ATTACHMENT H
Botanical Resources Field Survey - Nevada

Prineville-to-Reno Fiber Optic Project

Botanical Resources Field Survey Report for Nevada

November 10, 2020

Prepared for:

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Prepared by  (signature)

Sarah Tona

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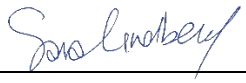
Approved by  (signature)

Sara Lindberg

Table of Contents

EXECUTIVE SUMMARY ..... **II**

ACRONYMS AND ABBREVIATIONS ..... **III**

1.0 INTRODUCTION **1**

2.0 PROJECT DESCRIPTION **2**

3.0 METHODS **3**
3.1 RESOURCES REVIEW 3
3.2 COMMUNICATION WITH RESOURCE AGENCIES 3
3.3 FIELD SURVEYS 3
3.3.1 Reference Population Visits and Specimen Review 3
3.3.2 Botanical Survey 4

4.0 RESULTS **5**
4.1 BLM LANDS 5
4.1.1 Environmental Setting 5
4.1.2 Special-Status Plant Species and Effects Determination 5
4.1.3 Invasive Plant Species 5
4.2 USFS LANDS 6
4.2.1 Environmental Setting 6
4.2.2 Special-Status Plant Species and Effects Determination 6
4.2.3 Invasive Plant Species 6
4.3 NON-FEDERAL LANDS 6
4.3.1 Environmental Setting 6
4.3.2 Special-Status Plant Species and Effects Determination 7
4.3.3 Invasive Plant Species 7

5.0 SUMMARY OF ANTICIPATED IMPACTS **8**
5.1 INVASIVE PLANT AVOIDANCE AND MINIMIZATION MEASURES 8

6.0 REFERENCES **9**

LIST OF APPENDICES

APPENDIX A FIGURES

APPENDIX B REPRESENTATIVE PHOTOGRAPHS

APPENDIX C REGIONAL LIST OF SPECIAL-STATUS PLANT SPECIES

APPENDIX D PLANT SPECIES DOCUMENTED DURING 2019 AND 2020 BOTANICAL SURVEYS

Executive Summary

Zayo Group, LLC proposes the construction of a fiber optic cable from Prineville, Oregon, to Reno, Nevada (project). The project would install fiber-optic cable underground along a planned alignment by plowing in, trenching, or directional boring. This report describes the botanical surveys conducted in the segment of the project that traverses Nevada. The study area (i.e., the area within which we evaluated the potential for project-related effects) occurs within the Nevada Department of Transportation right-of-way along portions of U.S. Highway 395 and State Route 430 and State Route 673.

Stantec Consulting Services Inc. conducted botanical resource surveys in June 2019 and August, September, and October 2020. The June 2019 surveys were protocol-level botanical surveys on the original alignment and did not locate any special-status plants. The 2020 surveys included invasive plant surveys on federal lands, including United States Forest Service and Bureau of Land Management lands. The 2020 surveys also included a special-status plant habitat assessment on several portions of the project that were re-routed to a new alignment after the 2019 surveys took place. The 2020 surveys located several invasive plant occurrences in the study area and did not locate potential habitat for special-status plant species in the re-route areas.

Acronyms and Abbreviations

Alphabiota	Alphabiota Environmental Consulting
BLM	Bureau of Land Management
ESA	Endangered Species Act
project	construction of a fiber optic line from Prineville, Oregon to Reno, Nevada
ROW	right-of-way
Stantec	Stantec Consulting Services Inc.
SR	State Route
USFS	United States Forest Service
Zayo	Zayo Group, LLC

1.0 INTRODUCTION

Zayo Group LLC (Zayo) proposes to continue constructing the Umatilla-to-Prineville Fiber Optic Project and construct the Nevada portion of the construction of a fiber optic line from Prineville, Oregon, to Reno, Nevada (project). The project is a linear alignment that extends 14.3 miles through Nevada from the Nevada/California state line to just north of Reno, Nevada. The study area (i.e., the area within which we evaluated the potential for project-related effects) occurs within the Nevada Department of Transportation right-of-way (ROW) along portions of U.S. Highway 395, State Route (SR) 673, and SR 430 (Figure 1, Appendix A). A portion of the project occurs on United States Forest Service (USFS) land in the Toiyabe National Forest and a portion of it occurs on Bureau of Land Management (BLM) land. The remainder of the project is on private or undefined land ownership.

To assist Zayo with project compliance with the National Environmental Policy Act lead agency (BLM), Stantec Consulting Services Inc. (Stantec) conducted a protocol-level botanical survey in the ROW along the original alignment in 2019 and a reconnaissance-level botanical surveys in 2020. The reconnaissance-level botanical surveys included visiting two project re-routes and assessing potential habitat for special-status plants. The 2020 surveys also include mapping invasive plant species (i.e., noxious weeds) in and adjacent to federal lands. The current alignment, including the two alignment re-routes where the habitat assessment occurred, is shown in Appendix D.

This report summarizes the botanical surveys and includes a project description, the survey methodology including background literature review and database queries, and the survey results. An invasive plant species risk assessment is provided in this report, including recommendations to minimize the risk of introducing or spreading invasive plants.

2.0 PROJECT DESCRIPTION

The running line will consist of three 1.25-inch-diameter high-density polyethylene subterranean conduits that will house fiber optic cables and will be installed within existing paved roads or along road shoulders. The running line would be constructed in one of three ways:

- **Plowing In.** This method includes use of a conduit plow that simultaneously excavates and places the conduit in a single motion. This method causes the least amount of ground disturbance; however, it requires ground conditions to be relatively free of rocks or other obstructions.
- **Trenching.** This method consists of digging an 18-inch-wide by 36-inch-deep trench to place the conduit, then backfilling the trench with native material. Equipment used for this method incudes excavators with rock break hammers or rock saws and is used in areas where ground conditions are not conducive to the plowing method.
- **Directional Boring**. Directional boring consists of specialized directional boring drill equipment that places conduit by an underground drill and push method, which allows placement of conduit with minimal ground disturbance. This method is used when crossing sensitive landscape features such as streams or wetlands. The directional boring method requires some minor excavation and use of drilling mud at the entry and exit points of the bore.

Fiberglass handholes/vaults (vaults) used for conduit access will be spaced approximately 2,500 feet apart along the running line. The vaults will be buried approximately 3 feet below ground and will be placed approximately 5 to 10 feet from the edge of the existing pavement within previously disturbed areas in the ROW (i.e., road base, road shoulders, or existing pullouts). At bridge crossings, the running line will be attached to the underside of the bridge. Except in areas where installation will occur in the existing road or attached to bridges, the running line will be installed by trenching or plowing 3 to 10 feet from the edge of the pavement. An excavator will be used to excavate the vaults, which will be used for storage and splicing sections of fiber optic cable. Each vault excavation will be about 3 feet deep by 2 feet wide by 3 feet long, and the total disturbance area will be as much as 5 feet wide by 6 feet long. Vaults are considered a long-term disturbance as they will be in place for the duration of the authorization. All vaults will be installed in previously disturbed areas and will be placed approximately every 2,500 feet along the running line.

No long-term project staging or laydown areas are proposed. However, temporary equipment staging on existing pullouts throughout the project may be needed. No clearing, flattening, grading, or stripping of topsoil will occur in any temporary staging areas. In addition, a traffic control plan will be developed in cooperation with the Nevada Department of Transportation to accommodate traffic during project construction, as needed. Minor temporary ground disturbance may occur during equipment operation and staging but will be confined to previously disturbed areas. If vegetation re-growth has occurred along previously cleared road shoulders, some minor clearing of vegetation may be required.

3.0 METHODS

3.1 RESOURCES REVIEW

For the purposes of this evaluation, “special-status” includes species or subspecies that are classified as follows: (1) listed as endangered or threatened under the federal Endangered Species Act (ESA) or are proposed or candidates for listing under the ESA; (2) designated as Sensitive by the Regional Forester for USFS, Region Four; and/or (3) designated as Sensitive by the BLM. Invasive plants are defined as noxious weeds included on the Nevada Noxious Weed List (Nevada Department of Agriculture 2020).

Prior to conducting the field survey, Stantec consulted the following resources to identify special-status species with potential to occur in the study area:

- *Information for Planning and Conservation* online system (U.S. Fish and Wildlife Service 2019)
- *Intermountain Region (R4) Threatened, Endangered, Proposed, and Sensitive Species* (USFS 2016)
- *BLM Sensitive Species List for Nevada* (BLM 2017)
- *Nevada Natural Heritage Program* (NNHP) plant occurrence data (Nevada Department of Conservation and Natural Resources 2019)
- Aerial photographs of the study area

A regional list of special-status plant species is provided as Appendix C, which includes the BLM and USFS lists for the region, as well as all plants in the NNHP within two miles of the study area.

3.2 COMMUNICATION WITH RESOURCE AGENCIES

Prior to conducting the survey, BLM personnel were contacted to ensure that guidelines and protocols for surveying on federal lands were applied. Stantec botanist Sarah Tona consulted with BLM botanists who are familiar with specific segments of the study area (public lands that they help manage) as well as the special-status plant species and associated habitats that occur in these segments. As a result of these discussions, a reconnaissance-level survey was conducted to assess the presence of potential suitable habitat for special-status plant species in the re-route portions of the project.

Communication with BLM personnel during this effort included email correspondences with Grace Haskins, Botanist, BLM, Carson City District on August 21, 2020 and September 10, 2020.

3.3 FIELD SURVEYS

3.3.1 Reference Population Visits and Specimen Review

Before conducting the botanical survey, the botany field crew visited nearby reference populations for three special-status plant species with the potential to occur to determine if the plants were identifiable at

the time of the survey. The botanists also visited the University of Nevada at Reno Herbarium to review plant specimens of several target special-status species. The reference population and herbarium visits provided the field team an opportunity to refine their search image for specific taxa and suitable habitat.

On June 23, 2019, the botany field crew visited a reference site south of Peavine Peak, approximately 2.5 miles south of the study area (Nevada Department of Conservation and Natural Resources 2019). They located two special-status species at the reference site: altered andesite buckwheat (*Eriogonum robustum*) and Webber's ivesia (*Ivesia webberi*). Altered andesite buckwheat was in full flower and very visible, and Webber's ivesia was senescent but still recognizable. On June 24, 2019, the botany field crew visited a reference site for altered andesite popcorn flower (*Plagiobothrys glomeratus*) near the Desert Research Institute approximately 6 miles east of the study area. While they did not locate the species at the reference site, they viewed an altered andesite popcorn flower plant specimen at the herbarium.

No additional reference population visits occurred in 2020.

3.3.2 Botanical Survey

Alphabiota Environmental Consulting (Alphabiota), a subconsultant for Stantec, conducted the botanical survey on behalf of Zayo to document special-status plant species within the study area in 2019. The botany field crew conducted a single-visit survey in the study area from June 24 to 26, 2019. The survey was conducted in meandering transects, and the botanists identified all species to the taxonomic level necessary to determine if each plant was a special-status species or invasive plant species. Due to the study area's close proximity to California, plant taxonomy follows Baldwin et al. (2012), including applicable errata and supplements (Jepson Flora Project 2020). The list of all plants observed during the survey follows the U.S. Department of Agriculture's naming convention to be consistent with the USFS Region Four Sensitive Plant List and the Nevada Noxious Weed List (U.S. Department of Agriculture 2020).

Three follow-up visits occurred in 2020 to map invasive plants on federal lands and assess special-status plant habitat in two re-routed sections of the study area (Figure 2, Appendix A). The visits took place on August 4, September 16, and October 20, 2020. The 2020 surveys occurred outside of the blooming season for most potential special-status plants. Stantec botanists performed the field survey by visually evaluating roadside habitats within the study area to determine the presence or absence of potential habitat for special-status plant species. The botanists also mapped invasive plant species on BLM and USFS land and evaluated invasive plant species occurrences located within the re-routed portion of the study area and immediate vicinity. One invasive weed on the noxious weed list was not mapped in the study area because it is established in the ROW and common throughout: medusahead (*Taeniatherum caput-medusae).* Invasive plant occurrence data is provided as a separate deliverable in ArcGIS shapefile format.

4.0 RESULTS

4.1 BLM LANDS

4.1.1 Environmental Setting

The study area occurs entirely within existing road ROWs, and vegetation within these ROWs is regularly maintained. The vegetation communities within the study area are subjected to road construction and maintenance activities, including regular vegetation management, which generally involves mechanical and/or chemical treatment. Vegetation within the study area is largely ruderal (e.g. non-native annual grasses and forbs). Shrub-steppe habitat also occurs in and adjacent to the study area, with big sagebrush (*Artemisia tridentata*) as the dominant perennial woody plant species; generally co-occurring with sticky leaved rabbit brush (*Chrysothamnus viscidiflorus*) and antelope bitterbrush (*Purshia tridentata*).

4.1.2 Special-Status Plant Species and Effects Determination

Alphabiota and Stantec botanists reviewed the regional list of special-status plant species (Appendix C) prior to conducting the 2019 protocol-level survey and the 2020 habitat assessment. According to the NNHP (Nevada Department of Conservation and Natural Resources 2019), three BLM sensitive species have been documented within 2 miles of the study area: altered andesite buckwheat, Webber's ivesia, and andesite popcorn flower. Webber's ivesia is also listed as threatened under ESA.

No special-status plant species were observed in the study area during the 2019 protocol-level survey. During the 2020 survey Stantec determined that potential habitat for special-status plant species does not occur in the alignment re-route portions of the study area. Therefore, no special-status plant species are expected to occur within the study area, and no impacts on special-status plant species are expected to occur as a result of project-related activities. A list of plant species observed on all land types in the study area during the surveys is provided in Appendix D. A representative photograph of the study area on BLM lands is provided in Appendix B, Photograph 1.

4.1.3 Invasive Plant Species

Stantec botanists surveyed for invasive plant species on BLM lands in the study area on August 4 and October 20, 2020. Invasive plants documented include Russian knapweed (*Acroptilon repens*), musk thistle (*Carduus nutans*), diffuse knapweed (*Centaurea diffusa*), yellow star-thistle (*Centaurea solstitialis*), poison hemlock (*Conium maculatum*), field bindweed (*Convolvulus arvensis*), perennial pepperweed (*Lepidium latifolium*), and Russian thistle (*Salsola tragus*). The invasive plant occurrences were mainly along the highway shoulder and the frontage road. The occurrences were distributed across the study area in distinct patches, with multiple species occurring in the same region along drainages and highway off-ramps.

4.2 USFS LANDS

4.2.1 Environmental Setting

The study area occurs within existing road ROWs, including disturbed grasslands. Vegetation within these ROWs is regularly maintained. The vegetation communities within the study area are subjected to road construction and maintenance activities including regular vegetation management, which generally involves mechanical and/or chemical treatment.

The study area occurs along existing roads bordered largely by ruderal vegetation, such as non-native invasive grasslands, dominated by cheatgrass (*Bromus tectorum*), curly bluegrass (*Poa secunda*), and medusahead. A representative photograph of the study area on USFS land is provided in Appendix B, Photograph 2.

4.2.2 Special-Status Plant Species and Effects Determination

Alphabiota botanists reviewed the regional list of special-status plant species (Appendix C) prior to conducting the 2019 protocol-level survey. The 2019protocol-level survey covered the entirety of the alignment located on USFS lands (i.e., the two re-routes did not cross into new areas of USFS lands). According to the NNHP (Nevada Department of Conservation and Natural Resources 2019), three USFS Region 4 sensitive species have been documented within 2 miles of the study area: altered andesite buckwheat, Webber's ivesia, and andesite popcorn flower.

No special-status plant species were observed in the study area during the survey. Therefore, no impacts on special-status plant species are expected to occur as a result of project-related activities. A list of plant species observed on all land types in the study area during the surveys is provided in Appendix D.

4.2.3 Invasive Plant Species

A Stantec botanist completed a survey for invasive plant species on USFS lands in the study area on September 16, 2020. Invasive plants documented include yellow star-thistle and was patchy throughout the study area.

4.3 NON-FEDERAL LANDS

4.3.1 Environmental Setting

The study area occurs within existing road ROWs, including disturbed grasslands and urban areas such as sidewalks and gravel. Vegetation within these ROWs is regularly maintained. The vegetation communities within the study area are subjected to road construction and maintenance activities including regular vegetation management, which generally involves mechanical and/or chemical treatment.

The study area outside of the USFS and BLM lands occurs along existing roads bordered largely by ruderal vegetation and disturbed and developed areas. Representative photographs of the study area are

provided in Appendix B, and Photographs 1 through 4 include examples of some of the ruderal and natural vegetation types within and/or adjacent to the study area.

4.3.2 Special-Status Plant Species and Effects Determination

Alphabiota and Stantec botanists reviewed the regional list of special-status plant species (Appendix C) prior to conducting the 2019 protocol-level survey and the 2020 habitat assessment. According to the NNHP (Nevada Department of Conservation and Natural Resources 2019), one federally threatened species has been documented within 2 miles of the study area: Webber's Ivesia.

The botanists did not document any special-status plant species within the study area during the 2019 surveys. Additionally, the 2020 surveys determined that no potential habitat for special-status plant species occurs in the alignment re-route portions of the study area. Therefore, no impacts on special-status plant species are expected to occur as a result of project-related activities.

4.3.3 Invasive Plant Species

Focused invasive plant surveys on non-federal lands were not conducted. Stantec reviewed the 2019 botanical surveys plant list to determine if any invasive plants were documented in the study area. Invasive plants included in the comprehensive plant list include hoary cress (*Cardaria draba*), musk thistle, yellow star-thistle, spotted knapweed (*Centaurea stoebe* ssp. *micranthos*), St. John's wort (*Hypericum perforatum*), Scotch thistle (*Onopordum acanthium*), perennial pepperweed, puncturevine (*Tribulus terrestris*), and medusahead. Due to the proximity to U.S. Highway 395, SR 673, and SR 430 and the disturbed nature of the landscape, invasive weeds are common throughout the study area, with a higher concentration in the southern portion of the study area.

5.0 SUMMARY OF ANTICIPATED IMPACTS

The project is not anticipated to affect special-status plants because it would be constructed adjacent to roads and highways in surfaces that are unlikely to support special-status species. Additionally, no special-status plants were found during the 2019 botanical survey, and no potential habitat for special-status plants was identified in 2020 in the alignment re-route areas.

The project presents a risk for the introduction or spread of invasive plants. Zayo would implement the measures listed below to avoid or minimize the potential to spread invasive plants or introduce invasive species to the Nevada portion of the project.

5.1 INVASIVE PLANT AVOIDANCE AND MINIMIZATION MEASURES

- The extent of vegetation and soil disturbance should be confined to only what is necessary to accomplish the project. The goal is to minimize disturbance of native vegetation and use areas already disturbed where possible.
- Prior to entry and departure to the project, all equipment, including heavy equipment and vehicles, should be thoroughly cleaned with pressurized water.
- All straw or other erosion control materials or re-seeding materials should be certified to be weed-free.
- All gravel, rock, riprap, or other mineral material used should be certified to be weed free prior to use.

6.0 REFERENCES

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Appendix A FIGURES

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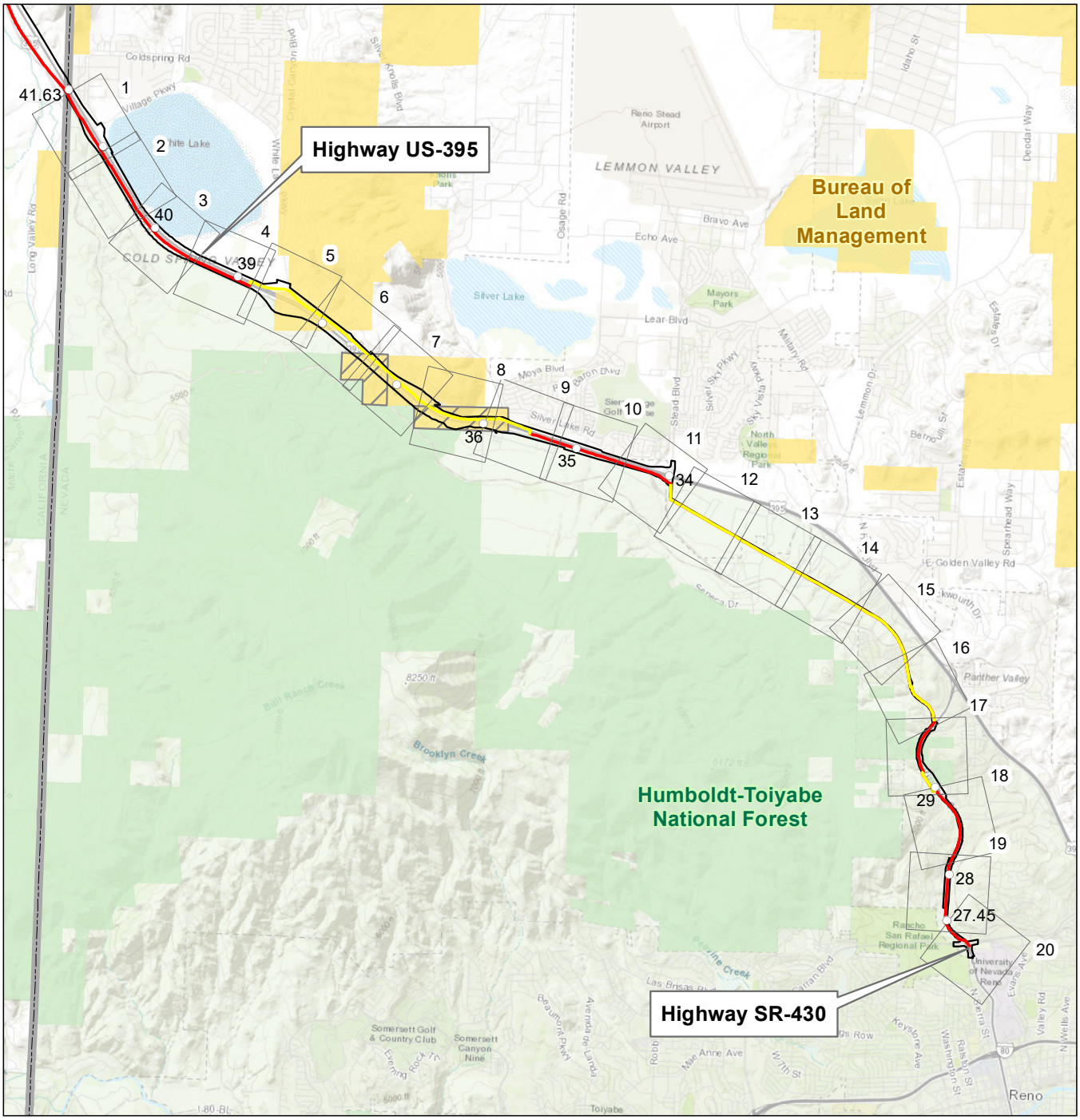

Map Index
ROW
CA/NV Border - Reno Alignment
Alignment Reroute
Milepost
Humboldt-Toiyabe National Forest
Bureau of Land Management (BLM)
BLM Uncertain
Private or Undefined

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Project Location	227202001
Prineville, OR to Reno, NV	Prepared by JC on 2020-10-27
	Technical Review by ST on 2020-10-27
	Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
1

Title
Project Overview and Land Ownership

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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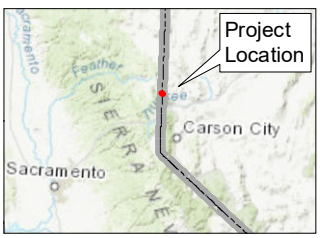

- ROW
- CA/NV Border - Reno Alignment
- Milepost
- Bureau of Land Management (BLM)
- Private or Undefined

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Notes

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2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User

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Project Location
Prineville, OR to Reno, NV

2272020011
Prepared by JC on 2020-10-27
Technical Review by ST on 2020-10-27
Independent Review by NE on 2020-10-27

Client/Project
Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 1 of 20**

Title
Study Area

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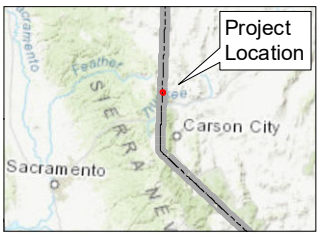

ROW

CA/NV Border - Reno Alignment

Private or Undefined

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Project Location
Prineville, OR to Reno, NV

2272020011
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Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 2 of 20**

Title
Study Area

Notes
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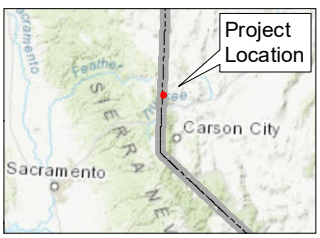

ROW

CA/NV Border - Reno Alignment

Milepost

Private or Undefined

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Stantec

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Prepared by JC on 2020-10-27
Technical Review by ST on 2020-10-27
Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 3 of 20**

Title
Study Area

Notes
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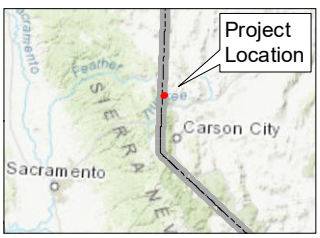

- ROW
- CA/NV Border - Reno Alignment
- Alignment Reroute
- Milepost
- Private or Undefined

0 250 500 Feet

1:7,200 (at original document size of 8.5x11)

Stantec

Project Location	2272020011
Prineville, OR to Reno, NV	Prepared by JC on 2020-10-27
	Technical Review by ST on 2020-10-27
	Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 Map 4 of 20

Title
Study Area

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User

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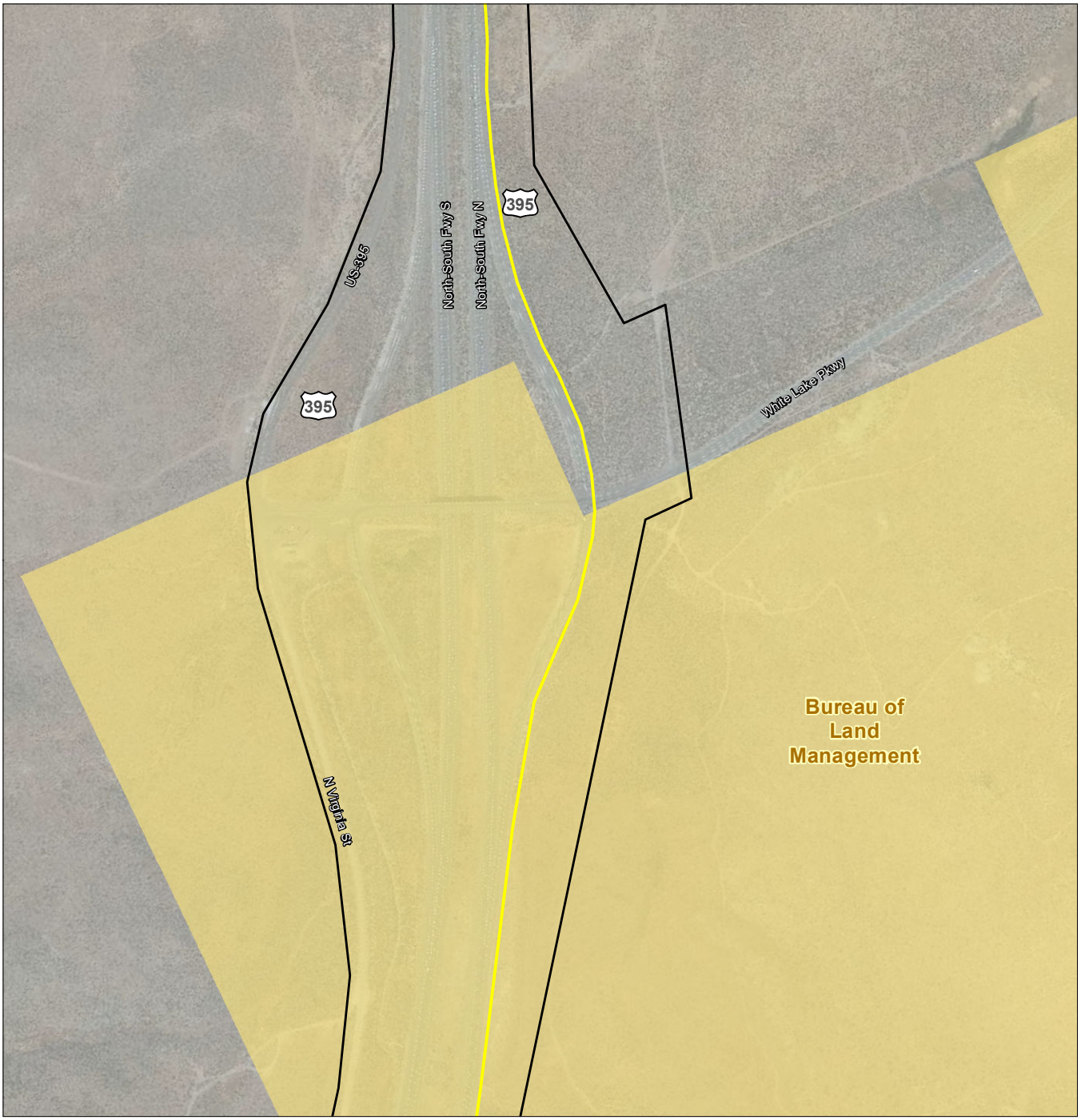

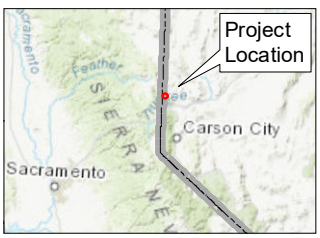

ROW

Alignment Reroute

Bureau of Land Management (BLM)

Private or Undefined

0 250 500 Feet

1:7,200 (at original document size of 8.5x11)

Stantec

Project Location	2272020011
Prineville, OR to Reno, NV	Prepared by JC on 2020-10-27
	Technical Review by ST on 2020-10-27
	Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC

Zayo Fiber Optic Project, Prineville to Reno

Figure No.

2 **Map 5 of 20**

Title

Study Area

Notes

1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User

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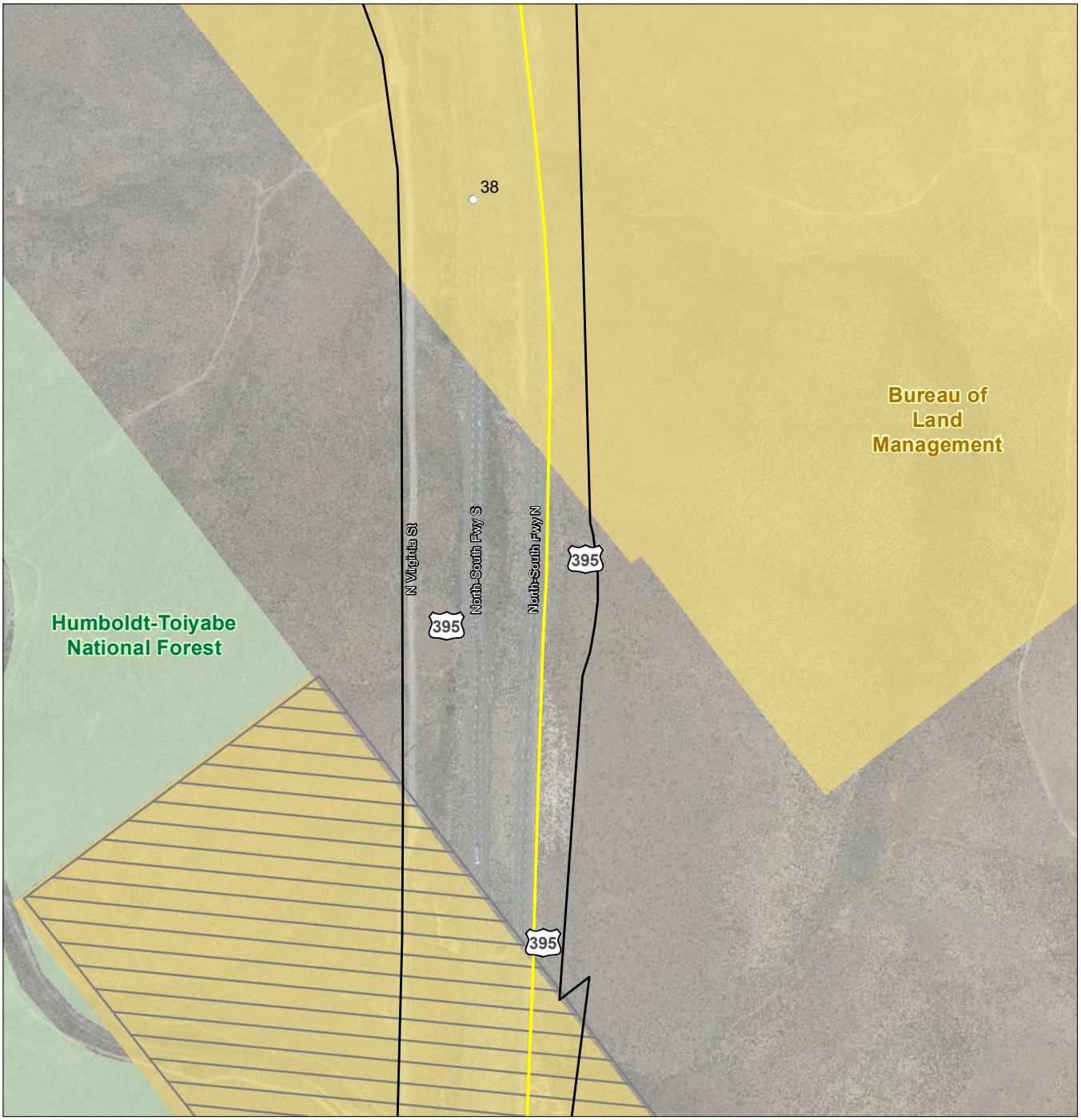

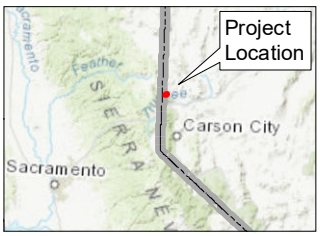

- ROW
- Alignment Reroute
- Milepost
- Humboldt-Toiyabe National Forest
- Bureau of Land Management (BLM)
- BLM Uncertain
- Private or Undefined

0 250 500 Feet

1:7,200 (at original document size of 8.5x11)

Stantec

Project Location	2272020011
Prineville, OR to Reno, NV	Prepared by JC on 2020-10-27
	Technical Review by ST on 2020-10-27
	Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 6 of 20**

Title
Study Area

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User

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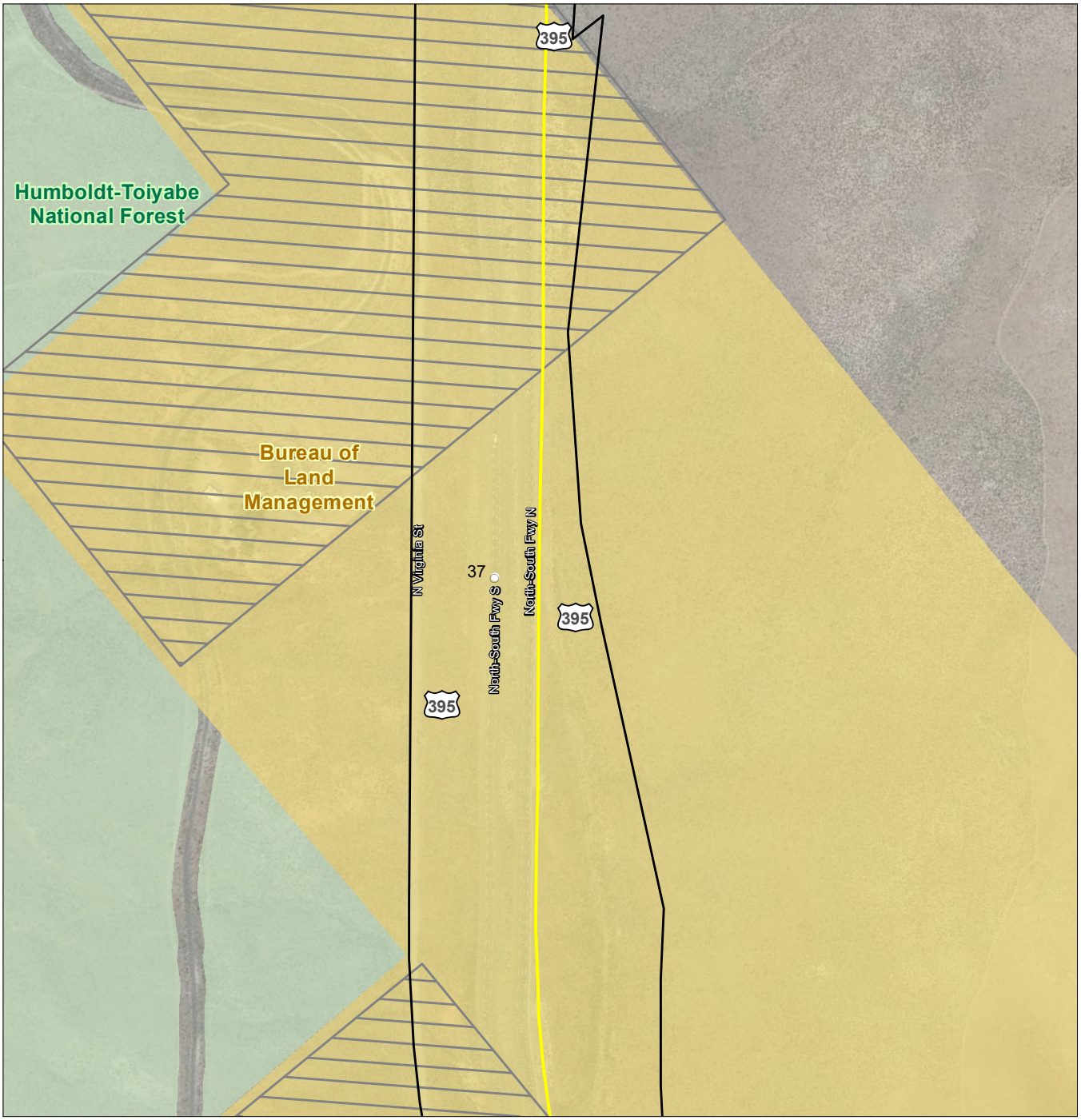

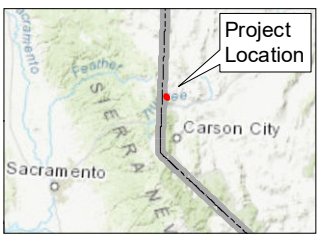

- ROW
- Alignment Reroute
- Milepost
- Humboldt-Toiyabe National Forest
- Bureau of Land Management (BLM)
- BLM Uncertain
- Private or Undefined

0 250 500 Feet

1:7,200 (at original document size of 8.5x11)

Stantec

Project Location	2272020011
Prineville, OR to Reno, NV	Prepared by JC on 2020-10-27
	Technical Review by ST on 2020-10-27
	Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 7 of 20**

Title
Study Area

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User

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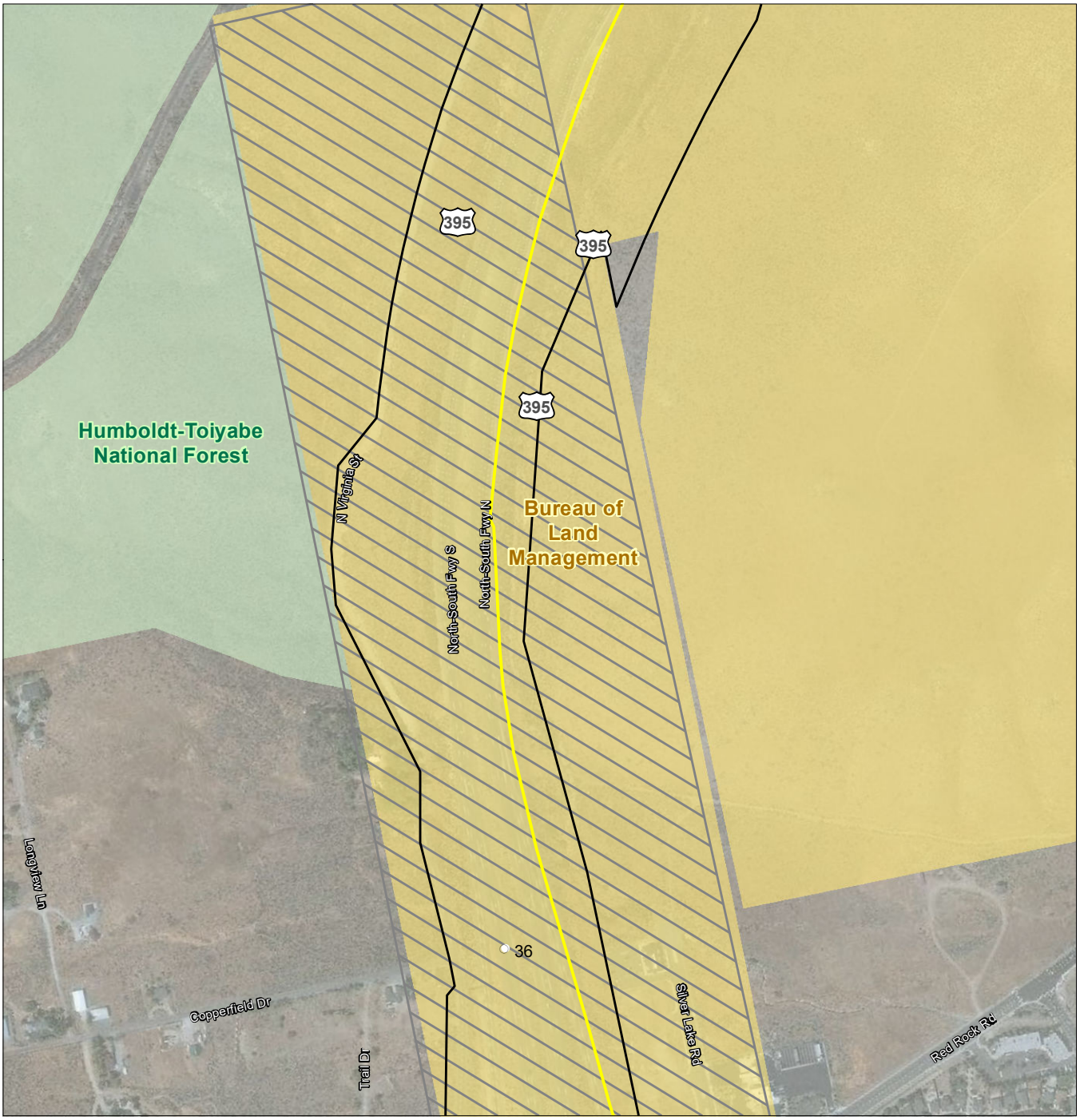

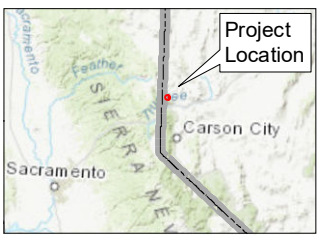

- ROW
- Alignment Reroute
- Milepost
- Humboldt-Toiyabe National Forest
- Bureau of Land Management (BLM)
- BLM Uncertain
- Private or Undefined

0 250 500 Feet

1:7,200 (at original document size of 8.5x11)

Stantec

Notes

1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User

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Project Location
Prineville, OR to Reno, NV

2272020011
Prepared by JC on 2020-10-27
Technical Review by ST on 2020-10-27
Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 8 of 20**

Title
Study Area

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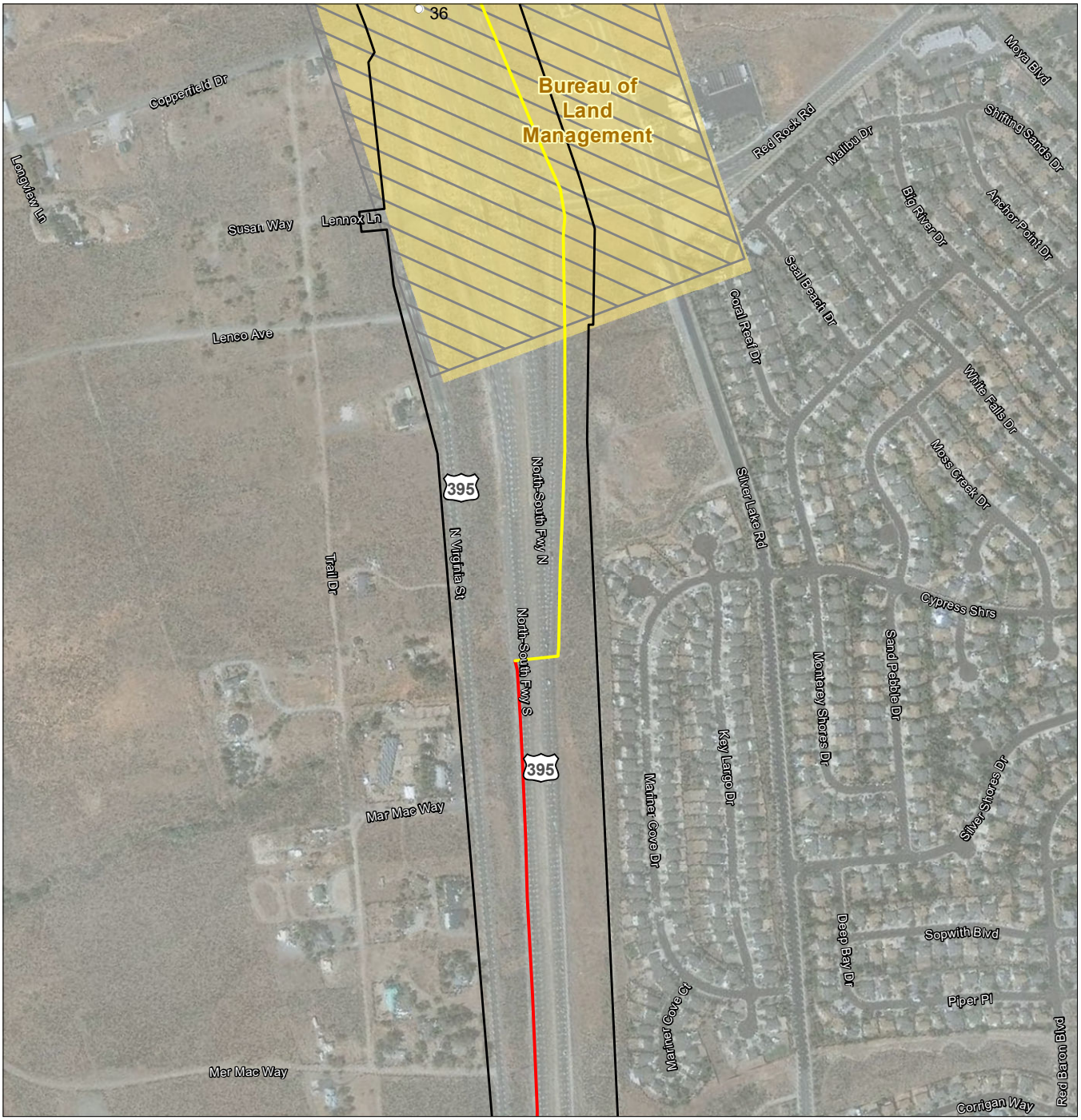

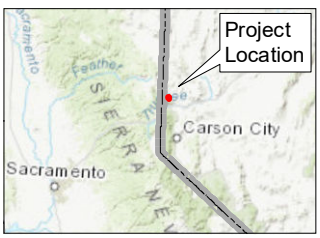

- ROW
- CA/NV Border - Reno Alignment
- Alignment Reroute
- Milepost
- Bureau of Land Management (BLM)
- BLM Uncertain
- Private or Undefined

0 250 500 Feet

1:7,200 (at original document size of 8.5x11)

Stantec

Project Location	2272020011
Prineville, OR to Reno, NV	Prepared by JC on 2020-10-27
	Technical Review by ST on 2020-10-27
	Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 9 of 20**

Title
Study Area

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User

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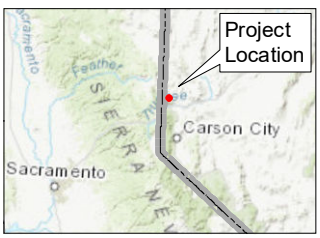

ROW

CA/NV Border - Reno Alignment

Milepost

Private or Undefined

0 250 500 Feet

1:7,200 (at original document size of 8.5x11)

Stantec

Project Location	2272020011
Prineville, OR to Reno, NV	Prepared by JC on 2020-10-27
	Technical Review by ST on 2020-10-27
	Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.

2 Map 10 of 20

Title

Study Area

Notes

1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User

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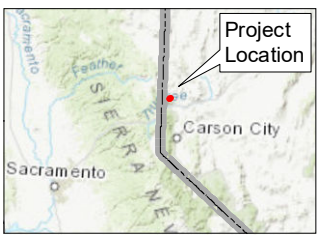

- ROW
- CA/NV Border - Reno Alignment
- Alignment Reroute
- Milepost
- Private or Undefined

0 250 500 Feet

1:7,200 (at original document size of 8.5x11)

Stantec

Project Location	2272020011
Prineville, OR to Reno, NV	Prepared by JC on 2020-10-27
	Technical Review by ST on 2020-10-27
	Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 11 of 20**

Title
Study Area

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User

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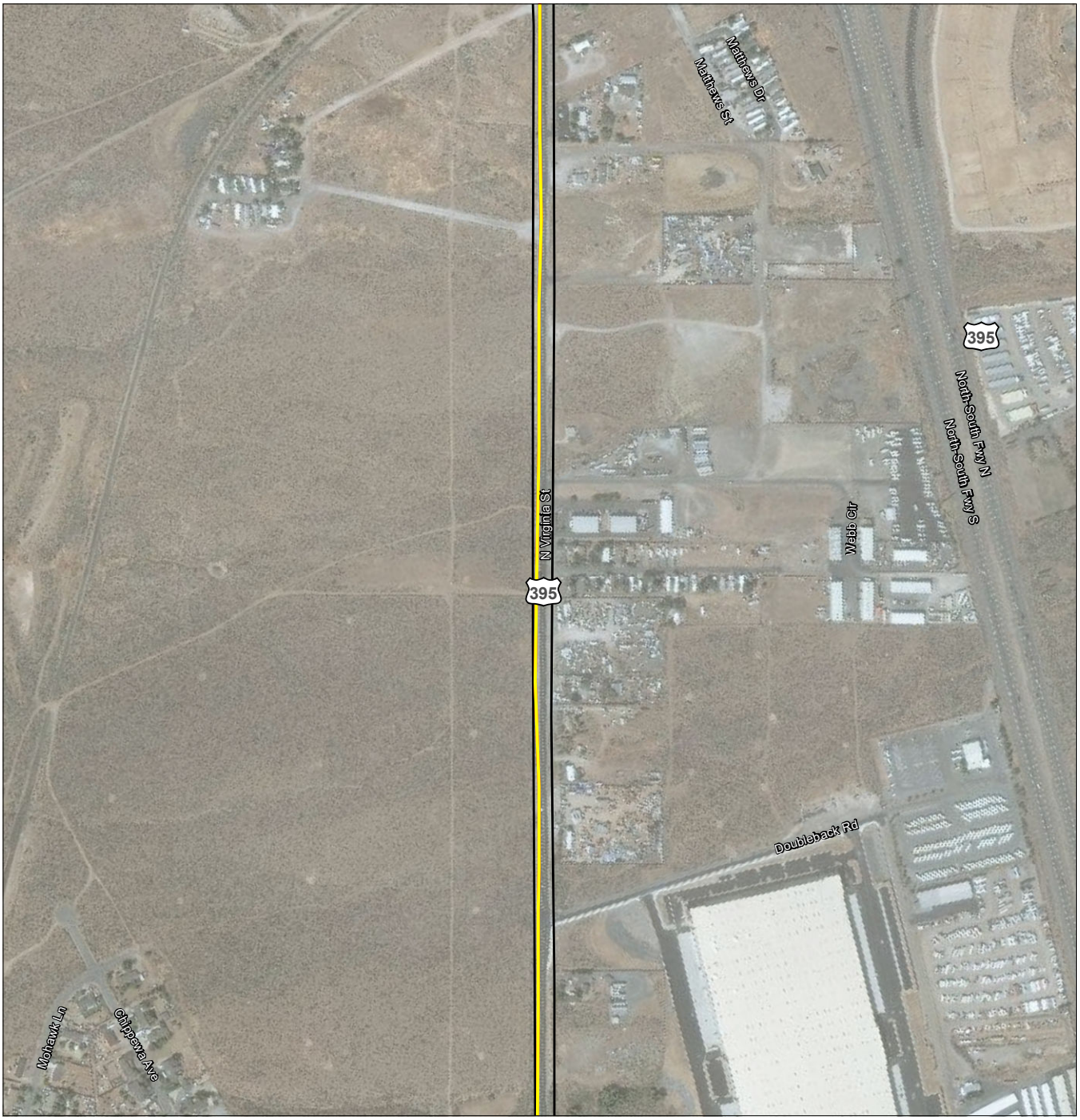

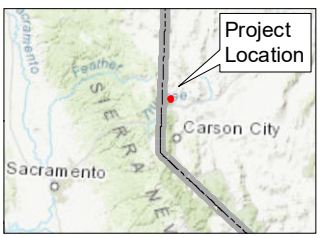

- ROW
- CA/NV Border - Reno Alignment
- Alignment Reroute
- Private or Undefined

0 250 500 Feet

1:7,200 (at original document size of 8.5x11)

Stantec

Project Location
Prineville, OR to Reno, NV

2272020011
Prepared by JC on 2020-10-27
Technical Review by ST on 2020-10-27
Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 12 of 20**

Title
Study Area

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
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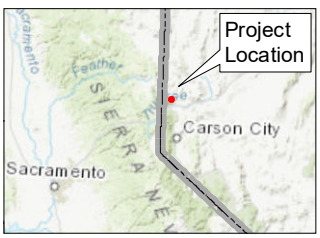

ROW

CA/NV Border - Reno Alignment

Alignment Reroute

Private or Undefined

0 250 500 Feet

1:7,200 (at original document size of 8.5x11)

Stantec

Project Location	2272020011
Prineville, OR to Reno, NV	Prepared by JC on 2020-10-27
	Technical Review by ST on 2020-10-27
	Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 Map 13 of 20

Title
Study Area

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User

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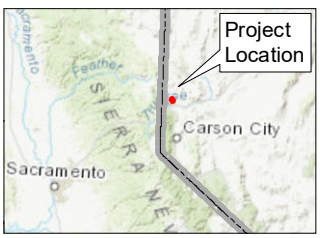

- ROW
- CA/NV Border - Reno Alignment
- Alignment Reroute
- Humboldt-Toiyabe National Forest
- Private or Undefined

0 250 500 Feet

1:7,200 (at original document size of 8.5x11)

Stantec

Project Location	2272020011
Prineville, OR to Reno, NV	Prepared by JC on 2020-10-27
	Technical Review by ST on 2020-10-27
	Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 14 of 20**

Title
Study Area

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User

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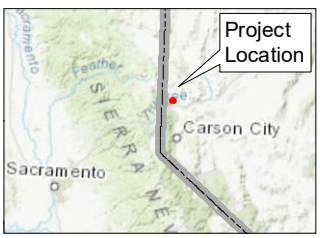

ROW

CA/NV Border - Reno Alignment

Alignment Reroute

Private or Undefined

0 250 500 Feet

1:7,200 (at original document size of 8.5x11)

Stantec

Project Location
Prineville, OR to Reno, NV

2272020011
Prepared by JC on 2020-10-27
Technical Review by ST on 2020-10-27
Independent Review by NE on 2020-10-27

Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 15 of 20**

Title
Study Area

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User

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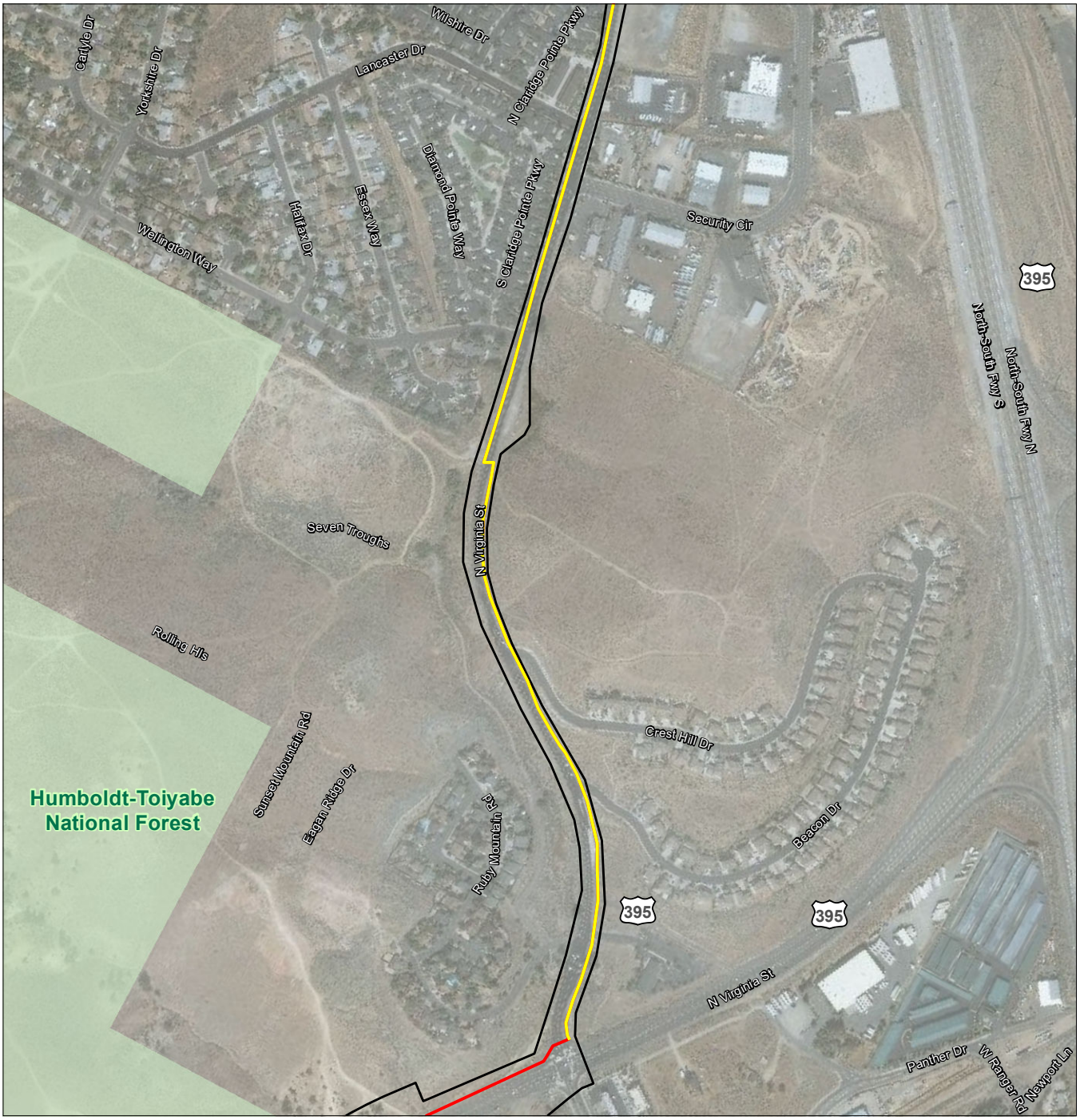

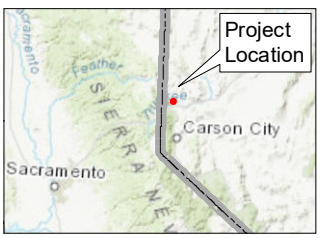

- ROW
- CA/NV Border - Reno Alignment
- Alignment Reroute
- Humboldt-Toiyabe National Forest
- Private or Undefined

0 250 500 Feet

1:7,200 (at original document size of 8.5x11)

Stantec

Notes

1. Coordinate System: NAD 1983 UTM Zone 11N
2. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User

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Project Location
Prineville, OR to Reno, NV

2272020011
Prepared by JC on 2020-10-27
Technical Review by ST on 2020-10-27
Independent Review by NE on 2020-10-27

Client/Project
Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 16 of 20**

Title
Study Area

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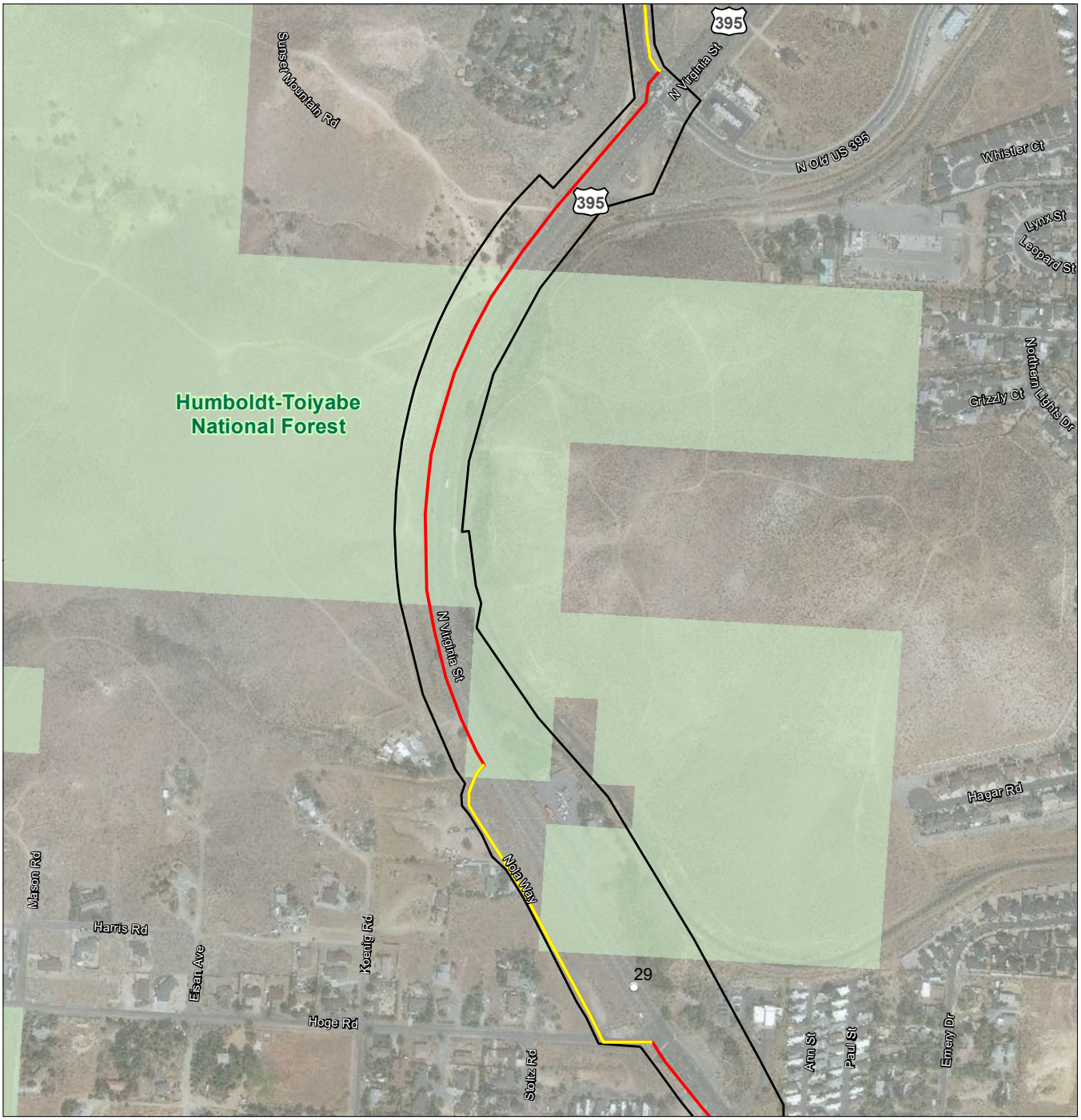

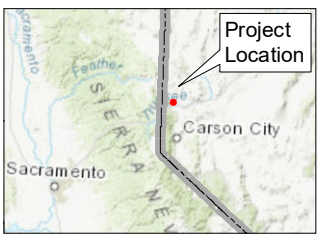

- ROW
- CA/NV Border - Reno Alignment
- Alignment Reroute
- Milepost
- Humboldt-Toiyabe National Forest
- Private or Undefined

0 250 500 Feet

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N

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Project Location
Prineville, OR to
Reno, NV

2272020011
Prepared by JC on 2020-10-27
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Figure No.
2 **Map 17 of 20**

Title
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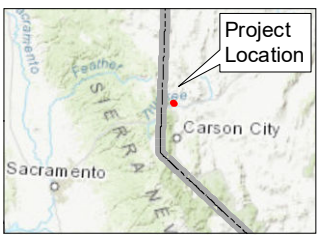

ROW
CA/NV Border - Reno Alignment
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Project Location	2272020011
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Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 18 of 20**

Title
Study Area

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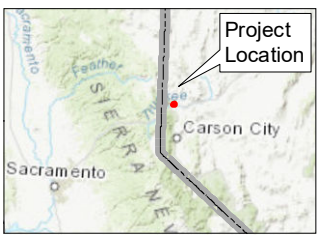

ROW

CA/NV Border - Reno Alignment

Milepost

Private or Undefined

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Client/Project

Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 **Map 19 of 20**

Title
Study Area

Notes
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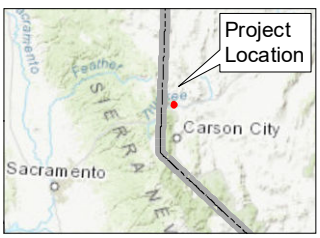

ROW

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Zayo Group, LLC
Zayo Fiber Optic Project, Prineville to Reno

Figure No.
2 Map 20 of 20

Title
Study Area

Notes
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Appendix B REPRESENTATIVE PHOTOGRAPHS

	**Photograph 1.** Wide un-vegetated road prism bordered by sagebrush on BLM lands.
	**Photograph 2.** Overview of grasslands on USFS lands.

	**Photograph 3.** Ruderal vegetation along roadside on non-federal lands.
	**Photograph 4.** Shrubs along roadside on non-federal lands.

	**Photograph 5.** Disturbed area along roadside on non-federal lands.
	**Photograph 6.** Developed area along roadside on non-federal lands.

Appendix C REGIONAL LIST OF SPECIAL-STATUS PLANT SPECIES

Common Name *Scientific Name*	USFS	BLM	Federal
Charleston angelica *Angelica scabrida*	Sensitive		
Charleston pussytoes *Antennaria soliceps*	Sensitive		
Rosy King's sandwort *Arenaria kingii* ssp. *rosea*	Sensitive		
Eastwood milkweed *Asclepias eastwoodiana*	Sensitive		
Clokey milkvetch *Astragalus aequalis*	Sensitive		
Long Valley milkvetch *Astragalus johannis-howellii*	Sensitive		
Lee Canyon milkvetch *Astragalus oophorus* var. *clokeyanus*	Sensitive		
Lavin's egg milkvetch *Astragalus oophorus* var. *lavinii*	Sensitive		
Lahontan milkvetch *Astragalus porrectus*		Sensitive	
Ames milkvetch *Astragalus pulsiferae var. pulsiferae*		Sensitive	
Spring Mountain milkvetch *Astragalus remotus*	Sensitive		
Tiehm milkvetch *Astragalus tiehmii*		Sensitive	
Toquima milkvetch *Astragalus toquimanus*	Sensitive		
Bodie Hills rockcress *Boechera (=Arabis) bodiensis*	Sensitive		
Spring Mountains rockcress *Boechera* (=*Arabis) nevadensis*	Sensitive		

Common Name ***Scientific Name***	**USFS**	**BLM**	**Federal**
Washoe tall rockcress *Boechera* (=*Arabis) rectissima* var. *simulans*	Sensitive		
Galena Creek rockcress *Boechera* (=*Arabis) rigidissima* var. *demota*	Sensitive		
Ophir rockcress *Boechera* (=*Arabis) ophira*	Sensitive		
Tiehm rockcress *Boechera* (=*Arabis) tiehmii*	Sensitive		
Upswept moonwort *Botrychium ascendens*	Sensitive		
Dainty moonwort *Botrychium crenulatum*	Sensitive		
Slender moonwort *Botrychium lineare*	Sensitive		
Moosewort *Botrychium tunux*	Sensitive		
Tioga Pass sedge *Carex tiogana*	Sensitive		
Schoolcraft catseye *Cryptantha (Oreocarya) schoolcraftii*		Sensitive	
Bodie Hills draba *Cusickiella quadricostata*	Sensitive		
Goodrich biscuitroot *Cymopterus goodrichii*	Sensitive		
Steamboat monkeyflower *Diplacus ovatus*		Sensitive	
Arid draba *Draba arida*	Sensitive		
Star draba *Draba asterophora* var. *asterophora*	Sensitive		
Wasatch draba *Draba brachystylis*	Sensitive		
Jaeger draba *Draba jaegeri*	Sensitive		

Common Name ***Scientific Name***	**USFS**	**BLM**	**Federal**
Serpentine draba *Draba oreibata* var. *serpentina*	Sensitive		
Charleston draba *Draba paucifructa*	Sensitive		
Nevada willowherb *Epilobium nevadense*	Sensitive		
Nevada suncup *Eremothera nevadensis*		Sensitive	
Spring Mountain goldenweed *Ericameria compacta (=Haplopappus compactus)*	Sensitive		
Crosby buckwheat *Eriogonum crosbyae var. crosbyae*		Sensitive	
Toiyabe buckwheat *Eriogonum esmeraldense* var. *toiyabense*	Sensitive		
Clokey buckwheat *Eriogonum heermannii* var. *clokeyi*	Sensitive		
Lemmon buckwheat *Eriogonum lemmonii*		Sensitive	
Schoolcraft buckwheat *Eriogonum microthecum var. schoolcraftii*		Sensitive	
Steamboat buckwheat *Eriogonum ovalifolium var. williamsiae*		Sensitive	
altered andesite buckwheat *Eriogonum robustum*	Sensitive	Sensitive	
Carson Valley monkeyflower *Erythranthe carsonensis*		Sensitive	
Clokey greasebush *Glossopetalon clokeyi*	Sensitive		
Smooth dwarf greasebrush *Glossopetalon pungens var. glabra (=G.pungens)*	Sensitive		
Sand cholla *Grusonia pulchella*		Sensitive	
Sierra Valley ivesia *Ivesia aperta* var. *aperta*	Sensitive	Sensitive	

Common Name ***Scientific Name***	**USFS**	**BLM**	**Federal**
Dog Valley ivesia *Ivesia aperta* var. *canina*	Sensitive		
Charleston ivesia *Ivesia cryptocaulis*	Sensitive		
Jaeger ivesia *Ivesia jaegeri*	Sensitive		
Grimy mousetails *Ivesia rhypara var. rhypara*		Sensitive	
Plumas ivesia *Ivesia sericoleuca*	Sensitive		
Webber Ivesia *Ivesia webberi*	Sensitive	Sensitive	Threatened
Hitchcock bladderpod *Lesquerella hitchcockii* var. *hitchcockii*	Sensitive		
Sagebrush pygmyleaf *Loeflingia squarrosa ssp. artemisiarum*		Sensitive	
Succor Creek parsley *Lomatium packardiae*		Sensitive	
Three-ranked hump-moss *Meesia triquetra*	Sensitive		
Shevock rockmoss *Orthotrichum shevockii*	Sensitive		
Spjut's brittle-moss *Orthotrichum spjutii*	Sensitive		
Oryctes *Oryctes nevadensis*		Sensitive	
Dune penstemon *Penstemon arenarius*	Sensitive		
Charleston beardtongue *Penstemon leiophyllus* var. *keckii*	Sensitive		
Wassuk beardtongue *Penstemon rubicundus*	Sensitive		
Susanville beardtongue *Penstemon sudans*		Sensitive	

Common Name ***Scientific Name***	**USFS**	**BLM**	**Federal**
Jaeger beardtongue *Penstemon thompsoniae* ssp. *jaegeri*	Sensitive		
Playa phacelia *Phacelia inundata*		Sensitive	
Mono phacelia *Phacelia monoensis*	Sensitive		
Whitebark pine *Pinus albicaulis*	Sensitive	Sensitive	
Washoe pine *Pinus ponderosa* ssp. *washoensis*		Sensitive	
Altered andesite popcorn flower *Plagiobothrys glomeratus*	Sensitive	Sensitive	
Marsh's bluegrass *Poa abbreviata* ssp. *marshii*	Sensitive		
White Mountain skypilot *Polemonium chartaceum*	Sensitive		
Williams combleaf *Polyctenium williamsii*	Sensitive	Sensitive	
Mono ragwort *Senecio pattersonensis*	Sensitive		
Clokey silene *Silene clokeyi*	Sensitive		
Low sphaeromeria *Sphaeromeria compacta*	Sensitive		
Masonic Mountain jewelflower *Streptanthus oliganthus*	Sensitive		
Charleston kittentails *Synthyris ranunculina*	Sensitive		
Alpine goldenweed *Tonestus (=Haplopappus) alpinus*	Sensitive		
Charleston ground daisy *Townsendia jonesii var. tumulosa*	Sensitive		
Rollins clover *Trifolium macilentum* var. *rollinsii*	Sensitive		

Common Name ***Scientific Name***	**USFS**	**BLM**	**Federal**
Charleston violet *Viola charlestonensis*	Sensitive		

Key:

U.S. Forest Service (USFS) Sensitive = Region 4 U.S. Forest Service Sensitive Species

Bureau of Land Management (BLM) Sensitive = Nevada Sensitive Species

Threatened = Federally Threatened

Appendix D PLANT SPECIES DOCUMENTED DURING 2019 AND 2020 BOTANICAL SURVEYS

Scientific Name[1]	Common Name
Achnatherum thurberianum	Thurber's needle grass
Agropyron cristatum	crested wheat grass
Allium sp.	onion
Amaranthus albus	tumbleweed
Amaranthus blitoides	mat amaranth
Ambrosia acanthicarpa	flat-spine burr-ragweed
Amsinckia tessellata	bristly fiddleneck
Antennaria dimorpha	cushion pussytoes
Anthemis arvensis	corn chamomile
Apera interrupta	dense silky-bent
Argemone munita	flat-bud prickly-poppy
Artemisia arbuscula	dwarf sagebrush
Artemisia douglasiana	Douglas' wormwood
Artemisia tridentata ssp. *wyomingensis*	Wyoming big sagebrush
Artemisia tridentata var. *tridentata*	big sagebrush
Asclepias fascicularis	narrow-leaf milkweed
Astragalus cicer	chickpea milk-vetch
Astragalus iodanthus	Humboldt river milk-vetch
Astragalus purshii	Pursh's milk-vetch
Atriplex canescens	four-wing saltbush
Balsamorhiza hirsuta	hairy balsamroot
Balsamorhiza sagittata	arrow-leaf balsamroot
Bassia hyssopifolia	five-horn smotherweed
Blepharipappus scaber	rough eyelashweed
Boechera pulchra var. *pulchra*	desert rockcress
Bromus commutatus	meadow brome
Bromus inermis	smooth brome
Bromus japonicus	Japanese brome
Bromus tectorum	cheat grass
Calochortus leichtlinii	Leichtlin's mariposa-lily
Camassia quamash	small camas
Camissonia parvula	Lewis River suncup

Appendix D Plant Species Documented During 2019 and 2020 Botanical Surveys

Scientific Name[1]	**Common Name**
*Cardaria draba**	hoary cress
Cardaria pubescens	globe-pod pepperwort
*Carduus nutans**	musk thistle
Carex douglasii	Douglas' sedge
Carex nebrascensis	Nebraska sedge
Carex praegracilis	clustered field sedge
Castilleja campestris ssp. *campestris*	vernal pool Indian paintbrush
Castilleja tenuis	hairy Indian-paintbrush
Catalpa sp.	catalpa
*Centaurea solstitialis**	yellow star-thistle
Centaurea stoebe ssp. *micranthos**[2]	spotted knapweed
Ceratocephala testiculata	curveseed butterwort
Chaenactis douglasii	dusty-maiden
Chorizanthe watsonii	five-tooth spineflower
Chrysothamnus viscidiflorus	green rabbitbrush
Cichorium intybus	chicory
Cirsium occidentale var. *candidissimum*	cobwebby thistle
Cleome serrulata	Rocky Mountain beeplant
Collomia grandiflora	large-flower mountain-trumpet
Colutea arborescens	bladder-senna
Conium maculatum	poison-hemlock
Convolvulus arvensis	field bindweed
Crepis acuminata	long-leaf hawk's-beard
Crepis occidentalis	large-flower hawk's-beard
Cryptantha torreyana	Torrey's cryptantha
Cusickiella douglasii	alkali false whitlow-grass
Cusickiella quadricostata	Bodie Hills false whitlow-grass
Cynosurus echinatus	bristly dog's-tail grass
Dactylis glomerata	orchard grass
Descurainia sophia	herb-sophia
Distichlis spicata	coastal salt grass
Elaeagnus angustifolia	Russian-olive
Eleocharis palustris	soft-stem spike-rush
Elymus elymoides	Western bottle-brush grass
Elymus hispidus	intermediate wheatgrass
Ephedra viridis	Mormon-tea
Epilobium brachycarpum	tall annual willowherb

Scientific Name[1]	**Common Name**
Epilobium leptophyllum	bog willowherb
Eriastrum signatum	maroon-spotted woolystar
Ericameria nauseosa	rubber rabbitbrush
Erigeron bloomeri	scabland fleabane
Erigeron divergens	rough fleabane
Eriogonum caespitosum	matted wild buckwheat
Eriogonum elatum	tall woolly wild buckwheat
Eriogonum microthecum var. *laxiflorum*	slender buckwheat
Eriogonum nidularium	birdnest wild buckwheat
Eriogonum ochrocephalum	white-woolly wild buckwheat
Eriogonum sphaerocephalum var. *sphaerocephalum*	rock wild buckwheat
Eriogonum umbellatum var. *dichrocephalum*	sulphur buckwheat
Eriogonum umbellatum var. *nevadense*	Sierra sulphur flower
Eriogonum vimineum	wicker-stem wild buckwheat
Erodium cicutarium	red-stem stork's-bill
Eschscholzia californica	California-poppy
Euphorbia serpillifolia	thyme-leaf sandmat
Festuca pratensis	meadow rye grass
Galium aparine	sticky-willy
Gayophytum sp.	groundsmoke
Glossopetalon nevadense	spiny greasebush
Gnaphalium palustre	western marsh cudweed
Grayia spinosa	spiny hop-sage
Grindelia squarrosa	curly-cup gumweed
Gutierrezia sarothrae	kindlingweed
Halogeton glomeratus	saltlover
Helianthus annuus	common sunflower
Hordeum brachyantherum	meadow barley
Hordeum jubatum var. *jubatum*	fox-tail barley
Hordeum murinum	wall barley
*Hypericum perforatum**	St. John's wort
Iva axillaris	deer-root
Juncus balticus	Baltic rush
Juncus bufonius	toad rush
Kochia scoparia	Mexican-fireweed
Lactuca serriola	prickly lettuce

Scientific Name[1]	**Common Name**
Lepidium lasiocarpum	shaggy fruit pepperweed
*Lepidium latifolium**	perennial pepperweed
Lepidium perfoliatum	clasping pepperweed
Leymus cinereus	Great Basin wild rye
Lomatium macrocarpum	large-fruit desert-parsley
Lotus parviflorus	bird's foot trefoil
Lupinus argenteus	silver-stem lupine
Lythrum tribracteatum	three-bract loosestrife
Machaeranthera canescens	hoary tansyaster
Madia elegans	showy tarplant
Madia glomerata	mountain tarplant
Malva neglecta	dwarf mallow
Marrubium vulgare	white horehound
Matricaria discoidea	pineapple-weed
Medicago sativa	alfalfa
Melilotus alba	white sweetclover
Melilotus officinalis	yellow sweet-clover
Mentha sp.	mint
Mentzelia dispersa	Nevada blazingstar
Mentzelia laevicaulis	giant blazingstar
Mentzelia montana	variegated-bract blazingstar
Microsteris gracilis	annual-phlox
Mimulus guttatus	seep monkeyflower
Monolepis nuttalliana	Nuttall's poverty-weed
Navarretia intertexta	needle-leaf pincushion-plant
Nicotiana attenuata	coyote tobacco
*Onopordum acanthium**	Scotch thistle
Packera cana	silver-woolly groundsel
Panicum capillare	common panic grass
Pectocarya penicillata	short-leaf combseed
Pectocarya setosa	bristly combseed
Penstemon palmeri	scented beardtongue
Penstemon roezlii	juniper-scrub beardtongue
Phacelia hastata	silver-leaf scorpion-weed
Phlox stansburyi	cold desert phlox
Pinus ponderosa	ponderosa pine
Plagiobothrys tenellus	Pacific popcorn-flower

Scientific Name[1]	**Common Name**
Pleiacanthus spinosus	false wire-lettuce
Poa bulbosa	bulbous blue grass
Poa secunda	curly blue grass
Polygonum aviculare	yard knotweed
Polypogon monspeliensis	annual rabbit's-foot grass
Populus fremontii	Fremont cottonwood
Prunus andersonii	desert peach
Puccinellia distans	spreading alkali grass
Purshia tridentata	bitterbrush
Ranunculus occidentalis	western buttercup
Ribes aureum	golden currant
Rorippa nasturtium-aquaticum	watercress
Rosa woodsii	Wood's rose
Rumex crispus	curly dock
Rumex salicifolius	willow dock
Salix exigua	narrow-leaf willow
Salix lasiandra	Pacific willow
Salsola tragus	prickly Russian-thistle
Salvia dorrii	gray ball sage
Sisymbrium altissimum	tall hedge-mustard
Solanum triflorum	cut-leaf nightshade
Sonchus asper	spiny-leaf sow-thistle
Sporobolus cryptandrus	sand dropseed
Stipa hymenoides	Indian rice grass
Symphoricarpos sp.	snowberry
*Taeniatherum caput-medusae**	medusahead
Taraxacum officinale	common dandelion
Taraxia tanacetifolia	tansy-leaf goldeneggs
Tetradymia canescens	spineless horsebrush
Tetradymia glabrata	little-leaf horsebrush
Thlaspi arvense	field pennycress
Tragopogon dubius	meadow goat's-beard
*Tribulus terrestris**	puncturevine
Trifolium macrocephalum	large-head clover
Trifolium variegatum	whitetip clover
Typha latifolia	broad-leaf cat-tail
Ulmus pumila	Siberian elm

Appendix D Plant Species Documented During 2019 and 2020 Botanical Surveys

Scientific Name[1]	**Common Name**
Urtica dioica	stinging nettle
Verbascum thapsus	great mullein
Veronica anagallis-aquatica	blue water speedwell
Vicia americana	American purple vetch
Wyethia mollis	woolly mule's-ears
Xanthium strumarium	rough cockleburr
Zigadenus paniculatus	sand-corn

Notes:

* state-designated noxious weed (Nevada Department of Agriculture 2020)

1. Naming convention follows U.S. Department of Agriculture naming convention (U.S. Department of Agriculture 2020)

2. *Centaurea biebersteinii* in Nevada Department of Agriculture (2020)