife biologist, or both.

## **Nevada**

### **Segment 9 (see map page 9 below)**

#### *Descriptive Location*

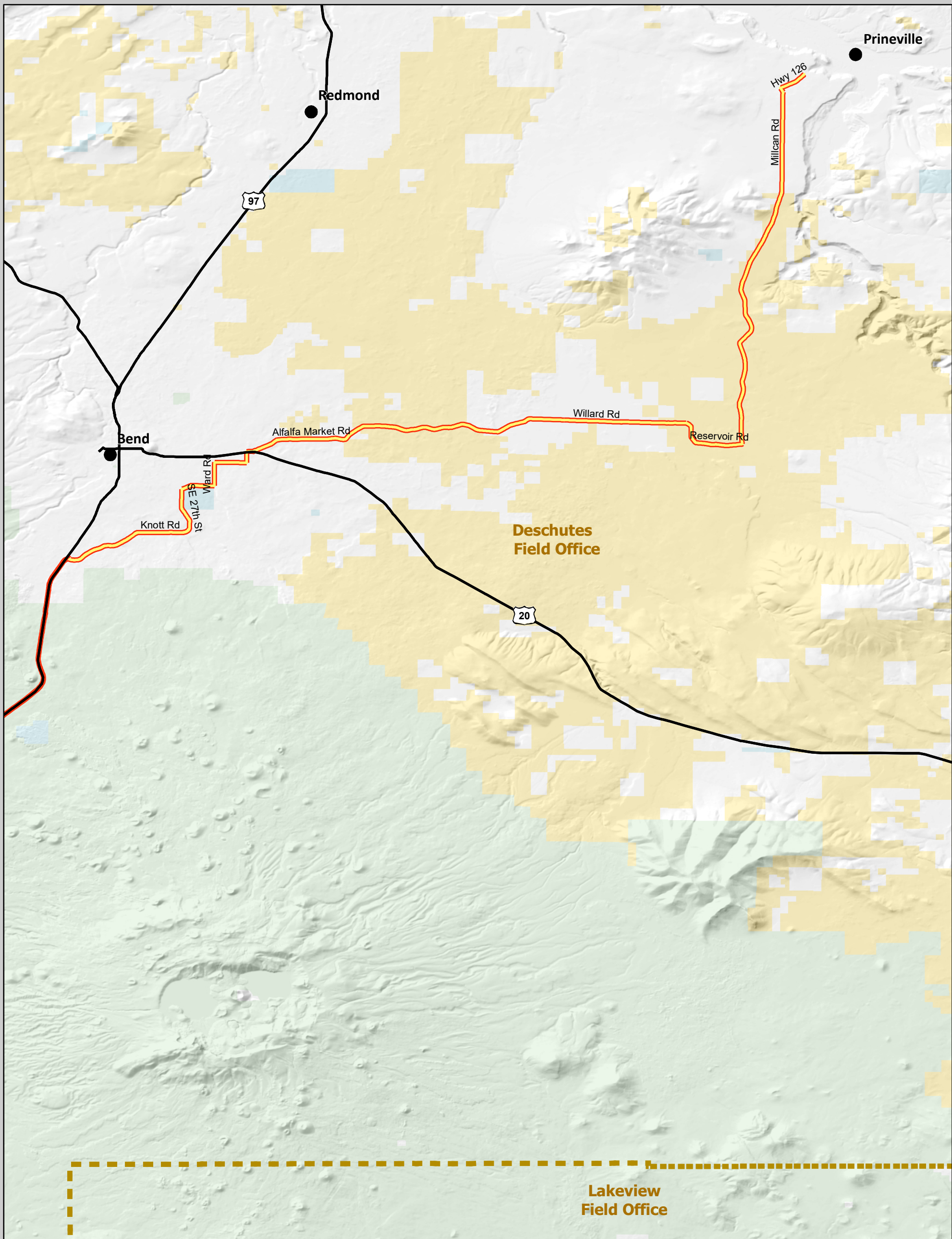
Starting 20 miles south of Standish-Buntingville Road along Highway 395 to Reno, Nevada

#### *Timing Stipulations*

Migratory birds and raptors: Anywhere vegetation (such as shrubs or trees) removal will take place, work cannot occur during these dates, unless approved by an authorized officer: April 1– July 31 for migratory birds and March 1– August 31 for raptors.

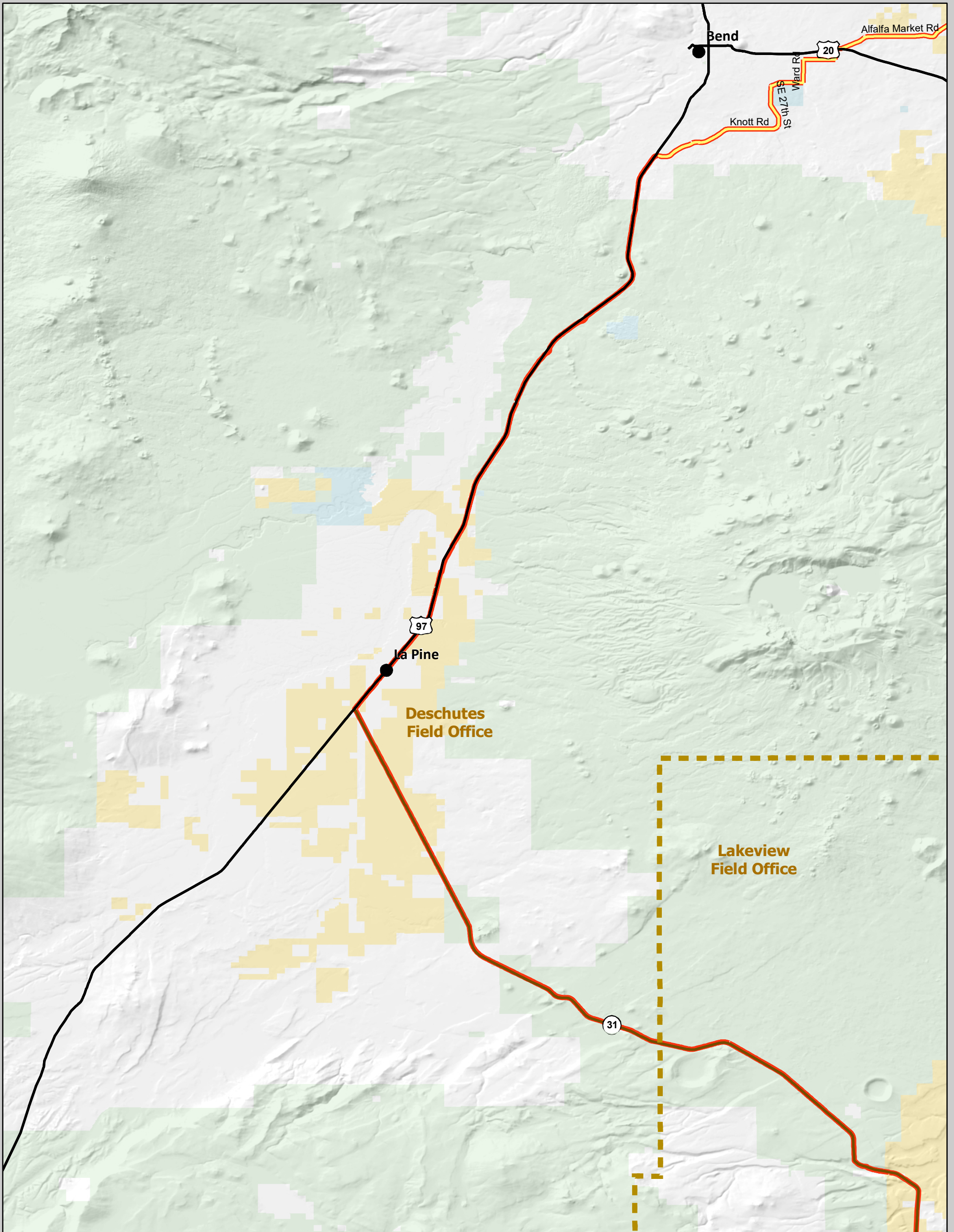
Webber’s ivesia (*Ivesia webberi*): The use of herbicides, which harm or kill Webber’s ivesia pollinators, must not be used during the bloom period of April 1 to June 1 in areas that are within 3 miles of designated critical habitat or occupied habitat.

<sup>10</sup> The conditions would not be applicable to vegetation treatments being conducted to enhance GRSG habitat, with exceptions for seasonal restrictions and noise.



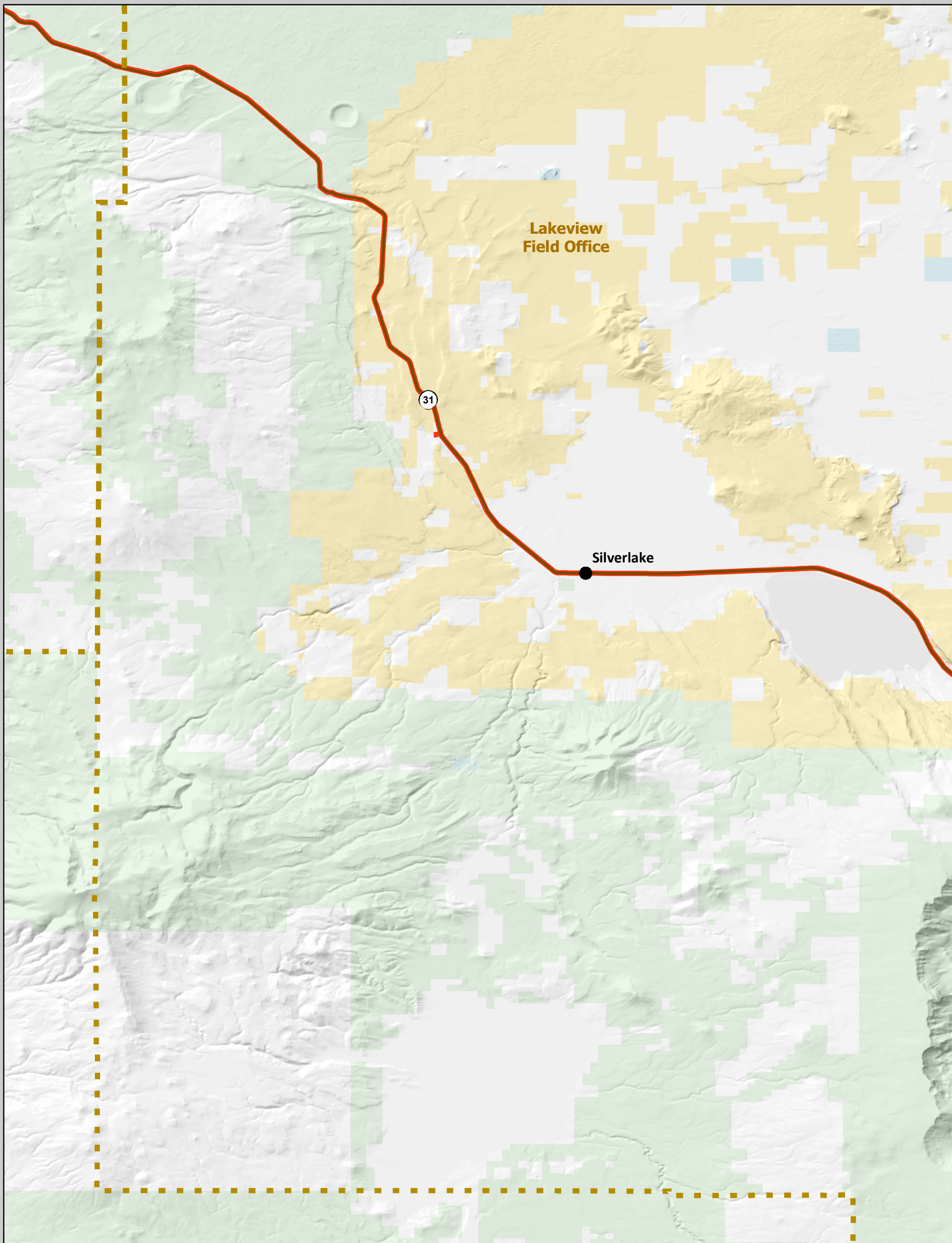
<p><b>Transportation</b></p> <ul style="list-style-type: none"> <li> ZAYO Fiber Optic Project Route</li> <li> Interstate</li> <li> State Highway</li> <li> Federal Highway</li> <li> Local Roads</li> <li> Field Office Boundaries</li> </ul>		<p><b>Land Status</b></p> <ul style="list-style-type: none"> <li> Bureau of Land Management</li> <li> Bureau of Indian Affairs</li> <li> US Fish and Wildlife Service</li> <li> US Forest Service</li> <li> State/Local</li> <li> Private/Unknown</li> </ul>	
		<p>Map Location</p>	
		<p><b>***Disclaimer***</b>                  Map is for reference only. Zayo fiber optic route is entirely within currently disturbed road rights-of-ways</p>	
		<p>0 5 10 Miles</p>	

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ZAYO Fiber Optic Project Route	<b>Land Status</b>		No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
<b>Transportation</b>	Bureau of Land Management Bureau of Indian Affairs US Fish and Wildlife Service US Forest Service State/Local Private/Unknown		
Interstate			<p><b>***Disclaimer***</b>  <b>Map is for reference only. Zayo fiber optic route is entirely within currently disturbed road rights-of-ways</b></p>
State Highway			
Federal Highway			
Local Roads			
Field Office Boundaries			



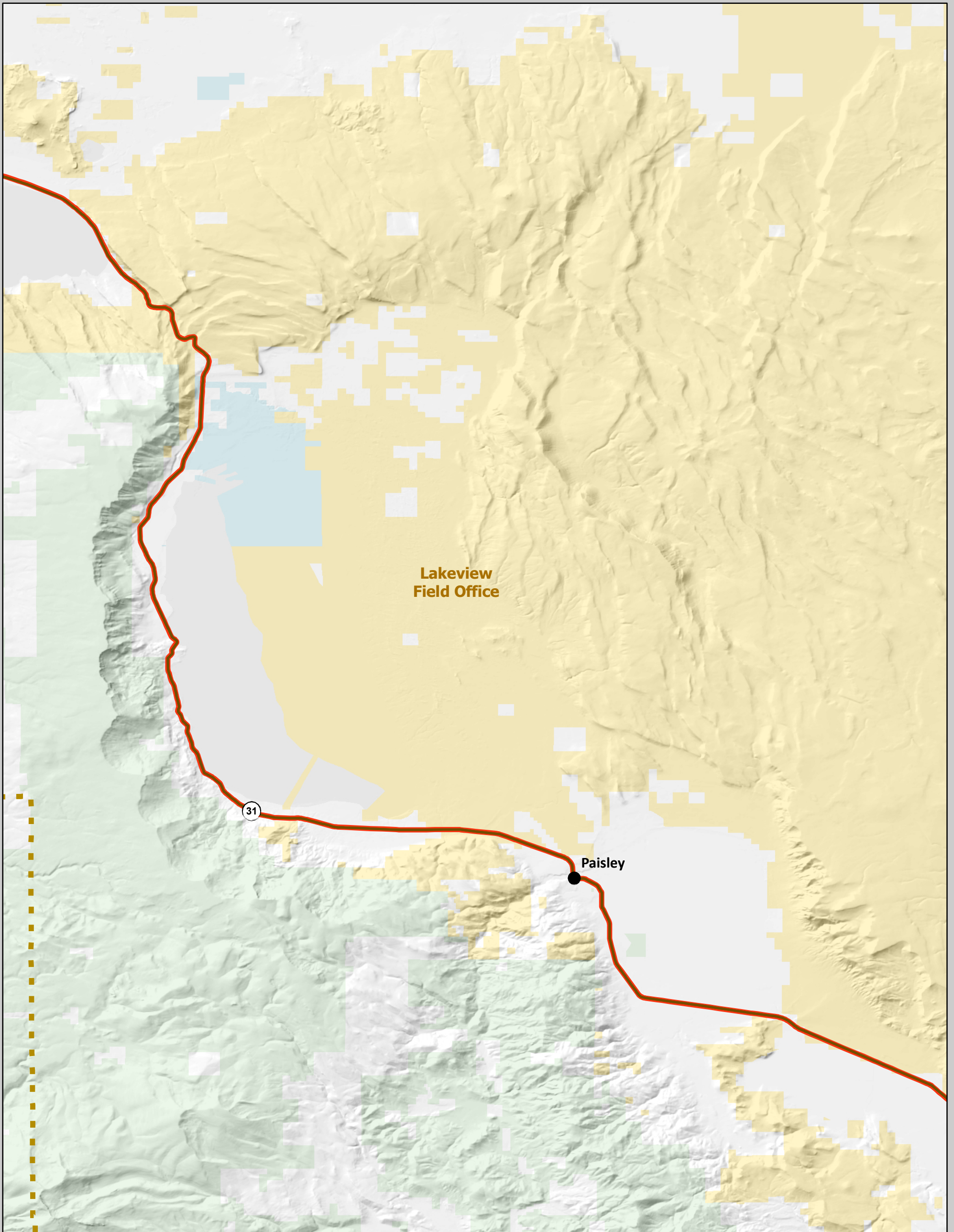


ZAYO Fiber Optic Project Route	<b>Land Status</b>
<b>Transportation</b>	Bureau of Land Management
Interstate	Bureau of Indian Affairs
State Highway	US Fish and Wildlife Service
Federal Highway	US Forest Service
Local Roads	State/Local
Field Office Boundaries	Private/Unknown

Map Location

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




Lakeview  
Field Office

Paisley

31

 ZAYO Fiber Optic Project Route

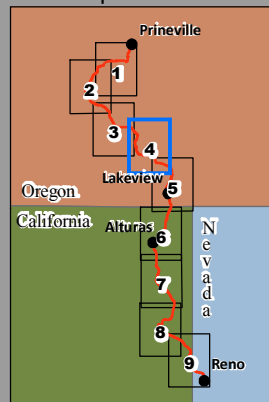
**Transportation**

-  Interstate
-  State Highway
-  Federal Highway
-  Local Roads
-  Field Office Boundaries

**Land Status**

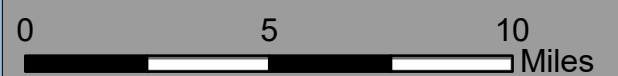
-  Bureau of Land Management
-  Bureau of Indian Affairs
-  US Fish and Wildlife Service
-  US Forest Service
-  State/Local
-  Private/Unknown

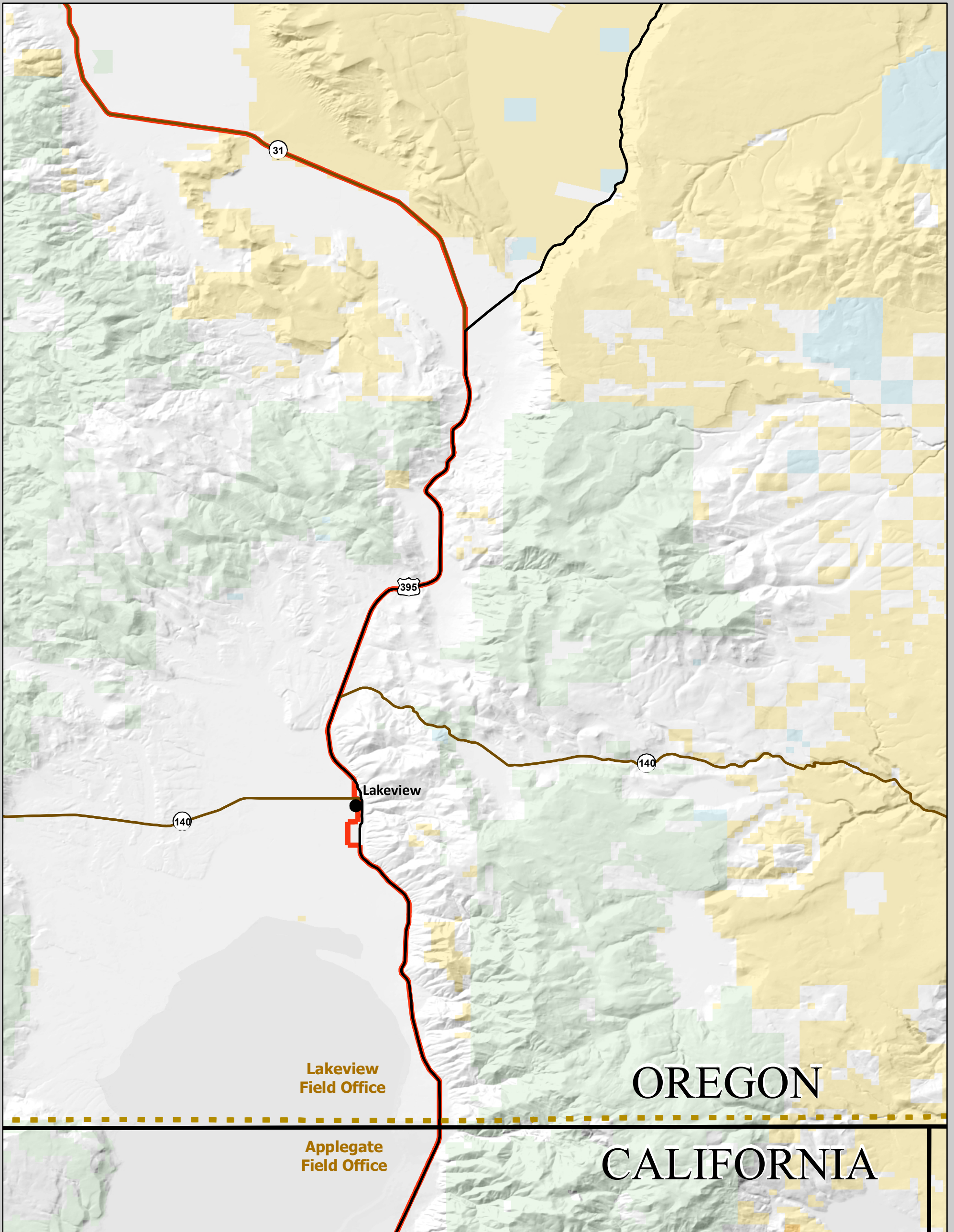
Map Location



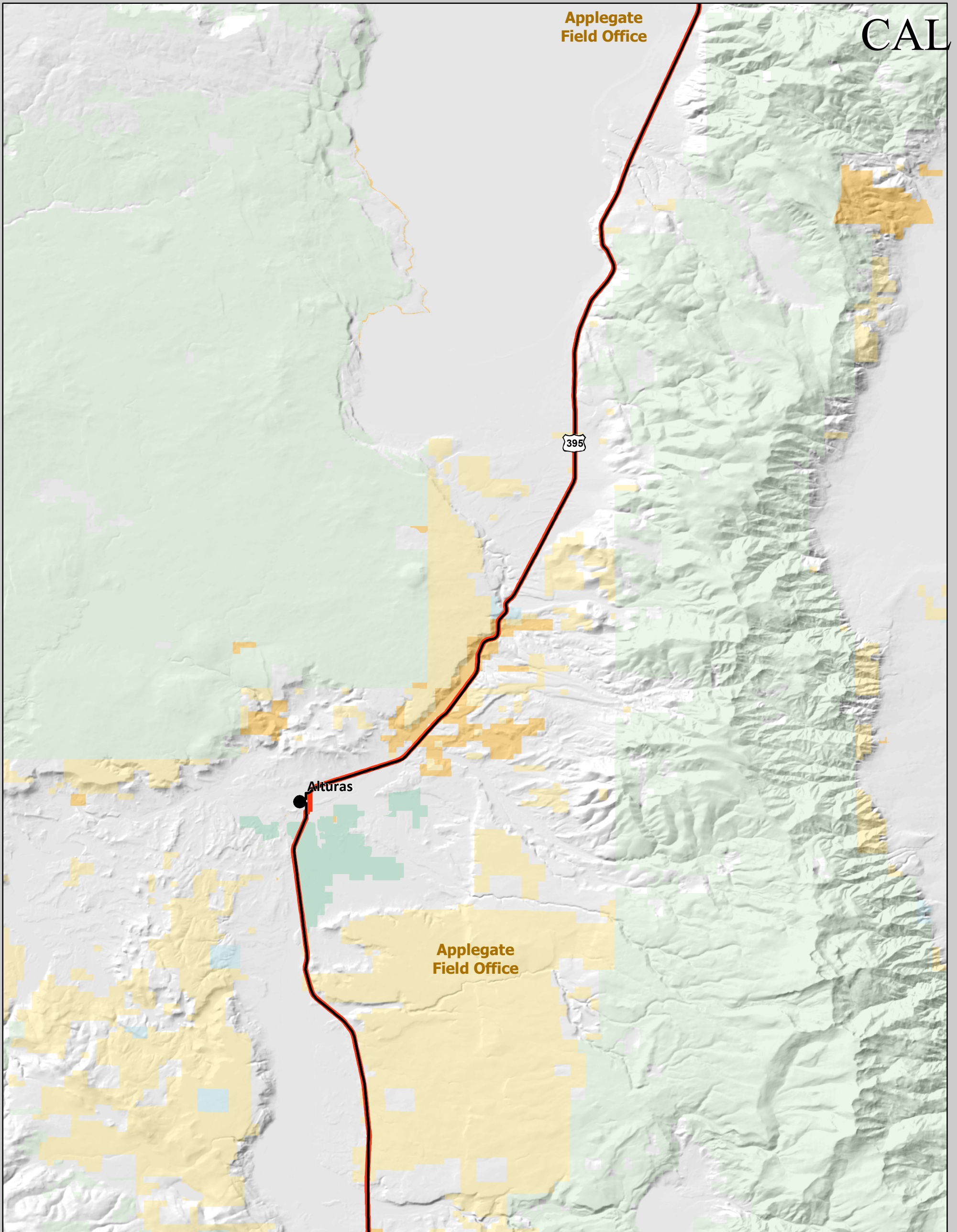
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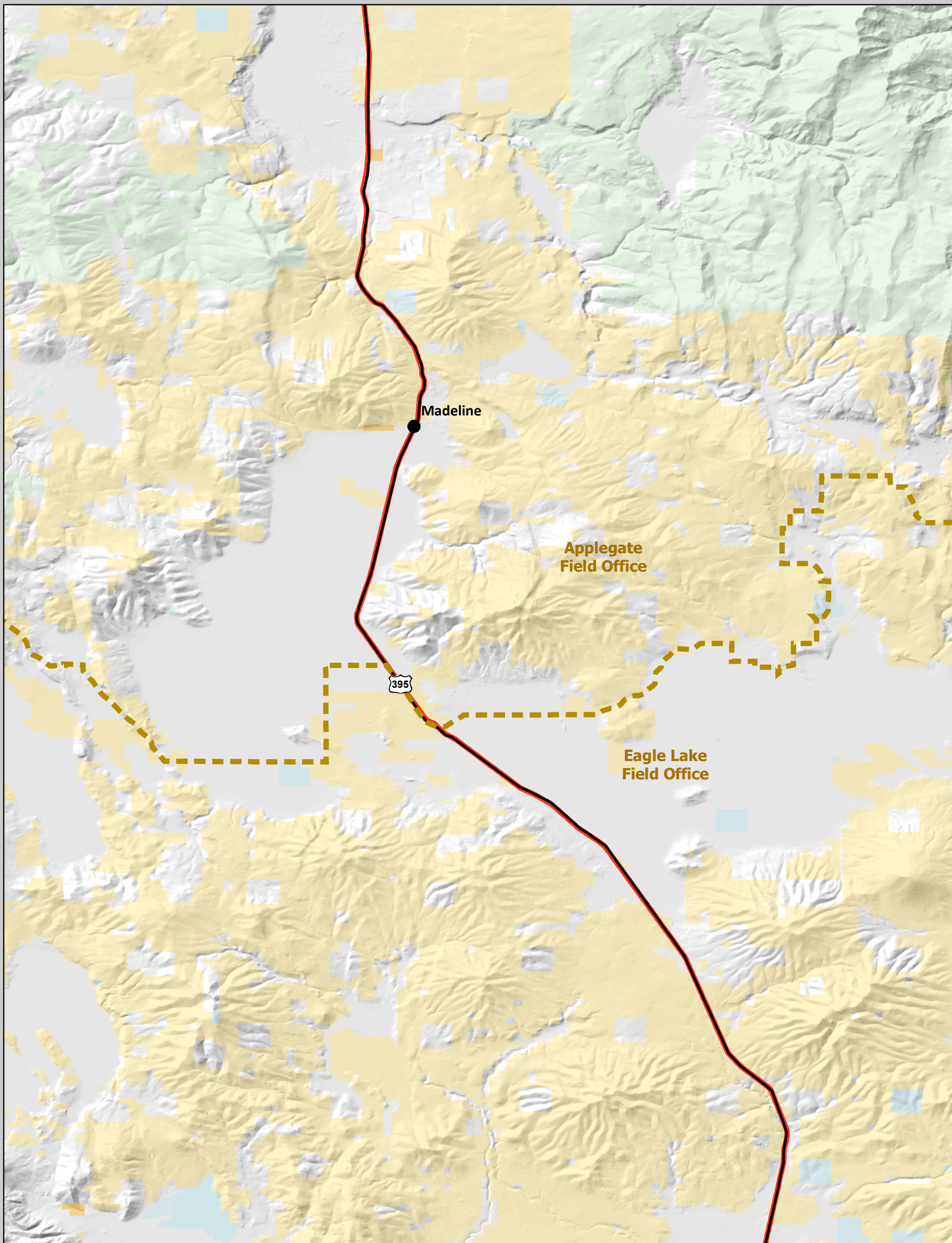
<p><b>Transportation</b></p> <ul style="list-style-type: none"> <li> ZAYO Fiber Optic Project Route</li> <li> Interstate</li> <li> State Highway</li> <li> Federal Highway</li> <li> Local Roads</li> <li> Field Office Boundaries</li> </ul>		<p><b>Land Status</b></p> <ul style="list-style-type: none"> <li> Bureau of Land Management</li> <li> Bureau of Indian Affairs</li> <li> US Fish and Wildlife Service</li> <li> US Forest Service</li> <li> State/Local</li> <li> Private/Unknown</li> </ul>	
<p><b>Map Location</b></p>		<p><b>Disclaimer</b></p> <p>No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.</p> <p><b>***Disclaimer***</b>  <b>Map is for reference only. Zayo fiber optic route is entirely within currently disturbed road rights-of-ways</b></p>	
<p>Scale: 0, 5, 10 Miles</p>		<p>North Arrow</p>	



<p><b>Transportation</b></p> <ul style="list-style-type: none"> <li> ZAYO Fiber Optic Project Route</li> <li> Interstate</li> <li> State Highway</li> <li> Federal Highway</li> <li> Local Roads</li> <li> Field Office Boundaries</li> </ul>		<p><b>Land Status</b></p> <ul style="list-style-type: none"> <li> Bureau of Land Management</li> <li> Bureau of Indian Affairs</li> <li> US Fish and Wildlife Service</li> <li> US Forest Service</li> <li> State/Local</li> <li> Private/Unknown</li> </ul>	
		<p>Map Location</p>	
		<p>0 5 10 Miles</p>	

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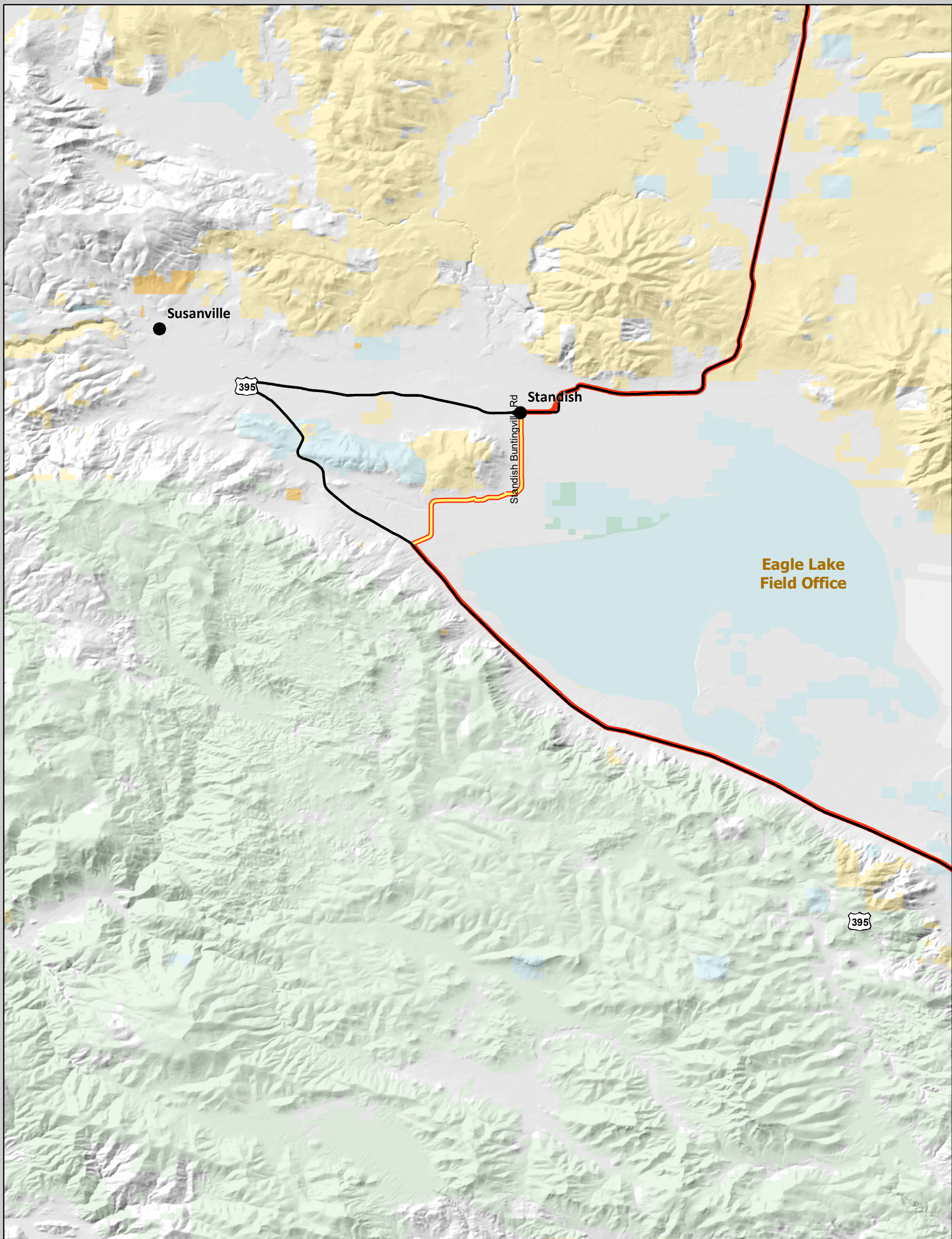


ZAYO Fiber Optic Project Route	<b>Land Status</b>
<b>Transportation</b>	Bureau of Land Management
Interstate	Bureau of Indian Affairs
State Highway	US Fish and Wildlife Service
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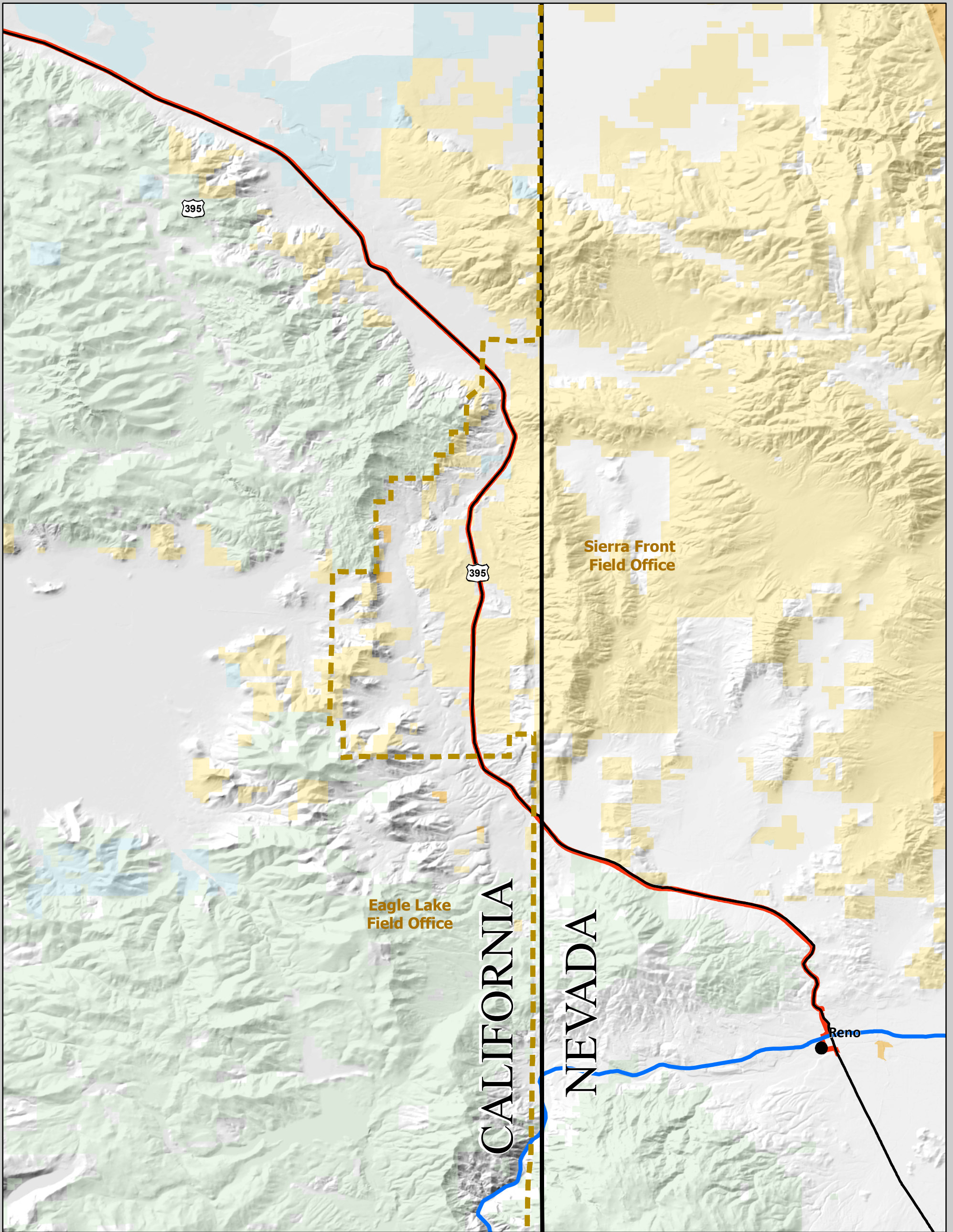
Map Location

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<p><b>Transportation</b></p> <ul style="list-style-type: none"> <li> ZAYO Fiber Optic Project Route</li> <li> Interstate</li> <li> State Highway</li> <li> Federal Highway</li> <li> Local Roads</li> <li> Field Office Boundaries</li> </ul>		<p><b>Land Status</b></p> <ul style="list-style-type: none"> <li> Bureau of Land Management</li> <li> Bureau of Indian Affairs</li> <li> US Fish and Wildlife Service</li> <li> US Forest Service</li> <li> State/Local</li> <li> Private/Unknown</li> </ul>			<p><b>Map Location</b></p>	<p>No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.</p>
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ZAYO Fiber Optic Project Route	<b>Land Status</b>		No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
<b>Transportation</b>	Bureau of Land Management Bureau of Indian Affairs US Fish and Wildlife Service US Forest Service State/Local Private/Unknown		
Interstate		N	
State Highway			
Federal Highway			
Local Roads			
Field Office Boundaries			

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# Appendix D

## Stormwater Pollution Prevention Plan

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# Appendix D. Stormwater Pollution Prevention Plan

## *Prepare and Implement a Stormwater Pollution Prevention Plan*

The applicant will prepare and implement a stormwater pollution prevention plan (SWPPP) to prevent construction-related erosion, sediment runoff, and discharge of other pollutants into adjacent waterways and onto neighboring properties. Because project activities would disturb more than 1 acre, the applicant will obtain coverage under the State or National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction Activity.

The SWPPP will outline implementation of best management practices (BMPs) for each activity that could affect 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 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 off-site areas from sediment using BMPs acceptable to Modoc, Lassen, and Sierra Counties and the Lahontan and Central Valley Regional Water Quality Control Boards.
- Protecting the quality of surface water from non-stormwater discharges, such as equipment leaks, hazardous materials spills, and groundwater discharge from dewatering operations.
- Restoring disturbed areas after project construction is completed, unless otherwise requested by the landowner in agricultural land use areas.

The main SWPPP for Nevada is found below. The full SWPPP is maintained on file in the Bureau of Land Management Sierra Front Field Office.

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**ZAYO GROUP FIBER UTILITY  
PROJECT: PRINEVILLE TO RENO  
STORM WATER POLLUTION  
PREVENTION PLAN (SWPPP)  
WASHOE COUNTY, NEVADA**

**REVISED JANUARY 2021  
DECEMBER 2020**

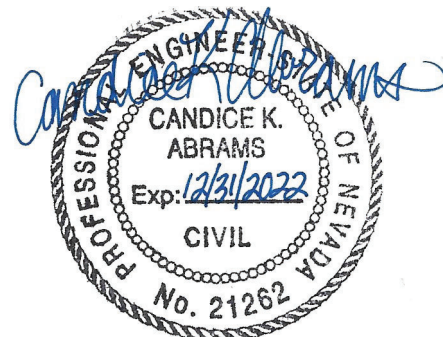
**PREPARED FOR:**

**MR. DAN BARCOMB  
ZAYO GROUP  
18110 SE 34<sup>TH</sup> STREET  
BUILDING 1, SUITE 100  
VANCOUVER, WASHINGTON 98683**

**PREPARED BY:**



**STANTEC CONSULTING SERVICES INC.  
621 W. MALLON AVENUE, SUITE 309  
SPOKANE, WASHINGTON 99201**



**01/11/2021**

Candice K  
Abrams

Digitally signed by  
Candice K Abrams  
Date: 2021.01.11  
14:28:07 -08'00'

**PROJECT No. 2272020011**

# Stormwater Pollution Prevention Plan (SWPPP)

## Table of Contents

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Inspection, Maintenance, and Corrective Action	22-23
Additional Information	24-27
Signature Requirements	28-29
Attachments	-

## Site / Owner / Operator

Provide site, owner, and operator information.

Site	
ID Number	CSW-
Name	Zayo Group Fiber Utility Project - Prineville to Reno
Address Line 1	MP 41.63 – MP33.94 US-395; Stead Blvd to N. Virginia St. to SR 430; MP30.14 – 27.57 SR 430
Address Line 2	
City	Washoe County
State	Nevada
Zip Code	89434
Contact Name	
Phone Number	
Email Address	

Owner	
Name	Zayo Group
Address Line 1	18110 SE 34th Street
Address Line 2	Bldg 1 Suite 100
City	Vancouver
State	WA
Zip Code	98683
Contact Name	Dan Barcomb
Phone Number	509-727-3345
Email Address	

Operator 1	
Name	
Address Line 1	
Address Line 2	
City	
State	
Zip Code	
Contact Name	
Title	
Phone Number	
Email Address	
If there is more than one operator, identify the areas and phases over which Operator 1 has control.	



<b>Operator 2</b>	
Name	
Address Line 1	
Address Line 2	
City	
State	
Zip Code	
Contact Name	
Title	
Phone Number	
Email Address	
Identify the areas and phases over which Operator 2 has control.	

<b>Operator 3</b>	
Name	
Address Line 1	
Address Line 2	
City	
State	
Zip Code	
Contact Name	
Title	
Phone Number	
Email Address	
Identify the areas and phases over which Operator 3 has control.	

## Stormwater Team

List the name, title, and individual responsibilities for each member of the stormwater team. The stormwater team is responsible for overseeing the development of the SWPPP, any modifications to the SWPPP, and compliance with the requirements of the Construction Stormwater General Permit NVR100000 (hereinafter referred to as the "Permit"). The team may include members who are not employed by the operator (such as third party consultants).

<b>Stormwater Team Member 1</b>	
Name	
Title	Project Contractor/SWPPP Team Leader
Responsibilities	Responsible for overseeing site stormwater management including overseeing any modifications to the SWPPP; coordinating BMP installation, monitoring, and maintenance/repairs; event reporting; and general compliance with the Permit.

<b>Stormwater Team Member 2</b>	
Name	
Title	SWPPP Inspector
Responsibilities	Responsible for conducting routine site inspections according to Inspection Procedures on Page 22. Updating SWPPP document map and keeping map current at all times.

<b>Stormwater Team Member 3</b>	
Name	
Title	
Responsibilities	

<b>Stormwater Team Member 4</b>	
Name	
Title	
Responsibilities	

<b>Stormwater Team Member 5</b>	
Name	
Title	
Responsibilities	

## Nature of Construction Activities

Describe the nature of the construction activities, including the size of the property and the total area expected to be disturbed by construction activities, construction support activity areas covered by the Permit, and the maximum area expected to be disturbed at any one time.

### Nature of Construction Activities

What is the size of the property?	175.3	acres
What is the total area expected to be disturbed by construction activities?	35.1	acres
What is the maximum area expected to be disturbed at any one time?	0.1	acres

Describe the construction support activity areas covered by the Permit. Construction support activities covered by the Permit are described in Permit section 1.2.1.2 and defined on page 40 of the Permit.

No Construction Support Activity Areas will be covered by the Permit.

## Emergency-Related Construction Activities

For earth-disturbing activities in response to a public emergency, document the cause of the public emergency, provide information substantiating its occurrence, and describe the construction necessary to reestablish affected public services.

### **Cause of the Public Emergency**

Describe the cause of the public emergency (e.g., natural disaster, extreme flooding conditions, etc.).

Not Applicable

### **Substantiating Information**

Provide information substantiating the occurrence of the public emergency (such as a state disaster declaration or similar state or local declaration). Attach supporting documentation to the end of the SWPPP.

Not Applicable

### **Necessary Construction**

Describe the construction necessary to reestablish affected public services.

Not Applicable

## Sequence and Estimated Dates of Construction Activities

Provide a schedule of the estimated start dates and the duration of the activity for installation of stormwater control measures, construction activities, cessation of construction activities, and stabilization of areas of exposed soil.

<b>Installation of Stormwater Control Measures</b>	
What is the estimated start date for the installation of stormwater control measures?	<u>6 / 28 / 2021</u>
What is the estimated duration of the installation of stormwater control measures?	2 days
When will the stormwater control measures be made operational? Prior to the start of construction and throughout all activities.	
Explain the sequence and schedule for installation of stormwater control measures. Stormwater control measures will be installed on a rolling schedule with each section installed approximately 2 days prior to ground disturbance in the contributing drainage area.	

<b>Construction Activities</b>	
What is the estimated start date of construction activities?	<u>6 / 28 / 2021</u>
What is the estimated duration of construction activities?	approximately 30 working days
Describe the intended sequence of construction activities. Construction activities include clearing and grubbing, grading, site preparation (i.e., excavating, cutting, and filling), final grading, and creation of soil and vegetation stockpiles requiring stabilization. BMPs will be placed prior to any ground disturbance.  New fiber-optic cable within protective conduit will be buried primarily using a combination of plowing and trenching construction techniques. Horizontal directional drilling (HDD) will be used to cross water bodies and roads, and where necessary to avoid sensitive or protected biological or cultural resources. Alternatively, for some water or road crossing locations, the conduit may be affixed to the side or underside of bridges. Associated access fiberglass handholes/vaults will be installed spaced approximately every 2,500 feet.  Ancillary equipment will be installed at three small buildings that will serve as nodes or amplifier sites. Along with these nodes, the project will install fiberglass vaults flush to the ground surface, to provide access for customers at splice locations.  Replace soil removed from excavation/trenching.  Remove soil stockpiles and restore excavated vaults or trenching areas to existing conditions.  Apply revegetation or riprap if needed.  Remove any temporary BMPs.	

<b>Cessation of Construction Activities</b>	
What is the estimated start date for the cessation of construction activities?	<u>8 / 6 / 2021</u>
Will the cessation of construction activities be temporary or permanent?	<input type="radio"/> Temporary <input checked="" type="radio"/> Permanent
If the cessation of construction activities will be temporary, provide the estimated duration of the cessation of construction activities.	
Will the cessation of construction activities occur on the entire site (100%) or in designated portions of the site?	<input checked="" type="radio"/> 100% <input type="radio"/> Designated Portions
If the cessation of construction activities will occur in designated portions of the site, identify the designated portions of the site where the cessation of construction activities will occur. Not applicable	

<b>Stabilization of Areas of Exposed Soil</b>	
What is the estimated start date for the <i>temporary</i> stabilization of areas of exposed soil?	<u>6 / 28 / 2021</u>
What is the estimated duration of the <i>temporary</i> stabilization of areas of exposed soil?	Immediately and up to NOT inspection
What is the estimated start date for the <i>final</i> stabilization of areas of exposed soil?	<u>6 / 29 / 2021</u>
What is the estimated duration of the <i>final</i> stabilization of areas of exposed soil?	Immediately after final installation of utility conduit at each pit.
Note: The dates for stabilization shall reflect the applicable deadlines in Permit section <u>3.6 Site Stabilization Requirements, Schedules, and Deadlines</u> .	

<b>Departures from Initial Projections</b>
If departures from initial projections for any of the activities on pages 6 and 7 of this SWPPP are necessary, identify and describe such departures. Alternatively, documentation describing such departures may be attached to the end of the SWPPP.

## Site Description

Provide the following construction site information.

Site Description	
Project Name	Prineville to Reno Fiber Optic Project
Project Address	Highway US-395, Stead Blvd, N. Virginia St., and SR 430
Project City	Cold Springs to Reno
Project County	Washoe
Project APN	NDOT ROW
Describe the site and its intended use after the Notice of Termination is filed (e.g., low density residential, shopping mall, highway, etc.) <b>Project is a utility installation. Site will remain as undisturbed NDOT ROW.</b>	
What is the total area of the site?	175.3      acres
What is the estimated total area of the site expected to be disturbed by construction activities, including off-site supporting activities, borrow and fill areas, and staging and equipment storage areas?	35.1      acres
What percentage of the site is impervious before and after construction?	Before: 97      % After: 97      %
Describe the soils at the site, including the potential for erosion. Soils within the project area are predominately classified as hydologic group D, soils having a very slow infiltration rate and high to very high runoff potential. Soils are predominately classified as sandy loam, clay, or gravelly with a low erosion potential.	
For areas where it is infeasible to maintain a 50-foot buffer in accordance with Permit section <u>3.5.1</u> , provide the reasons why the 50-foot buffer cannot be maintained, identify and describe the alternative additional erosion and sediment controls that were selected for the site, document the natural buffer width retained on the property, and attach any relevant documentation to the end of the SWPPP. Project has been planned to maintain a 50-foot buffer from all surface waters.	
Identify and describe all on-site and off-site material storage areas, including overburden, stockpiles of dirt, borrow areas, etc. Equipment will be staged at excavated pit locations overnight and stockpiles will be located at the contractor's facility. Temporary soil stockpiles and waste will be removed daily.	
Attach a general location map to the end of the SWPPP. The map should contain enough detail to identify the following items: the location of the construction site and one-mile radius the waters of the State of Nevada, including tributaries, within a one-mile radius of the site	

## Site Map(s)

Attach a site map or series of maps to the end of the SWPPP.

<b>Site Map(s)</b>	
Attach, to the end of the SWPPP, a legible site map or series of maps completed to scale. The map(s) should show the entire site and identify all of the items listed below. Check the box next to each item to confirm that the item is identified on the map(s).	
<input checked="" type="checkbox"/>	Topography of the site, existing types of cover (e.g., forest, pasture, pavement, structures), and drainage pattern(s) of flow onto, over, and from the site both before and after major grading activities
<input checked="" type="checkbox"/>	Areas of soil disturbance and areas that will not be disturbed
<input checked="" type="checkbox"/>	Boundaries of the property
<input checked="" type="checkbox"/>	Locations where construction activities will occur, noting any phasing
<input checked="" type="checkbox"/>	Locations where sediment or soil will be stockpiled
<input checked="" type="checkbox"/>	Locations of any crossings of surface waters
<input type="checkbox"/>	Designated points on the site where vehicles will exit onto paved road
<input type="checkbox"/>	Locations of construction support activity areas covered by the Permit
<input checked="" type="checkbox"/>	Locations of temporary and permanent stormwater control measures identified in this SWPPP
<input checked="" type="checkbox"/>	Locations where stabilization control measures are expected to occur
<input checked="" type="checkbox"/>	Areas protected by buffers (i.e., either the 50-foot buffer or other buffer areas retained on site when within 50 feet of perennial water) consistent with Permit section <u>3.5.1</u> , as well as the boundary line of all such buffers
<input checked="" type="checkbox"/>	Locations of on-site material, waste, borrow areas or equipment storage areas, and other supporting activities (per Permit section 1.2.1.2)
<input checked="" type="checkbox"/>	Locations of all potential pollutant-generating activities identified on pages 14-15 of this SWPPP
<input checked="" type="checkbox"/>	Locations of all surface waters and any impaired waters within ¼ mile of the site
<input checked="" type="checkbox"/>	Stormwater discharge locations, using arrows to indicate discharge directions, including: locations where stormwater and/or allowable non-stormwater discharges are discharged to a Water of the U.S. locations of any discharges to municipal separate storm sewer systems (MS4s) from the construction site
<input type="checkbox"/>	Areas where final stabilization has been accomplished and no further construction permit requirements apply
<input checked="" type="checkbox"/>	Location of trees and boundaries of environmentally sensitive areas and buffer zones to be preserved



## Receiving Waters

Identify the receiving waters.

### Receiving Waters

Identify the name of the receiving water(s) and the areal extent and description of wetland or other special aquatic sites at or near the site which will be disturbed or which will receive discharges from disturbed areas of the construction site.

White Lake, several intermittent streams, and small wetland areas at MPs. See mapping included as attachment.

### Impaired Water

Is any discharge point from the construction site within ¼ mile of impaired water?

Yes

No

If any discharge point from the construction site is within ¼ mile of impaired water, identify any common construction-related pollutants, such as sediment, sediment-related parameters, and nutrients (including nitrogen and phosphorous), listed on the 303(d) list that may potentially be discharged from the construction site and describe additional or enhanced control measures to minimize discharges of these pollutants. The 303(d) list can be found on the Nevada Division of Environmental Protection (NDEP), Bureau of Water Quality Planning (BWQP) website (<https://ndep.nv.gov/water/rivers-streams-lakes/water-quality-standards/303d-305b-water-quality-integrated-report>).

## Stormwater Control Measures

Describe the stormwater control measures that will be used during construction activity.

### Stormwater Control Measures

Identify and describe all control measures as required by Permit section 3.0 that will be implemented and maintained as part of the construction project to reduce and control pollutants in stormwater discharges from the construction site. Include control measures used at support activity areas.

#### Control Measure 1

3.5.1 Maintain Natural Buffers: This linear project has been designed to keep ground disturbance 50 feet away from all surface waters of the State to the extent practicable. Where project must cross streams, boring will be conducted to minimize sediment discharge.  
3.5.9 Preserve natural vegetation: Project plan and methods will preserve natural vegetation to the extent feasible by restricting disturbance to the area required for plow equipment.

#### Control Measure 2

3.5.2 Perimeter Controls: This linear project is within the ROW along US 395 restricting the feasibility of perimeter control BMPs. Additionally, the construction plan limits the length of time soils will be disturbed by immediately filling in trench dug for line placement. Silt fencing will be used to delineate the perimeter of directional drilling pits and soil stockpiles.

#### Control Measure 3

3.5.3 Minimize Sediment Track out. This linear project is along the paved ROW. Equipment/vehicles will not operate on bare soils thus preventing the track out of sediment.

#### Control Measure 4

3.5.4 Control discharges from stockpiles Stockpiles may exist for short durations (less than 24 hours) at access handhole/vault locations. These stockpiles will be located away from storm water flows, drainage courses and inlets. Stockpile Management (GM-2) Truckee Meadows Regional Storm Water Quality Management Program, Construction Site Best Management Practices Handbook, February 2015

#### Control Measure 5

3.5.5 Minimize discharge during dry weather. Implement Wind Erosion and Dust Control (EC-5) from Truckee Meadows Regional Storm Water Quality Management Program, Construction Site Best Management Practices Handbook, February 2015 as needed to prevent dust/sediment from leaving project area.

#### Control Measure 6

3.5.6 Minimize disturbance of steep slopes. No activities disturbing steep slopes are planned.  
3.5.7 Minimize soil compaction and preserve topsoil: construction methods planned will minimize soil compaction and preserve topsoil by placing trenched soils back where removed.

**Stormwater Control Measures for Major Construction Activities**

For each major construction activity at the site, describe the appropriate control measures and the general timing (or sequence) during the construction process that the measure will be implemented and identify the operator responsible for implementation of the control measures. Fill out one table for each major construction activity.

**Construction Activity 1**

Identify the type of construction activity.

Placement of BMPs

Describe the control measure(s) used for this activity.

Erosion and sediment control, site stabilization, and pollution prevention.

Describe the general timing/sequence during the construction process that the measure(s) will be implemented.

BMPs will be in place, inspected, and approved prior to start of ground disturbance.

Which operator is responsible for implementation of this control measure?

**Construction Activity 2**

Identify the type of construction activity.

Excavation of handhole/vault or trenching site and installation of utility conduit

Describe the control measure(s) used for this activity.

Erosion and sediment control, site stabilization, and pollution prevention.

Describe the general timing/sequence during the construction process that the measure(s) will be implemented.

Throughout activity.

Which operator is responsible for implementation of this control measure?

**Construction Activity 3**

Identify the type of construction activity.

Replace soil removed from excavation/trench and remove soil stockpiles

Describe the control measure(s) used for this activity.

Erosion and sediment control, site stabilization, and pollution prevention.

Describe the general timing/sequence during the construction process that the measure(s) will be implemented.

BMPs will remain in place until stabilization achieved.

Which operator is responsible for implementation of this control measure?

<b>Construction Activity 4</b>
Identify the type of construction activity. Restore vault excavation or trenching area to existing conditions; apply revegetation or riprap.
Describe the control measure(s) used for this activity. Soil stabilization and pollution prevention
Describe the general timing/sequence during the construction process that the measure(s) will be implemented. BMPs will remain in place until stabilization achieved.
Which operator is responsible for implementation of this control measure?

<b>Construction Activity 5</b>
Identify the type of construction activity.
Describe the control measure(s) used for this activity.
Describe the general timing/sequence during the construction process that the measure(s) will be implemented.
Which operator is responsible for implementation of this control measure?

<b>Construction Activity 6</b>
Identify the type of construction activity.
Describe the control measure(s) used for this activity.
Describe the general timing/sequence during the construction process that the measure(s) will be implemented.
Which operator is responsible for implementation of this control measure?

## Potential Pollutant Sources

Identify and describe any pollutant sources expected to be associated with the project.

### Potential Pollutant Sources

Identify all potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the construction site. Also identify the location of and describe any pollutant sources, including any non-stormwater discharges expected to be associated with the project, from areas other than construction (i.e., support activities including stormwater discharges from dedicated asphalt or concrete plants and any other non-construction pollutant sources such as fueling and maintenance operations, materials stored on-site, waste piles, equipment staging yards, etc.).

### Potential Pollutant Source 1

What is the location of the potential pollutant source?

Handhole/vault excavation locations

Describe the potential pollutant source.

Potential source of sediment to wind or stormwater discharges.  
Potential hazardous wastes could include oils/fluids/lubricants associated with vehicles and construction equipment, paints/solvents, and sanitary wastes from portable restroom facilities.

### Potential Pollutant Source 2

What is the location of the potential pollutant source?

Trench locations along ROW.

Describe the potential pollutant source.

Potential source of sediment to wind or stormwater discharges.  
Potential hazardous wastes could include oils/fluids/lubricants associated with vehicles and construction equipment, paints/solvents, and sanitary wastes from portable restroom facilities.

### Potential Pollutant Source 3

What is the location of the potential pollutant source?

Describe the potential pollutant source.

**Potential Pollutant Source 4**

What is the location of the potential pollutant source?

Describe the potential pollutant source.

**Potential Pollutant Source 5**

What is the location of the potential pollutant source?

Describe the potential pollutant source.

**Potential Pollutant Source 6**

What is the location of the potential pollutant source?

Describe the potential pollutant source.

**Potential Pollutant Source 7**

What is the location of the potential pollutant source?

Describe the potential pollutant source.

## Spill Prevention & Response

Describe procedures to prevent and respond to spills, leaks, and other releases. Other existing spill prevention plans, such as the Spill Prevention Control and Countermeasure (SPCC) plans developed for the construction activity under Part 311 of the Clean Water Act (CWA), or spill control programs otherwise required by NDEP permits for the construction activity, may be referenced provided that a copy of that other plan is kept onsite with the SWPPP. Attach a copy of any referenced plan(s) to the end of the SWPPP.

### Container Labeling

Describe procedures for plainly labeling containers (e.g., "Used Oil", "Pesticides", etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response as spills or leaks occur.

All containers will be clearly labeled using common names for materials using paint pens or permanent markers. Containers will be suitable in size and material for any materials transferred or stored on site. Safety Data Sheets (SDS or MSDS) and or Product Safety Data Sheets (PSDS) will be on site for all chemicals and materials stored.

### Preventive Measures

Describe preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling.

Secondary containment will be provided for established materials, and a spill kit will be labeled and on site in the storage area. Absorbent mats or impervious barriers will be used for all vehicles dripping or leaking fluids when parked overnight. Stop the leak. The source of the leak will be determined, and the vehicle repaired so that it may continue to operate on the site.

Potential hazardous wastes could include oils/fluids/lubricants associated with vehicles and construction equipment, paints/solvents, and sanitary wastes from portable restroom facilities.

BMP's GM-6, GM-10, GM-11, GM-13, GM-14, GM-16, GM-17, GM-18, GM-19, and GM-20 shall be implemented. Truckee Meadows Regional Storm Water Quality Management Program, Construction Site Best Management Practices Handbook, February 2015

**Spill/Leak Stoppage, Containment, and Cleaning**

Describe procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases.

Manufacturer's recommended methods for spill cleanup will be clearly followed and site personnel will be made aware of the procedures and the location of the information and cleanup supplies. All spills will be cleaned up immediately after discovery and the person(s) in charge of implementing the SWPPP shall be notified. See Attachment A for more information.

Identify the name or position of the employee(s) responsible for detecting and responding to spills or leaks.

All site workers are responsible for detecting leaks or spills. The Project Contractor/SWPPP Team Leader, or appointed assistant will respond to all discovered/reported leaks or spills.

**Spill/Leak Notification**

Describe procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40 Code of Federal Regulations (CFR) Part 110, 40 CFR Part 117, or 40 CFR Part 302, occurs during a 24-hour period. Contact information shall be in locations that are readily accessible and available.

**Facility Personnel**

Chain of command protocol will be used to get the message to appropriate project personnel. Hazardous substances will be reported into the 911 EMS and Emergency Response System. Information should include but is not limited to: name/type of chemical spilled, estimated amount of material spilled, whether source has been stopped, and if the spill has been contained. See Attachment A for more information.

**Emergency Response Agencies**

911 - Emergency Response Dispatch Center

**Regulatory Agencies**

NDEP Spill Reporting Hotline: 888-331-6337



## Waste Management

Describe procedures for handling and disposing of all wastes generated at the site.

### Waste Management Procedures

Describe procedures for handling and disposing of all wastes generated at the site, including, but not limited to, clearing and demolition debris, sediment removed from the site, construction and domestic waste, hazardous or toxic waste, and sanitary waste.

Clearing/demolition debris/sediment will be transported offsite and disposed of or recycled/reused to the maximum extent possible. A project stockpile will be located at UCI's facility in Reno. All onsite temporary soil stockpiles and waste will be removed from the site daily.

Manufacturer's recommended methods for spill cleanup will be clearly followed and site personnel will be made aware of the procedures and the location of the information and cleanup supplies. All spills will be cleaned up immediately after discovery and the person(s) in charge of implementing the SWPPP shall be notified. Hazardous and toxic wastes will be transferred off site and disposed of by the contractor at an appropriate facility. Waste Management Inc. (775-329-8822) will accept waste oil and antifreeze.

Disposal of all site waste will be in compliance with the guidelines and structure of the Truckee Meadows Construction Site Best Management Practices Handbook, 2015 Update. Covered roll-off dumpster will be used (if needed) for all dry non-toxic solid waste materials. Roll-off bin covers will be in place unless materials are actively being disposed of. Blowing trash will be picked up daily or as it occurs, trash that has blown off site into surrounding native vegetation will be collected.

Sanitary waste will be managed by an appropriate pumping and disposal service which will be coordinated by the contractor.

## Documentation Requirements

Provide the following information.

### Notice of Intent (NOI)

Attach, to the end of the SWPPP, a copy of the signed electronic NOI certification page submitted to the NDEP.

### Approval Letter

Attach, to the end of the SWPPP, a copy of the approval letter received from the NDEP.

### Permit

Attach a copy of the Permit to the end of the SWPPP.

### Significant Spills/Leaks/Releases

Describe any incidences of significant spills, leaks, or other releases that resulted in discharges of pollutants in stormwater to a regulated MS4 or waters of the State of Nevada that meet the definition of Waters of the U.S. Include the date of occurrence, the circumstances leading to the release, actions taken in response to the release, and measures taken to prevent recurrence of such releases.

### Structural Control Measure Repairs

Attach, to the end of the SWPPP, documentation of repairs made to structural control measures. Such documentation shall include the date(s) of discovery of areas in need of repair/replacement, date(s) that the structural control measure(s) returned to full function, and the justification for any extended repair schedules.

### Inspection Reports

Attach, to the end of the SWPPP, all inspection reports including post-storm event inspections.

**Corrective Action**

Describe any corrective action taken at the site. Include events and dates when problems were discovered and modification occurred.

**Buffer Documentation**

If the site's disturbance area is located within 50 feet of perennial water, attach buffer documentation to the end of the SWPPP.

**Employee Training Records**

Attach records of employee training to the end of the SWPPP. Records should include the date training was received.

**Plans Required By Other Agencies**

The SWPPP may incorporate by reference the appropriate elements of plans required by other agencies. Attach, to the end of the SWPPP, a copy of the requirements incorporated by reference.

**DeMinimis Discharges**

For DeMinimis discharges, describe the discharge, provide the beginning and end dates of the discharge, and attach a copy of the sampling analysis report to the end of the SWPPP.

**DeMinimis Discharge 1**

<b>Start Date</b> ____ / ____ / ____	<b>Description</b>
<b>End Date</b> ____ / ____ / ____	

**DeMinimis Discharge 2**

<b>Start Date</b> ____ / ____ / ____	<b>Description</b>
<b>End Date</b> ____ / ____ / ____	

DeMinimis Discharge 3	
<b>Start Date</b> _____ / _____ / _____	<b>Description</b>   
<b>End Date</b> _____ / _____ / _____	

Post-Construction Stormwater Management
<p>Describe the stormwater management control measures that will be installed during the construction process to control pollutants in stormwater discharges after construction has been completed.</p>
<p>Control measures will include preservation of existing vegetation and revegetation if needed. This is a linear infrastructure project that has minimal impacts to the existing conditions. Upon completion of installation, the trenched area will be restored to its pre-construction condition to prevent erosion. If erosion does occur revegetation and/or riprap can be placed at contractor's discretion.</p>

## Inspection, Maintenance, and Corrective Action

Describe the procedures operators will follow for maintaining their stormwater control measures, conducting site inspections, and, where necessary, taking corrective actions, in accordance with Permit sections 3.0 Effluent Limitations Applicable to All Discharges from Construction Sites, 4.0 Effluent Limitations Applicable to Sites Using Constructed Stormwater Conveyance Channels or Sediment Basins, and 5.0 Inspections.

### Inspection Procedures

Describe the procedures operators will follow for conducting site inspections.

The qualified person/inspector (Stormwater Team Member 2) from the contractor will make a visual inspection each work day of all BMPs for proper design, installation, and effectiveness. Workers traveling across the site will also report any BMP compliance issues, if recognized, to the qualified personnel. See Attachment A for additional information.

Identify the personnel responsible for conducting inspections.

Qualified personnel conducting inspections will be led by a Certified Professional in Erosion & Sediment Control.

Provide the inspection schedule that will be followed based on whether the site is subject to Permit section 5.2 Routine Site Inspection Procedures, or whether the site qualifies for the reduced inspection frequency in Permit section 5.3 Reduced Inspection Schedule. If the site qualifies for a reduced inspection schedule in accordance with Permit section 5.3 Reduced Inspection Schedule, include the beginning and ending dates of the reduced inspection period.

Qualified personnel will perform a routine site inspection once every 7 days and immediately after a precipitation event of 0.5" or greater.

### Routine Facility Inspection Documentation

Attach all documented findings of each routine site inspection to the end of the SWPPP. Routine facility inspection documentation requirements are outlined in Permit section 5.4 Routine Facility Inspection Documentation.

### Inspection Results

Attach, to the end of the SWPPP, records of actions taken based on inspection results in accordance with Permit section 5.5 Inspection Results.

**Inspection or Maintenance Checklists**

Attach any inspection or maintenance checklists or other forms that will be used to the end of the SWPPP.

**Maintenance Procedures**

Describe the procedures operators will follow for maintaining their stormwater control measures.

BMPs will be modified for maximum effectiveness if required. Accumulated sediment shall be removed regularly within seven days after a runoff event, 24 hours prior to forecasted runoff event, and whenever design capacity has been reduced by 50% or more.

See Attachment A for additional information.

**Corrective Action Procedures**

Describe the procedures operators will follow for taking any necessary corrective actions.

Any products with loose container lids will be secured. Spill control practices will be implemented. Modifications and updates to BMPs will be performed within seven days following the inspection determination or prior to the next precipitation event, whichever is sooner.

## Additional Information

Provide the following additional information.

### Discharges To Water Quality Impaired Waters

Does the facility discharge to a surface water contained in the current 303(d) *Impaired Water Body* listing issued by the NDEP BWQP that is impaired for (1) sediment or a sediment-related parameter, such as total suspended solids (TSS) or turbidity, and/or (2) nutrients, including impairments for nitrogen and/or phosphorous?

Yes

No

If yes, make one of the following demonstrations (check the appropriate box to indicate which one has been selected) and attach such data and technical information to the end of the SWPPP:

That the site will employ measures to prevent the discharge of stormwater pollutant(s) for which the waterbody is impaired; or

That the discharge from the site has no potential to contain the pollutants causing impairment; or

That the discharge is not expected to cause or contribute to an exceedance of an applicable water quality standard.

### Control Measure Addition/Repair/Modification

If it is determined, based on an inspection of control measures performed in accordance with the inspection requirements of Permit section 5.0 Inspections, that installation of additional control measures, or significant repair or modification of existing control measures, is necessary, and implementation before the next storm event is impracticable, document the reason(s) for the delay in the area below.

Identify and describe the modifications made to control measures.

**Permit Requirement Waiver**

If the project is waived from complying with a specific requirement in Permit section 3.0 Effluent Limitations Applicable to All Discharges from Construction Sites in accordance with Permit section 3.1.1, document this fact in the area below.

Not Applicable.

**Departures from Design Specifications**

Explain any departures from design specifications for the installation of all stormwater control measures.

**Culvert Stabilization**

If culverts are present on the site, describe the measures implemented to sufficiently minimize the threat of erosion at culvert locations to prevent the formation of rills and gullies during construction.

Culverts are present on site. Silt fence, fiber rolls, and stockpile management will be implemented to prevent runoff from the active site from entering the culverts.

**Unique Construction Disturbances**

If the project involves construction approved under a CWA Section 404 permit or construction of a water-dependent structure or water access area (e.g., pier, boat ramp, trail), document this fact in the area below and on the site map.

Not Applicable



**Linear Construction Projects**

For linear construction projects where it is infeasible to comply with the requirements of Permit section 3.5.1.2, document the rationale for why it is infeasible to do so, and describe any buffer width retained and/or supplemental erosion and sediment controls installed.

The project will comply with Permit Section 3.5.1.2.

For linear projects with rights-of-way that restrict or prevent the use of perimeter controls required by Permit section 3.5.2 *Install Perimeter Controls*, identify the areas where it is impracticable to maximize the use of perimeter controls and explain why it is impracticable to do so.

The project will comply with Permit Section 3.5.2.

**Track-Out**

If site conditions make it infeasible to install structural controls to prevent track-out (e.g., linear project along a paved right-of-way), explain why such controls cannot be installed and describe the alternative measures that will be used to prevent, monitor, and remove track-out sediment from paved roadways.

This project is linear along a paved right-of-way. Vehicles will not be operating on bare soils. When equipment operates on bare soil, dust control will be used to prevent track out. Any sediment on paved roadways will be swept back into project area and stabilized. Water for dust control may be used to prevent migration of sediment to paved surfaces.

**Sediment or Soil Stockpiles**

If it is infeasible to place sediment or soil stockpiles away from stormwater conveyances, such as curb and gutter systems, and streets leading to such conveyances, explain why it is infeasible to do so.

Sediment or soil stockpiles (if needed) will be placed away from stormwater conveyances.

**Non-Vegetative Stabilization Methods**

Describe all non-vegetative methods of stabilization employed at the site.

Non-vegetative methods of stabilization which may be employed at the site include application of gravel mulch or riprap.

**Discharges to Impaired Waterbodies Without Established Total Maximum Daily Loads**

If the site discharges to a water quality-impaired water (contained in the current 303(d) impaired water body listing) for which a Total Maximum Daily Load has not been established, describe the condition for which the water has been listed and include a demonstration that the Best Management Practices that are selected for implementation will be sufficient to ensure that the discharges will not cause or contribute to an exceedance of an applicable State water quality standard.

Not applicable. No discharge to impaired waterbodies.

**Sediment Basin Discharges**

If the use of outlet structures that withdraw water from the surface of the sediment basin in order to minimize the discharge of pollutants is determined to be infeasible, explain why it is infeasible and attach any supporting documentation to the end of the SWPPP.

No sediment basins will be constructed for this project as site dimensions preclude use of this BMP.

**Additional Discharge Requirements**

Where NDEP determines it is necessary to impose additional requirements on the discharge, attach a copy of any correspondence describing such requirements to the end of the SWPPP, and describe the stormwater control measures that will be used to meet such requirements.

## Signature Requirements

Print out the completed SWPPP and sign and date below in accordance with Permit section 7.23 Signature Requirements. All operators shall also sign and certify the SWPPP in accordance with the Permit signature requirements. Digital signatures are not accepted.

### Adherence Statement

"I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name (print)	Title
Signature	Date
	_____ / ____ / _____

### Operator 1

Name (print)	Title
Signature	Date
	_____ / ____ / _____

### Operator 2

Name (print)	Title
Signature	Date
	_____ / ____ / _____

Operator 3	
Name (print)	Title
Signature	Date

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# Appendix E

## Hazardous Materials Control Plan

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# Appendix E. Hazardous Materials Control Plan

## *Hazardous Materials Management Plan*

Zayo Group, LLC (Zayo), or its chosen consultant, would create and implement a hazardous materials management plan to govern the use and handling of hazardous materials during construction, maintenance, and repairs of the lines. In this management plan, Zayo will identify control measures to prevent the release of hazardous materials. It would include 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 would also be implemented in conjunction with the stormwater pollution and prevention plan. All drilling muds, slurries, oils, oil-contaminated water, and other waste materials removed from the bore hold or otherwise used during the project would be disposed of at a permitted landfill or another appropriately permitted site. All stationary diesel generators associated with the project, such as those for light plants and in-line amplifiers, would have secondary containment. Specific measures of these plans include the following:

- Site-specific buffers to be used if work occurs next to any hazardous sites and, if this is not possible, remediation or containment efforts to be taken if construction activities would go through a hazardous site
- Soil testing near known hazardous materials sites before the start of construction activities
- 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 plan), which would include the following:
  - Maintenance and inspection of all construction vehicles
  - Refueling and parking restrictions to prevent fuel from entering adjacent waterbodies
  - 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

## *Worker Environmental Awareness Program for Hazardous Materials*

The purpose of a worker environmental awareness program (WEAP) is to educate personnel, such as construction workers, about on-site and surrounding resources, the measures required to protect these resources, and how to avoid potential hazards on these sites. The WEAP, developed by Zayo or its contractor, would include materials and information on potential hazards resulting from construction in the project area and applicable precautions that personnel would take to reduce potential impacts.

Before construction begins and as necessary throughout the life of the project, Zayo would give the WEAP presentation to all personnel who may be exposed to site hazards and to personnel who are

new to the project. Zayo and the contractor are responsible for ensuring that all on-site personnel attend the WEAP presentation, receive a summary handout, and sign a training attendance acknowledgment form to indicate that the contents of the program are understood and to provide proof of attendance. Participants in the WEAP presentation would be responsible for maintaining their copy of the WEAP reference materials and making sure that other on-site personnel are complying with the recommended precautions. The contractor would keep the sign-in sheet on the site and would submit copies of it to Zayo's project manager, who would keep it on file at the Zayo offices.

Zayo would prepare, present, and execute information and implementation steps, before and during construction, to prevent exposure and raise awareness of potential site hazards. It would inform personnel about potentially hazardous sites in the project areas and how to identify such sites. Signs of potential contamination in soils could include stained soils, discolored or oily water, and previously unknown underground storage tanks. Zayo would stop work if any of these signs are identified in the project area and would implement the above hazardous materials management plan before work resumes.

#### *Surface Spill and Hydrofracture Contingency Plan*

### **Drilling Fluid and Drilling Fluid System**

The horizontal directional drilling (HDD) process involves the use of a drilling fluid (also referred to as drilling mud) made up primarily of water. Bentonite clay is added to the water to enhance lubricating, spoil transport, and caking properties of the drilling fluid. Bentonite is a naturally occurring, nontoxic, inert substance that meets National Sanitation Foundation/American National Standards Institute 60 National Sanitation Foundation Drinking Water Additives Standards and is frequently used for drilling potable water wells.

The primary purpose of drilling fluid is to power the downhole cutting tools, remove cuttings from the drill hole, stabilize the hole, and act as a coolant and lubricant during the drilling process. The drilling fluid is prepared in a mixing tank containing both new and clean, recycled drilling fluid. The fluid is pumped at rate of 2 to 20 gallons per minute through the center of the drill pipe to the cutters. Return flow is through the ring created between the wall of the boring and the drill pipe. The cuttings are then carried back to either the entry or the exit pit, depending on a combination of the elevation difference and the opening direction of the drilling/hole. Once in the entry pit, the fluid moves to the pickup pit to be vacuumed into a transport tank. The fluid will later be disposed.

Cuttings and bentonite mud (clay) are often desirable for agricultural applications and would either be made available to landowners for use or disposed of in a landfill. Landowners would be instructed that any beneficial use of the bentonite must include safeguards to keep the material separated from public water ways.

The HDD method has the potential for a loss or seepage of drilling fluid into the native material through which the drill passes. In some cases, the drilling fluid may be forced to the surface, resulting in what is commonly referred to as an inadvertent release or a frac-out. While one of the positive aspects of the HDD method is the avoidance surface disturbance, surface disturbances may occur when there is an inadvertent release of drilling fluid. Drilling fluid release is typically caused by pressurization of the drill hole beyond the containment capability of the overburden soil material or due to inherent weaknesses



within the overlying soils, such as a fissure or other pathway. In some cases, the pathway can be associated with boreholes advanced for geotechnical investigations or by bridge or building pilings.

The HDD operation is a closed system to minimize the discharge of drilling mud, fluids, and cuttings outside the work area. To minimize the possibility of fluid escape, berms would be used to contain the drilling fluids. The drilling fluids would be vacuumed and disposed.

Care would be taken to prevent the fluids from getting into the soil and to prevent groundwater from entering the pits. Any drilling mud that inadvertently exits at points other than the entry and exit points would be contained and collected to the extent practical, and the HDD contractor would immediately notify a Zayo representative.

### **HDD Contractor Responsibilities and Requirements**

The HDD contractor would be responsible for execution of the HDD operation, including actions for detecting and controlling the inadvertent release of drilling fluid. Zayo would closely supervise the progress and actions of the HDD contractor through the use of on-site inspection teams.

The HDD contractor would be required to prepare a project-specific spill presentation control and countermeasure plan, which would include project-specific procedures concerning monitoring and response to frac-outs; these would include a specific project and agency notification protocol. Zayo would review and approve this plan prior to the initiation of construction. The contractor would be equipped with a tracked hydraulic excavator, straw or hay bales, stakes to secure bails, silt fences, sandbags, shovels, pumps, and any other materials or equipment necessary to contain and clean up inadvertent releases.

A vacuum truck would be on call during drilling operations. The vacuum truck would be placed next to the bore pit in areas approved by the authorized office of the Bureau of Land Management or applicable agency with jurisdiction. Access to existing roads and driveways would not be blocked.

Ancillary items that would be readily available during drilling operations include a light tower in case cleanup operations are needed after dark, a boat with relevant safety equipment during the crossing of waterbodies (if applicable), and flexible plastic piping for potential mitigation where small creeks or drainages are involved.

### **Fracture Detection**

Drilling crews and Zayo inspection personnel would be responsible for the monitoring and detection of frac-outs. The most obvious signs of a frac-out are the visible pooling of drilling mud on the surface, a sudden decrease in mud volume returns during drilling operations, or a loss in drilling mud pump pressure. Drilling and mud system personnel would observe the volume of drilling fluid return and immediately report reductions to the foreman and Zayo personnel. The mud system operator would monitor actual drilling pressures, fluid volumes from the pumps, and the return flow from the borehole. The operator would alert the on-site personnel if there is a significant variance. In the event of a partial circulation loss, pumping of drilling fluid could be reduced to reduce pressure applied to native formation materials. The bore pit would have a capacity of 20–30 gallons and would be monitored to make sure bore mud does not leave the pit.

### **Containment of Drilling Fluid Release**

Immediately following the detection of the inadvertent release of drilling fluid, containment and cleanup operations would commence. For releases on land, the contractor would use straw bales, silt fences, sandbags, and earth berms to prevent fluid from migrating or flowing from the immediate area of the discharge. If the volume released is too small for containment measures or if the release occurs in an environmentally sensitive area where release of containments can cause additional damage, the receiving area would be allowed to dry naturally. If there is a threat to a sensitive resource or a threat to public safety, HDD activities would cease immediately until a plan to proceed is discussed.

Other containment measures include the following:

- Additional berms could be constructed around the release area, as directed by the Zayo representative, to prevent the release of materials into the adjacent waterbody.
- If the amount of fluid released is large enough to prevent practical collection, the affected area would be diluted with fresh water and allowed to dry. Measures would be implemented (berm, silt fence, and/or hay bale installation) to prevent silt-laden water from flowing into the waterbody.
- If hand tools cannot contain a small on-land release, small collection sumps could be constructed to pump the released material into the mud processing system.
- Sump pumps or vacuum trucks would be used to remove and dispose of any drilling fluids as needed.

In cases of inadvertent releases to open water or flooded wetlands, it could be impractical or impossible to contain the release. For releases in shallow water, the HDD contractor would install staked sediment barriers. The removal by vacuum truck could be attempted, if deemed appropriate.

The decision to proceed with the drilling operation would be at the sole discretion of the Zayo representative after all practical methods to seal off the location of the discharge have been attempted. Zayo would notify the appropriate authorities for downstream water intakes of the existence and location of any plume that extends more than 3,000 feet from the worksite. Underwater releases would typically be allowed to dissipate since, by design, the HDD contractor would seek to avoid placing equipment within the waterbody. Water sampling equipment would be available for use by site inspectors to evaluate turbidity levels.

### **Cleanup of Releases**

The cleanup would commence after the release is contained. Cleanup would include the removal of all visible drilling fluid located in accessible areas. Removal methods would vary based on the volume of the release and the site-specific conditions. Removal equipment could include vacuum trucks, loader and track hoe buckets, small pumps, shovels, and buckets. If the release were to occur in a sensitive area, it could be necessary to pump the fluid into an upland area for additional containment and disposal.

After removal of the released drilling fluid, the release area would be returned as close to the original condition as possible. It could be necessary to store the drilling fluid residue on-site prior to disposal. If so, the necessary storage methods would be used to avoid future releases.

### **Agency Notification Procedures**

If an inadvertent release is discovered, steps would be taken to contain the release, as described above. Notification procedures for Zayo construction management personnel and regulatory agencies are as follows:

- a) When monitoring indicates that an in-stream release has occurred, the Zayo representative would immediately notify the appropriate federal and state agencies. The nature of the release would be described, and corrective actions would be detailed. The notified agencies would determine whether the implementation of additional measures would be required. If it is determined that the release cannot be remedied without causing additional adverse impact on the environment, Zayo would request agency approval to continue drilling operations.
- b) If downstream migration is imminent and if water quality would be affected, Zayo would contact downstream users. Relevant contact information would be gathered prior to commencement of construction operations and maintained on-site as part of the project-specific notification protocol.

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# Appendix F

Traffic Management and Control Plan

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# Appendix F. Traffic Management and Control Plan

## *Traffic Management Plan*

Zayo Group, LLC (Zayo) would obtain any necessary transportation and encroachment permits from the Oregon Department of Transportation, the California Department of Transportation, and the Nevada Department of Transportation and local jurisdictions, as required. It would implement temporary traffic controls as required to prevent congestion or traffic hazards during construction. During construction activities that are in, along, or cross local roadways, Zayo would follow best management practices 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.

Typical plans for controlling traffic are found below.

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TCP 3 Typical Single-Lane Closure for Multi-Lane Roadways

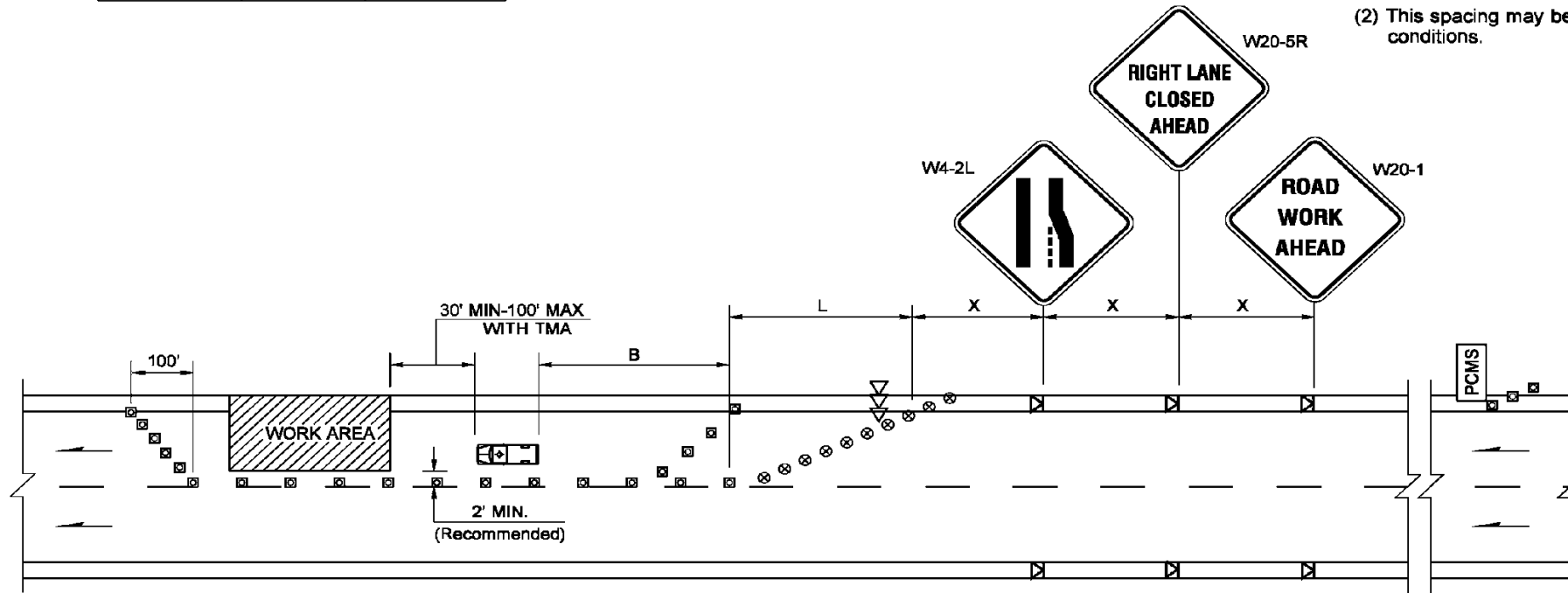
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

MINIMUM TAPER LENGTH = L (feet)											
Lane Width (feet)	Posted Speed (mph)										
	25	30	35	40	45	50	55	60	65	70	
10	105	150	205	270	450	500	550	-	-	-	
11	115	165	225	295	495	550	605	660	-	-	
12	125	180	245	320	540	600	660	720	780	840	

SIGN SPACING = X (FEET) ( 1 )		
FREEWAYS & EXPRESSWAYS	55/70 MPH	1500'+-
RURAL HIGHWAYS	60/65 MPH	800'±
RURAL ROADS	45/55 MPH	500'±
RURAL ROADS & URBAN ARTERIALS	35/40 MPH	350'±
RURAL ROADS, URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25/30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)
ALL SIGNS ARE 48" X 48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.		

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50 / 70	40	80
35 / 45	30	80
25 / 30	20	40

- (1) All spacing may be adjusted to accommodate interchange ramps, at-grade intersections, and driveways.
- (2) This spacing may be reduced in urban areas to fit roadway conditions.



(SAMPLE MESSAGE)

PCMS	
1	2
LANE CLOSED	1 MILE AHEAD
2.0 SEC	2.0 SEC

FIELD LOCATE 1 MILE ± IN ADVANCE OF LANE CLOSURE TAPER.

NOTES

1. A TMA is required for roadway 45 mph or higher. For roads 40 mph or less - If a TMA is not available, the protective vehicle shall be strategically located in the field to shield workers and no roll ahead distance is specified.
2. Extend device taper across shoulder when shoulder width is 8 ft or more.
3. Devices should not encroach into adjacent lanes, see sheet TCD 3 for encroachment detail.
4. Use transverse devices in closed lane every 1000'.
5. Traffic safety drums required for all lane closure tapers on roadway 45 mph or higher .
6. When used, device spacing for the downstream taper should be 20' O.C.
7. Coordinate with Region Traffic office for work hour restrictions.

LEGEND

- SIGN LOCATION
- ARROW BOARD
- TRAFFIC SAFETY DRUMS
- CHANNELIZING DEVICES
- PROTECTIVE VEHICLE REQUIRED
- PORTABLE CHANGEABLE MESSAGE SIGN

TYPICAL SINGLE-LANE CLOSURE FOR MULTI-LANE ROADWAYS  
TCP 3



Know what's below.  
Call before you dig.

ZAYO CONTACT:  
DAN BARCOMB  
4905 PACIFIC HWY E STE. 4  
FIFE, WA 98424  
C. 509.727.3345  
DAN.BARCOMB@ZAYO.COM

3				AS-BUILT
2				REVISION # 1
1	1/21/21	MF	TH	ORIGINAL
NO.	DATE	ENGINEER	DRAFTER	COMMENT



ZAYO ENGINEER: DAN BARCOMB  
ENGINEERING FIRM: MGC TECHNICAL CONSULTING INC.  
PROJECT NAME: SHOULDER CLOSURE - THREE LAND ROADWAY  
LOCATION:  
PERMIT NUMBER:  
DRAWING NAME: SHOULDER CLOSURE.dwg  
CONFIDENTIAL/PROPRIETARY

TCP 5 Typical Shoulder Closure – Low Speed (40 mph or Less)

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	-	-	-	-	-	-

Protective vehicle recommended - may be a work vehicle. If a TMA is not available, the protective vehicle shall be strategically located in the field to shield workers and no roll ahead distance is specified.

SIGN SPACING = X (FEET) (1)		
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350±
RURAL ROADS, URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200± (2)
URBAN STREETS	25 MPH OR LESS	100± (2)

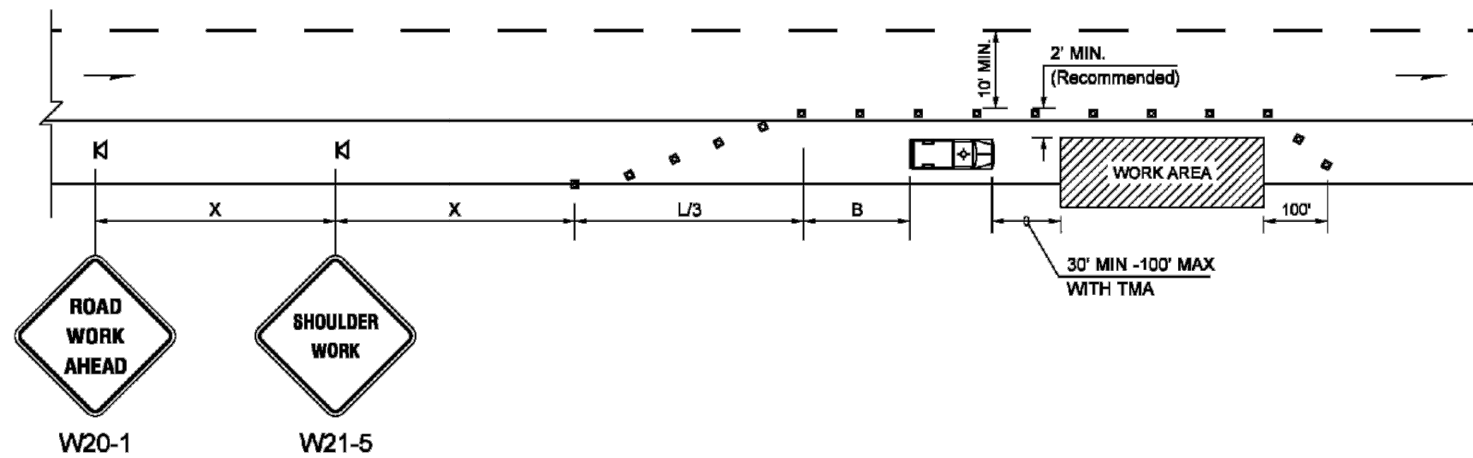
ALL SIGNS ARE 48" x 48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.

- (1) All spacing may be adjusted to accommodate interchange ramps, at-grade intersections, and driveways.
- (2) This spacing may be reduced in urban areas to fit roadway conditions.

MINIMUM TAPER LENGTH = L (feet)										
Shoulder Width (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8	84	120	162	210	-	-	-	-	-	-
10	105	150	204	270	-	-	-	-	-	-

3 DEVICES MINIMUM SPACED 10' O.C. IN TAPERS FOR SHOULDER WIDTHS LESS THAN 8 FEET

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
35 / 40	30	60
25 / 30	20	40



LEGEND

- ⊠ SIGN LOCATION
- □ □ CHANNELIZING DEVICES
- 🚚 PROTECTIVE VEHICLE - RECOMMENDED

NOTES

1. Protective vehicle recommended - may be a work vehicle.
2. When used, device spacing for the downstream taper should be 20' O.C.

TYPICAL SHOULDER CLOSURE - LOW SPEED (40 MPH OR LESS)  
TCP 5



Know what's below.  
Call before you dig.

ZAYO CONTACT:  
DAN BARCOMB  
4905 PACIFIC HWY E STE. 4  
FIFE, WA 98424  
C. 509.727.3345  
DAN.BARCOMB@ZAYO.COM

NO.	DATE	ENGINEER	DRAFTER	COMMENT
3				AS-BUILT
2				REVISION # 1
1	1/21/21	MF	TH	ORIGINAL



ZAYO ENGINEER: DAN BARCOMB  
ENGINEERING FIRM: MGC TECHNICAL CONSULTING INC.  
PROJECT NAME: SHOULDER CLOSURE - THREE LAND ROADWAY  
LOCATION:  
PERMIT NUMBER:  
DRAWING NAME: SHOULDER CLOSURE.dwg  
CONFIDENTIAL/PROPRIETARY SHEET: 1 OF 1

TCP 3 Typical Single-Lane Closure for Multi-Lane Roadways

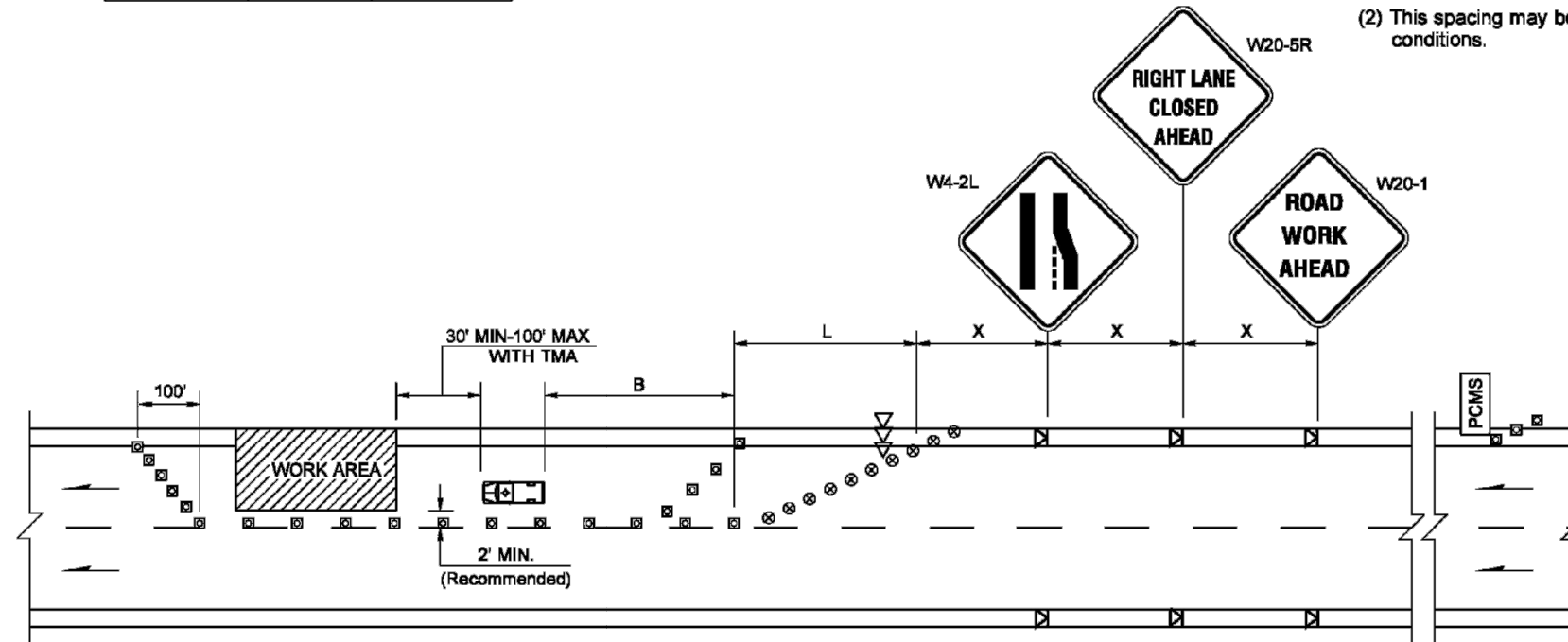
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

MINIMUM TAPER LENGTH = L (feet)										
Lane Width (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

SIGN SPACING = X (FEET) ( 1 )		
FREEWAYS & EXPRESSWAYS	55/70 MPH	1500'±
RURAL HIGHWAYS	60/65 MPH	800'±
RURAL ROADS	45/55 MPH	500'±
RURAL ROADS & URBAN ARTERIALS	35/40 MPH	350'±
RURAL ROADS, URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25/30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)
ALL SIGNS ARE 48" X 48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.		

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50 / 70	40	80
35 / 45	30	80
25 / 30	20	40

- (1) All spacing may be adjusted to accommodate interchange ramps, at-grade intersections, and driveways.
- (2) This spacing may be reduced in urban areas to fit roadway conditions.



(SAMPLE MESSAGE)

PCMS	
1	2
LANE CLOSED	1 MILE AHEAD
2.0 SEC	2.0 SEC

FIELD LOCATE 1 MILE ± IN ADVANCE OF LANE CLOSURE TAPER.

NOTES

1. A TMA is required for roadway 45 mph or higher. For roads 40 mph or less - If a TMA is not available, the protective vehicle shall be strategically located in the field to shield workers and no roll ahead distance is specified.
2. Extend device taper across shoulder when shoulder width is 8 ft or more.
3. Devices should not encroach into adjacent lanes, see sheet TCD 3 for encroachment detail.
4. Use transverse devices in closed lane every 1000'.
5. Traffic safety drums required for all lane closure tapers on roadway 45 mph or higher .
6. When used, device spacing for the downstream taper should be 20' O.C.
7. Coordinate with Region Traffic office for work hour restrictions.

LEGEND

- SIGN LOCATION
- ARROW BOARD
- TRAFFIC SAFETY DRUMS
- CHANNELIZING DEVICES
- PROTECTIVE VEHICLE REQUIRED
- PORTABLE CHANGEABLE MESSAGE SIGN

TYPICAL SINGLE-LANE CLOSURE FOR MULTI-LANE ROADWAYS  
TCP 3



Know what's below.  
Call before you dig.

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C. 509.727.3345  
DAN.BARCOMB@ZAYO.COM

3				AS-BUILT
2				REVISION # 1
1	1/21/21	MF	TH	ORIGINAL
NO.	DATE	ENGINEER	DRAFTER	COMMENT



ZAYO ENGINEER: DAN BARCOMB  
ENGINEERING FIRM: MGC TECHNICAL CONSULTING INC.  
PROJECT NAME: SINGLE LANE FOR MULTI LANE -THREE LAND ROADWAY  
LOCATION:  
PERMIT NUMBER:  
DRAWING NAME: SINGLE LANE FOR MULTI LANE.dwg  
CONFIDENTIAL/PROPRIETARY SHEET: 1 OF 1

TCP 12 Typical Lane Shift – Three Lane Roadway

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	-	-

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50 / 60	40	80
35 / 45	30	60
25 / 30	20	40

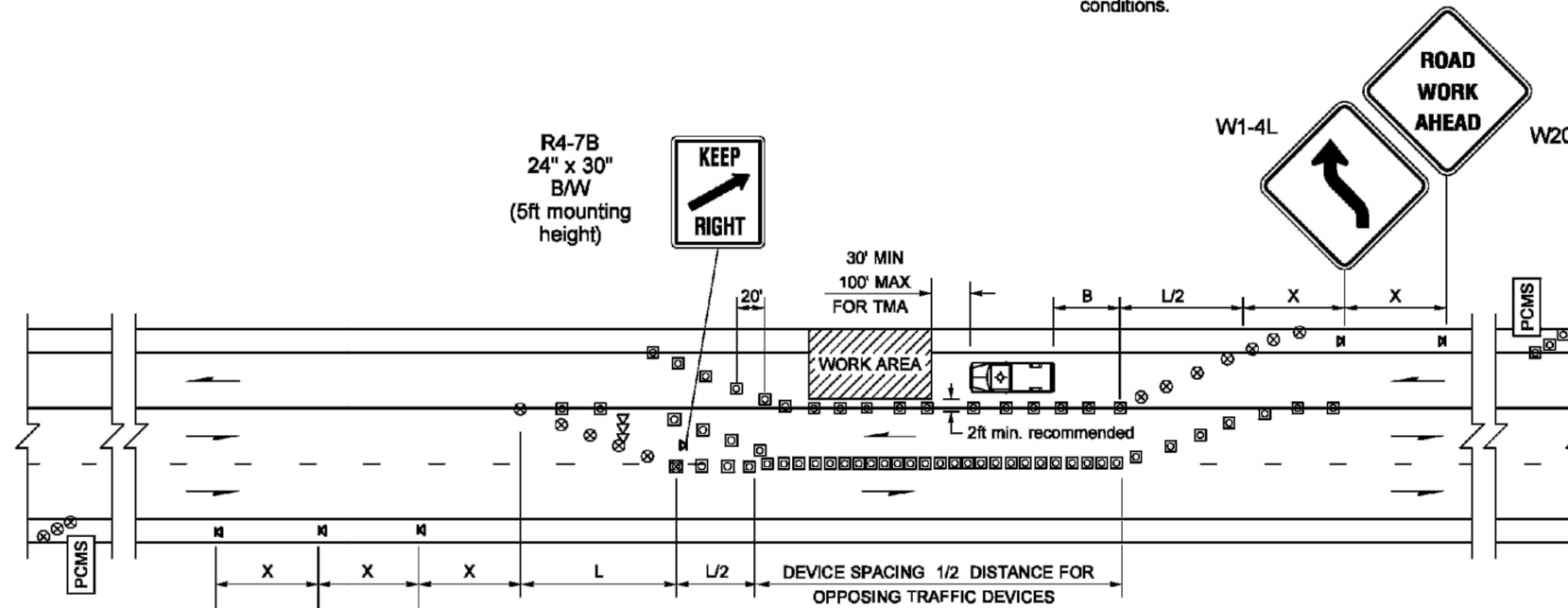
Lane Width (feet)	MINIMUM TAPER LENGTH = L (feet)									
	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	680	720	-	-

SIGN SPACING = X (FEET) ( 1 )		
RURAL HIGHWAYS	60/65 MPH	800'±
RURAL ROADS	45/55 MPH	500'±
RURAL ROADS & URBAN ARTERIALS	35/40 MPH	350'±
RURAL ROADS, URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25/30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)

ALL SIGNS ARE 48" X 48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.

(1) All spacing may be adjusted to accommodate interchange ramps, at-grade intersections, and driveways.

(2) This spacing may be reduced in urban areas to fit roadway conditions.



**LEGEND**

- SIGN LOCATION
- ARROW BOARD
- TRAFFIC SAFETY DRUMS
- CHANNELIZING DEVICES
- PROTECTIVE VEHICLE ~ RECOMMENDED
- PORTABLE CHANGEABLE MESSAGE SIGN - RECOMMENDED

(SAMPLE MESSAGE)

PCMS	
1	2
LANE CLOSED	1 MILE AHEAD
2.0 SEC	2.0 SEC

FIELD LOCATE 1 MILE ± IN ADVANCE OF LANE CLOSURE TAPER.

**NOTES**

- For long term projects, conflicting pavement markings no longer applicable must be removed or obliterated as soon as practicable. Temporary markings shall be used as necessary and signs shall be post mounted.
- For speed limits of 30 mph or less, use sign W1-3 in lieu of sign W1-4.
- Extend device taper across shoulder when 8ft or wider.
- PCMS recommended.
- Traffic safety drums required in lane closure tapers on roadways 45 mph or higher.
- Protective vehicle required on roadways 45 mph or higher ~ may be a work vehicle placed strategically to shield work area.

TYPICAL LANE SHIFT - THREE LANE ROADWAY  
TCP 12



Know what's below.  
Call before you dig.

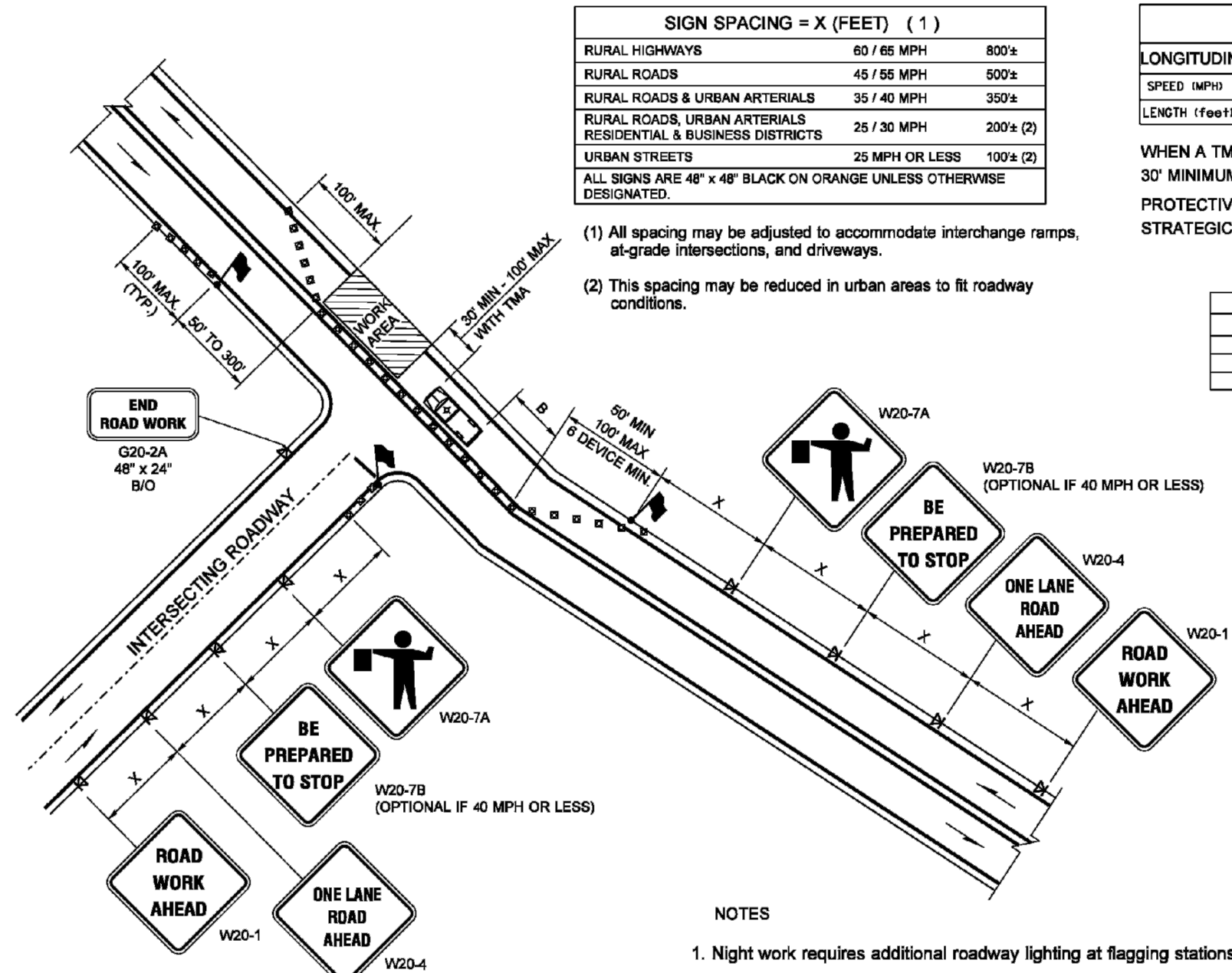
ZAYO CONTACT:  
DAN BARCOMB  
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FIFE, WA 98424  
C. 509.727.3345  
DAN.BARCOMB@ZAYO.COM

3				AS-BUILT
2				REVISION # 1
1	1/21/21	MF	TH	ORIGINAL
NO.	DATE	ENGINEER	DRAFTER	COMMENT



ZAYO ENGINEER: DAN BARCOMB  
ENGINEERING FIRM: MGC TECHNICAL CONSULTING INC.  
PROJECT NAME: LANE SHIFT - THREE LAND ROADWAY  
LOCATION:  
PERMIT NUMBER:  
DRAWING NAME: LANE SHIFT.dwg  
CONFIDENTIAL/PROPRIETARY

TCP 1 Typical Alternating One-Way Traffic Flagger Controlled



SIGN SPACING = X (FEET) (1)		
RURAL HIGHWAYS	60 / 65 MPH	800±
RURAL ROADS	45 / 55 MPH	500±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350±
RURAL ROADS, URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200± (2)
URBAN STREETS	25 MPH OR LESS	100± (2)

ALL SIGNS ARE 48" x 48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.

- (1) All spacing may be adjusted to accommodate interchange ramps, at-grade intersections, and driveways.
- (2) This spacing may be reduced in urban areas to fit roadway conditions.

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	-	-

WHEN A TMA IS USED, THE ROLL AHEAD DISTANCE IS 30' MINIMUM TO 100' MAXIMUM  
 PROTECTIVE VEHICLE MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50 / 65	40	80
35 / 45	30	60
25 / 30	20	40

**LEGEND**

- FLAGGING STATION
- SIGN LOCATION
- CHANNELIZING DEVICES
- PROTECTIVE VEHICLE

- NOTES**
- Night work requires additional roadway lighting at flagging stations.
  - Recommend extending channelizing device taper across shoulder.
  - Protective vehicle - may be a work vehicle strategically located to shield the work area.
  - When used, the downstream taper device spacing should be 20' O.C.
  - For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible from both directions may be used.
  - Longitudinal buffer space is used to extend the taper in advance of a curve.

TYPICAL ONE-LANE, TWO-WAY TRAFFIC CONTROL WITH FLAGGERS  
 TCP 1



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 FIFE, WA 98424  
 C. 509.727.3345  
 DAN.BARCOMB@ZAYO.COM

3				AS-BUILT
2				REVISION # 1
1	1/21/21	MF	TH	ORIGINAL
NO.	DATE	ENGINEER	DRAFTER	COMMENT



ZAYO ENGINEER: DAN BARCOMB  
 ENGINEERING FIRM: MGC TECHNICAL CONSULTING INC.  
 PROJECT NAME: ALTERNATING ONE-WAY - THREE LAND ROADWAY  
 LOCATION:  
 PERMIT NUMBER:  
 DRAWING NAME: ALTERNATING ONE-WAY.dwg  
 CONFIDENTIAL/PROPRIETARY SHEET: 1 OF 1

TCP 27 – Typical Intersection Lane Closure – Three-Lane Roadway

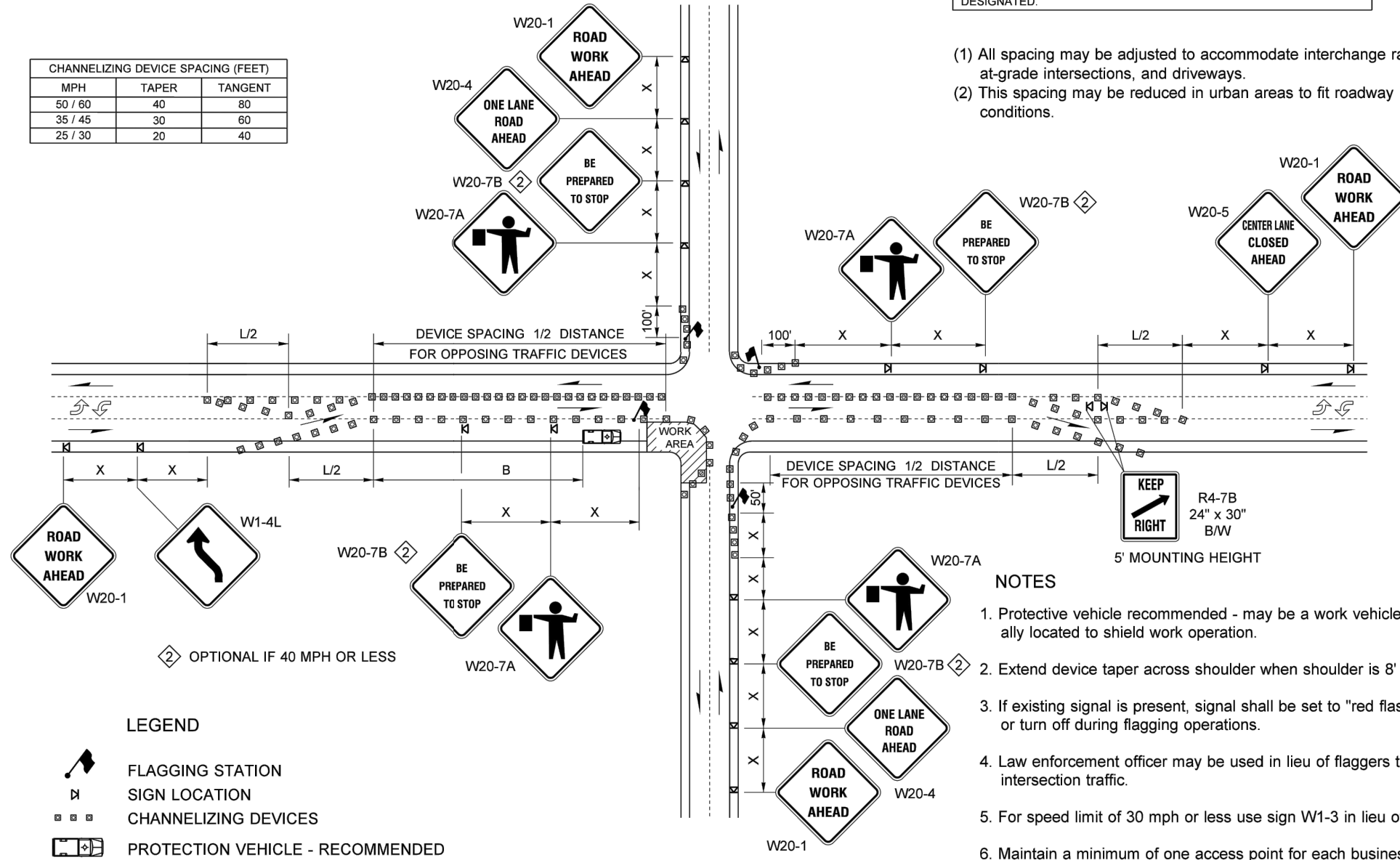
BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (mph)	25	30	35	40	45	50	55	60	65	65
LENGTH (feet)	155	200	250	305	360	425	495	570	645	645

Lane Width (feet)	MINIMUM TAPER LENGTH = L (feet)									
	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	-	-

SIGN SPACING = X (FEET) ( 1 )		
RURAL HIGHWAYS	60 / 65 MPH	800'±
RURAL ROADS	45 / 55 MPH	500'±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350'±
RURAL ROADS, URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)

ALL SIGNS ARE 48" x 48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50 / 60	40	80
35 / 45	30	60
25 / 30	20	40



- (1) All spacing may be adjusted to accommodate interchange ramps, at-grade intersections, and driveways.  
 (2) This spacing may be reduced in urban areas to fit roadway conditions.

NOTES

- Protective vehicle recommended - may be a work vehicle strategically located to shield work operation.
- Extend device taper across shoulder when shoulder is 8' or wider.
- If existing signal is present, signal shall be set to "red flash mode" or turn off during flagging operations.
- Law enforcement officer may be used in lieu of flaggers to control intersection traffic.
- For speed limit of 30 mph or less use sign W1-3 in lieu of sign W1-4.
- Maintain a minimum of one access point for each business within work area limits.
- Consider using PCMS for additional advance warning.

LEGEND

- FLAGGING STATION
- SIGN LOCATION
- CHANNELIZING DEVICES
- PROTECTION VEHICLE - RECOMMENDED

TYPICAL INTERSECTION LANE CLOSURE ~ THREE LANE ROADWAY  
TCP 27



ZAYO CONTACT:  
 DAN BARCOMB  
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 FIFE, WA 98424  
 C. 509.727.3345  
 DAN.BARCOMB@ZAYO.COM

3				AS-BUILT
2				REVISION # 1
1	1/21/21	MF	TH	ORIGINAL
NO.	DATE	ENGINEER	DRAFTER	COMMENT



ZAYO ENGINEER: DAN BARCOMB  
 ENGINEERING FIRM: MGC TECHNICAL CONSULTING INC.  
 PROJECT NAME: INTERSECTION LANE CLOSURE - THREE LANE ROADWAY  
 LOCATION:  
 PERMIT NUMBER:  
 DRAWING NAME: INTERSECTION LANE.dwg  
 CONFIDENTIAL/PROPRIETARY SHEET: 1 OF 1

TCD 13 – Typical Example – Work Within a Roundabout

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
35 / 45	30	60
25 / 30	20	40

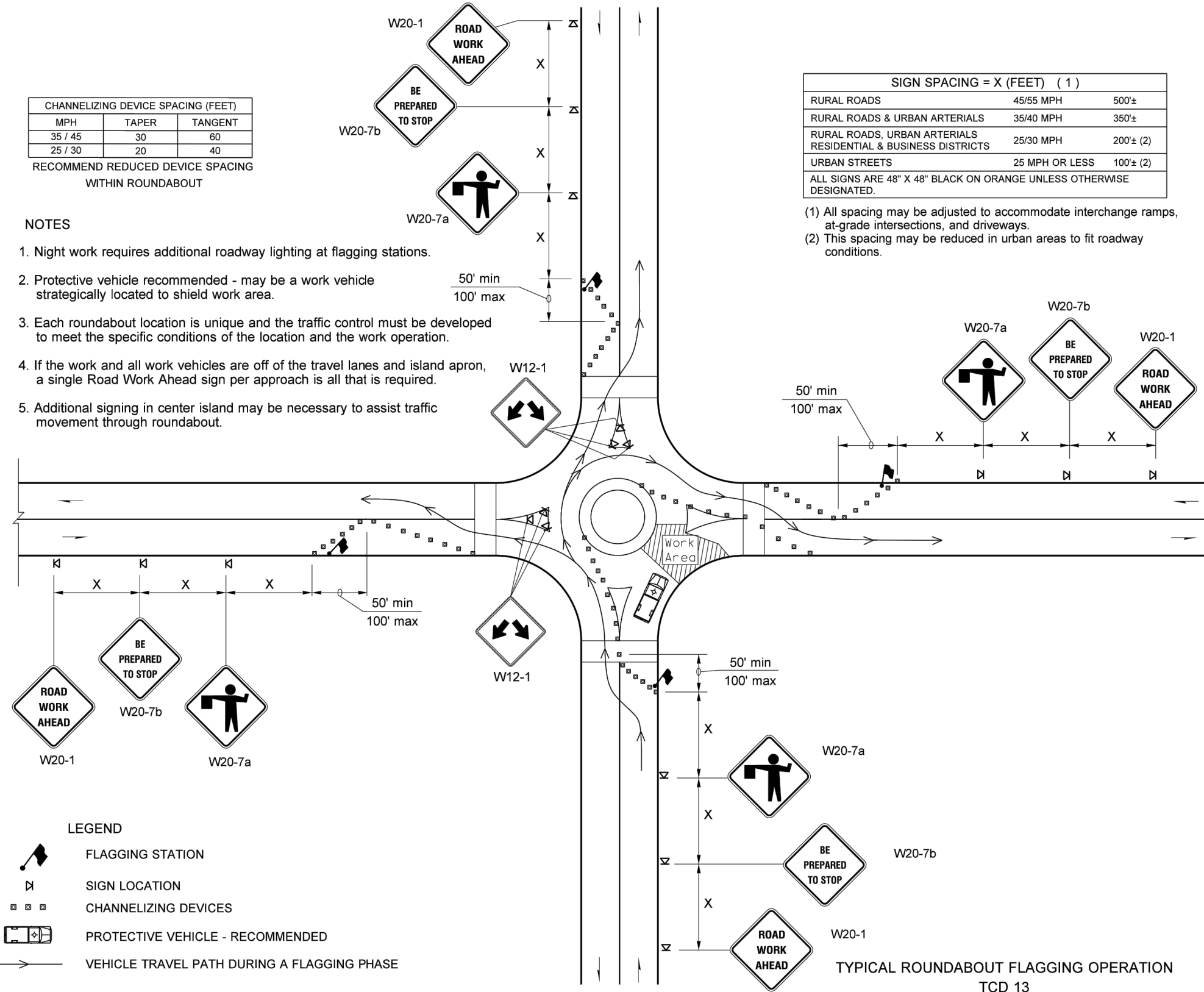
RECOMMEND REDUCED DEVICE SPACING WITHIN ROUNDABOUT

NOTES

1. Night work requires additional roadway lighting at flagging stations.
2. Protective vehicle recommended - may be a work vehicle strategically located to shield work area.
3. Each roundabout location is unique and the traffic control must be developed to meet the specific conditions of the location and the work operation.
4. If the work and all work vehicles are off of the travel lanes and island apron, a single Road Work Ahead sign per approach is all that is required.
5. Additional signing in center island may be necessary to assist traffic movement through roundabout.

SIGN SPACING = X (FEET) ( 1 )		
RURAL ROADS	45/55 MPH	500±
RURAL ROADS & URBAN ARTERIALS	35/40 MPH	350±
RURAL ROADS, URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25/30 MPH	200± (2)
URBAN STREETS	25 MPH OR LESS	100± (2)

- ALL SIGNS ARE 48" X 48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.
- (1) All spacing may be adjusted to accommodate interchange ramps, at-grade intersections, and driveways.
  - (2) This spacing may be reduced in urban areas to fit roadway conditions.



**LEGEND**

- FLAGGING STATION
- SIGN LOCATION
- CHANNELIZING DEVICES
- PROTECTIVE VEHICLE - RECOMMENDED
- VEHICLE TRAVEL PATH DURING A FLAGGING PHASE

TYPICAL ROUNDABOUT FLAGGING OPERATION  
TCD 13



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3				AS-BUILT
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1	1/21/21	MF	TH	ORIGINAL
NO.	DATE	ENGINEER	DRAFTER	COMMENT



ZAYO ENGINEER: DAN BARCOMB  
ENGINEERING FIRM: MGC TECHNICAL CONSULTING INC.  
PROJECT NAME: ROUNDABOUT - THREE LAND ROADWAY  
LOCATION:  
PERMIT NUMBER:  
DRAWING NAME: ROUNDABOUT.dwg  
CONFIDENTIAL/PROPRIETARY SHEET: 1 OF 1

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# Appendix G

Bore Mud Control Plan

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# Appendix G. Bore Mud Control Plan

Bores are drilled 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 during drilling. Straw wattles would be installed around the entry pit as secondary containment, and a vacuum truck or tank would be available on-site for clearing the pits post-bore. Following the installation of the conduits, the bore pits would be filled and compacted or would be converted to vaults.

The depth of bores beneath roads would depend on permit requirements, but they would typically be located 4 feet below the lowest point of the crossing. Bores beneath waterbodies would average between 4 and 10 feet but up to 15 feet below the waterbody bed. Bores beneath culverts would average 2 to 3 feet below the bed or approximately 4 feet below the water’s surface.

All drilling muds, slurries, oils, oil-contaminated water, and other waste materials removed from the bore hold or otherwise used during the project would be disposed of at a permitted landfill or other appropriately permitted site.

To minimize the potential for an accidental release of bentonite drilling fluid caused by a fracture in the rock underlying the waterbody (an event known as a “frac-out”), Zayo Group, LLC (Zayo) would prepare a surface spill and hydrofracture contingency plan; see **Appendix E**, Hazardous Materials Control Plan. A potential “frac-out” can occur when there is an inadvertent return 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, 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 waterbody. In addition, Zayo would prepare an accidental release prevention plan prior to construction 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. Zayo would also establish protocols for reporting and cleanup in the event of a “frac-out.” Dewatering is not anticipated to be needed; this is because conduit would be installed at a depth that is shallower than the groundwater table.

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# Appendix H

## Stream Crossing Plan

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# Appendix H. Stream Crossing Plan

## *Introduction*

Zayo Group, LLC (Zayo) would use horizontal directional drilling to cross waterbodies 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.

No new or temporary watercourse crossings would be required during construction or operation of the project. Construction equipment would cross watercourses using existing bridges. All aquatic features and associated riparian vegetation would be avoided via boring. Large crossings with adequate bridges would have cable installed on the bridge.

## *Directional Boring*

Boring is the preferred method proposed for waterbody crossings. Directional boring is conducted by specialized drill equipment that places conduit by use of 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.

A directional boring machine is essentially a horizontal drilling rig with a steerable drill bit. Each directional bore begins with a pilot hole through which the operator guides a drill bit 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 placed at a depth of 36 to 42 inches below ground.

Small launch (entry) and exit pits are needed on either side of the bore. The pits would be 4 feet long by 1 foot wide by 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 (15 to 20 feet for short bores, up to 60 feet for large bores). The maximum length of the bore would be 750 feet. Bores more than 750 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 where the two segments of cable would be joined.

Depth of bores beneath roads would depend on permit requirements but would typically be located 4 feet below the lowest point of the crossing. Bores beneath waterbodies would average between 4 and 10 feet but up to 15 feet below the waterbody bed. Bores beneath culverts would average 2 to 3 feet below the bed or approximately 4 feet below the water's surface.

A “frac-out” can occur when there is an inadvertent return of drilling fluid. Such a release would be a potential concern when directional boring is under sensitive habitats or waterways. Frac-out would be

prevented via such best management practices as using a thicker bentonite solution; this both better supports the bore walls during the bore and is less likely to escape through a fissure into the waterbody.

In addition, Zayo would prepare an accidental release prevention plan that would establish monitoring for a potential frac-out, such as inspecting the bore path at all times during drilling operations and stationing personnel 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 to prevent potentially released material from reaching the resource.

The plan would also establish protocols for reporting and cleanup 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*

In areas where boring is not feasible, conduit would be attached to existing bridges. Before bridge work, Zayo's 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, such as drillings and fasteners, from falling onto underlying roads or railroads or into waterbodies.



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# Appendix I

## Programmatic Agreement

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**PROGRAMMATIC AGREEMENT**

**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE  
AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND  
CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC  
PRESERVATION OFFICER, THE NEVADA STATE HISTORIC PRESERVATION  
OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE  
PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJECT**

**WHEREAS**, the Department of the Interior, Bureau of Land Management (BLM) may issue a right-of-way (ROW) grant authorization across federal lands to Zayo Group, LLC, pursuant to the Federal Lands Policy and Management Act of 1976 (43 United States Code [USC] 1701); and

**WHEREAS**, the Zayo Group, LLC, herein referred as “Zayo,” is the Permittee and has proposed to install a bundle of three, 1.25 inch fiber optic cables underground, at a minimum of 42 inches in depth. The entire alignment is intended to follow existing road rights-of-way (ROW) for state-managed highways and county roads, located on federal, state, Reservation, and privately owned lands. The route is 438 miles in length and will begin in Prineville, Oregon and terminate in Reno, Nevada (Undertaking); and

**WHEREAS**, the BLM has determined through consultation with the California (CA), Nevada (NV), and Oregon (OR) State Historic Preservation Officers (SHPOs) that the proposed project is an undertaking that has the potential to cause effects on historic properties and is, therefore, subject to compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended (54 USC 300101 et seq.), and the implementing regulation found at 36 Code of Federal Regulations (CFR) Part 800: and

**WHEREAS**, the BLM has determined that effects on historic properties cannot be fully determined prior to approval of this Undertaking, and therefore has developed this Programmatic Agreement to establish a phased process for historic property identification and treatment, in order to meet desired project timelines; and

**WHEREAS**, the BLM, in agreement with the U.S. Forest Service (USFS), the Bureau of Indian Affairs (BIA), and the U.S. Fish and Wildlife Service (USFWS) has agreed to carry out lead federal agency responsibilities for Section 106, pursuant to 36 CFR 800.2(a)(2); and

**WHEREAS**, the BLM has invited eight Tribal Governments to participate in the Section 106 process as Concurring Parties listed as follows: Pit River Tribe, Susanville Indian Rancheria, Fort Bidwell Paiute Tribe, Washoe Tribe of Nevada and California, Reno Sparks Indian Colony, Klamath Tribes, Confederated Tribes of Warm Springs, and Burns Paiute Tribe hereinafter referred to collectively as Tribes or individually by their name; and

**WHEREAS**, the BLM, in consultation with the Oregon SHPO, California SHPO, Nevada SHPO (collectively referred to as the SHPOs), Pit River Tribal Historic Preservation Officer (THPO), Oregon Department of Transportation, California Department of Transportation, Nevada Department of Transportation (collectively referred to as State DOTs), and Zayo Group LLC., and the Tribes (all entities hereafter referred to as Consulting Parties, unless individually referred to by their name) established the Undertaking’s Area of Potential Effects (APE) (APE maps located

in Appendix A), pursuant to 36 CFR 800.4(a) and 36 CFR 800.16(d), which encompasses direct, indirect, and cumulative effects on historic properties for the proposed project; and

**WHEREAS**, the BLM has identified the SHPOs and Pit River THPO as signatories to this PA, and has invited Zayo Group, LLC., as a signatory; and

**WHEREAS**, the BLM will consult with Tribes to identify concerns about historic properties, to advise on the identification and evaluation of historic properties, including those of traditional religious, spiritual or cultural importance, and to articulate views on the Undertaking's effects on such properties, pursuant to 36 CFR 800.2(c) 36 CFR 800.4(c)(1); and

**WHEREAS**, the SHPOs and THPO are authorized to enter into this Agreement in order to fulfill their respective roles of advising and assisting federal agencies in carrying out responsibilities under Section 101 and 106 of the NHPA, at 36 C.F.R. § 800.2(2)(1)(i), § 800.6(b), and all three SHPOs and the THPO are Signatories to this Agreement; and

**WHEREAS**, the BLM has invited the Advisory Council on Historic Preservation (ACHP) to participate in the consultation process for this Agreement in accordance with the *Programmatic Agreement among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers regarding the Manner in which BLM will meet its Responsibilities under the National Historic Preservation Act*, and the ACHP elected to not participate as a Signatory to this Agreement on October 20, 2021; and

**WHEREAS**, the Applicant has participated in consultation, and has certain obligations under this Agreement, and therefore, pursuant to 36 C.F.R. § 800.6(c)(2), is an Invited Signatory to this Agreement; and

**WHEREAS**, in consultation with the CA, NV, and OR SHPOs, a decision was made that the Undertaking consists of one linear project crossing multiple states and land ownerships, and requires one finding of effect for the Undertaking as a whole, and one cultural resource compliance report specific to each state; and

**WHEREAS**, the BLM and the CA, NV, and OR SHPOs agree that a phased process for submission of the cultural resource compliance reports for each state will allow the BLM to comply with the requirements of Section 106 for a priority undertaking, the implementation of which the BLM must accomplish under a relatively inflexible schedule. If the BLM approves the project and grants the ROW, Notices to Proceed (NTP) would be issued in those states in which the Section 106 compliance has been completed; and

**NOW THEREFORE**, the BLM and the CA, NV, and OR SHPOs and the Pit River THPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties.

## **STIPULATIONS**

The BLM shall ensure that the following stipulations are carried out:

### **I. STANDARDS**

- A.** The BLM shall ensure that all work carried out pursuant to this PA meets the Secretary of the Interior (SOI) Standards for Archaeology and Historic Preservation.
- B.** The BLM shall ensure that all work carried out in compliance with the NHPA Section 106, pursuant to this PA, shall be done by or under the direct supervision of historic preservation professionals who meet the SOI Professional Qualification Standards and are permitted as Principal Investigators or Crew Chiefs by the BLM.

SOI Professional Qualification Standards found at 36 CFR 61 are as follows:

**History** The minimum professional qualifications in history are a graduate degree in history or closely related field; or a bachelor's degree in history or closely related field plus one of the following:

1. At least two years of full-time experience in research, writing, teaching, interpretation, or other demonstrable professional activity with an academic institution, historic organization or agency, museum, or other professional institution; or
2. Substantial contribution through research and publication to the body of scholarly knowledge in the field of history.

**Archeology** The minimum professional qualifications in archaeology are a graduate degree in archeology, anthropology, or closely related field plus:

1. At least one year of full-time professional experience or equivalent specialized training in archeological research, administration, or management;
2. At least four months of supervised field and analytic experience in general North American archeology; and
3. Demonstrated ability to carry research to completion.

In addition to these minimum qualifications, a professional in prehistoric archeology shall have at least one year of full-time professional experience at a supervisory level in the

study of archaeological resources of the prehistoric period. A professional in historic archeology shall have at least one year of full-time professional experience at a supervisory level in the study of archaeological resource of the historic period.

## **II. ADMINISTRATIVE STIPULATIONS**

- A.** This PA shall apply to all aspects of the Undertaking, including those not known at this time (such as potential mitigation for adverse effects), not defined in the EA, or not specified in the permits, permit applications, or other Undertaking documents.
- B.** The BLM shall enforce the terms of this PA within the agency's scope and shall incorporate its terms into any decision document, permit, or authorization they issue. The BLM shall notify the PA Signatories within 5 business days if they become aware of an instance of possible non-compliance with the terms and conditions of this PA. If this occurs, the BLM shall ensure that measures are taken to resolve non-compliance issues, consistent with its legal authorities, and if necessary, will amend the PA in accordance with Amendment stipulation XI, and will consult with the PA Signatories as needed.

## **III. AGENCY ROLES AND RESPONSIBILITIES**

- A.** The BLM, USFS, BIA, USFWS and State DOTs shall attach this PA or its stipulations to any agency-specific permit or authorizations for the Undertaking. Those agencies shall ensure that requirements of this PA have been met for portions of the Undertaking on federal lands and within their respective jurisdictions.

## **IV. PERMITTEE RESPONSIBILITIES**

- A.** Zayo shall be responsible for funding and implementing, either directly or through qualified contractors, the work necessary to ensure compliance with the terms of this PA. This work will be completed on behalf of and at the direction of the BLM.
- B.** Zayo shall ensure that any persons conducting or supervising cultural resources work on their behalf hold all appropriate federal or state permits and/or authorizations for that work.

## **V. CONSULTATION**

- A.** The BLM shall ensure the SHPOs, THPO, and Consulting Parties, receive all technical reports for review and comment, adhering to each state's most recent reporting guidelines.

- B. The BLM and Permittee will schedule bi-weekly coordination meetings to share information, gathered during consultation with Tribes or other entities, that may be relevant to the Permittee's responsibilities under this PA. This includes, but is not limited to, information relevant to inventory efforts, requests to participate in monitoring activities, requests to accompany crews in the field, and requests to participate in Tribal liaison activities.
- C. The BLM shall ensure that the Consulting Parties are kept informed, through the regularly scheduled bi-weekly meetings, about the Undertaking and the implementation of this PA and shall provide opportunities for review of and comment on all pertinent documents.
- D. The BLM shall consult with and provide information to the public, pursuant to 36 CFR 800.2(d).

## VI. ALTERNATIVE PROCESS

- A. The BLM shall use the following phased report submission process for the Undertaking, to complete inventory, evaluation, and assessment of effects. Resolution of any potential adverse effects shall be addressed in separate Treatment Plans developed in consultation with the respective Consulting Parties. The BLM shall direct the Permittee to gather sufficient data to fulfill documentation standards consistent with 36 CFR 800.11, in a manner that will accommodate the Permittee's phased construction and development of the Project, if approved.
- B. **Reporting Process** – The BLM shall provide the following reports for compliance under the phased report submission process, and shall ensure they adhere to the SOI Professional Standards for identifying, documenting, evaluating and assessing effects to historic properties, in addition to adherence to each state's SHPO field and reporting guidelines.
  - i. The Permittee will submit three separate Cultural Resources Reports, specific to Project segments in each state, to the BLM within 90 days following completion of fieldwork, as it is completed in each state. The Reports shall fulfill documentation standards consistent with 36 CFR 800.11(e) and will contain 1) a description of inventory efforts; 2) NRHP eligibility recommendations using: all four criteria, results of pre-field consultation, and include consultation with appropriate tribes and other appropriate parties on the eligibility recommendations (per 36CFR800.2[a][4]); 3) finding of effect recommendations



for resources that are either recommended to be NRHP-eligible or are assumed so, and include consultation with appropriate tribes and other appropriate parties on the recommendations (per 36CFR800.2[a][4]); and 4) recommended resolution measures for resources that would be adversely affected. The Reports must contain detailed maps and a GIS deliverable with the spatial locations of the completed work.

- ii.** If the BLM, through consultation with other Consulting Parties, determines that adequate information has not been provided for a Determination of Eligibility (DOE) or finding of effect, the BLM shall require the Permittee to provide additional information or conduct additional fieldwork as necessary in the State with identified reporting deficiencies. After the Permittee has gathered the additional information, the Permittee will submit it as a report addendum to the BLM. The BLM will distribute the Cultural Resources Reports to Consulting Parties for a 30-day review and comment period.

**iii.**

Within 15 days following the 30-day Consulting Party review, the BLM will consider any timely comments received and will submit DOEs, assessments of effects, and proposed steps to develop mitigation measures to the SHPOs, THPO, Tribes, and other Consulting Parties, consistent with 36 CFR 800.4-6. If no response is received from each SHPO, THPO or other Consulting Parties within 30 days of receipt, the BLM shall move forward with their determinations and findings. The BLM's administrative record and project authorization documents will cite the Project design date/version, which will be used to assess adverse effects if realignment of project running line is necessary. If additional comments are received from the Consulting Parties, which includes the SHPOs, THPO, and Tribes, the BLM will consider them and work with the Permittee to address any deficiencies and respond to the Consulting Parties within 15 days.

- iv.** If the BLM, a SHPO, the THPO, or a Tribe do not agree on the NRHP eligibility of a resource, the BLM shall forward all documentation to the Keeper of the National Register, pursuant to 36 CFR 63.2(d), for an official determination.
- v.** If any Consulting Party objects to a finding of effect within the 30-day review period, and provides reasons for the disagreement, the BLM shall either consult

with the objecting party or forward the finding and supporting documentation to the ACHP for comment, consistent with Stipulation XI.

### **C. Adverse Effect Treatment Plans**

- i.** Within 30 days following the conclusion of the respective Consultation Parties 30-day review of the DOEs and assessment of effects for the segment of the Project within their respective state, the BLM shall consult with the SHPO and/or THPO and appropriate Consulting Parties, including Tribes, to develop and evaluate alternatives or modifications to the Undertaking that could avoid, minimize or mitigate adverse effects on historic properties. The Permittee will assist the BLM in the development of proposed property-specific Treatment Plans to resolve any adverse effect(s) from the Project. The Treatment Plans will contain detailed information on the treatment measures, a schedule for when the measures will be implemented, and a schedule for when deliverables will be finalized and distributed. The BLM will review, approve, and distribute the Treatment Plans to the SHPO/THPO and appropriate Consulting Parties for a 30-day review and comment period. The Permittee, or contractors hired on their behalf, will implement the Treatment Plans, following approval of the Plans by the BLM and the respective SHPO/THPO and other Consulting Parties.
- ii.** Final Implementation Report – The Permittee will submit a Final Implementation Report for each historic property, (or groups of historic properties in which collective mitigation would be appropriate) to the BLM, within 180 days after implementation of each Treatment Plan is complete, or within a timeframe specified in each Treatment Plan. The Final Implementation Report will be a comprehensive record of all activities that occurred at that historic property, or groups of historic properties collectively mitigated, from inventory through implementation of the treatment measures, and will describe all completed steps, analyses, methods, and results, including collections and datasets generated. The BLM must review and approve all Final Implementation Report before they will be considered complete and submitted to a SHPO and/or THPO and appropriate Consulting Parties. The BLM will provide the Report to the respective SHPO and/or THPO and appropriate Consulting Parties for a 30-day review and comment period.

- iii. Within 15 days following the 30-day Consulting Party review, the BLM will consider any timely comments received from the SHPO and/or THPO, and Consulting Parties and will work with the Permittee to address and correct any deficiencies, and respond to the Consulting Parties within 15 days.

## **VII. INITIATION OF CONSTRUCTION ACTIVITIES AND STOP WORK ORDERS**

- A. The BLM shall ensure the Permittee does not initiate work on any Project Phase, Component, Stage, or Segment, in a State until on-site actions to carry out the steps in the Alternative Process VI, B., has been completed for that State. If adverse effect findings occur along any segment within a state, the BLM shall not issue a Notice to Proceed until all Stipulations in Alternative Process VI, C., have been met for that specific segment. Project implementation may occur in segments where no adverse effect to historic properties has been identified and after the BLM provides the Permittee with written notification that the Section 106 requirements have been met and that the project may proceed.
- B. The BLM may issue a Stop Work Order, which requires that the Permittee stop all project work activities if it, or any PA Signatory, suggests that Stipulation VI has not been fulfilled, or if newly identified potential historic properties are determined to be within the APE prior to construction, but after the BLM notifies the Permittee that Section 106 requirements have been met. If a PA Signatory recommends this, it shall notify the BLM in writing of the issue and the BLM shall then consult with the appropriate PA Signatories to determine what steps must be completed to allow for the work to be reinstated.
- C. Monitors have the authority to issue a Stop Work Order if there is an inadvertent discovery found during monitoring activities. See also Stipulation VIII, Monitoring and Stipulation IX, Inadvertent Discovery and Unanticipated Effects.

## **VIII. MONITORING REQUIREMENTS**

- A. The BLM has developed a monitoring and discovery plan (Appendix B) that was submitted to all signatories and Consulting Parties for review and approval prior to the onset of any construction activity in the undertaking's APE. The plan describes monitoring and post-review discovery protocols, including protocols for discoveries made during construction, chain of command, and responsible parties with contact information, and special protocols for the disposition of human remains. The BLM

shall ensure that the Permittee is following the monitoring and discovery plan in Appendix B during all phases of construction activities.

- B.** The BLM shall ensure archaeological and Native American monitoring during grading, plowing, and trenching within the APE, and ensure that each monitor records their daily activity, their daily observations of the stratigraphy exposed along the undertaking's construction trenches, and the results of periodic screening of excavated fill as work progresses. The BLM shall further ensure that these records and a narrative summary of them are included in the monitoring report required in Stipulation VIII. C., below.
- C.** The BLM shall ensure that a monitoring report is prepared that includes all the information detailed in Stipulation VII. A., and Stipulation VII.B., above. The BLM shall ensure that the monitoring report is prepared and submitted to the signatories and Consulting Parties for review and comment no longer than 90 calendar days after the completion of construction. The signatories and Consulting Parties shall provide comments within 30 calendar days of receipt of the monitoring report. If no comments are received on the submitted monitoring report within 30 days of receipt, the BLM may assume there were no comments.

## **IX. INADVERTANT DISCOVERY AND UNANTICIPATED EFFECTS**

If any post-review discoveries of cultural resources are made after the project has been approved, the BLM will treat the discoveries in accordance with 36 CFR 800.13.b.3.

## **X. DISPUTE RESOLUTION**

- A.** Should any PA Signatory object at any time to any proposed work or the manner in which the terms of this PA are implemented, the BLM shall consult with the party to resolve the objection. If the BLM determines that such objection cannot be resolved, the BLM will:
  - i.** Forward all documentation relevant to the dispute, including the BLM's proposed resolution, to the ACHP. The ACHP shall provide the BLM with its advice on the resolution of the objection within 30 days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the BLM shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, PA Signatories, and Consulting parties, and will provide the parties with a copy of the written response. The BLM will then proceed according to its final decision.



### **XIII. ANTI-DEFICIENCY ACT**

The BLM's obligations under this PA are subject to the availability of appropriated funds, and the stipulations of this PA are subject to the provisions of the Anti-Deficiency Act. The BLM shall make reasonable and good faith efforts to secure the necessary funds to implement this PA in its entirety. If compliance with the Anti-Deficiency Act alters or impairs the BLM's ability to implement the stipulations of this agreement, the BLM shall consult in accordance with the amendment and termination procedures found at Stipulations XI and XII of this PA.

### **XIV. ANNUAL REPORTING REQUIREMENTS**

Each year following the execution of this PA until it expires or is terminated, the BLM shall provide all consulting parties to this PA a summary report detailing historic preservation work undertaken pursuant to the terms of the PA, including a summary of the nature and content of any consultation meetings held with consulting parties, and scheduling changes proposed, challenges encountered in carrying out the terms of this PA, or any disputes and objections received in the BLM's effort to carry out the terms of this PA. The BLM shall also include an assessment of the overall effectiveness of this PA in programmatically considering the undertaking's effects on historic properties.

This annual report shall be provided to consulting parties prior to the scheduled annual meeting. Consulting parties may opt out of any given annual meeting. Should any consulting parties opt out of the annual meeting, the BLM shall still transmit the annual report to each consulting party.

### **XV. DURATION OF THIS PA**

Unless otherwise amended or terminated in accordance with Stipulation XI or XII, this PA will expire 5 years from the date of Execution and shall have no further force or effect. The PA Signatories recognize that an amended extension of this PA agreement may be needed to ensure compliance with NHPA and will follow the process outlined in Amendment Stipulation XI to consider an extension.

**EXECUTION** of this PA by the BLM and the SHPOs and THPO and implementation of its terms evidences that the BLM has taken into account the effects of this Undertaking on historic properties and afforded the ACHP an opportunity to comment.

This PA may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. The BLM may consolidate the original signature pages to produce the final copies. The BLM will distribute copies of all pages to all Consulting Parties once the PA is signed and will file a copy of the executed PA with the ACHP.

**PROGRAMMATIC AGREEMENT**

**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE  
AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND  
CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC  
PRESERVATION OFFICER, THE NEVADA STATE HISTORIC PRESERVATION  
OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE  
PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJEC**

**SIGNATORY**

**U.S. DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT**

**JAMES FORBES**

Digitally signed by JAMES  
FORBES  
Date: 2021.12.15 14:21:08  
-08'00'

**By:** \_\_\_\_\_

**Todd Forbes, BLM Lakeview District Manager, Authorizing Official**

**DATE: 12/15/2021**



**PROGRAMMATIC AGREEMENT**

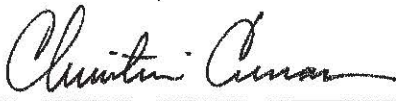
**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE  
AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND  
CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC  
PRESERVATION OFFICER, THE NEVADA STATE HISTORIC PRESERVATION  
OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE  
PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJECT**

**SIGNATORY**

**OREGON STATE HISTORIC PRESERVATION OFFICER**

By: 

**Christine Curran, Deputy State Historic Preservation Officer, Oregon State Historic  
Preservation Office**

DATE: 02/24/22

**PROGRAMMATIC AGREEMENT**

**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, THE NEVADA STATE HISTORIC PRESERVATION OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJECT**

**SIGNATORY**

**CALIFORNIA STATE HISTORIC PRESERVATION OFFICER**



**By: \_\_\_\_\_  
(Julianne Polanco, State Historic Preservation Officer, California State Historic Preservation Office)**

**DATE: 2/25/22 \_\_\_\_\_**

**PROGRAMMATIC AGREEMENT**

**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE  
AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND  
CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC  
PRESERVATION OFFICER, THE NEVADA STATE HISTORIC PRESERVATION  
OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE  
PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJEC**

**SIGNATORY**

**NEVADA STATE HISTORIC PRESERVATION OFFICER**

By: Rebecca Lynn Palmer  
(Rebecca Lynn Palmer, State Historic Preservation Officer, Nevada State Historic  
Preservation Office)

DATE: January 10, 2022

**PROGRAMMATIC AGREEMENT**

**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, THE NEVADA STATE HISTORIC PRESERVATION OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJECT**

**SIGNATORY**

**PIT RIVER TRIBE TRIBAL HISTORIC PRESERVATION OFFICER**

By: \_\_\_\_\_

  
Natalie Forrest-Perez, THPO, Pit River Tribe

DATE: 28 February 2022

**PROGRAMMATIC AGREEMENT**


**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE  
AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND  
CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC  
PRESERVATION OFFICER, THE NEVADA STATE HISTORIC PRESERVATION  
OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE  
PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJECT**

**INVITED SIGNATORY**

**ZAYO GROUP, LLC.**

DocuSigned by:  
  
By: C22B15C7B7B746F...  
**Ted Gilliam, General Counsel, Strategic and Regional Sales, Zayo Group**

**DATE:** January 18, 2022

**PROGRAMMATIC AGREEMENT**

**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE  
AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND  
CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC  
PRESERVATION OFFICER, THE NEVADA STATE HISTORIC PRESERVATION  
OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE  
PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJECT**

**CONCURRING PARTY**

**CONFEDERATED TRIBES OF WARM SPRINGS**

**By: \_\_\_\_\_  
Raymond Tsumpti, Sr., Tribal Chairman, Confederated Tribes of Warm Springs**

**DATE: \_\_\_\_\_**

**PROGRAMMATIC AGREEMENT**

**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE  
AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND  
CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC  
PRESERVATION OFFICER, THE NEVADA STATE HISTORIC PRESERVATION  
OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE  
PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJECT**

**CONCURRING PARTY**

**BURNS PAIUTE TRIBE**

**By: \_\_\_\_\_  
Diane Teeman, Tribal Council Chairperson, Director of Cultural & Heritage  
Department, Burns Paiute Tribe**

**DATE: \_\_\_\_\_**

**PROGRAMMATIC AGREEMENT**

**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE  
AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND  
CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC  
PRESERVATION OFFICER, THE NEVADA STATE HISTORIC PRESERVATION  
OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE  
PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJECT**

**CONCURRING PARTY**

**KLAMATH TRIBES**

**By:** \_\_\_\_\_  
**Don Gentry, Tribal Chairman, Klamath Tribes**

**DATE:** \_\_\_\_\_



**PROGRAMMATIC AGREEMENT**

**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE  
AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND  
CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC  
PRESERVATION OFFICER, THE NEVADA STATE HISTORIC PRESERVATION  
OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE  
PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJECT**

**CONCURRING PARTY**

**FORT BIDWELL RESERVATION**

**By:** \_\_\_\_\_  
**Kevin Townsend, Tribal Chairman, Fort Bidwell Reservation**

**DATE:** \_\_\_\_\_

**PROGRAMMATIC AGREEMENT**

**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE  
AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND  
CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC  
PRESERVATION OFFICER, THE NEVADA STATE HISTORIC PRESERVATION  
OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE  
PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJECT**

**CONCURRING PARTY**

**SUSANVILLE INDIAN RANCHERIA**

**By:** \_\_\_\_\_  
**Arian Hart, Tribal Chairman, Susanville Indian Rancheria**

**DATE:** \_\_\_\_\_

**PROGRAMMATIC AGREEMENT**

**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE  
AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND  
CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC  
PRESERVATION OFFICER, THE NEVADA STATE HISTORIC PRESERVATION  
OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE  
PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJECT**

**CONCURRING PARTY**

**WASHOE TRIBE OF NEVADA & CALIFORNIA**

**By: \_\_\_\_\_  
Smokey Serrell, Tribal Chairman, Washoe Tribe of Nevada & California**

**DATE: \_\_\_\_\_**

**PROGRAMMATIC AGREEMENT**

**BY AND AMONG THE BUREAU OF LAND MANAGEMENT OREGON, PRINEVILLE  
AND LAKEVIEW DISTRICT, NEVADA, CARSON CITY DISTRICT, AND  
CALIFORNIA, NORCAL DISTRICT, THE CALIFORNIA STATE HISTORIC  
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OFFICER, THE OREGON STATE HISTORIC PRESERVATION OFFICER, AND THE  
PIT RIVER TRIBAL HISTORIC PRESERVATION OFFICER.**

**REGARDING**

**THE ZAYO GROUP LLC, PRINEVILLE, OREGON TO RENO, NEVADA  
FIBER OPTIC PROJECT**

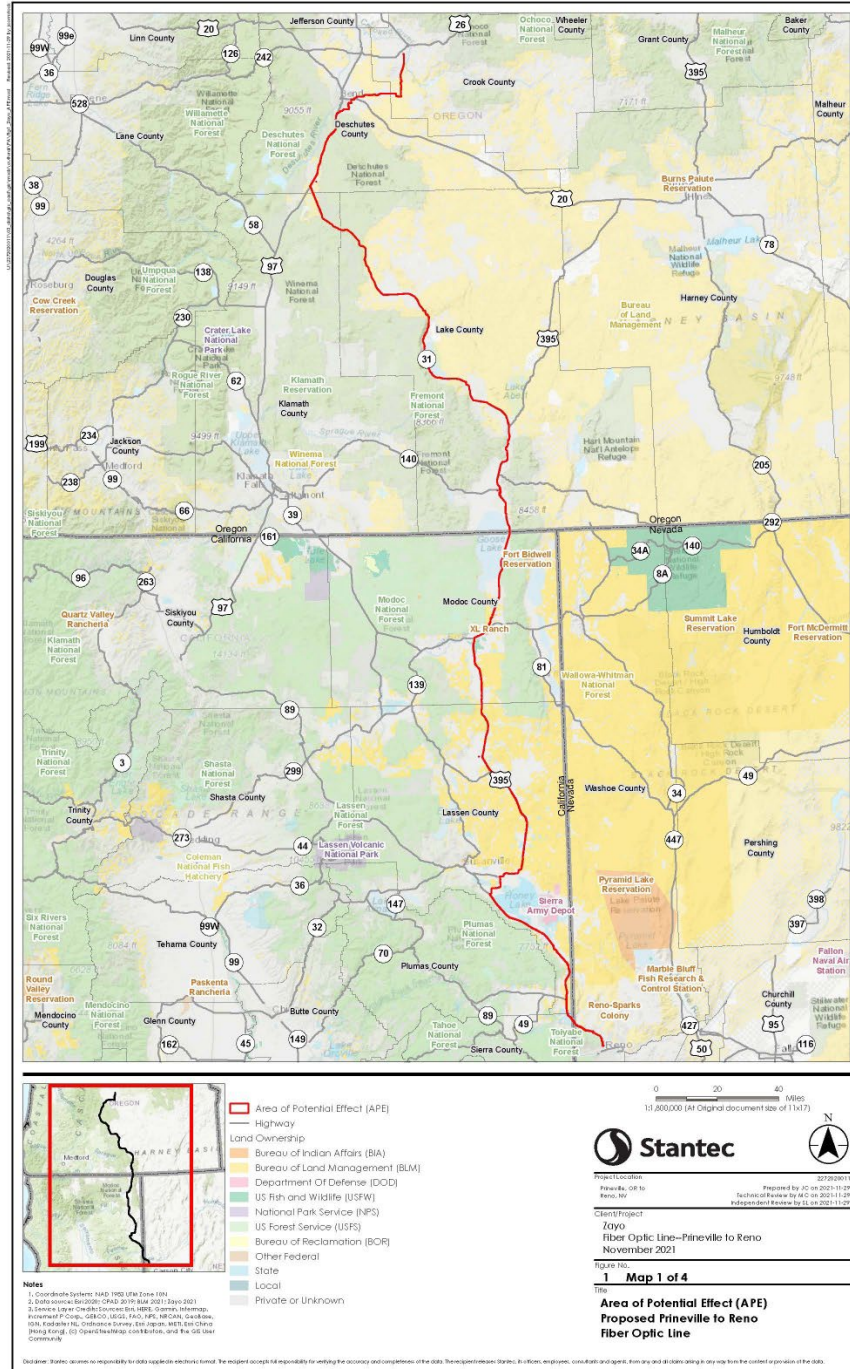
**CONCURRING PARTY**

**RENO SPARKS INDIAN COLONY**

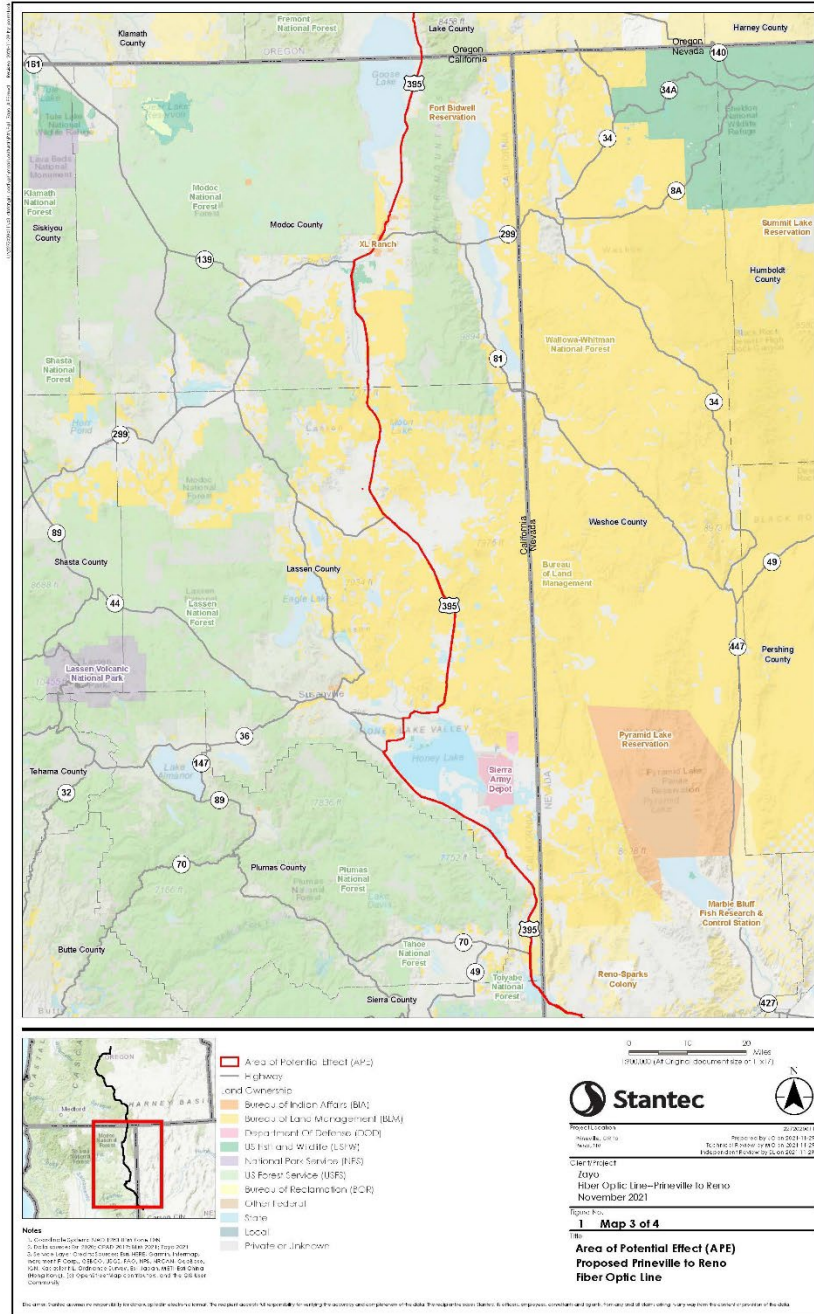
**By:** \_\_\_\_\_  
**Arlan Melendez, Tribal Chairman, Reno Sparks Indian Colony**

**DATE:** \_\_\_\_\_

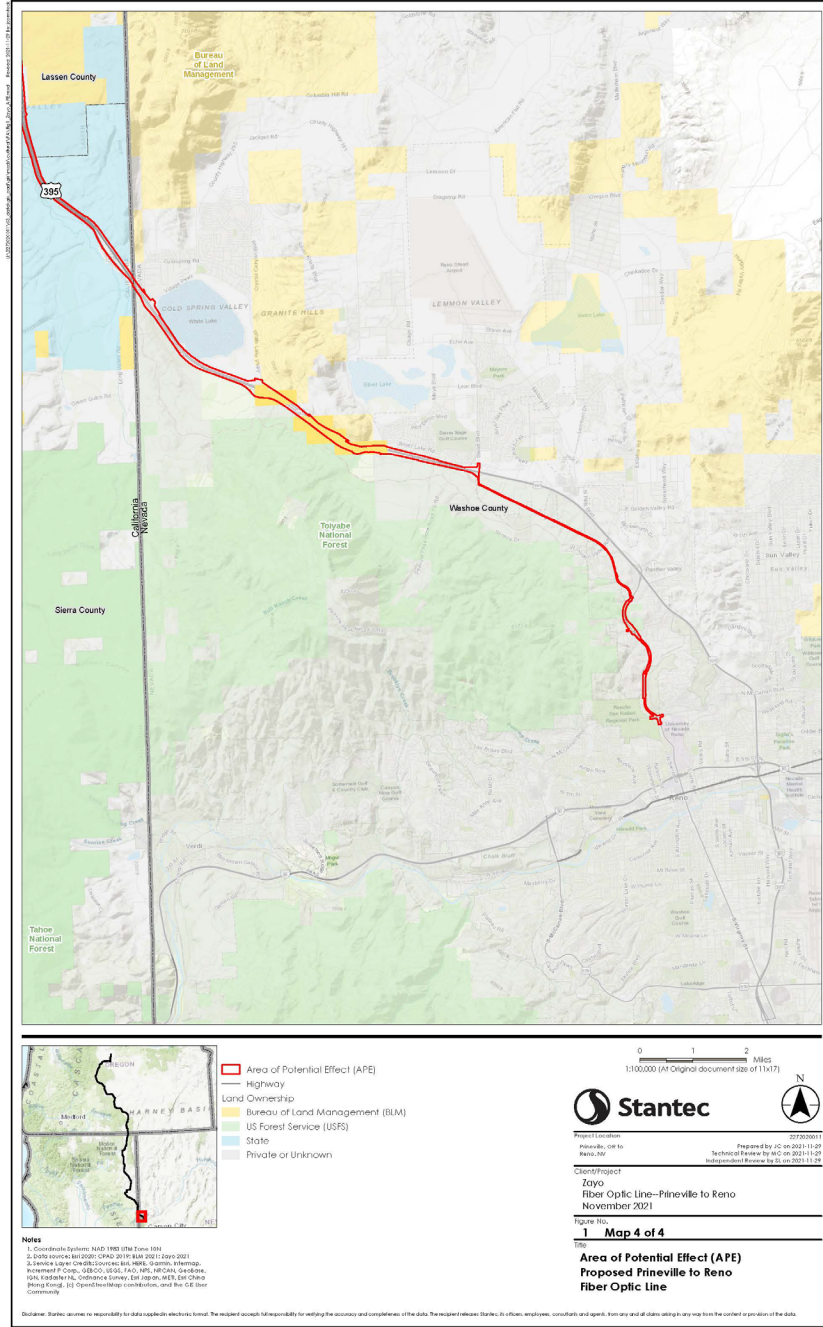
**Appendix A**  
**Project APE Maps**











**Appendix B**  
**Cultural Resource Monitoring and Inadvertent Discovery Plan**

## **Cultural Resource Monitoring and Inadvertent Discovery Plan for the Zayo Group, LLC., Prineville, OR to Reno, NV Fiber Optic Project**

### **1. Monitoring Requirements for Project Implementation**

Archaeological monitoring will include an orientation for the construction crew and machine operators prior to initiating soil and sediment removal. Project personnel shall be made aware of the potentials of archaeology within the project area. They will be apprised of their responsibilities during archaeological monitoring, their obligations in the case of an inadvertent discovery, and they will be made aware of and provided with, the inadvertent discovery plan and protocol.

Investigations shall be performed either by a “professional archaeologist” who meets the Secretary of the Interior’s qualifications (36 CFR Part 61) or under the supervision of an onsite professional archaeologist.

Archaeological monitoring shall entail having an archaeologist present during ground-disturbing activities that may intersect native soils to observe subsurface conditions and identify any buried archaeological materials that may be encountered.

The archaeologist would stand in close proximity to removal equipment in order to view subsurface deposits as they are exposed, and would be in close communication with equipment operators to ensure adequate opportunity for observation and documentation. Monitoring would seek to identify potential buried surfaces, anthropogenic sediments, and archaeological features such as middens, hearths, or artifact-bearing strata. The archaeologist will inspect the removal locations and the recovered soil or sediment for indications of such archaeological resources.

The archaeologist will be provided the opportunity to screen excavated soil or sediment and matrix samples when this is judged useful to the identification process. It is not expected that modern fill (e.g., imported culturally-sterile construction fill) or glacial till sediments would be included in screening procedures. Excavated spoils may be examined in the course of excavation or boring activities. If cultural materials are observed in spoils piles, it is expected that these would be removed for examination and that the opportunity to screen spoil soil or sediment would be available.

Monitoring would proceed until it can be determined with a greater level of confidence that cultural resources will not be impacted by construction. The archaeologist will conduct monitoring until native and fill deposits can be confidently isolated and identified based on

observed sedimentary exposures. If no evidence of buried native sediments is observed during initial monitoring, the archaeologist may recommend periodic “spot” monitoring. The underlying factors forming the basis for this recommendation would be documented. Continuation of subsequent monitoring may vary, and will depend on several factors, including, but not limited to, stratigraphy of deposits observed, spatial distribution of exposures across the project area, and representation of the exposures in context of the project.

Upon completion of excavation observation, the archaeologist will prepare a report on the methods, changes in methodology (if any) and results of the work, illustrated with maps, drawings, and photographs as appropriate.

## **2. Inadvertent Discovery Plan**

If unanticipated buried cultural resources (both historic and Native American) are identified during project-related activities and construction, the Bureau of Land Management will ensure that employees or contractors comply with the following protocol to ensure the proper identification, evaluation, and protection of the cultural resource (contact information for Agency Archaeologists and Agency Officials is found at the end of the document).

### **A. Inadvertent Discovery of Cultural Resources**

The Project Supervisor or Contractor will immediately:

1. Cease all activity within 100ft/30m of the discovery.
2. Leave all artifacts and materials in place and secure the area to prevent further damage, theft, or removal.
3. Immediately notify the appropriate Federal or State Agency archaeologist responsible for resources within the project segment where the discovery was made.

The Contractor will coordinate with the Agency Archaeologists to ensure that:

- The discovery is documented using appropriate documentation specific to the managing agency and respective state. Documentation should also include, but is not limited to, documenting exposed artifacts, and features; mapping the extent of artifacts, features, and cultural horizons; and documenting natural and cultural stratigraphy in open trenches or pits.
- Cultural resources are evaluated for National Register of Historic Place (NRHP) eligibility under all four criteria and aspects of integrity. If an eligibility recommendation cannot be made based on the data collected during recordation, additional testing may be required to further delineate the nature, extent, and significance of the discovery. Testing will be

limited to a sufficient level needed to provide a recommendation of NRHP eligibility. There will be no destructive analysis on Native American cultural resources.

- If the cultural resources meet NRHP eligibility, the Contractor, in coordination with the agency, will develop an action plan, mitigation plan, or emergency treatment plan for the affected cultural resources.

The Agency Archaeologist will:

- Make the final determination of NRHP eligibility and consult with the appropriate SHPO and/or THPO and affected Tribes.
- If the cultural resources are eligible for the NRHP, the Agency Archaeologist will consult with the SHPO and or THPO, affected tribes and Consulting Parties to avoid, minimize, or mitigate further effects to the Historic Property. Mitigation efforts may be contingent upon several factors, including the type and extent of the disturbed resource, the extent of the adverse effect, whether or not it is possible to avoid any further effects to the resource.

Resumption of Work

- Work in the immediate vicinity of the discovered materials may not resume until after the cultural resources are evaluated and adverse effects to Historic Properties have been avoided, minimized, or mitigated.
- Resumption of work will be a decision by the appropriate Line Officer or Agency Representative, such as a Field and/or District Manager or District Ranger and/or Forest Supervisor.

#### **B. Discovery of Human Remains**

If human remains or remains thought to be human are identified during project activities and construction, the Agency Archeologist will ensure that employees or contractors comply with the following protocol in addition to the Inadvertent Discovery Plan described above.

The Project Supervisor or Contractor will

- Ensure that employees or contractors do not take photographs of the human remains as has been requested by the Tribes and because of law enforcement forensic concerns. Pictures and drawings are only allowed if further analysis is needed in accordance with a NAGPRA Plan of Action. The BLM highly discourages contacting the media regarding the discovery.

- Secure the remains and any associated objects from further disturbance and ensure that the remains and objects are not disturbed, manipulated, or transported from the original location until a plan is developed by the agency.
- Be responsible for the security and protection of human remains during consultations, until disposition of the remains is determined.

#### The Agency Archaeologist will

- Notify appropriate law enforcement authorities, and/or the County Coroner about the human remains.
- Work with the law enforcement and/or County Coroner to determine if remains are modern or may be of Native American heritage.
- If remains are found to be Native American, determination of age and affiliation will be made through consultation and an approved NAGPRA plan of action.
- It is the Agencies' goal to not remove any remains and associated items, but if the remains cannot be stabilized at, or as close as possible to the original discovery location, or there are security concerns at the time of the discovery or going forward, the Agency may need to intentionally excavate and remove the human remains under an ARPA permit, per the Agency regulations and policy.
- At no time will any destructive analysis be performed on native American human remains and associated cultural items, unless further analysis is needed in the NAGPRA plan of action.
- If law enforcement officials determine the human remains are not of recent age or criminal concern, the Agency Archaeologist will immediately contact the appropriate Native American Tribe(s), the State Historic Preservation Officer, and other entities that may require notification.
- Develop a culturally sensitive plan for the disposition and/or reburial of the human remains and associated objects in consultation with the appropriate Native American Tribe(s) and SHPO or THPO.

#### Resumption of Work

- Work in the immediate vicinity of the human remains may not resume until after the disposition of the human remains is determined and a written binding agreement is executed between the necessary parties.

- Resumption of work will be a decision by the appropriate Line Officer or Agency Representative, such as a Field and/or or District Manager or District Ranger and/or Forest Supervisor.

**List of agency contacts follows.**

## **Agency Contacts**

### BLM Prineville

Kurt Hunt  
Archaeologist  
p: 541-416-6735  
c: 315-955-2151  
[khunt@blm.gov](mailto:khunt@blm.gov)

Jeff Kitchens  
Deschutes Field Manager  
p: 541- 416-6766  
c: 541-350-5955  
[jhkitch@blm.gov](mailto:jhkitch@blm.gov)

Dennis Teitzel  
District Manager  
p: 541-416-6730  
[dteitzel@blm.gov](mailto:dteitzel@blm.gov)

### Deschutes National Forest

Penni Borghi  
Forest Archaeologist  
p: 541-383-5638  
c: 458-218-5559  
[penni.borghi@usda.gov](mailto:penni.borghi@usda.gov)

Kevin Larkin  
Bend-Fort Rock District Ranger  
p: 541-383-4760  
c: 541-410-0190  
[kevin.larkin@usda.gov](mailto:kevin.larkin@usda.gov)

Holly Jewkes  
Forest Supervisor  
p: 541-383-5512  
c: 541-610-3402  
[holly.jewkes@usda.gov](mailto:holly.jewkes@usda.gov)

### BLM Lakeview

Carolyn Temple  
District Archaeologist  
[ctemple@blm.gov](mailto:ctemple@blm.gov)

Todd Forbes  
District Manager  
p:541-947-6100  
c: 541-219-6633  
[tforbes@blm.gov](mailto:tforbes@blm.gov)

### Fremont Winema National Forest

Steven Highland  
Forest Archaeologist  
p: 541-947-6297  
c: 541-219-2785  
[steven.highland@usda.gov](mailto:steven.highland@usda.gov)

Barry Imler  
Forest Supervisor  
p: 541-947-6201  
c: 541-219-0291  
[barry.imler@usda.gov](mailto:barry.imler@usda.gov)

### BLM Applegate Field Office

Devin Snyder  
Archaeologist  
p: 530-233-7932  
[dlsnyder@blm.gov](mailto:dlsnyder@blm.gov)

Craig Drake  
Field Manager  
p: 530-233-7904  
[cdrake@blm.gov](mailto:cdrake@blm.gov)



Eagle Lake Field Office

Mary Bobbitt  
Archaeologist  
[mbobbitt@blm.gov](mailto:mbobbitt@blm.gov)

Emily Ryan  
Field Manager  
530-257-0456  
[esryan@blm.gov](mailto:esryan@blm.gov)

Humboldt-Toiyabe National Forest

Teresa Dixon  
Forest Archaeologist  
p: 775-352-1253  
[teresa.dixon@usda.gov](mailto:teresa.dixon@usda.gov)

Kalie Crews  
District Archaeologist  
Carson Ranger District  
p: 775-884-8123  
[Kalie.crews@usda.gov](mailto:Kalie.crews@usda.gov)

Matt Zumstein  
District Ranger  
Carson Ranger District  
p: 775-721-1259  
[Matthew.zumstein@usda.gov](mailto:Matthew.zumstein@usda.gov)

BLM Sierra Front Field Office

Rachel Crews  
Assistant Field Manager  
p: (775) 885-6152  
[rcrews@blm.gov](mailto:rcrews@blm.gov)

Kimberly Dow  
Sierra Front Field Manager  
p: 775-885-6000  
[kddow@blm.gov](mailto:kddow@blm.gov)

Bureau of Indian Affairs

Dan Hall  
Regional Archaeologist  
p: 916-978-6041  
[harold.hall@bia.gov](mailto:harold.hall@bia.gov)

U.S. Fish & Wildlife Service

Anan Raymond  
Regional Archaeologist & Preservation  
Officer  
p: 503-625-4377  
c: 503-451-9953  
[anan\\_raymond@fws.gov](mailto:anan_raymond@fws.gov)

State Departments of Transportation

*Oregon (ODOT)*  
Tobin Bottman  
Cultural Resource Program Manager  
p: 503-986-3783  
c: 503-877-8491  
[tobin.c.bottman@odot.state.or.us](mailto:tobin.c.bottman@odot.state.or.us)

*California (Caltrans)*  
Connor Buitenhuys  
Project Archaeologist for Zayo  
Encroachment  
Office: (530) 741-5550  
Mobile: (530) 720-4345

Emiliano M. Pro  
Senior Environmental Planner  
North Region Environmental  
(530) 945-4323

*Nevada (NDOT)*  
Beth Smith  
Lead Archaeologist  
p: 775-888-7488  
[beth.smith@dot.nv.gov](mailto:beth.smith@dot.nv.gov)

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