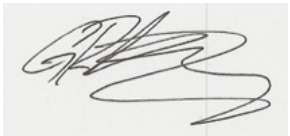
BIOLOGICAL EVALUATION/BIOLOGICAL ASSESSMENT

for the

South Lake Tahoe Public Utility District
Pioneer Trail Waterline and PRV Upgrade Project

South Lake Tahoe Public Utility District

Lahontan Regional Water Quality Control Board

PREPARED BY_  DATE: 18. April 2025

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I. INTRODUCTION

This Biological Evaluation (BE) and Biological Assessment (BA) has been prepared to evaluate potential effects of the South Tahoe Public Utility District (District) Pioneer Trail Waterline and PRV Upgrade Project on animals and plants listed as threatened or endangered by the U.S. Fish and Wildlife Service (Endangered Species Act of 1973 (ESA; 16 U.S.C. § 1531 et seq.) or designated as sensitive, threatened or endangered by the State of California under the California Endangered Species Act (Fish and Game Code Sections 2050-2098) and designated as sensitive on the 2013 United States Forest Service Region 5 Sensitive Species List (USDA 2013). The Biological Evaluation (BE) portion specifically addresses whether the project may result in a loss of viability of Forest sensitive species, general wildlife species, or cause a sensitive species to trend toward federal listing. The Biological Assessment (BA) portion of this document has been prepared to document analysis of the potential direct and indirect effects of the proposed project on federally listed threatened, endangered, proposed, and candidate species known or expected to occur within the project area. This BE/BA was prepared in accordance with Appendix G of the California Environmental Quality Act (CEQA) and Forest Service Manual (FSM) direction 2672.42 and meets legal requirements set forth under section 7 of the Endangered Species Act of 1973, as amended and implementing regulations [19 U.S.C. 1536 (c, 50 CFR 402.12 (f) and 402.14 (c)].

II. PROJECT DESCRIPTION

Purpose

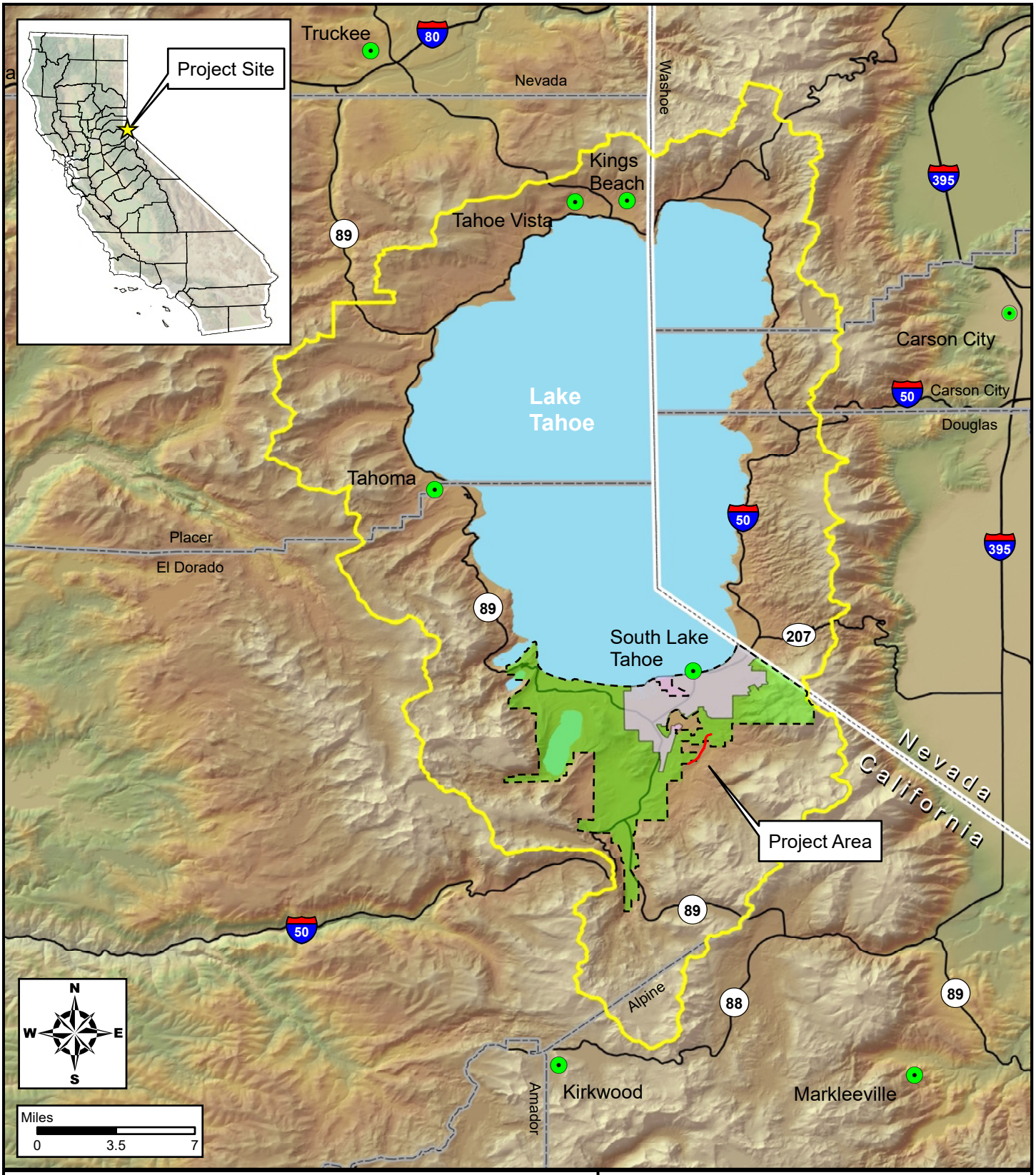
The South Tahoe Public Utility District (District) owns and operates the water distribution system and waste water collection and treatment system within its Service Area in the City of South Lake Tahoe and unincorporated areas of El Dorado County (Figure 1). The District regularly conducts condition assessments of existing water facilities to identify opportunities to optimize the system to better provide reliable water services safely, efficiently and cost effectively. The Pioneer Trail Waterline and PRV Upgrade Project (Project) would install new water pipeline, nine new and two replacement fire hydrants, and replace/relocate two existing pressure regulating stations to improve capacity and reliability, enhance fire protection, and provide an increased level of service within the surrounding community.

The Project Area is located along Pioneer Trail from Marshall Trail west to Washoan Blvd (Figure 2). Pioneer Trail is an important travel route between Meyers and Stateline, Nevada that bypasses central South Lake Tahoe. The proposed new waterline in Pioneer Trail is approximately 1.5 miles in length and would become an important backbone of the water system. The 16-inch pipeline would significantly improve fire flows to multiple neighborhoods and increase overall water system efficiency and capacity to certain neighborhoods. The new waterline also allows for the proposed installation of nine new fire hydrants along the important urban-wildland interface of Pioneer Trail. The hydrants would be installed to meet fire standards

that require developed properties to be no more than 250 feet from a fire hydrant and undeveloped properties to be no more than 500 feet from a fire hydrant.
Also in conjunction with the waterline installation, two new pressure regulating valve (PRV) stations would be installed. PRVs have a critical role in water delivery systems because the valve reduces incoming high pressure to a level that is suitable for downstream delivery. Proposed new PRV Station #1 would be located at the intersection of Pioneer Trail and Jicarilla and would provide a second feed from the Montgomery Estates Zone to both the Susquehana Zone and the Pine Valley Zone to mitigate existing fire flow deficiencies. Proposed PRV Station #2 would re-locate two existing PRVs (PT/Kokanee and PT/Marshall) located in below-grade vaults on a curve in the traffic lanes Pioneer Trail would into a single above-ground station on Marshall Trail, which is a much lower traffic side street. The existing PRVs were constructed in the late 1980's in a dangerous location and are currently nearing the end of their useful lives. A new PRV is needed in the same location at Marshall Trail to provide a secondary feed to over 100 customers from the Montgomery Estates Zone to the Stateline Zone in the Meadow Lakes Neighborhood.

Location

The Project is located on the south shore of Lake Tahoe in the within unincorporated areas of El Dorado County (Figure 1). The Project Area (Figure 2) is located along Pioneer Trail from Marshall Trail west to Washoan Blvd. Pioneer Trail is an important travel route between Meyers and Stateline, Nevada that bypasses central South Lake Tahoe. The route is through residential neighborhoods and open forest. Trout Creek passes under Pioneer Trail via culvert just east of Golden Bear Trail.
The Project Area is contained within the South Lake Tahoe United State Geological Society (USGS) 7.5 Minute Quadrangle Topographic Map and occurs within Township 12N Range 18E in Sections 10 and 15 on the Mt Diablo Meridian.



Legend

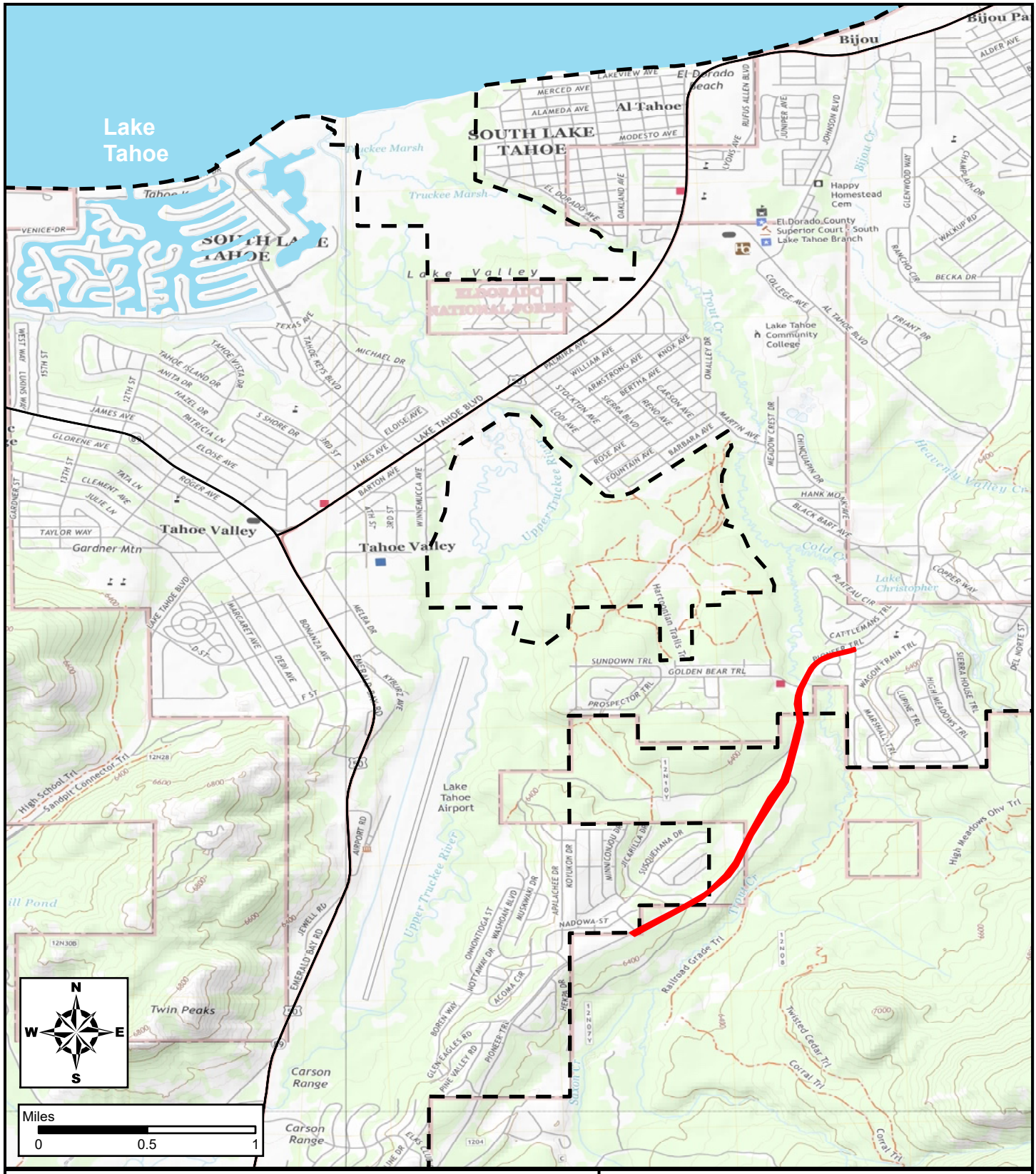
- Project Area
- STPUD Service Area
- City of South Lake Tahoe
- TRPA Boundary
- State Boundry
- County Boundary

Pioneer Waterline Replacement Project

Figure 1.
Project Vicinity

SIERRA ECOTONE SOLUTIONS

Sources: STPUD, TRPA, USGS. Map date: March 2, 2022



Legend

- STPUD Service Area
- Project Area

Pioneer Waterline Replacement Project

Figure 2.
Project Area

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Sources: STPUD, TRPA, USGS. Map date: March 2, 2022

Project Overview

The purpose of the Pioneer Trail Waterline and Facilities Upgrade Project (Project) is to provide an increased level of service and enhanced fire protection capability. The District proposes to install new water pipeline in Pioneer Trail to increase water system reliability and improve fire flows. Pioneer Trail is an important urban-wildland interface and new fire hydrants would also be installed to meet current fire standards. In conjunction with the new waterline installation, two new pressure regulating valve (PRV) stations would be installed. The new PRV stations are needed to mitigate existing fire flow deficiencies and to provide several isolated neighborhoods with improved flows and supplemental feeds. Each of these components are described in further detail below.

Project Components

Pioneer Trail Waterline

This portion of the Project proposes installation of approximately 1.5 miles of new 16-inch waterline within Pioneer Trail from Susquehana Drive (Pine Valley Zone) east to Marshall Trail (Montgomery Estates Zone). This project will loop the distribution system and improve fire flow to approximately 1,000 customers in the Pine Valley and Susquehana Zones. The proposed main waterline would be 16" ductile iron pipe (DIP) that would connect to an existing 8-inch steel water main on Susquehana Drive. The pipeline would be installed within the roadway at a minimum depth of 42-inches. In addition to the pipeline, a total of 5 residential water customers will have water services replaced.

In addition, approximately 1,500 linear feet of 10-inch aging steel waterline will be replaced with a new 12-inch C900 PVC waterline on Pioneer Trail between Golden Bear Trail and Marshall Trail. A new 12-inch C900 PVC waterline of 460 feet would be installed to connect the new proposed PRV Station #2 on Marshall Trail (see below) to Kokanee Trail. This new waterline would also replace approximately 280 feet of existing 8 and 10-inch steel pipe on both streets.

The contractor will comply with California Division of Drinking Water standards for installation of new water mains. Each completed section would be pressure tested for leakage and all of the new pipe will be disinfected per AWWA (American Water Works Association) Standards.

New sections of waterline would be tied into the existing system only after testing and disinfection. Upon completion of the install, the trenches would be backfilled and the roadway replaced. Existing guardrail and signage would be protected throughout construction along with any existing curb and gutter.

New Fire Hydrant Installation

The installation of new fire hydrants within the Service Area is necessary to meet fire standards that require developed properties to be no more than 250 feet from a fire hydrant and undeveloped

properties to be no more than 500 feet from a fire hydrant. A total of nine new fire hydrants would be installed along Pioneer Trail between Susquehana Drive and Marshall Trail. An existing hydrant at Marshall Trail and Cattleman's Trail would also be replaced as well as a hydrant at Marshall Trail and Pioneer Trail. Each hydrant would be connected to the new waterline via a 6-inch fire hydrant lateral and gate valve off of the hydrant tee.

Pressure regulating stations

Two new pressure regulating stations equipped with pressure regulating valves (PRVs) are proposed to be installed. PRVs have a critical role in water delivery systems because the valve reduces incoming high pressure to a level that is suitable for downstream delivery.

Proposed new PRV Station #1 would be located at the intersection of Pioneer Trail and Jicarilla. The proposed Pine Valley PRV would have a 2-inch domestic and 12-inch fire PRV and the new Susquehana PRV would have a 2-inch domestic and 6-inch fire PRV. The PRV station would regulate flows coming from the Montgomery Estates Zone to the Susquehana Zone and the Pine Valley Zone via the new Pioneer Trail waterline and would provide a secondary feed that mitigates existing fire flow deficiencies. The PRVs would be installed on a concrete pad and enclosed in a pre-fabricated aluminum box.

Proposed PRV Station #2 is located on Marshall Trail and would house the Kokanee, Marshall, and Stateline PRVs each equipped with a 2-inch domestic PRV and an 8-inch fire PRV The existing Kokanee and Marshall PRVs are the sole source of water supply to approximately 330 customers in the Kokanee and Golden Bear Zones. However, the PRVs were constructed in the late 1980's and are currently nearing the end of their useful lives. They are located in below-grade vaults on a curve in the high traffic lanes of Pioneer Trail and these would be abandoned in place and the new PRVs installed in the proposed above-ground Station #2 on Marshall Trail, which is a much lower traffic side street. The new Stateline PRV is proposed to connect the Montgomery Estates Zone and provide a secondary feed to over 100 customers located in the Meadow Lakes Neighborhood. The proposed PRVs would be installed on a concrete pad and enclosed in a pre-fabricated aluminum box.

At the proposed locations the site would be cleared and grubbed to accommodate the concrete pad for the new stations. The new stations are proposed to be pre-fabricated insulated and heated enclosures construction of marine grade aluminum in a dark green color. The enclosures are designed to provide protection from freezing and vandalism and also easy access for maintenance and testing. Instrumentation and communication panels with an antenna would also be installed on the concrete pads at each of the stations. The portion of the system being replaced would generally remain in service until the new system has been tied in and then the old system would be abandoned in place.

Construction Phasing, Schedule and Equipment

Construction is planned for 2024 and is anticipated to occur within one TRPA grading season between May 1st to October 15th. The PRV stations would be built in conjunction with the water pipeline installations and all new components would be pressure tested and disinfected at the same time. When testing is complete, the new components would be tied in with the existing system.

The contractor shall comply with the TRPA standard conditions of approval. Construction that is not completed during the TRPA construction season for earth moving activities between May 1st and October 15th would require a TRPA Grading Season Exception. On-site work would be performed from 8 am to 6 pm Monday through Friday. Work outside these hours would be approved by the District a minimum of 48-hours before the abnormal working hours are scheduled to begin.

General construction equipment that would be utilized for waterline projects include excavator, mini-excavator, loader, water truck, service vehicles, small remote sheep's-foot compactor, vacuum truck, sweeper, milling machine, smooth drum compactor, and a paving machine. All but the paving equipment (the last 3 on the list) are used every day.

Earthwork and Excavations

Earthwork and excavations that result in temporary disturbance will be necessary for Project implementation. Excavation is defined as being 18 or more inches of depth below the existing surface. Water pipeline trenches are expected to be 3 to 5 feet wide and generally require excavations of 5 feet deep. Excavations will primarily occur within the El Dorado County ROW. If excavation is required on private property for PRV Station #2, the District would request an easement. If no easement is granted, then the District will look to acquire land to build the aboveground station on or it would be placed in an underground vault within the ROW. A TRPA pre-grade inspection shall be completed prior to any excavation or saw-cutting activities.

Pipeline and Utility Trenching and Excavations

The contractor shall be responsible for contacting all utility companies, local agencies and/or utility districts as to the location of all underground facilities. Location and depth of existing utilities where shown on plans are based on best available information. No guarantee is made as to the accuracy of this information or that all utilities are shown. It shall be the contractor's responsibility to locate, protect, and maintain all existing utilities. The contractor or any subcontractor for this contractor shall notify members of underground service alert 48 hours in advance of performing excavation work by calling underground service alert #811. Excavation is defined as being 18 or more inches of depth below the existing surface.

The contractor shall pothole all utility and storm drain crossings along the pipeline alignment in advance of installation. The contractor shall report the results of the pothole in writing to the

engineer 48 hours (not to include weekends or holidays) prior to undertaking any corrective action. Should any corrective work be done prior to notification, the District assumes no liability for the costs incurred for this work.

All interties between new water mains and the existing water system, including new water service connections, and fire hydrant installations and transfers, shall only be made after all pressure testing and disinfection requirements are satisfactorily met. The contractor shall be responsible to provide all blow offs necessary for flushing and sampling of all new water mains as required by the California State Water Resources Control Board and project specifications.

Where new water mains are being installed in paved sections the asphalt replacement shall be the clear trench width for the pipeline size being installed plus twenty-four inches (24") in County of El Dorado right of way, as provided in the contract specifications. The contractor shall replace all traffic striping that is disturbed during construction.

The thickness of replacement pavement is 3 inches or to match the existing depth in the El Dorado ROW as specified in the project plans.

The contractor shall protect and be responsible for any disturbance or contamination to any dry wells, storm water collection or retainage systems including storm drain pipe, curb & gutter, valley gutters and horizontal drains through-out the project area. Any damage shall be repaired at no additional cost to District. The contractor shall not stock pile any material upon any drainage facilities. All sewer pipes damaged during the execution of the project shall be repaired per plan details.

Fill Materials and Placement

All excavations shall be backfilled or trench plated at the end of each day's work per the plan specifications. Within paved areas, trenches will be backfilled with a combination of sand, native material, Class II aggregate base and slurry. Excavations within existing paved areas shall be cold patched or covered with steel plates as required per specifications to match the existing pavement at the end of each day’s work. All trench plates shall be non- skid type and have cold patch applied to the edge for traffic approach and departure.

After the new main is placed into service, the existing water mains, where shown on the project drawings, are to be abandoned in place by cutting out a section of pipe and installing a cap or plug on the end of the pipeline. Existing fire hydrants to be abandoned will be removed and capped below grade.

Only new water service connections where shown on the project plans shall be installed per the Districts standard details and project drawings. After Project completion, the locations of all existing water services shall be verified and marked in the field.

Disposal of Excess Excavated Materials

All excess material from the project is to be removed from the site and disposed of at a site approved by the TRPA. For this Project, excess spoil may be temporarily stored at the Contractor staging area at the District Wastewater Treatment Plant. No material shall be stored in any stream environment zone or wet area. The contractor shall not stock pile any material upon any drainage facilities. Contractor shall remove all material generated by any asphalt saw cutting operation during or immediately after saw cutting by using adequately sized vacuuming equipment to accommodate the removal process.

Site Cleanup and Restoration

All disturbed areas shall be restored to match pre-existing conditions. Unimproved areas and areas not landscaped shall be revegetated with native species in accordance with the TRPA handbook of best management practices. Existing vegetation removed during construction shall be chipped and mulched on site and stored for use during revegetation. Application of a mulch may enhance vegetative establishment. Any disturbance of private property shall be restored by the contractor at their expense. All traffic striping that is disturbed during construction shall be replaced by the contractor.

Site Access, Staging Areas, and Parking

The District would likely provide a Contractor staging area at the Wastewater Treatment Facility located off of Al Tahoe Blvd. Additional staging may occur within compacted shoulder areas of Pioneer Trail if allowed by El Dorado County. Contractors' equipment and employee vehicles shall park on existing paved surfaces or existing compacted road shoulders. Contractor shall provide crushed rock in areas of temporary construction access to minimize migration of sediment.

Project Design Features and Best Management Practices

A. Best Management Practices to Protect Surface and Ground Water/Sediment and Erosion Control Plan

A pre-grade inspection shall be completed prior to any saw cutting or excavation activities. The Contractor shall comply with the State Water Resource Control Board waste water discharge requirements for the project and the City of South Lake Tahoe's encroachment permit. To ensure that potential impacts to surface water and ground water are avoided, reduced and minimized, the following measures and BMPs will be implemented as necessary based on site conditions at individual work sites:

- During construction, environmental protection devices, such as erosion control, dust control and vegetation protection devices shall be maintained at all times.

- Soil and construction material shall not be tracked off the construction site. Grading operations shall cease in the event that this condition is in danger of being violated.

- Loose soil mounds or surface shall be protection from wind or water erosion by being appropriately covered at the end of each work day or when required by TRPA.
- The contractor shall not stock pile any material upon any drainage facilities. Excavated material shall be stored upgrade from the excavated area whenever possible. No material shall be stored in any stream environment zone or wet area.

- All excess material from the project is to be removed from the site and disposed of at a site approved by the TRPA. No excess material shall be stored on site after hours. Contractor shall remove all material generated by any asphalt saw cutting operation during or immediately after saw cutting by using adequately sized vacuuming equipment to accommodate the removal process.

- No equipment or vehicles shall be placed outside the state, city, or county right of way. Contractor shall provide crushed rock in areas of temporary construction access to minimize migration of sediment.

- The contractor shall protect and be responsible for any disturbance or contamination to any dry wells, storm water collection or retainage systems including storm drain pipe, curb & gutter, valley gutters and horizontal drains throughout the project area. Any damage shall be repaired at no additional cost to the District.

- If groundwater is intercepted during some excavations, dewatering may need to be implemented onsite. The contractor shall be responsible for the handling and proper disposal of distribution system water encountered during system tie-ins in accordance with the plan specifications.

B. Construction Noise Reduction

To reduce construction related noise, the following measures will be implemented:

- Noise shall be reduced by mandatory use of mufflers on all construction vehicles and equipment. Where feasible solenoid pavement breakers will be used in lieu of air powered jack hammers.
- Construction activities will be limited to the hours of 8:00 AM and 6:00 PM, pursuant to TRPA Code of Ordinances Chapter 68, Noise Limitations.

C. Migratory Bird Nest Site Protection Program

For construction activities proposed to occur during the nesting season (March 15 through August 15), and outside of paved areas, the contractor and District shall review the Project Area to identify any migratory bird nest sites that may be present. If a nest is present in the immediate vicinity, a qualified biological monitor shall be contacted to evaluate whether any migratory birds are impacted by the project. The biological monitor shall have the authority to stop construction near occupied sites if it appears to be having a negative impact on nesting migratory birds or their young. If construction must be stopped, the monitor must consult with USFWS and CDFW staff within 24 hours to determine appropriate actions to restart construction while reducing impacts to identified migratory bird nests.

D. Prevent and Control Invasive Species

To prevent the spread of invasive plant species, the following measures and BMPs will be implemented:

- Construction vehicles, including off-road vehicles, will be cleaned when they come into the Basin or come from a known invasive plant infested area. Equipment will be considered clean when visual inspection does not reveal soil, seeds, plant material, or other such debris.

- Equipment will be staged in weed-free areas to prevent vehicles from introducing or spreading invasive species.

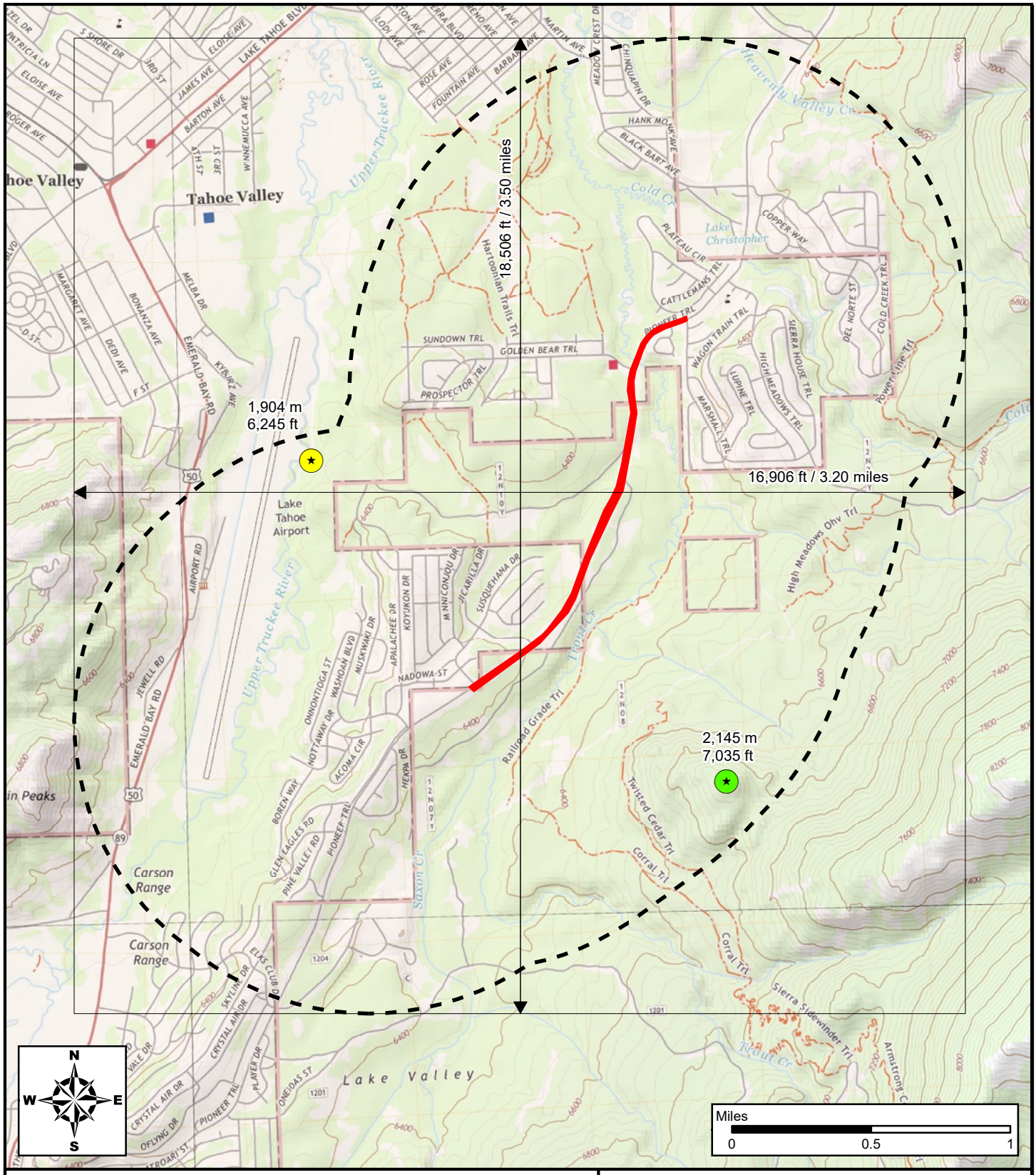
- Earth-moving equipment, gravel, fills, or other materials are required to be weed-free. Onsite sand, gravel, rock, or organic matter will be used when possible or weed-free materials from gravel pits and fill sources that have been surveyed and approved will be used.

- Minimize the amount of ground and vegetation disturbance in the construction areas. Upon completion of construction, vegetation will be reestablished in the footprint to minimize weed establishment after the removal.

III. ACTION AREA

The Project is located in California on the south shore of Lake Tahoe in and around the City of South Lake Tahoe within the District's Service Area (**Figure 1)**. The Project Area (**Figure 2**) shows the location of the project in relation to the South Lake Tahoe Area. The Project Area is contained within the following United State Geological Society (USGS) 7.5 Minute Quadrangle Topographic Maps: South Lake Tahoe, Emerald Bay, and Echo Lake. The Project Area occurs within sections 10.11, 15 & 16 Township 12N Range 18E on the Mt Diablo Meridian.

For this Project, the Action Area or Area of Potential Effect was delineated by a one-mile radius from the Project Area, as shown in **Figure 3**. The Action area is defined as all areas that may be affected directly or indirectly by the Project and not merely the immediate area involved in the action. It encompasses the geographic extent of environmental changes (i.e., the physical, chemical and biotic effects) that may result directly and indirectly from the action. The Action area is larger than the area directly affected by the action. The nature of the project results in impacts occurring within the Project Area itself and not within the Action Area.



Legend

- Action Area (±4,726 acres)
- Project Area
- Highest Elevation within the Action Area
- Lowest Elevation within the Action Area

Pioneer Waterline Replacement Project

Figure 3.
Action Area

SIERRA ECOTONE SOLUTIONS

Sources: STPUD, USGS. Map date: March 14, 2022

Project Area Description

Regional land uses within the District's Service Area include commercial, residential, mixed use, recreation, resort recreation, open space, conservation, and the tourist core area in California. A large number of Area Plans, Community Plans, and Plan Area Statements are in effect within the Service Area. Zoning designations within the Service Area are also comprehensive. However, the Project Area only includes the easement area of the ROW within the streets of the City of South Lake Tahoe and the roads in the unincorporated parts of El Dorado County within the Service Area. The majority of the ROW within the Project Area is located in residential neighborhoods and mixed use commercial areas. The Project Area was visited in person the first week of October 2020.

Topography and Soils

As shown in **Figure 3**, the elevations within the Action Area range from a low point of 6,223-feet at the natural rim of Lake Tahoe to a high point of 9,157 feet. The dimension of the Action area is 68,906 feet long in a north-south direction and 53,012 feet wide from the west to the east for a total area of 43,009 acres.

The topography of the Lake Tahoe Basin is varied with at times complex terrain and elevations ranging from 6,220 feet at lake level to 10,000 feet at Monument and Freel Peak outside of South Lake Tahoe, California. The City of South Lake Tahoe is relatively flat at its center and the Project Area consists of flat slopes within the ROW.

Results from the NRCS Web Soils Survey of the Project Area may be found in Appendix 6. (NRCS 2007; http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm, Accessed December 15, 2021). A total of 36 soil map units from the Tahoe Soil Survey are contained within the Project Area. Of these soil units, 17 of them occur in less than 1% of the Area of Interest (AOI). Only two soil units occur in 10% or more of the AOI: the Christopher-Gefo complex (0-5% slopes) is found within 27% of the AOI and Jabu coarse sandy loam (0-9%) is found within 10.8% of the AOI.

Hydrology

The Project Area is not directly hydrologically-connected to perennial or intermittent surface water channels. Within the road rights-of-way where Project work will occur, existing stormwater drainage systems include curb and gutter systems and drop inlets that are maintained by the City of South Lake Tahoe. The stormwater conveyances are ultimately connected to Lake Tahoe.

The Project Area contains FEMA flood hazard zones that were mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. None of the project area is within the flood zone as the project lies above Trout Creek. Because of project

area topography and soil types, seasonal high groundwater is not expected to be encountered at proposed trench depths (less than 5 feet) that will occur in the ROW project area.

Vegetation

The proposed Project Areas are within the road right-of-way in the unincorporated areas of El Dorado County. The proposed Project Areas contain existing disturbance in the form of road shoulder, road base, existing compacted dirt, gravel, landscaping, pavement, existing facilities or a combination of the above. Vegetation within the Action Area is primarily Jeffrey Pine (*Pinus jeffreyi*) forest (Keeler-Wolf 2013) with an open canopy including some white fir (*Abies concolor*). The shrub layer is sparse and comprised of white leaf manzanita (*Arctostaphylos patula*), antelope bitterbrush (*Purshia tridentata*), and chinquapin (*Chrysolepis sempervirens*). The herbaceous layer is very minimal and includes common species like sulfur buckwheat (*Eriogonum ovalifolium var. ovalifolium*), groundsmoke (*Gayophytum diffusum*), and tansy mustard (*Descurania incisa*).

IV. PROJECT REVIEW AND PERMITTING

For work performed on the valves within the right-of-way, the District is allowed access for maintenance and construction based on the Service Agreement Contracts they hold with each individual customer and El Dorado County. Each property owner/customer will be notified prior to work that may interrupt water service for their respective property. Minor periods of water shut-off will occur during the installation process, which is anticipated to last less than four hours each day during instillation.

Tahoe Regional Planning Agency

The Tahoe Regional Planning Agency (TRPA) enters into agreements with local agencies to streamline the permitting process. These agreements allow local agencies to perform environmental review on projects for conformance with TRPA standards. The agreements are in the form of Memorandum of Understanding (MOU) that are signed by each partner. The District currently has a Memorandum of Understanding with the Tahoe Regional Planning Agency dated 23 March 2012. The District's MOU with TRPA is an MOU for Public Works Providers that allows for repair and maintenance of underground facilities without TRPA's review. This allows for increased efficiency and provides for increased protection of local and natural resources as agreed to in the MOU. The Memorandum of Understanding between Tahoe Regional Planning Agency and South Tahoe Public Utility District can be located here:

http://www.trpa.org/wp-content/uploads/FINAL_Public_Works_MOU.pdf

Attachment A, identifying STPUD on page 5 of 9 can be found here:

http://www.trpa.org/wp-content/uploads/FINAL-Public-Works-MOU-Attachment-A.pdf

The listing of Exempt and Qualified Exempt Activities can be found here:
http://www.trpa.org/wp-content/uploads/FINAL_Public_Works_MOU_Attachment_B.pdf

Lahontan Regional Water Quality Control Board

The District must comply with General Waste Discharge Requirements specified by the Regional Water Quality Control Board and the Water Quality Control Plan for the Lahontan Region (Basin Plan). Board Order R6T-2016-0010 outlines the requirements for project coverage under what is commonly referred to as the Tahoe General Construction Permit. This General Permit regulates discharges of pollutants in storm water associated with construction activity (storm water discharges) to waters of the United States within the Lake Tahoe Hydrologic Unit from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs one or more acres of land surface. However, activities associated with municipal facilities under an approved NPDES Storm Water Management Program for routine maintenance on existing facilities are not required or eligible to be covered under this permit.

US Forest Service

No Project activities will occur on National Forest System lands.

V. USFWS CONSULTATION HISTORY

The District requested consultation with the Reno Office of the US Fish and Wildlife Service (Service) for the Project through IPaC. The Service provided a species list on dated 18 April 2025. (see Appendix B Consultation Code: 2025-0085271). A total of eight species were identified to have the potential to occur within the Action Area: Sierra Nevada red fox (*Vulpes vulpes necator*), North American wolverine (*Gulo gulo luscus*), gray wolf (*Canis lupus*), Sierra Nevada yellow-legged frog (*Rana sierrae*), California spotted owl (*Strix occidentalis occidentalis*), Northwestern pond turtle (*Actinemys marmorata*), Whitebark pine (*Pinus albicaulis),* Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*) and Monarch butterfly (*Danaus plexippus*).

According to the letter: “A Biological Assessment is required for construction projects that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Guidelines for preparing a Biological Assessment can be found at: http://www.fws.gov/midwest/endangered/section7/ba_guide.html.”

This BA has been prepared in response to the above referenced Consultation Code and at the request of the California State Water Resources Control Board.

VI. SPECIES/CRITICAL HABITAT CONSIDERED FOR THE BIOLOGICAL ASSESSMENT

The Biological Assessment (BA) portion of this document has been prepared to document analysis of the potential direct, indirect, and cumulative effects of the proposed project on federally listed threatened, endangered, proposed, and candidate species known or expected to occur within the project area. The USFWS identified the following species for evaluation in this BA; no critical habitat is present:

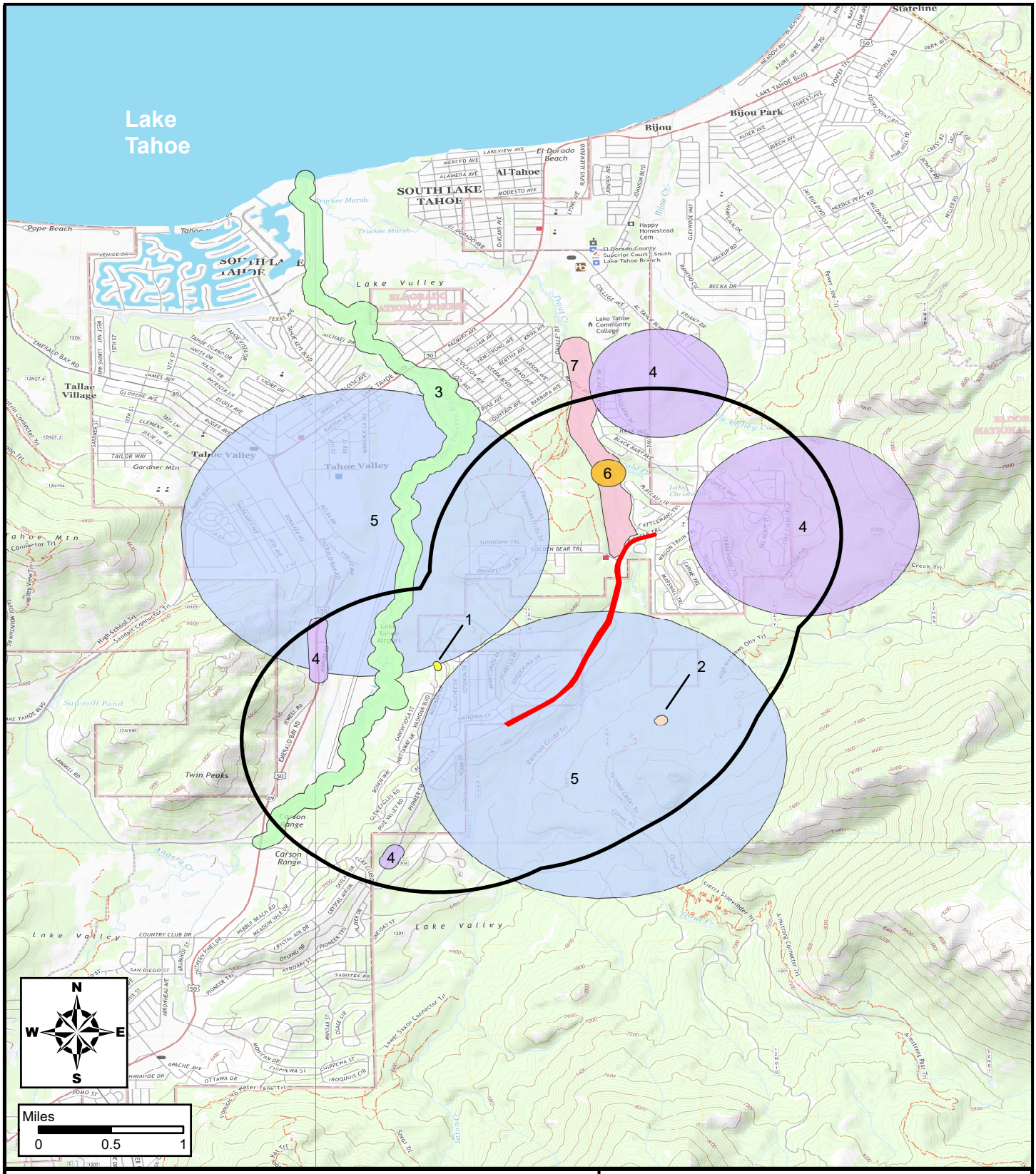
Sierra Nevad red fox (*Vulpes vulpes necator*) – *Endangered*
North American wolverine (*Gulo gulo luscus*) – *Proposed Threatened*
Gray wolf (*Canis lupus*) – *Endangered*
Sierra Nevada yellow-legged frog (*Rana sierrae*) – *Endangered*
California spotted owl (*Strix occidentalis occidentalis*) *– Proposed Threatened*
Northwestern Pond Turtle (*Actinemys marmorata*) *– Proposed Threatened*
Lahontan cutthroat trout (*Oncorynchus clarki henshawi*)- *Threatened*
Monarch butterfly (*Danaus plexippus*) – *Proposed Threatened*

VII. SPECIES/CRITICAL HABITAT CONSIDERED FOR THE BIOLOGICAL EVALUATION

The Biological Evaluation (BE) portion specifically addresses whether the project may result in a loss of viability of State-listed species or cause a sensitive species to trend toward federal listing. The list of CA Endangered, Threatened, Candidate Endangered, Candidate Threatened, Sensitive, Delisted or Rare species is provided by the California Natural Diversity Database (CNDDB) RareFind 5. A CNDDB occurrence report was generated for the 7 7.5 Min. maps region surrounding South Lake Tahoe Quad (Appendix B; accessed April 2025) as well as the CNPS Rare and Endangered Plant Database (April 2025). The occurrence reports identified seven State-listed wildlife species with occurrences in those quadrangles monarch butterfly, *Danaus plexippus*; willow flycatcher, *Empidonax traillii;* Sierra Nevada yellow-legged frog, *Rana sierrae*; bald eagle, *Haliaeetus leucocephalus*; California wolverine, *Gulo gulo;*; Lahontan cutthroat trout, *Oncorhynchus clarkii henshawi*; and bank swallow *Riparia riparia*;(as noted in Table 3 below) and the following (Rare, Threatened or Endangered) plant species Tulare rockcress, *Boechera tularensis;* upswept moonwort, *Botrychium ascendens;* scalloped moonwort, *Botrychium crenulatum;* Mingan moonwort, *Botrychium minganense;* watershield, *Brasenia schreberi;* Davy's sedge, *Carex davyi;* mud sedge, *Carex limosa;* Oregon fireweed, *Epilobium oreganum;* Jack's wild buckwheat, *Eriogonum luteolum var. saltuarium;* American manna grass, *Glyceria grandis;* Blandow's bog moss, *Helodium blandowii;* broad-nerved hump moss, *Meesia uliginosa;* Stebbins' phacelia, *Phacelia stebbinsii;* Whitebark pine, *Pinus albicaulis;* Robbins' pondweed, *Potamogeton robbinsii;* alder buckthorn, *Rhamnus alnifolia;* Tahoe yellow cress, *Rorippa subumbellata;* water bulrush, *Schoenoplectus subterminalis;* marsh

skullcap, *Scutellaria galericulata;* slender-leaved pondweed, *Stuckenia filiformis ssp. Alpine;*golden violet *Viola purpurea ssp. Aurea* (as noted in Table 4 below).

The proposed Project Areas were then imported into GIS and a one-mile radius surrounding the Project Areas delineating the Action Area was searched for recorded occurrences in the BIOS database (CNDDB 2025; accessed April 2025). **Figure 4** represents the locations of the proposed project in relation to known occurrences of sensitive species within 1-mile of the Project Areas.



Legend

- 1-mile Radius of Project
- Project Area
- Mingan moonwort
- North American porcupine
- mountain whitefish
- northern goshawk
- northern leopard frog
- willow flycatcher
- broad-nerved hump moss

Pioneer Waterline Replacement Project

Figure 4
California Natural Diversity Database

SIERRA ECOTONE SOLUTIONS

Sources: STPUD; CNDDB, USGS. Map date: March 2, 2022

Table 3 Wildlife Species						
Scientific Name	**Common Name**	**FESA**	**CESA**	**Habitats**	**General Habitat**	**Suitable Habitat in Project Area?**
Danaus plexippus	monarch butterfly	Proposed Threatened		Lay eggs on milkweed host plants (Asclepias spp).	Inhabits variety of habitats that contain flowering plants for adults to obtain nectar. Larva feed on milkweed plants.	No flowering plants in right of way or road side suitable for this species.
Empidonax traillii	willow flycatcher	None	Endangered	Meadow & seep | Riparian scrub | Riparian woodland | Wetland	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters; 2000-8000 ft elevation.	No meadows, seeps or riparian habitat in project area.
Strix occidentalis occidentalis	California spotted owl	Proposed Threatened		Lower and upper montane coniferous forest | Old growth	Spotted owls in the Sierra Nevada often reside in late seral mixed conifer stands that include very large old trees and multiple canopy layers.	No suitable habitat within project area.
Gulo gulo luscus	North American wolverine	Proposed Threatened	Threatened	Alpine | Alpine dwarf scrub | Meadow & seep | Montane dwarf scrub | North coast coniferous forest | Riparian forest | Subalpine coniferous forest | Upper montane coniferous forest | Wetland	Found in the north coast mountains and the Sierra Nevada. Found in a wide variety of high elevation habitats. Prefers habitats away from human habitation.	No suitable habitat present within project area as project is within developed area and high human habitation.
Vulpes vulpes necator	Sierra Nevada red fox	Endangered		Alpine | Alpine dwarf scrub | Meadow & seep | Montane dwarf scrub | Subalpine coniferous forest | Upper montane coniferous forest	Sierra Nevada red fox sightings have consistently occurred in subalpine habitat from 8,100 to 11,608 feet. Subalpine habitat is characterized by a mosaic of high-elevation meadows, rocky areas, scrub vegetation, and relatively open and patchy conifer forest	No habitat within project area. Elevation of project is below range of species.
Canis lupus	gray wolf	Endangered		Alpine | Alpine dwarf scrub |	General habitat for gray wolves includes a mix of forested, mountainous, and	No suitable habitat present

Table 3 Wildlife Species						
Scientific Name	**Common Name**	**FESA**	**CESA**	**Habitats**	**General Habitat**	**Suitable Habitat in Project Area?**
				Meadow & seep | Montane dwarf scrub | North coast coniferous forest | Riparian forest | Subalpine coniferous forest | Upper montane coniferous forest | Wetland	open landscapes. The key habitat characteristics are: Montane and Coniferous Forests – Found in the Sierra Nevada, Cascades, and Klamath Mountains, these forests provide cover and abundant prey such as deer and elk. Grasslands and Meadows – Open meadows and grasslands in mountainous regions serve as important hunting and foraging areas. Sagebrush-Steppe and Shrublands – Particularly in northeastern California, wolves use these habitats for movement and hunting. Riparian Zones – River valleys and wetland areas offer water sources and travel corridors.	as project area is within areas of high human activity and residential structures together with roadway infrastructure. The closest known occurrence of gray wolves is the Beyem Sayo pack area in southern Plumas County approximately 70 miles to the north of the project area.
Haliaeetus leucocephalus	bald eagle	Delisted	Endangered	Lower montane coniferous forest | Old growth	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water.	Project area may be adjacent to suitable nesting habitat.
Oncorhynchus clarkii henshawi	Lahontan cutthroat trout	Threatened	None	Aquatic | Great Basin flowing waters	Historically in all accessible cold waters of the Lahontan Basin in a wide variety of water temps and conditions.	No SEZ, creeks, rivers or lake areas within project area.
Rana sierrae	Sierra Nevada yellow-legged frog	Endangered	Threatened	Aquatic	Always encountered within a few feet of water. Tadpoles may require 2 - 4 years to complete their aquatic	No suitable habitat within project area as all riparian and SEZ habitats are

Table 3 Wildlife Species						
Scientific Name	**Common Name**	**FESA**	**CESA**	**Habitats**	**General Habitat**	**Suitable Habitat in Project Area?**
					development. (Jennings and Hayes 1994)	outside project area.
Actinemys marmorata	Northwestern pond turtle	Proposed Threatened		Aquatic | Wetland	This aquatic turtle lives in streams, ponds, lakes, and permanent and ephemeral wetlands. Pond turtles spend most of their lives in water, but they also require terrestrial habitats for nesting	No SEZ, creeks, rivers or lake areas within project area.
Riparia riparia	bank swallow	None	Threatened	Riparian scrub | Riparian woodland	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert.	No suitable habitat within project area as all riparian and SEZ habitats are outside project area.

Source: CNDDB 2021, Zeiner et al 1988

Table 4 Plant Species								
Scientific Name	**Common Name**	**CA Rare Plant Rank**	**CESA**	**FESA**	**Blooming Period**	**Habitat**	**Micro Habitat**	**Suitable Habitat in Project Area?**
Boechera tularensis	Tulare rockcress	1B.3	None	None	(May)Jun-Jul(Aug)	Subalpine coniferous forest, Upper montane coniferous forest	Rocky slopes	No rocky slopes in project area.
Botrychium ascendens	upswept moonwort	2B.3	None	None	(Jun)Jul-Aug	Lower montane coniferous forest, Meadows and seeps	mesic	No meadows and seeps in project area.
Botrychium crenulatum	scalloped moonwort	2B.2	None	None	Jun-Sep	Bogs and fens, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps (freshwater), Upper montane coniferous forest		No meadows, seeps, bogs or fens in project area.
Botrychium minganense	Mingan moonwort	2B.2	None	None	Jul-Sep	Bogs and fens, Lower montane coniferous forest, Meadows and seeps (edges), Upper montane coniferous forest	Mesic	No meadows, seeps, bogs or fens in project area.

Table 4 Plant Species								
Scientific Name	**Common Name**	**CA Rare Plant Rank**	**CESA**	**FESA**	**Blooming Period**	**Habitat**	**Micro Habitat**	**Suitable Habitat in Project Area?**
Brasenia schreberi	watershield	2B.3	None	None	Jun-Sep	Marshes and swamps (freshwater)		No marshes and swamps in project area.
Carex davyi	Davy's sedge	1B.3	None	None	May-Aug	Subalpine coniferous forest, Upper montane coniferous forest		No forest in project area. Project area only contains disturbed paved areas.
Carex limosa	mud sedge	2B.2	None	None	Jun-Aug	Bogs and fens, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Upper montane coniferous forest		No meadows, seeps, bogs or fens in project area.
Epilobium oreganum	Oregon fireweed	1B.2	None	None	Jun-Sep	Bogs and fens, Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest	mesic	No meadows, seeps, bogs or fens in project area.
Eriogonum luteolum var. saltuarium	Jack's wild buckwheat	1B.2	None	None	Jul-Sep	Great Basin scrub, Upper montane coniferous forest	sandy, granitic	No forest in project area. Project area only contains disturbed paved areas.
Glyceria grandis	American manna grass	2B.3	None	None	Jun-Aug	Bogs and fens, Meadows and seeps, Marshes and swamps (streambanks and lake margins)		No meadows, seeps, bogs or fens in project area.
Helodium blandowii	Blandow's bog moss	2B.3	None	None		Meadows and seeps, Subalpine coniferous forest	Damp soil	No meadows and seeps within the project area.
Meesia uliginosa	broad-nerved hump moss	2B.2	None	None	Jul, Oct	Bogs and fens, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest	damp soil	No meadows, seeps, bogs or

Table 4 Plant Species								
Scientific Name	**Common Name**	**CA Rare Plant Rank**	**CESA**	**FESA**	**Blooming Period**	**Habitat**	**Micro Habitat**	**Suitable Habitat in Project Area?**
								fens in project area.
Phacelia stebbinsii	Stebbins' phacelia	1B.2	None	None	May-Jul	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps		No meadows, seeps, bogs or fens in project area.
Pinus albicaulis	Whitebark pine	None	None	PT	May-Jun	Subalpine to timberline zones.		No subalpine or timberline habitat is within project area.
Potamogeton robbinsii	Robbins' pondweed	2B.3	None	None	Jul-Aug	Marshes and swamps (deep water, lakes)		No marshes and swamps within the project area.
Rhamnus alnifolia	alder buckthorn	2B.2	None	None	May-Jul	Lower montane coniferous forest, Meadows and seeps, Riparian scrub, Upper montane coniferous forest		No meadows, seeps, marshes or swamps in project area.
Rorippa subumbellata	Tahoe yellow cress	1B.1	CE	None	May-Sep	Lower montane coniferous forest, Meadows and seeps, beaches and lake margin of Lake Tahoe (Stanton 2015)	decomposed granitic beaches	Project area does not include beaches of Lake Tahoe.
Schoenoplectus subterminalis	water bulrush	2B.3	None	None	Jun-Aug(Sep)	Bogs and fens, Marshes and swamps (montane lake margins)		No bogs, fens, marshes, or swamps in the project area.
Scutellaria galericulata	marsh skullcap	2B.2	None	None	Jun-Sep	Lower montane coniferous forest, Meadows and seeps (mesic), Marshes and swamps		No meadows, seeps, marshes or swamps in project area.

Table 4 Plant Species								
Scientific Name	**Common Name**	**CA Rare Plant Rank**	**CESA**	**FESA**	**Blooming Period**	**Habitat**	**Micro Habitat**	**Suitable Habitat in Project Area?**
Stuckenia filiformis ssp. alpina	slender-leaved pondweed	2B.2	None	None	May-Jul	Marshes and swamps (assorted shallow freshwater)		No marshes or swamps in project area.
Viola purpurea ssp. aurea	golden violet	2B.2	None	None	Apr-Jun	Great Basin scrub, Pinyon and juniper woodland	sandy	No great basin scrub, pinyon and juniper woodland in project area.

CE: CA Endangered
PT: Proposed Threatened

Source: CNPS 2022

As noted in Table 3 and Table 4 above, there are a number of wildlife and plant species that have known occurrences within the Action Area but no suitable habitat within the Project Area. The proposed Project Area is within the road right-of-way in the unincorporated area of El Dorado County. The proposed Project Areas contain existing disturbance in the form of road shoulder, road base, existing compacted dirt, gravel, landscaping, pavement, existing facilities or a combination of the above. This heavily human dominated and modified environment present within the project area is not suitable for many of the wildlife and plant species noted above.

VIII. SPECIES ACCOUNTS AND EFFECTS ANALYSIS

A. Federally Listed Species (Biological Assessment)

LAHONTAN CUTTHROAT TROUT

Range, Distribution, and Status*:* The Lahontan cutthroat trout (*Oncorynchus clarki henshawi*)*;* LCT) was listed as an endangered species in 1970. In 1975, under the Endangered Species Act of 1973, the LCT was reclassified as threatened to facilitate management and to allow for regulated angling. In 1995, the U.S. Fish and Wildlife Service (FWS) released its recovery plan for LCT, encompassing six river basins within LCT historic range.

Historically, the Lahontan cutthroat trout was endemic to the physiographic Lahontan basin of northern Nevada, eastern California, and southern Oregon (USDI 1995). In California, the subspecies historically occurred in the streams and lakes of the Lahontan system, on the east side of the Sierra Nevada. The current distribution is a fraction of the historic distribution. Lake Tahoe's population was extinct by 1930. In the summer of 2011, the Nevada Department of Wildlife NDOW planted LCT on Lake Tahoe's Nevada shore where they are presumed to occur in the lake waters and tributary creeks. However, competition and inbreeding with introduced trout species, predation by introduced species, and disease decrease the likelihood that this fish species occupies these streams (NNHP 2019).

Habitat Requirements and Natural History: Lahontan cutthroat trout are obligatory stream spawners and spawn from April to July, with eggs being deposited in one fourth to one half inch gravels within riffles, pocket water, or pool crests (USDI 1995). In the Sierra Nevada, native Lahontan habitat primarily consists of eastern high mountain meadow streams (over 6,000 feet elevation). Optimal habitat for Lahontan cutthroat trout is characterized by: clear cold water and relatively stable summer water temperatures, with an average maximum summer temperature of less than 43 deg F to 72 deg F. and variations of no more than 37 deg F.; one to one pool to riffle ratios and a relatively silt free, rocky substrate in the riffle run area; well vegetated, stable stream banks; approximately 25 percent of the stream area providing cover; and relatively stable water flow regimes, with daily fluctuations less than 50 percent of the average annual daily flow (Hickman and Raleigh 1982).

Potential for Occurrence: Occupied habitat for LCT is present outside the Action Area within the waters of Lake Tahoe, where LCT is presumed to occur. Lake Tahoe is outside of the defined work areas surrounding the Project Area. Trout Creek that runs under the project area does not provide suitable habitat for LCT, due to suitable aquatic organism passage downstream. Furthermore, the Project would be constructed within existing paved public roads and no activities will occur within any drainages or have an effect on waters flowing into Trout Creek due to implementation of BMPs.

Determination: Based on the above assessment, it is my determination there will be **no effect** to Lahontan cutthroat trout from Project activities and no further analysis for this species will be conducted.

SIERRA NEVADA YELLOW-LEGGED FROG

Range, Distribution, and Status*:* The federal listed endangered Sierra Nevada yellow-legged frogs (*Rana sierrae*; SNYLF) historically inhabited ponds, tarns, lakes, and streams from 4,500 to over 12,000 ft. (1370 to over 3650 m) (Stebbins 1985) and was once the most common amphibian in high elevation aquatic ecosystems of the Sierra Nevada (Bradford et. al. 1993). This species is endemic to California and a small area of western Nevada and occurs in two distinct regions – the Sierra Nevada and several mountain ranges of coastal southern California. Large groups of populations in the northern Sierra Nevada and local populations elsewhere have since become extinct and have disappeared from 70-90% of its historic range in the bioregion (Jennings 1994). The Sierra Nevada yellow-legged frog was listed as an Endangered species under the Endangered Species Act on April 29, 2014.

Habitat Requirements and Natural History: The SNYLF is strongly associated with montane riparian habitats in lodgepole pine, yellow pine sugar pine, white fir whitebark pine and wet meadow vegetation types (Zeiner et al. 1988). Typically, SNYLFs prefer well illuminated, sloping banks of meadow streams, riverbanks, isolated pools, and lake borders with vegetation that is continuous to the water's edge. In high elevations, breeding occurs between May and August as soon as the meadows and lakes are free of snow and ice. Sierra Nevada yellow-legged frogs usually lay their eggs in clusters submerged along stream banks or on emergent vegetation. Tadpoles and adults of this species overwinter in deep pools with undercut banks that provide cover. Adults are highly aquatic and are typically associated with near shore areas for reproduction, cover, foraging, and over-wintering. They are most abundant along lake shores and low gradient streams with irregular shores and rocks (Mullaly and Cunningham 1956). It is believed that adult frogs use the deepest sections of lakes for overwintering (Bradford et al. 1993).

Potential for Occurrence: The current distribution of SNYLFs is well documented and does not include the Action Area. The nearest known occurrence is a 1935 collection from the Star Lake area about 6 miles south and east of the Project Areas. Historical occurrences of the species are also known to have occurred in the Desolation Wilderness and Echo Pass. Furthermore, the Project would be constructed within existing paved public roads and no activities will occur within any drainages. Trout Creek that runs under the project area contains suitable habitat for SNYLF but is outside the project work area. Furthermore, the Project would be constructed within existing paved public roads and no activities will occur within any drainages or have an effect on waters flowing into Trout Creek due to implementation of BMPs. There are no known occurrences of SNYLF in the vicinity of the project.

Determination: Based on the above assessment, it is my determination there will be **no effect** to Sierra Nevada yellow-legged frogs or their habitat from Project activities and no further analysis for this species will be conducted.

NORTHWESTERN POND TURTLE

Range, Distribution, and Status: The Northwestern pond turtle (*Actinemys marmorata*) is a Proposed Threatened species under the ESA (listed 3 October 2023).

The western pond turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. Elevation range extends from near sea level to 1430 m (4690 ft) (Jennings and Hayes 1994). Associated with permanent or nearly permanent water in a wide variety of habitat types. (Zeiner et al 1988)

Habitat Requirements and Natural History:

Pond turtles require basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. Turtles slip from basking sites to underwater retreats at the approach of humans or potential predators. Hibernation in colder areas is passed underwater in bottom mud. (Zeiner et al 1988) Individuals normally associate with permanent ponds, lakes, streams, irrigation ditches or permanent pools along intermittent streams. This species is considered omnivorous. Aquatic plant material, including pond lilies, beetles and a variety of aquatic invertebrates as well as fishes, frogs, and even carrion have been reported among their food (Stebbins 1972, Nussbaum et al. 1983).

Potential for Occurrence: There is no potential habitat for Northwestern pond turtle within the project area as work will be performed in the road right-of-way and will not impact any streams, lakes or ponds.

Determination: Based on the above assessment, it is my determination there will be **no effect** to Northwestern pond turtle or their habitat as a result of Project activities and no further analysis will be conducted for this species.

MONARCH BUTTERFLY

Range, Distribution, and Status: The Monarch butterfly (*Danaus plexippus*) is a Candidate species under the ESA (listed 17 December 2020).

The monarch butterfly is a candidate species and not yet listed or proposed for listing. There are no section 7 requirements for candidate species however a discussion has been provided for this species below.

Habitat Requirements and Natural History:

Adult monarch butterflies are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. The black border has a double row of white spots, present on the upper side of the wings. Adult monarchs are sexually dimorphic, with males having narrower wing venation and scent patches. The bright coloring of a monarch serves as a warning to predators that eating them can be toxic. (USFWS 2021)

During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (primarily Asclepias spp.), and larvae emerge after two to five days. Larvae develop through five larval instars (intervals between molts) over a period of 9 to 18 days, feeding on milkweed and sequestering toxic chemicals (cardenolides) as a defense against predators. The larva then pupates into a chrysalis before emerging 6 to 14 days later as an adult butterfly. There are multiple generations of monarchs produced during the breeding season, with most adult butterflies living approximately two to five weeks; overwintering adults enter into reproductive diapause (suspended reproduction) and live six to nine months. (USFWS 2021)

Potential for Occurrence: There is no potential habitat for monarch within the project area as work will be performed in the road right-of-way and will not impact any milkweed or flowering plants.

Determination: Based on the above assessment, it is my determination there will be **no effect** to monarch butterflies or their habitat as a result of Project activities and no further analysis will be conducted for this species.

SIERRA NEVADA RED FOX

Range, Distribution, and Status*:* The Sierra Nevada red fox (Vulpes vulpes necator, SNRF) distinct population segment of the Sierra Nevada is listed as Endangered under the US Endangered Species Act. Sierra SNRF sightings have consistently occurred in subalpine habitat

(Sacks et al. 2015). The majority of the detections in the Sierra of SNRF have occurred in the Sonora Pass area.

Habitat Requirements and Natural History: In the Sonora Pass area used by Sierra SNRF, subalpine habitat is characterized by a mosaic of high-elevation meadows, rocky areas, scrub vegetation, and woodlands (largely mountain hemlock (Tsuga mertensiana), whitebark pine, and lodgepole pine (Pinus contorta)) (Fites-Kaufman et al. 2007, Sacks et al. 2015, Quinn 2017). Snow cover is typically heavy, and the growing season lasts only 7 to 9 weeks (Verner and Purcell 1988, p. 3). Forested areas are typically relatively open and patchy (Verner and Purcell 1988, Lowden 2015), and trees may be stunted and bent (krumholtz) by the wind and low temperatures (Verner and Purcell 1988, p. 3; Sacks et al. 2015, p. 11).

High-elevation forested habitat below the subalpine zone in the Sierras (and in the southern Cascades near Lassen Peak) consists primarily of red fir forests (Abies magnifica), occupying an elevational band across the Sierras from Kern County northwards that runs from about 6,000 to 9,000 ft (Barrett 1988, Perrine 2005, Fites-Kaufman et al. 2007). Sierra red fir forests may also include Jeffrey pine (Pinus jeffreyi) and lodgepole pine (Fites-Kaufman et al. 2007, p. 456).

Potential for Occurrence: There have been no SNRF detections within the LTBMU however, a recent photograph of a cross phase individual near Round Top Peak and Carson pass was recorded in 2021. Genetic analyses of the recovered scat in the area determined the individual was a male that was a migrant from the Great Basin with little SNRF ancestry (USFWS 2021). An additional detection of a red fox was recorded in Washoe Valley, NV in early 2022. It has not been determined if this individual is a SNRF or from the Great Basin. No specific SNRF surveys have been performed in the project area, however mesocarnivore surveys have not detected them to date in the surround areas (personal communication Shay Zanetti LTBMU). The project area is below the elevational range of the SNRF.

Determination: Based on the above assessment, it is my determination there will be **no effect** to Sierra Nevada red fox from Project activities and no further analysis for this species will be conducted.

GRAY WOLF

Range, Distribution, and Status: The gray wolf (*Canis lupus*) is an Endangered species under the ESA. Gray wolves are well established in Idaho, Montana, and Wyoming, with dispersing individuals occasionally seen in surrounding states like Utah and Colorado. Wolves have re-established populations in Washington, Oregon, and northern California, particularly in forested and mountainous areas.

Habitat Requirements and Natural History:

Wolves use many different habitat types from mountain meadow habitat to closed canopy forests (Mladenoff and Sickley 1998, Kovacs et al. 2016). They tend to avoid areas with high densities of high use roads (Whittington et al. 2004) and open agricultural areas (Mladenoff and Sickley

1998), unless their prey are concentrating use in areas of high human use (Whittington et al. 2004). A key need for wolf management in California is research on habitat suitability in California (Kovacs et al. 2016). On a large scale, wolves are very adaptable and can occupy any habitat (Kovacs et al. 2016). Little correlation to vegetation type has been found (Fuller et al. 2003). Therefore, the entire analysis area and action area is considered to be suitable habitat for wolf.

Potential for Occurrence: There is no potential habitat for gray wolf within the project area as work will be performed in the road right-of-way and will not impact any adjacent habitat. The closest known occurrence of gray wolves is the Beyem Sayo pack area in southern Plumas County approximately 70 miles to the north of the project area.

Determination: Based on the above assessment, it is my determination there will be **no effect** to gray wolf or their habitat as a result of Project activities and no further analysis will be conducted for this species.

NORTH AMERICAN WOLVERINE

Range, Distribution, and Status: The North American wolverine (*Gulo gulo luscus*) is a Threatened species under the ESA. A scarce resident of North Coast mountains and Sierra Nevada. Sightings range from Del Norte and Trinity cos. east through Siskiyou and Shasta cos., and south through Tulare Co. A few possible sightings occur in the north coastal region as far south as Lake Co. Habita distribution in California is poorly known for the North Coast and northern Sierra Nevada.

Habitat Requirements and Natural History:

In the northern Sierra Nevada, have
been found in mixed conifer, red fir, and lodgepole habitats, and probably use subalpine conifer, alpine dwarf-shrub, wet meadow, and montane riparian habitats. Elevations in the northern Sierra Nevada mostly fall in the range of 1300-2300 m (4300-7300 ft). Habitats used in the southern Sierra Nevada include red fir, mixed conifer, lodgepole, subalpine conifer, alpine dwarf-shrub, barren, and probably wet meadows, montane chaparral, and Jeffrey pine. Elevations in the southern Sierra Nevada mostly are from 2000-3400 m (6400-10,800 ft).
May travel extensively.

Potential for Occurrence: On February 28, 2008, a detection of a lone male wolverine occurred approximately 14-19 miles northwest of the LTBMU near Truckee, California. This was the first verified record of a wolverine from California since 1922. Agency biologists and researchers used genetic samples (i.e. hair and scat) to determine that the wolverine was most closely related to, and most likely came from, a population on the western edge of the Rocky Mountains rather than either the historic California population (compared to samples taken from museum specimens) or contemporary northern Cascades (Washington) population (Moriarty et al. 2009).

This attempted dispersal event may represent a continuation of the wolverine expansion in the contiguous United States and other wolverines may have travelled to the Sierra Nevada and remain undetected (USFWS 2013). However, there is no evidence that California currently hosts a wolverine population or that female wolverines have made, or are likely to make, similar dispersal movements (USFWS 2013). There are no current occurrences on the LTBMU. There are approximately 50,000 acres of wolverine habitat on the LTBMU (USDA LTBMU 2016a). Because this species is not known to currently occur on the LTBMU or within the Lake Tahoe Basin, consultation and further analysis is not necessary at this time.

Determination: Based on the above assessment, it is my determination there will be **no effect** to North American wolverine or their habitat as a result of Project activities and no further analysis will be conducted for this species.

CALIFORNIA SPOTTED OWL

Range, Distribution, and Status: The California spotted owl (*Strix occidentalis occidentalis*) is a Proposed Threatened species under the ESA (listed 23 Feburary 2023). The range of the California spotted owl is considered to include the southern Cascades, the entire Sierra Nevada province of California, all mountainous regions of the southern California province, and the central Coast Ranges at least as far north as Monterey County (Verner, et al. 1992).

Habitat Requirements and Natural History:

In the Sierra Nevada, the major forest types comprising known and potential habitat include mixed conifer, red fir, ponderosa pine/hardwood, eastside pine, and foothill riparian/hardwood forests (Verner, et al. 1992). Mixed conifer forest is the most abundant forest type and contains most of the known owl sites. Nest stands typically include a mixture of tree sizes with a number of very large, tall, old trees and usually at least two canopy layers. Large snags and an accumulation of downed woody debris are usually present. Foraging habitat is similar in structure and composition, but also comprises more open stands with canopy covers down to 40 percent.

Spotted owls may have more than one nest stand within their home range, and nest stands may be used intermittently for many years. Nesting behavior is initiated in February or early March when pairs begin roosting together and calling to each other more frequently at dusk before foraging or when returning to roost before dawn (Forsman 1976; Forsman et al. 1984). Egg-laying occurs in March or April. The average incubation period is 30 ± 2 days, hatching peaks May 7-21 (Sierra Nevada), and fledging (i.e., defined as young leaving the nest) occurs generally when the nestlings are 34-36 days old (Forsman et al. 1984). The post-fledging dependency period extends through late summer; dispersal from the natal site occurs in September or October (Gutierrez and Carey 1985; Miller 1989).

Potential for Occurrence: There is no potential habitat for California spotted owl within or adjacent to the project area as work will be performed in the road right-of-way and will not impact any late seral forest or suitable habitat.

Determination: Based on the above assessment, it is my determination there will be **no effect** to California spotted owl or their habitat as a result of Project activities and no further analysis will be conducted for this species.

WHITEBARK PINE

Range, Distribution, and Status: Whitebark pine (*Pinus albicaulis*) is a Proposed Threatened species under the ESA.

This 5-needle white pine has broad distribution at high elevation and timberline zones in California, Idaho, Nevada, Oregon, Washington, Wyoming, Alberta, and British Colombia (NatureServe 2013). In California, whitebark pine has been recorded on National Forest System lands in Six Rivers, Klamath, Modoc, Shasta-Trinity, Lassen, Tahoe, Eldorado, Lake Tahoe Basin Management Unit, Stanislaus, Sierra, Inyo, and Sequoia National Forests. While the species has a broad geographic range, precise information regarding the abundance and distribution of stands is limited.

Habitat Requirements and Natural History:

This species occurs on slopes and ridges near timberline, often with cold windswept exposures, resulting in geographically isolated stands (Arno and Hoff 1989). In the Sierra Nevada and Cascade Ranges of California, whitebark pine often occur as pure or nearly pure stands in the subalpine zone, where it regularly defines the upper tree line and often forms krummholz cushions. This species generally occurs on cryochrept soils—cold-climate soils lacking development—that are moderately to poorly draining, nutrient poor and from granitic or basaltic origins (Fryer 2002). Soils on LTBMU are of andesite, granodiorite, tuff breccia and volcanic origins (Maloney et al. 2012).

Potential for Occurrence: There is no potential for whitebark pine to occur within the project area due to the project area being below the elevational range of the species (above 8,000 feet). The species is not known to occur within or adjacent to the project site.

Determination: Based on the above assessment, it is my determination there will be **no effect** to whitebark pine or their habitat as a result of Project activities and no further analysis will be conducted for this species.

B. State Sensitive Species (Biological Evaluation)

BALD EAGLE

Range, Distribution, and Status: The bald eagle (*Haliaeetus leucocephalus*) was a federally threatened species until it was delisted in 2007 and is a California Endangered species. The bald eagle's breeding range in the western U.S. extends along the coast from southern Alaska through the Pacific Northwest to Northern California, with a few small populations in Arizona and Colorado. It is estimated that between 100 to 300 bald eagles winter in the Sierra Nevada and at least 151 to 180 pairs remain year-round to breed. The bald eagle is known to occur on the LTBMU in both the summer and winter. The wintering population of bald eagles in the Lake Tahoe Basin is estimated at four to 42 birds (Tahoe Institute for Natural Science 2021 winter Bald Eagle Survey). A wintering Bald Eagle management area has been established along the southwest shore of Lake Tahoe and includes Taylor Creek, Cascade Lake, and Emerald Bay. The eastern boundary of this wintering area along Taylor Creek is located five miles from the Action Area.

Habitat Requirements and Natural History: Bald eagles generally require large bodies of water such as lakes or rivers which provide abundant forage and adequate room for foraging. The most common prey items for bald eagles include fish, waterfowl, jackrabbits, and various types of carrion (USDI 1986). Habitat in California consists of mid-to-late successional stages of montane riparian and mixed conifer forests with standing dead trees (snags) and canopy cover less than 40% (Jackman and Jenkins 2004). Trees selected for nesting in Caliornia are characteristically one of the largest and tallest in the stand; nest tree heights often exceed 100 feet and average diameter at breast height (DBH) is 43 inches or greater (Jackman and Jenkins 2004). The majority of bald eagle nests are within one mile of water and almost always have an unobstructed view of a waterbody.

Bald eagles are sensitive to human/recreation disturbance. In Washington, bald eagles have been found to be adversely affected by recreation that involves both pedestrian traffic and boat use by adversely affecting feeding activity (Stalmaster and Kaiser 1998). Eagles were displaced in areas of high human activity and moved to areas of lower human activity. Flush distances were lower when the disturbance was on land than in the water and lower still if the eagle couldn't see the cause of the disturbance. Knight and Knight (1984) found that bald eagles became habituated to canoes in areas where they were common.

Potential for Occurrence: Although the Action Area includes the shoreline of Lake Tahoe, it is the most highly urbanized part of the lake. Most of the bald eagles sightings in the Basin have occurred along undeveloped shorelines. Bald eagles have been identified in the Action Area, however no nests are known to occur within the Action Area. The proejct areas lie outside the disturbance zones for this species and project activities will not impact individuals or habiat

suitability. The Project Area does not support suitable foraging habitat or suitable nesting habitat.

Determination: Based on the above assessment, it is my determination there will be **no effect** on bald eagles or their habitat from the Project activities and no further analysis will be conducted for this species.

BANK SWALLOW

Range, Distribution, and Status: The bank swallow (*Riparia riparia*) is a California Threatened species. Bank swallows are neotropical migrants, arriving in California from Central and South America in late March through early May. During their summer breeding season, bank swallows are found throughout most of North America from Canada to Texas. In California, there are approximately 115 breeding colonies, most of which are found along the Sacramento and Feather Rivers (CDFG 1992).

Habitat Requirements and Natural History: In California, bank swallows occur mainly in lowland areas along rivers, lakes, oceans, streams, and reservoirs that have vertical banks or cliffs of fine-textured, sandy soil in which they build nests (CDFG 1992). Each nest site typically consists of a burrow dug into the bank with a grass-lined nest chamber at the end. Burrows serve both as nest sites and roosting shelters and play critical roles in defense against terrestrial predators. Bank swallows almost exclusively eat flying or jumping insects, such as bees, wasps, ants, butterflies, and moths. They forage in open areas and avoid places with tree cover.

Potential for Occurrence: The Project Area lacks suitable habitat for bank swallows to nest or forage.The nearest CNDDB occurrence is a bank swallow siting near the Tahoe Keys from 1962 and 1976. Bank swallows are not known to occur in the Project Area.

Determination: Based on the above assessment, it is my determination there will be **no effect** on bank swallows or their habitat from the Project activities and no further analysis will be conducted for this species.

WILLOW FLYCATCHER

Range, Distribution, and Status*:* Three subspecies of willow flycatcher occur in the Sierra Nevada: *Empidonax traillii brewsteri*, *E. t. adastus*, and *E. t. extimus*. The willow flycatcher (all subspecies) is listed as endangered under the CESA; additionally, *E. t. extimus* (southwestern willow flycatcher) is listed as endangered under the ESA. The willow flycatcher was identified in the notice of intent for the Sierra Nevada Forest Plan Amendment as one of seven aquatic,

riparian, and meadow–dependent vertebrate species to have the highest likelihood of being extirpated from the Sierra Nevada in the near future (USDA 2001, 2004).

Habitat Requirements and Natural History: Willow flycatchers are migratory songbirds that nest in shrubby, wet habitats. In the Sierra Nevada, willow flycatchers tend to prefer willow stands interspersed with open meadow and near standing or running water, often associated with beaver meadows (Sedgwick 2000). Although willow flycatchers have nested in meadows less than one acre in size, most nest in much larger meadows. In a study of 125 meadows in the Sierra Nevada, more than 80 percent of occurrences were in meadows larger than about 20 acres (Harris, Sanders, and Flett 1987, 1988). In a review of occurrence data for the Sierra Nevada, occupied meadows averaging approximately 80 acres (USFS 2001).

Important characteristics of meadows suitable for breeding willow flycatchers are a high water table that results in standing or slow-moving water, or saturated soils (e.g., "swampy" conditions); abundant cover of riparian deciduous shrubs (particularly willow); and riparian shrub structure with moderate to high foliar density that is uniform from the ground to the shrub canopy (Sanders and Flett 1989; Bombay 1999; Green, Bombay, and Morrison 2003). One study in the Sierra Nevada documented that nests are typically located in willows with about 70 percent foliage cover. Nests are also typically found about 3– 4 feet above the ground and within about 7 feet from the edge of the clump (Sanders and Flett 1989).

Riparian habitat along streams can also function as suitable habitat for the willow flycatcher, although this is less common in the Sierra Nevada. Stream channels that are high-gradient, deeply incised, and lacking a floodplain with a sparse or narrow riparian vegetation corridor are not suitable for breeding willow flycatchers.

Potential for Occurrence: Willow flycatchers have been known to nest along the Upper Truckee River at very low densities and with limited reproductive success (CNDDB 2021). The nearest known CNDDB location is an historic occurrence (1910, 1935) from Trout Creek. In Nevada, there is only one documented occurrence of Great Basin willow flycatcher from Edgewood Creek (NNHP 2019). Willow flycatchers have not been identified in the Action Area, and the Project Areas do not contain suitable nesting habitat.

Determination: Based on the above assessment, it is my determination there will be **no effect** on willow flycatchers or their habitat from Project activities and no further analysis will be conducted for this species.

TAHOE YELLOW CRESS

***Range, Distribution and Status*:** Tahoe yellow cress (*Rorippa subumbellata*; TYC) is Endangered in California, Critically Endangered in Nevada, and is a TRPA Sensitive species. It

is a perennial plant in the mustard family (Brassicaceae) that grows low to the ground and has yellow flowers and fleshy leaves. TYC is found only on the shoreline of Lake Tahoe in California and Nevada, and is the only species in the Sierra Nevada that is restricted to a single lake (CDFW 2019). There are 50 known occurrences around Lake Tahoe, some of which have been tracked since 1979 (Stanton *et al.* 2015).

Habitat Requirements and Natural History: TYC is found only on the shoreline of Lake Tahoe below the high waterline of 6,229 feet (CDFW 2019). TYC site occupancy fluctuates with lake water levels, which are related to long-term climate trends and regulation of Tahoe's dam at Tahoe City (Stanton *et al.* 2015). During high lake levels, the number of occupied sites is lower because less beach habitat is available due to the geometry of the filling basin (Stanton *et al.* 2015).

Potential for Occurrence: The shoreline of Lake Tahoe is outside of the defined workzones of the Project Area.

Determination: Based on the above assessment, it is my determination there will be **no effect** on Tahoe yellow cress or their habitat from Project activities and no further analysis will be conducted for this species.

Based on the information provided in Table 3 and Table 4 above the following are the State listed species that have the potential to occur within the Action Area but do not have suitable habitat with the Project Area: Tulare rockcress, *Boechera tularensis;* upswept moonwort, *Botrychium ascendens;* scalloped moonwort, *Botrychium crenulatum;* Mingan moonwort, *Botrychium minganense;* watershield*, Brasenia schreberi;* Davy's sedge, *Carex davyi;* mud sedge, *Carex limosa;* Oregon fireweed*, Epilobium oreganum;* Jack's wild buckwheat, *Eriogonum luteolum var. saltuarium;* American manna grass, *Glyceria grandis;* Blandow's bog moss, *Helodium blandowii;* broad-nerved hump moss, *Meesia uliginosa;* Stebbins' phacelia, *Phacelia stebbinsii;* Robbins' pondweed, *Potamogeton robbinsii;* alder buckthorn, *Rhamnus alnifolia;* Tahoe yellow cress, *Rorippa subumbellata;* water bulrush, *Schoenoplectus subterminalis;* marsh skullcap, *Scutellaria galericulata;* slender-leaved pondweed, *Stuckenia filiformis ssp. Alpine;*golden violet *Viola purpurea ssp. Aurea.* The proposed project will not result in any impacts to these species as none are known to occur within the Project Area, nor will the project impact habitat or individual of these species.
It is my determination there will be **no effect** to the following State listed species as a result of project implementation: Tulare rockcress, *Boechera tularensis;* upswept moonwort, *Botrychium ascendens;* scalloped moonwort, *Botrychium crenulatum;* Mingan moonwort, *Botrychium minganense;* watershield*, Brasenia schreberi;* Davy's sedge, *Carex davyi;* mud sedge, *Carex limosa;* Oregon fireweed*, Epilobium oreganum;* Jack's wild buckwheat, *Eriogonum luteolum var. saltuarium;* American manna grass, *Glyceria grandis;* Blandow's bog moss, *Helodium*

blandowii; broad-nerved hump moss, *Meesia uliginosa;* Stebbins' phacelia, *Phacelia stebbinsii;* Robbins' pondweed, *Potamogeton robbinsii;* alder buckthorn, *Rhamnus alnifolia;* Tahoe yellow cress, *Rorippa subumbellata;* water bulrush, *Schoenoplectus subterminalis;* marsh skullcap, *Scutellaria galericulata;* slender-leaved pondweed, *Stuckenia filiformis ssp. Alpine;*golden violet *Viola purpurea ssp. Aurea.*

XI. LITERATURE CITED

Barrett, R. H. (1988). Effects of forest management on red foxes in the Sierra Nevada. In R. C. Szaro, K. E. Severson, & D. R. Patton (Eds.), Management of amphibians, reptiles, and small mammals in North America (pp. 908–910). USDA Forest Service, General Technical Report RM-166.

Bombay, H. E., T. M. Ritter, and B. E. Valentine. 2003. A Willow Flycatcher Protocol for California. Available: <http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html>. Accessed 18 September 2018.

Bombay, H. L. 1999. Scale Perspectives in Habitat Selection and Reproductive Success for Willow Flycatchers (Empidonax traillii) in the Central Sierra Nevada, California. Master's thesis, California State University, Sacramento. Sacramento, CA.

Bradford, D.F., S.D. Cooper, T.M. Jenkins, Jr., K. Kratz, O. Sarnelle, and A.D. Brown. 1998. Influences of natural acidity and introduced fish on faunal assemblages in California alpine lakes. Can. J. of Fish. Aquat. Sci. 55:2478-2491.

California Native Plant Society. 2021. Inventory of Rare and Endangered Plants. California Native Plant Society, Sacramento, CA. Accessed from http://www.cnps.org/inventory.

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 26 February 2021].

California Natural Diversity Database (CNDDB) 2021. RareFind Version 5. State of California Department of Fish and Wildlife (CDFW).

Cameron, S. A., J. D. Lozier, J. P. Strange, J. B. Koch, N. Cordes, L. F. Solter, and T. L. Griswold. 2011. Patterns of widespread decline in North American bumble bees. Proceedings of the National Academy of Sciences (USA) 108(2): 662-667.

Fites-Kaufman, J., Rundel, P., Stephenson, N., & Weixelman, D. A. (2007). Montane and subalpine vegetation of the Sierra Nevada and Cascade ranges. In M. G. Barbour, T. Keeler-Wolf, & A. Schoenherr (Eds.), Terrestrial Vegetation of California (3rd ed., pp. 456–501). University of California Press.

Forsman, E. D. (1976). A preliminary investigation of the spotted owl in Oregon (Master's thesis). Oregon State University, Corvallis.

Forsman, E. D., Meslow, E. C., & Wight, H. M. (1984). Distribution and biology of the spotted owl in Oregon. Wildlife Monographs, 87, 1–64.

Fuller, T. K., Mech, L. D., & Cochrane, J. F. (2003). Wolf population dynamics. In L. D. Mech & L. Boitani (Eds.), Wolves: Behavior, Ecology, and Conservation (pp. 161–191). University of Chicago Press.

Gutierrez, R. J., & Carey, A. B. (1985). Population ecology of the spotted owl: A summary of current thinking. In R. J. Gutierrez & A. B. Carey (Eds.), Ecology and Management of the Spotted Owl in the Pacific Northwest (pp. 162–171). USDA Forest Service, General Technical Report PNW-GTR-185.

Green, G. A., H. L. Bombay, and M. L. Morrison. 2003. Conservation Assessment of the Willow Flycatcher in the Sierra Nevada. Unpublished report.

Harris, J. H., S. D. Sanders, and M. A. Flett. 1987. Willow Flycatcher Surveys in the Sierra Nevada. Western Birds 18:27–36.

Harris, J. H., S. D. Sanders, and M. A. Flett. 1988. The Status and Distribution of the Willow Flycatcher (Empidonax traillii) in the Sierra Nevada. Wildlife Management Branch Administrative Report 88-1. Sacramento: California Department of Fish and Game.

Hickman T and R.F Raleigh, 1982. Habitat suitability index models: cutthroat trout. USDI Fish and Wildlife Service. FWS/OBS-82/10.5 38 pp.

Henry, M., Beguin, M., Requier, F., Rollin, O., Odoux, J.-F., Aupinel, P. et al. (2012) A common pesticide decreases foraging success and survival in honey bees. Science, 336, 348– 350.

Hopwood J., M. Vaughan, M. Shepherd, E. Mader, and S. H. Black. 2012. Are Neocicotinoids Killing Bees? A review of research into the effects of neonicotinoid insecticides on bees, with recommendation for action. Tech. rep., The Xerces Society. http://www.xerces.org/neonicotinoids-and-bees/.

Jackman, R. E. and J. M. Jenkins, 2004, Protocol for Evaluating Bald Eagle Habitat and Populations in California. USFWS, Endangered Species Division. Sacramento, CA.

Jennings, M.R. and M.P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California: Final Report to California Department of Fish and Game. Rancho Cordova, CA.

Knight, R., & Skagen, S. (1988). Agonistic Asymmetries and the Foraging Ecology of Bald Eagles. Ecology, 69(4), 1188-1194. doi:10.2307/1941273

Koch, J. B., and J. Strange. 2012. The status of *Bombus occidentalis* and *B. moderatus* in Alaska with special focus on Nosema bombi incidence. Northwest Science 86(3):212-220.

Kovacs, K. E., Gude, P. H., & Cheng, A. S. (2016). *Mapping human modification of the terrestrial environment in California*. U.S. Geological Survey Open-File Report 2016-1045.

Lowden, C. (2015). *Sierra Nevada red fox update*. U.S. Forest Service, Pacific Southwest Research Station.

Miller, G. S. (1989). *Dispersal of juvenile spotted owls in western Oregon* (Master's thesis). Oregon State University, Corvallis.

Mladenoff, D. J., & Sickley, T. A. (1998). Assessing potential gray wolf restoration in the northeastern United States: A spatial prediction of favorable habitat and potential population levels. *Journal of Wildlife Management*, **62**(1), 1–10.

Moriarty, K. M., Vernes, K., & Zielinski, W. J. (2009). Temporal separation of a rare carnivore from human recreational activity. *Journal of Wildlife Management*, **73**(3), 395–401.

Mullaly, D.P., and J.D. Cunningham. 1956. Ecological relations of *Rana muscosa* at high elevations in the Sierra Nevada. Herpetologica 12:189-198.

Nevada Natural Heritage Program. 2022. Species information for the Lahontan cutthroat trout available at: http://heritage.nv.gov/taxon_detail/15710

Nussbaum, R. A., Brodie, E. D. Jr., & Storm, R. M. (1983). Amphibians and reptiles of the Pacific Northwest. University of Idaho Press.

Perrine, J. D. (2005). Ecology of red fox (Vulpes vulpes) in the Lassen Peak Region of the Cascade Range in California (Doctoral dissertation). University of California, Berkeley.

Quinn, N. W. S. (2017). Habitat associations and distribution of Sierra Nevada red fox in the southern Cascade Range of California (Doctoral dissertation). University of California, Davis.

Sacks, B. N., Statham, M. J., & Perrine, J. D. (2015). Foxes in the red: Genetic analysis reveals two distinct red fox populations in California. Conservation Genetics, 16(3), 675–688.

Sanders, S. D., and M. A. Flett. 1989. Ecology of a Sierra Nevada Population of Willow Flycatchers (Epidonax trailii) 1986–1987. Wildlife Management Branch Administrative Report 88-3. Sacramento: California Department of Fish and Game.

Stalmaster, M., & Kaiser, J. (1998). Effects of Recreational Activity on Wintering Bald Eagles. Wildlife Monographs, (137), 3-46.

Stanton, A.E. and the Tahoe yellow cress Adaptive Management Working Group and Executive Committee. 2015. Conservation strategy for Tahoe yellow cress (*Rorippa subumbellata*). USDA Forest Service Pacific Southwest Research Station, Albany, California. 130 pp. + appendices.

Stebbins, R.C. 1985. A Field Guide to Western Reptiles and Amphibians. Second Edition, revised. Houghton Mifflin Company, Boston, Mass.

Thorp, R. W., and M. D. Shepherd. 2005. Profile: Subgenus Bombus. In Shepherd, M. D., D. M. Vaughan, and S. H. Black (Eds). Red List of Pollinator Insects of North America. CD-ROM Version 1 (May 2005). Portland, OR: The Xerces Society for Invertebrate Conservation.

USDI Fish and Wildlife Service. 1973. Endangered Species Act, 16 U.S.C. 1531-1544.

USDI Fish and Wildlife Service. 1986. Recovery Plan for the Pacific Bald Eagle. U.S. Fish and Wildlife Service, Portland, Oregon. 160 pp (Page 18).

U.S. Fish and Wildlife Service (USFWS). (2013). Endangered and threatened wildlife and plants; threatened status for the distinct population segment of the North American wolverine occurring in the contiguous United States. Federal Register, 78(23), 7864–7890.

U.S. Fish and Wildlife Service (USFWS). (2021). Species status assessment for the Sierra Nevada red fox (Vulpes vulpes necator). U.S. Department of the Interior.

U.S. Department of Agriculture (USDA) Lake Tahoe Basin Management Unit (LTBMU). (2016a). Biological assessment for forest plan amendment—LTBMU.

Verner, J., & Purcell, K. L. (1988). Subalpine forests of the Sierra Nevada. USDA Forest Service, General Technical Report PSW-106.

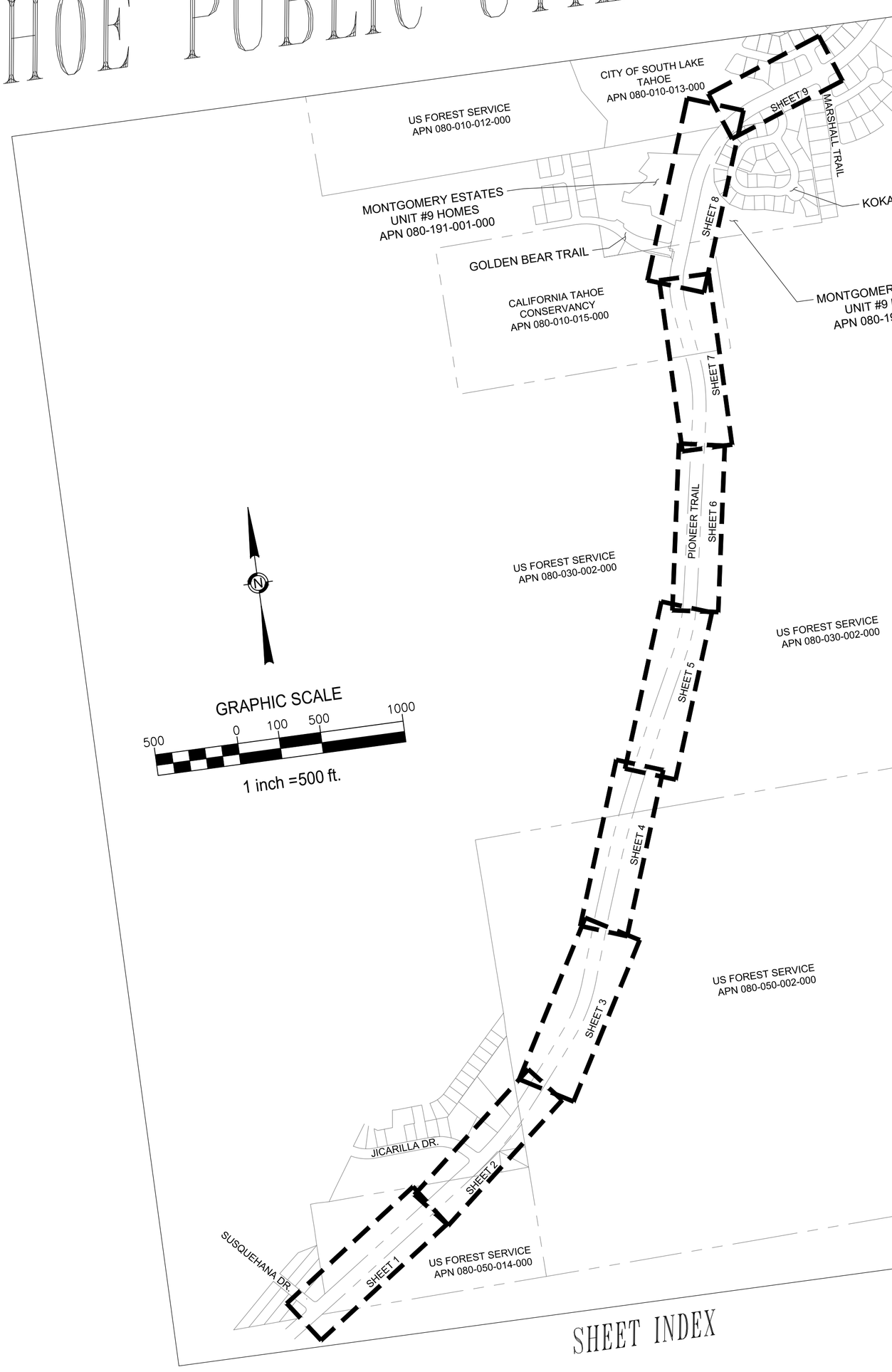
Verner, J., McKelvey, K. S., Noon, B. R., Gutiérrez, R. J., Gould, G. I., & Beck, T. W. (1992). The California spotted owl: A technical assessment of its current status. USDA Forest Service, General Technical Report PSW-GTR-133.

Whittington, J., St. Clair, C. C., & Mercer, G. (2004). Path tortuosity and the permeability of roads and trails to wolf movement. Ecology and Society, 9(1), 4.

Zeiner, D. C., Laudenslayer, W. F. Jr., Mayer, K. E., & White, M. (1988). California's wildlife. Volume I: Amphibians and reptiles. California Statewide Wildlife Habitat Relationships System. California Department of Fish and Game.

Appendix A – Preliminary Design Plan Details

PIONEER TRAIL WATERLINE IMPROVEMEN
SOUTH TAHOE PUBLIC UTILITY DIS



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ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
APPX	APPROXIMATELY
AVE	AVENUE
C&G	CURB AND GUTTER
CF	CUBIC FEET
CL	CENTERLINE
CPLG	COUPLING
CPS	COPPER PIPE SIZE
CSLT	CITY OF SOUTH LAKE TAHOE
DI	DRAINAGE INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DW	DRIVE WAY
E	EXISTING
EA	EACH
ELEC	ELECTRIC
ELEV	ELEVATION
ELL	ELBOW
EOP	EDGE OF PAVEMENT
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FLG	FLANGE
FM	FORCE MAIN
G	GAS
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BREAK
GPM	GALLONS PER MINUTE
GS	GAS SERVICE, GROUND SHOT
H	HEIGHT
HORZ , HO	HORIZONTAL, HORIZONTAL OFFSET
HWY	HIGHWAY
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
INV	INVERT
IPS	IRON PIPE SIZE
JT	JOINT
L	LENGTH
LF	LINEAR FEET
LN	LANE
LOC	LOCATION
LT	LEFT
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MJ	MECHANICAL JOINT
MIN	MINIMUM
N	NORTH/NEW
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
PCC	PORTLAND CEMENT CONCRETE
PE, POLY	POLYETHYLENE
PL	PROPERTY LINE
PP	POWER POLE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PTW	PIPE TRACER WIRE
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
REF	REFERENCE
REQ'D	REQUIRED
REVEG	REVEGETATION
RJ	RESTRAINED JOINT
RT	RIGHT
ROW	RIGHT-OF-WAY
SCH	SCHEDULE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SQ FT	SQUARE FOOT
SHT	SHEET
SPEC	SPECIFICATIONS
SQ	SQUARE
SS	SANITARY SEWER, STAINLESS STEEL
SSL	SANITARY SEWER LATERAL
SSMH	SANITARY SEWER MANHOLE
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STPUD DISTRICT	SOUTH TAHOE PUBLIC UTILITY
STR	STRUCTURE
TEL	TELEPHONE
TAN	TANGENT
TBC	TOP BACK CURB
TBD	TO BE DETERMINED
TEMP	TEMPORARY
TG	TOP OF GRATE
TR	TOP OF RIM
TRPA	TAHOE REGIONAL PLANNING AGENCY
TYP	TYPICAL
UG	UNDERGROUND
USFS	U.S. FOREST SERVICE
UTIL	UTILITY
V, VO	VERTICAL, VERTICAL OFFSET
VAR	VARIES
W	WATER
W/	WITH
WM	WATER METER
WS	WATER SERVICE
WV	WATER VALVE
YD	YARD

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LEGEND

EXISTING:

EDGE OF PAVEMENT: —— EOP —— EOP ——
SEWER FORCE MAIN: —— 16" STEEL FM ——
SEWER: —— SS —— SS ——
WATER: —— W —— W ——
GAS: —— GAS —— GAS ——
OVERHEAD UTILITY: —— OHU —— OHU ——
TELEPHONE: —— TEL —— TEL ——
CABLE TV —— CATV —— CATV ——
STORM DRAIN: —— SD —— SD ——
PROPERTY LINE: — - - — - - — - - —
RIGHT-OF-WAY: —— R/W —— R/W ——
WATER & GAS VALVE:
WATER METER PIT:
FIRE HYDRANT:
MANHOLE:
UTILITY VAULT:
DROP INLET:
SIGN:
LIGHT:
TREE:

PROPOSED:

WATER MAIN LINE:
SVC & FH LINES:
90° ELBOW:
45° ELBOW:
TEE:
CROSS:
REDUCER:
WATER VALVE:
FIRE HYDRANT:
THRUST BLOCK:
BLOW OFF:
FLEX COUPLING:
WATER SERVICE & METER PIT:
DOUBLE WATER SERVICE & 2 METER PITS:

GENERAL NOTES

1) CONTRACTOR SHALL HAVE SIGNED PLANS, SPECIFICATION AND PERMITS IN THEIR POSSESSION PRIOR TO COMMENCEMENT OF WORK.

2) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANI LOCAL AGENCIES AND/OR UTILITY DISTRICTS AS TO THE LOCATION OF ALL UNDER FACILITIES. LOCATION AND DEPTH OF EXISTING UTILITIES WHERE SHOWN ON PLANS BASED ON BEST AVAILABLE INFORMATION. NO GUARANTEE IS MADE AS TO THE AC OF THIS INFORMATION OR THAT ALL UTILITIES ARE SHOWN. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE, PROTECT, AND MAINTAIN ALL EXISTING UTILITIES. THE CONTRACTOR OR ANY SUBCONTRACTOR FOR THIS CONTRACTOR SHA NOTIFY MEMBERS OF UNDERGROUND SERVICE ALERT 48 HOURS IN ADVANCE OF PERFORMING EXCAVATION WORK BY CALLING UNDERGROUND SERVICE ALERT 811. EXCAVATION IS DEFINED AS BEING 18 OR MORE INCHES OF DEPTH BELOW THE E SURFACE.

3) THE CONTRACTOR SHALL POTHOLE ALL UTILITY AND STORM DRAIN CROSSINGS ALO PIPELINE ALIGNMENT IN ADVANCE OF INSTALLATION. THE CONTRACTOR SHALL REPO RESULTS OF THE POTHOLE IN WRITING TO THE ENGINEER 48 HOURS (NOT TO IN WEEKENDS OR HOLIDAYS) PRIOR TO UNDERTAKING ANY CORRECTIVE ACTION BY TH CONTRACTOR REGARDING FACILITY LOCATION OR ALIGNMENT, THE CONTRACTOR SH NOTIFY THE ENGINEER. SHOULD ANY CORRECTIVE WORK BE DONE PRIOR TO NOTIFICATION, THE DISTRICT ASSUMES NO LIABILITY FOR THE COSTS INCURRED FO WORK.

4) CONTRACTOR TO BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING MONU AND ANY OTHER SURVEY MARKERS DURING CONSTRUCTION. ALL SUCH MONUMENT MARKERS DISTURBED OR DESTROYED DURING CONSTRUCTION SHALL BE REPLACED CALIFORNIA LICENSED SURVEYOR AT CONTRACTOR'S EXPENSE.

5) THE CONTRACTOR SHALL APPLY EITHER WATER OR DUST PALLIATIVE OR BOTH, AS REQUIRED AT THE OPTION OF THE OWNER OR HIS REPRESENTATIVE, FOR THE ALLEVIATION OR PREVENTION OF DUST NUISANCE.

6) THE CONTRACTOR SHALL COMPLY WITH THE TAHOE REGIONAL PLANNING AGENCY STANDARD CONDITIONS OF APPROVAL. A PRE-GRADE INSPECTION SHALL BE COMP PRIOR TO ANY SAWCUTTING OR EXCAVATION ACTIVIT

7) THE CONTRACTOR SHALL COMPLY WITH THE STATE WATER QUALITY CONTROL BOAR WASTE DISCHARGE REQUIREMENTS FOR THIS PROJECT AND THE CITY OF SOUTH L TAHOE'S ENCROACHMENT PERMIT.

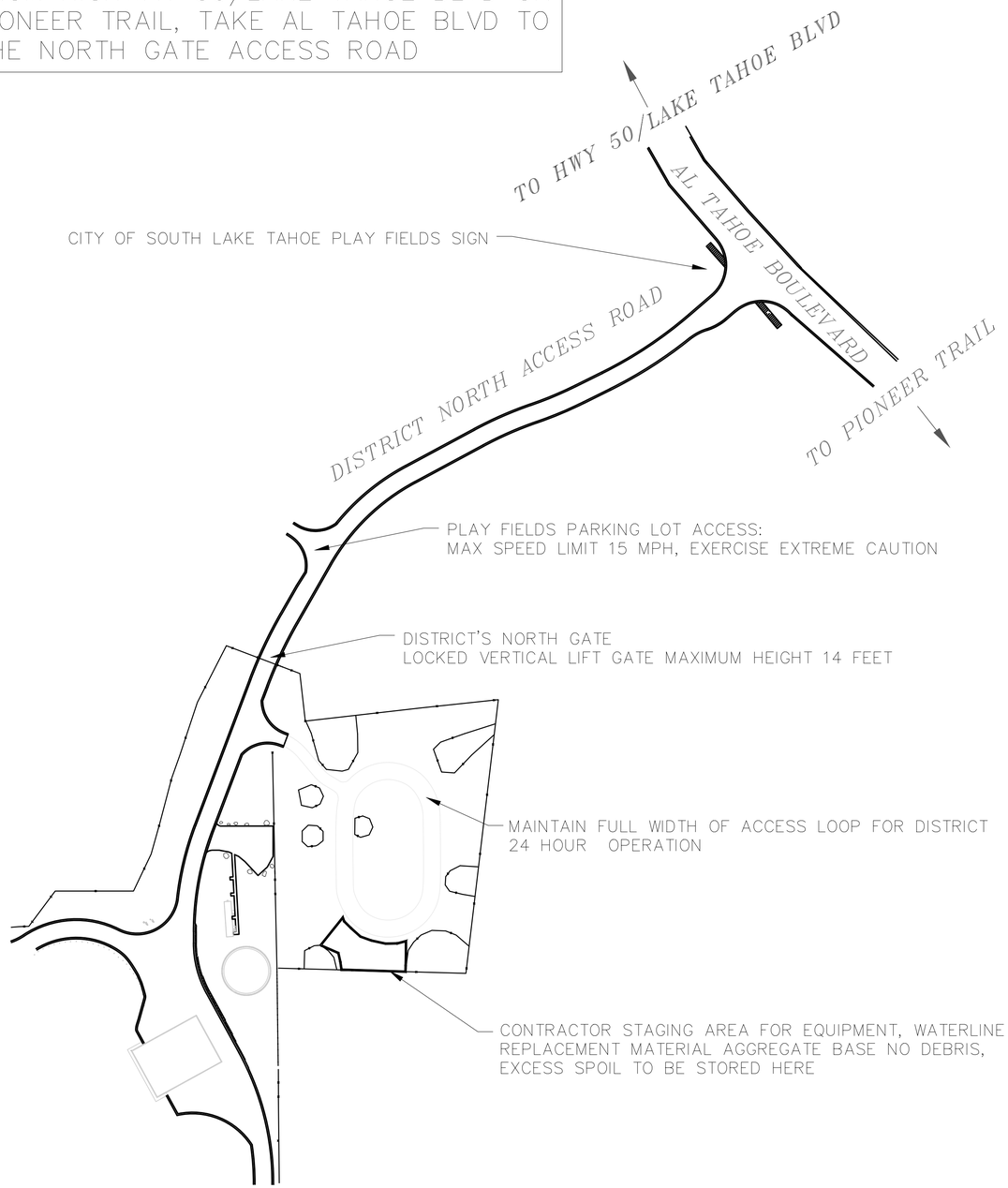
8) ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE REVEGETATED BY TH CONTRACTOR IN ACCORDANCE WITH THE TAHOE REGIONAL PLANNING AGENCY HAND OF BEST MANAGEMENT PRACTICES. APPLICATION OF A MULCH MAY ENHANCE VEGE ESTABLISHMENT. NO EQUIPMENT OR VEHICLES SHALL BE PLACED OUTSIDE THE ST CITY, OR COUNTY RIGHT OF WAY. ANY DISTURBANCE OF PRIVATE PROPERTY SHAL RESTORED BY THE CONTRACTOR AT THEIR EXPENSE.

9) ALL EXCESS MATERIAL FROM THE PROJECT IS TO BE REMOVED FROM THE SITE A DISPOSED OF AT A SITE APPROVED BY THE TAHOE REGIONAL PLANNING AGENCY. EXCESS MATERIAL SHALL BE STORED ON SITE AFTER HOURS.

10) ALL INTERTIES BETWEEN NEW WATER MAINS AND THE EXISTING WATER SYSTEM, IN NEW WATER SERVICE CONNECTIONS, AND FIRE HYDRANT INSTALLATIONS AND TRANSFERS, SHALL ONLY BE MADE AFTER ALL PRESSURE TESTING AND DISINFECT REQUIREMENTS ARE SATISFACTORILY MET. THE CONTRACTOR SHALL BE RESPONSIB PROVIDING BLOW OFFS NECESSARY FOR FLUSHING AND SAMPLING OF ALL NEW MAINS AS REQUIRED BY THE CALIFORNIA STATE WATER RESOURCES CONTROL BOA PROJECT SPECIFICATIONS.

11) WHERE NEW WATER MAINS ARE BEING INSTALLED IN PAVED SECTIONS THE MAXIMU WIDTH FOR ASPHALT REPLACEMENT THE CONTRACTOR SHALL BE COMPENSATED FO THE MAXIMUM CLEAR TRENCH WIDTH FOR THE PIPELINE SIZE BEING INSTALLED P TWELVE INCHES (12") IN COUNTY OF EL DORADO RIGHT OF WAY, TWENTY FOUR (24") IN CITY OF SOUTH LAKE TAHOE RIGHT OF WAY, AS PROVIDED IN THE CONT SPECIFICATIONS. THE CONTRACTOR SHALL REPLACE ALL TRAFFIC STRIPING THAT IS DISTURBED DURING CONSTRUCTION.

DIRECTIONS:
FROM HIGHWAY 50/LAKE TAHOE BLVD OR PIONEER TRAIL, TAKE AL TAHOE BLVD TO THE NORTH GATE ACCESS ROAD



NOTE:

1) CONTRACTOR SHALL PROVIDE TEMPORARY SANITARY CONVENIENCES AT ALL STAGING AREAS PER STPUD SPECS

BMP GENERAL NOTES:

1) ON-SITE WORK SHALL BE PERFORMED FROM 8 AM TO 6 PM, MONDAY THROUGH FRIDAY. WORK OUTSIDE THESE HOURS MUST BE APPROVED BY THE DISTRICT A MINIMUM OF 48-HOURS BEFORE THE ABNORMAL WORKING HOURS ARE SCHEDULED TO BEGIN.

2) NOISE SHALL BE REDUCED BY MANDATORY USE OF MUFFLERS ON ALL CONSTRUCTION VEHICLES AND EQUIPMENT. WHERE FEASIBLE, SOLENOID PAVEMENT BREAKERS WILL BE USED IN LIEU OF AIR POWERED JACK HAMMERS.

3) NOISE GENERATING ACTIVITIES WILL BE LIMITED TO THE HOURS OF 8:00 AM TO 6:00 PM.

4) THE CONTRACTOR SHALL PROVIDE A WATER TRUCK TO WATER AREAS AS NECESSARY TO CONTROL DUST.

5) CONTRACTOR SHALL PROVIDE A VACUUM SWEEPER TRUCK FOR CLEANING OF THE SITE DURING AND AFTER CONSTRUCTION EACH DAY AS REQUIRED TO PREVENT SEDIMENT RUN OFF AND TO AID IN DUST CONTROL.

6) CONTRACTOR SHALL PROVIDE CRUSHED ROCK IN AREAS OF TEMPORARY CONSTRUCTION ACCESS TO MINIMIZE MIGRATION OF SEDIMENT.

7) ALL DISTURBED AREAS SHALL BE RESTORED TO MATCH PRE-EXISTING CONDITIONS. UNIMPROVED AREAS AND AREAS NOT LANDSCAPED SHALL BE REVEGETATED WITH NATIVE SPECIES PER TRPA BEST MANAGEMENT PRACTICES (BMP). EXISTING VEGETATION REMOVED DURING CONSTRUCTION SHALL BE CHIPPED AND MULCHED ON SITE AND STORED FOR USE DURING REVEGETATION.

8) ALL TREES IN JEOPARDY OF DAMAGE BY CONSTRUCTION ACTIVITIES AS DETERMINED BY THE DISTRICT SHALL BE PROTECTED PER DETAIL 6 ON PAGE D4.

9) SOIL AND CONSTRUCTION MATERIAL SHALL NOT BE TRACKED OFF THE CONSTRUCTION SITE. GRADING OPERATIONS SHALL CEASE IN THE EVENT THAT DANGER OF VIOLATING THIS CONDITION EXISTS.

10) DURING CONSTRUCTION, ENVIRONMENTAL PROTECTION DEVICES, SUCH AS EROSION CONTROL, DUST CONTROL AND VEGETATION PROTECTION DEVICES SHALL BE MAINTAINED AT ALL TIMES.

11) LOOSE SOIL MOUNDS OR SURFACES SHALL BE PROTECTED FROM WIND OR WATER EROSION BY BEING APPROPRIATELY COVERED AT THE END OF EACH WORK DAY OR WHEN REQUIRED BY TRPA.

12) EXCAVATED MATERIAL SHALL BE STORED UPGRADE FROM THE EXCAVATED AREA WHENEVER POSSIBLE. NO MATERIAL SHALL BE STORED IN ANY STREAM ENVIRONMENT ZONE (SEZ) OR WET AREA.

13) ONLY EQUIPMENT OF A SIZE AND TYPE THAT WILL DO THE LEAST AMOUNT OF DAMAGE, UNDER PREVAILING SITE CONDITIONS AND CONSIDERING THE NATURE OF THE WORK TO BE PERFORMED, WILL BE USED.

14) NO WASHING OF VEHICLES OR HEAVY EQUIPMENT, INCLUDING CEMENT MIXERS, SHALL BE PERMITTED ANYWHERE ON THE SUBJECT PROPERTY UNLESS AUTHORIZED BY TRPA IN WRITING.

PRELIMINARY - NOT FOR CONSTRUCTION

SOUTH TAHOE PUBLIC UTILITY DISTRICT
Sewer . 1950 . Water A PUBLIC AGENCY
1275 Meadow Crest Drive South Lake Tahoe, California 96150
Phone (530) 544-6474 Fax (530) 541-4319
WWW.STPUD.US

PIONEER TRAIL WATERLINE IMPROVEMENTS PROJECT
STAGING AREA

DATE: 10-11-2021
SCALE: AS SHOWN
DRAWN: AZ
DESIGN: AC/AZ
AS BUILT:

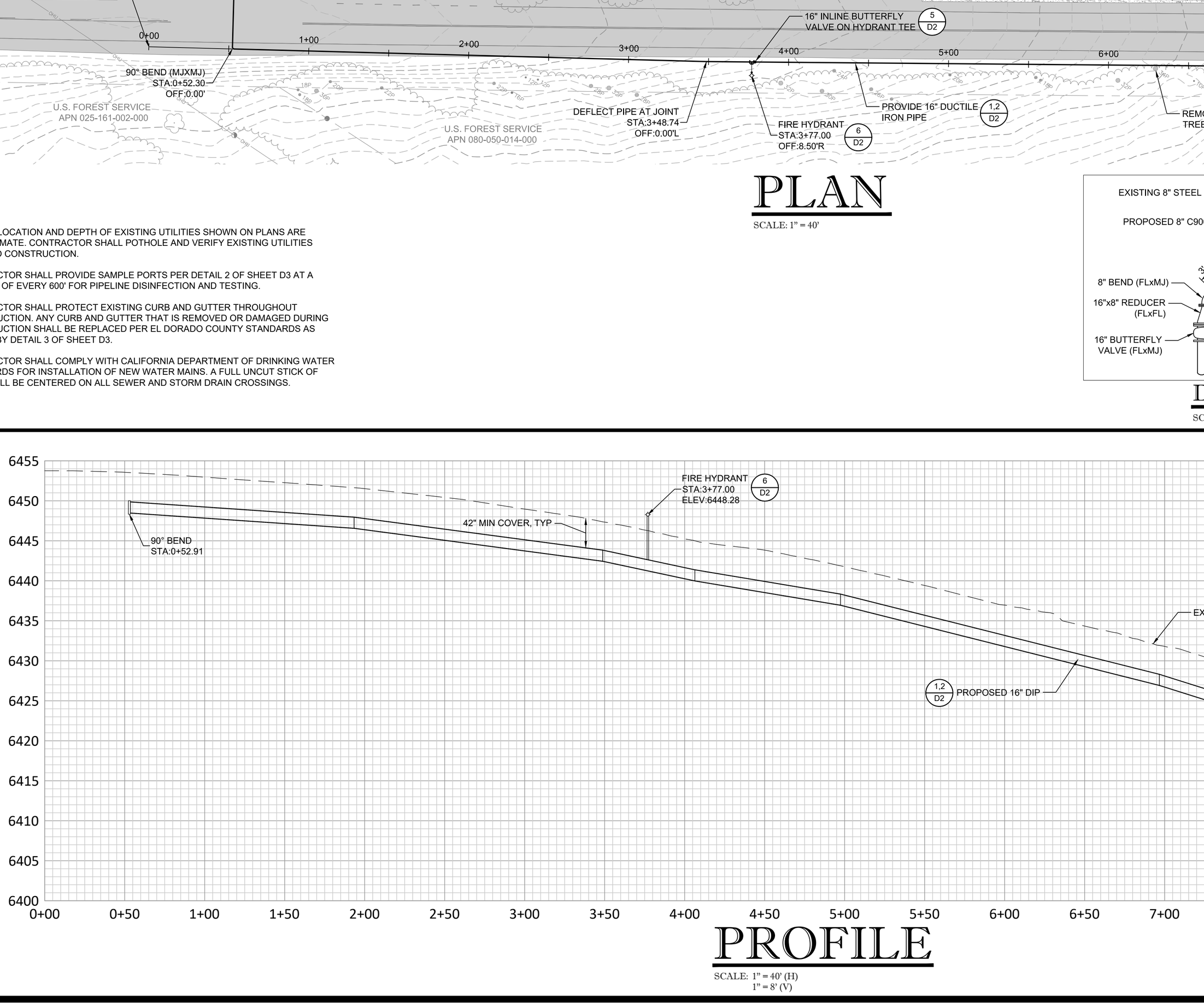
G3
3 OF 22 SHEETS

PLAN

SCALE: 1" = 40'

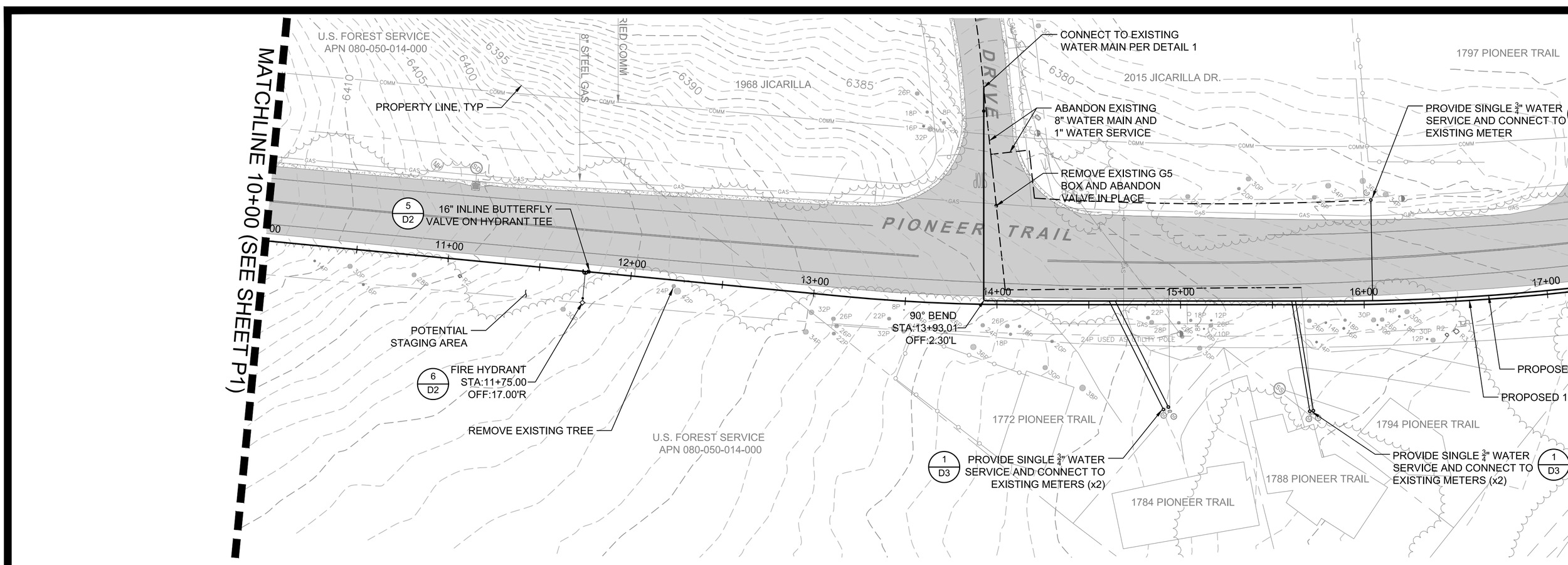
NOTES:

1. ACTUAL LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATE. CONTRACTOR SHALL POTHOLE AND VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL PROVIDE SAMPLE PORTS PER DETAIL 2 OF SHEET D3 AT A MINIMUM OF EVERY 600' FOR PIPELINE DISINFECTION AND TESTING.
3. CONTRACTOR SHALL PROTECT EXISTING CURB AND GUTTER THROUGHOUT CONSTRUCTION. ANY CURB AND GUTTER THAT IS REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED PER EL DORADO COUNTY STANDARDS AS SHOWN BY DETAIL 3 OF SHEET D3.
4. CONTRACTOR SHALL COMPLY WITH CALIFORNIA DEPARTMENT OF DRINKING WATER STANDARDS FOR INSTALLATION OF NEW WATER MAINS. A FULL UNCUT STICK OF PIPE SHALL BE CENTERED ON ALL SEWER AND STORM DRAIN CROSSINGS.



PROFILE

SCALE: 1" = 40' (H)
1" = 8' (V)



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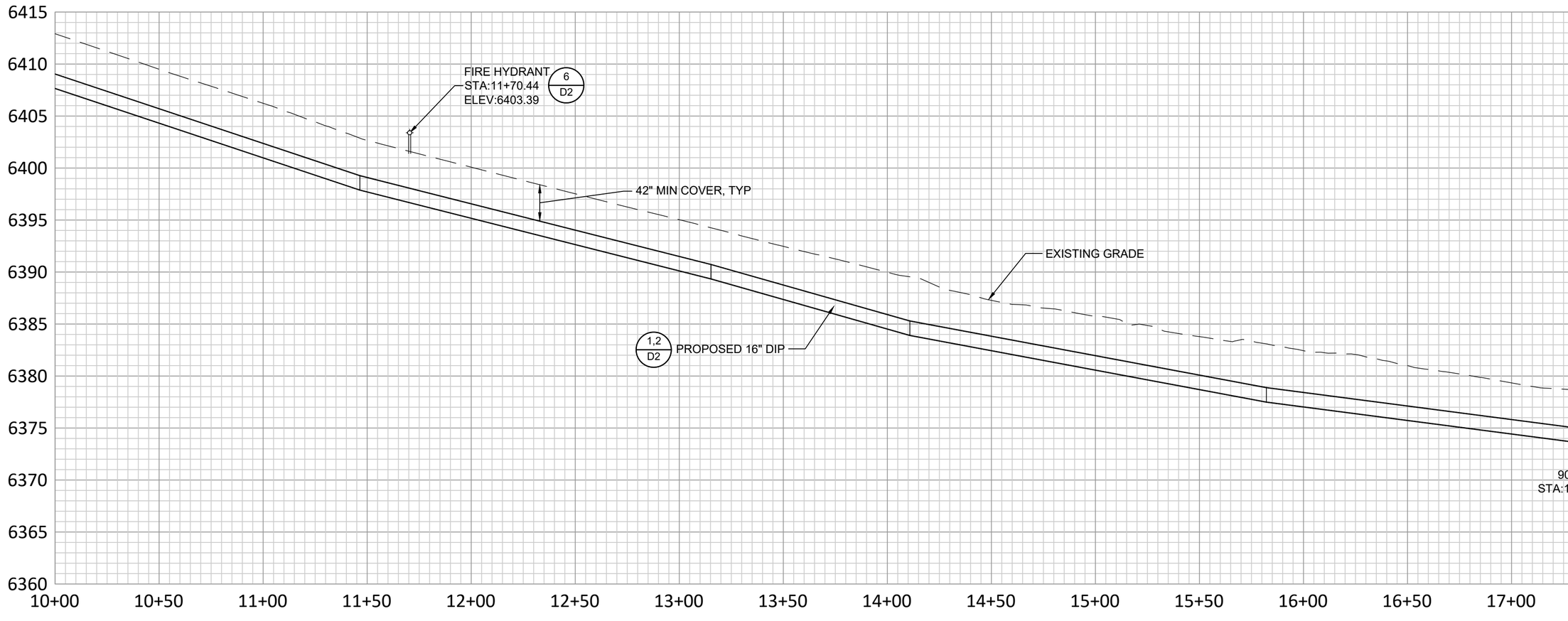
PLAN

SCALE: 1" = 40'

PROFILE PT Waterline 10+00 to 20+00



PROFILE

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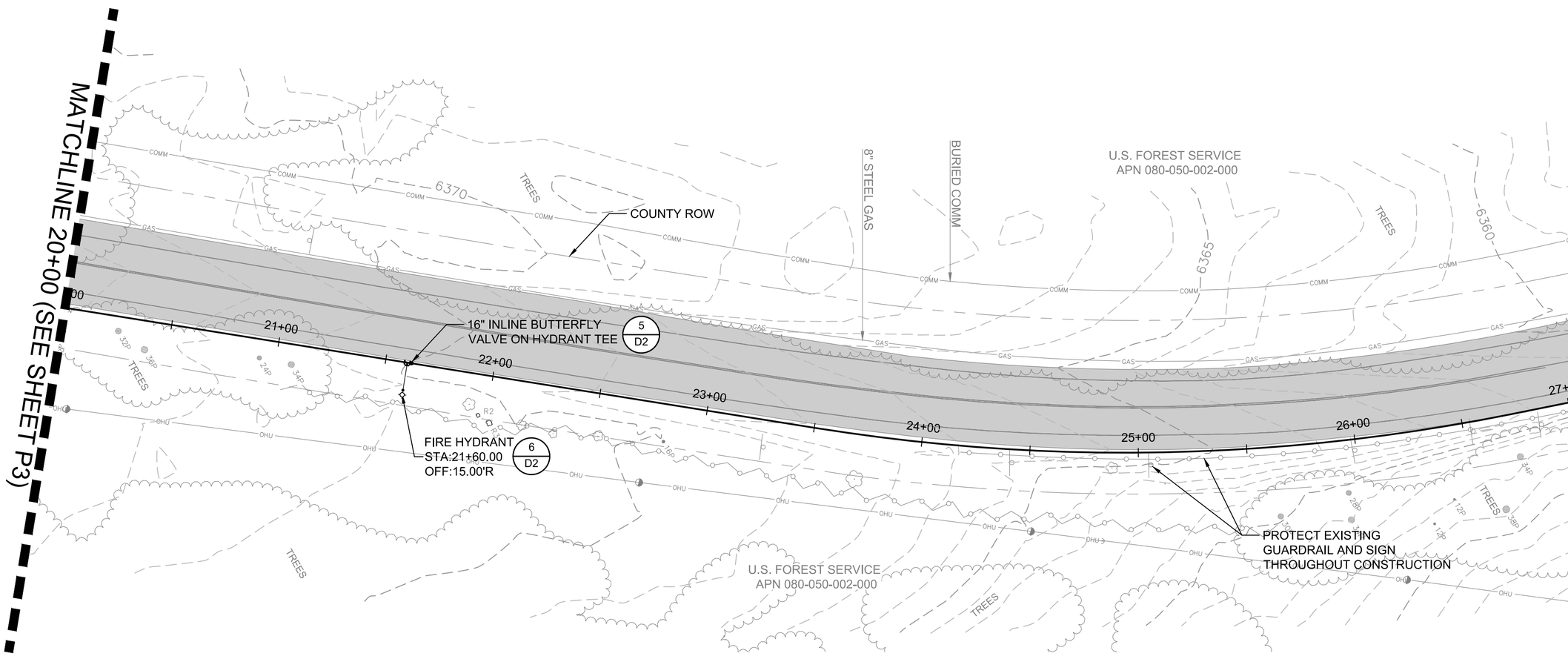

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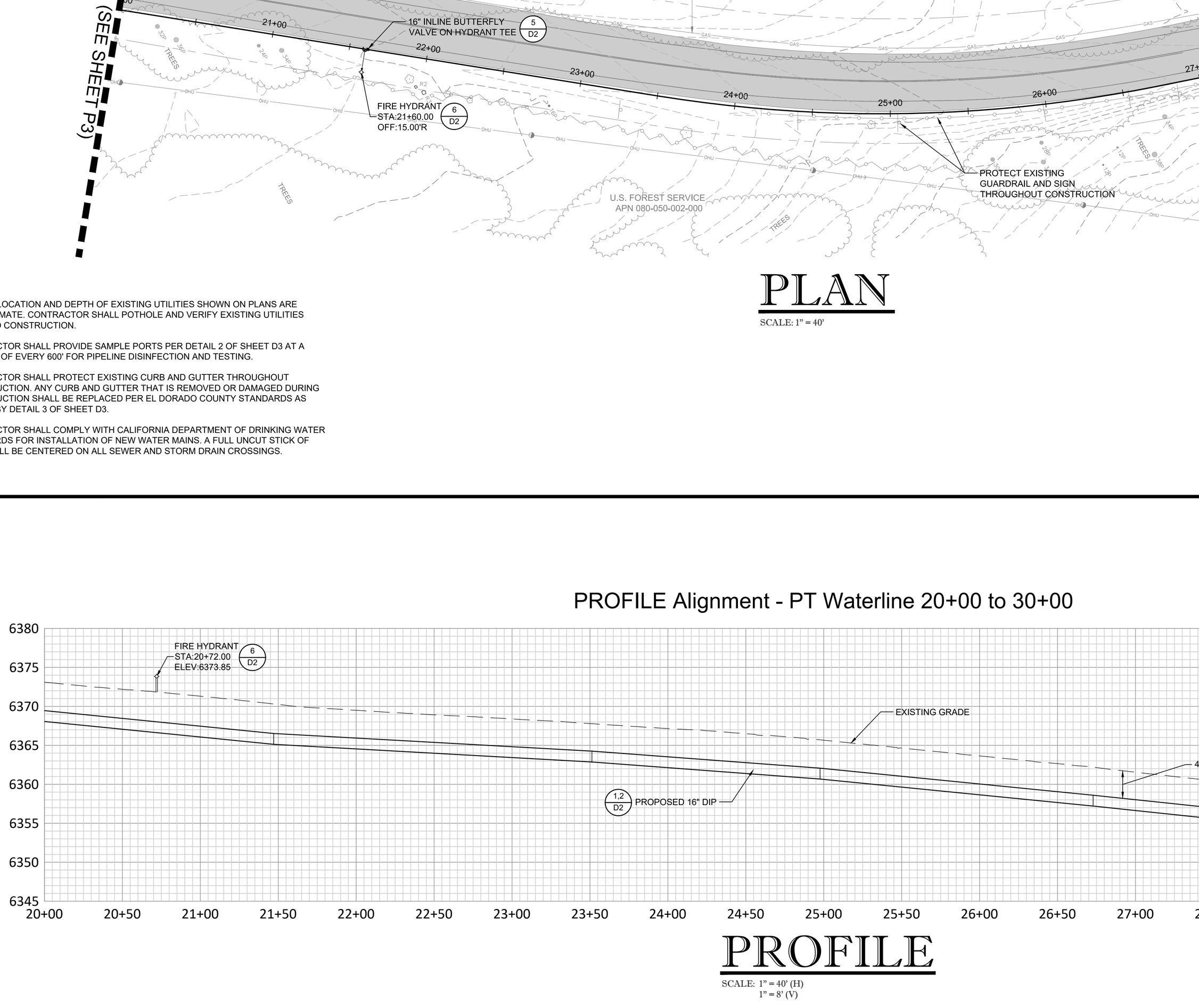
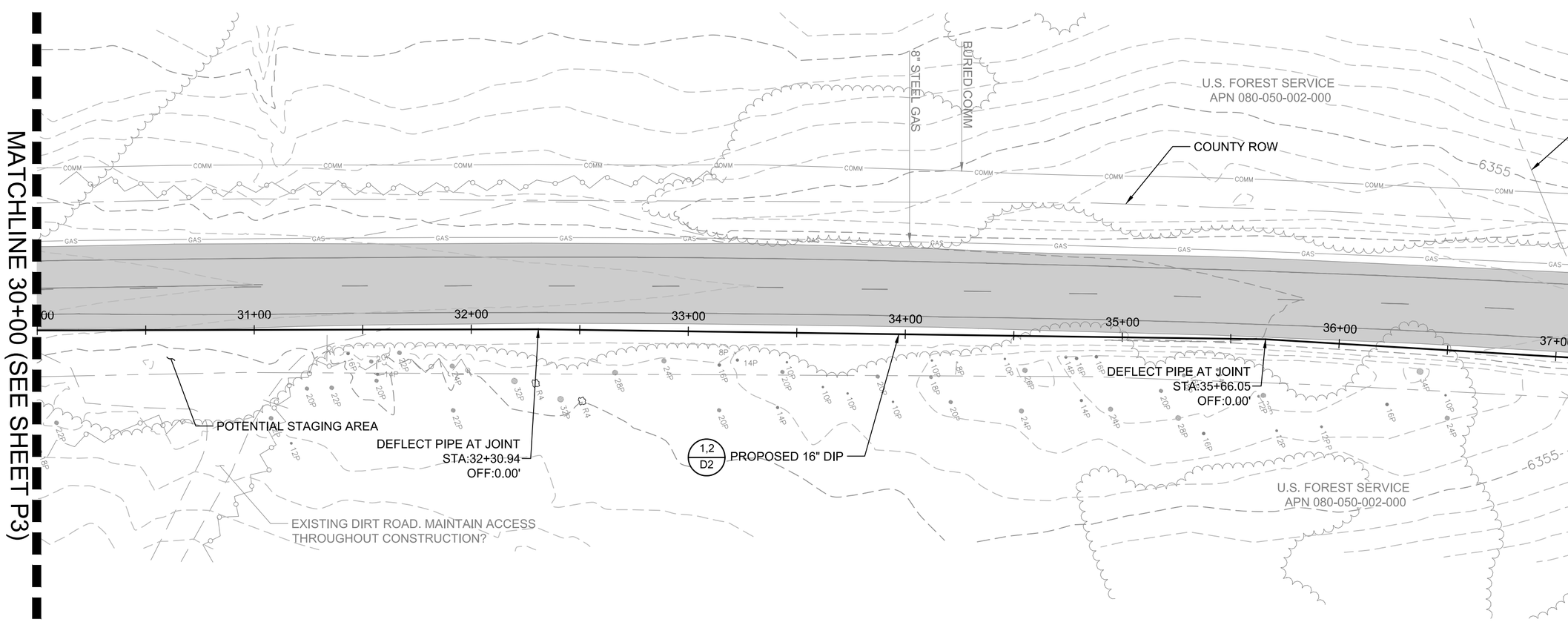
SCALE: 1" = 40'



PROFILE

SCALE: 1" = 40' (H)
1" = 8' (V)



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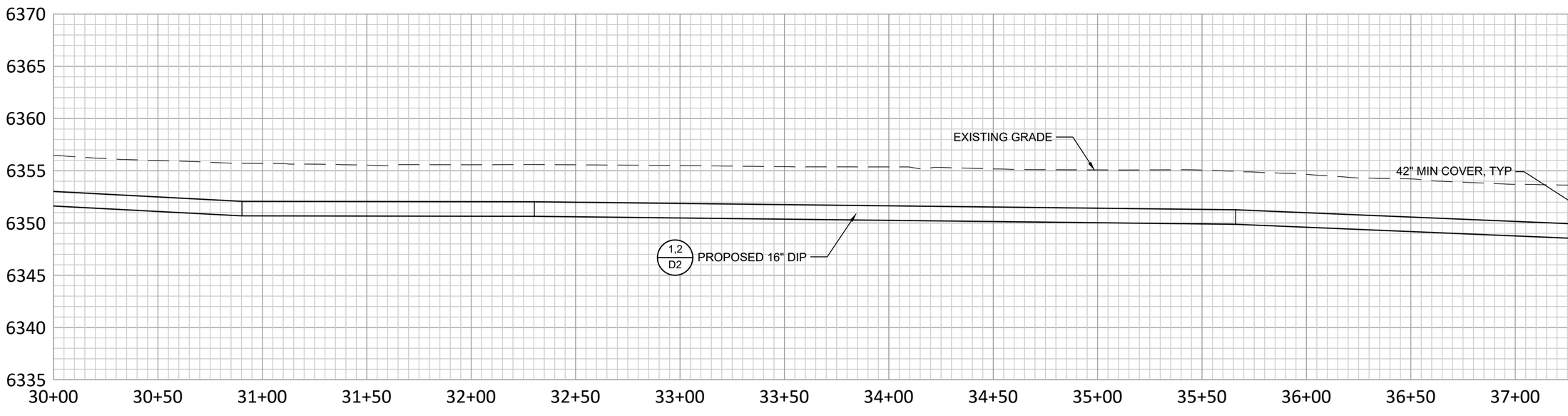
PLAN

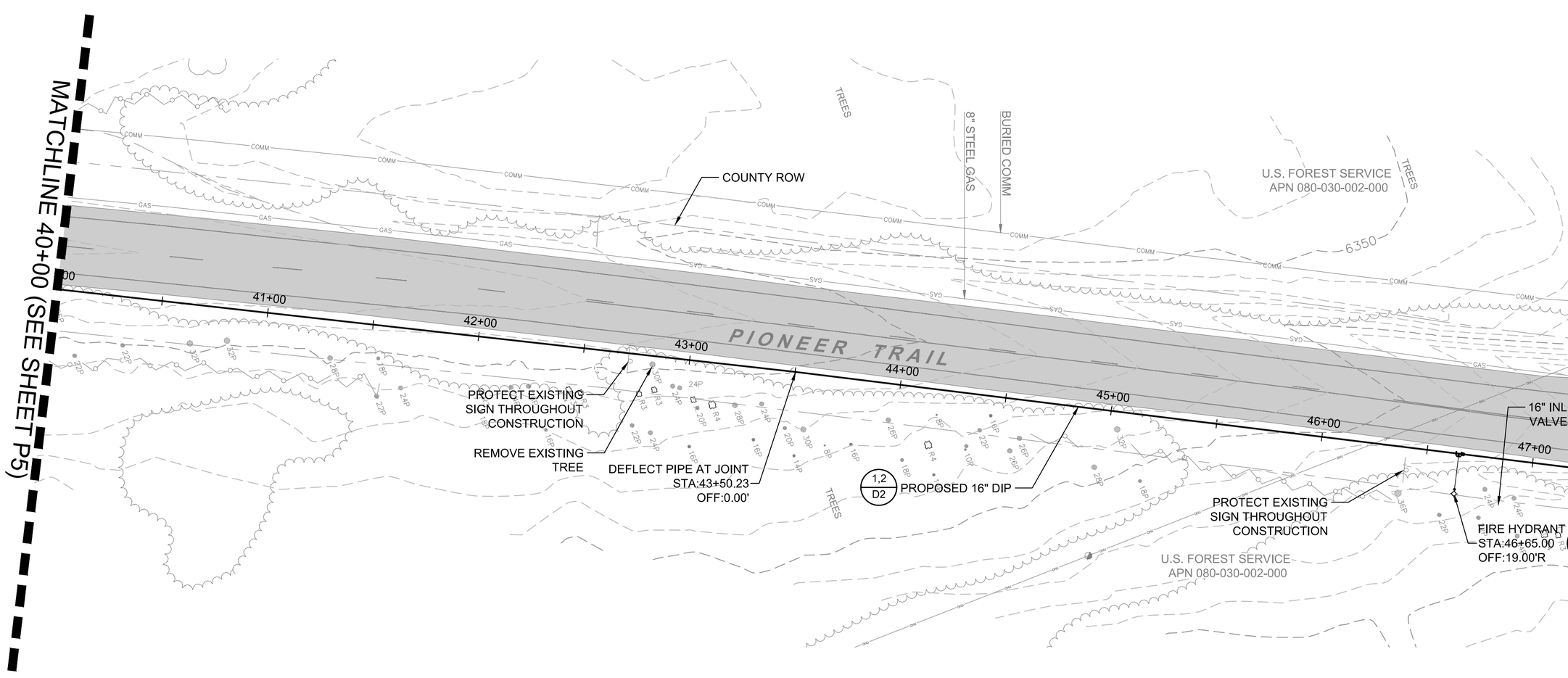
SCALE: 1" = 40'

PROFILE Alignment - PT Waterline 30+00 to 40+00



PROFILE

SCALE: 1" = 40' (H)
1" = 8' (V)



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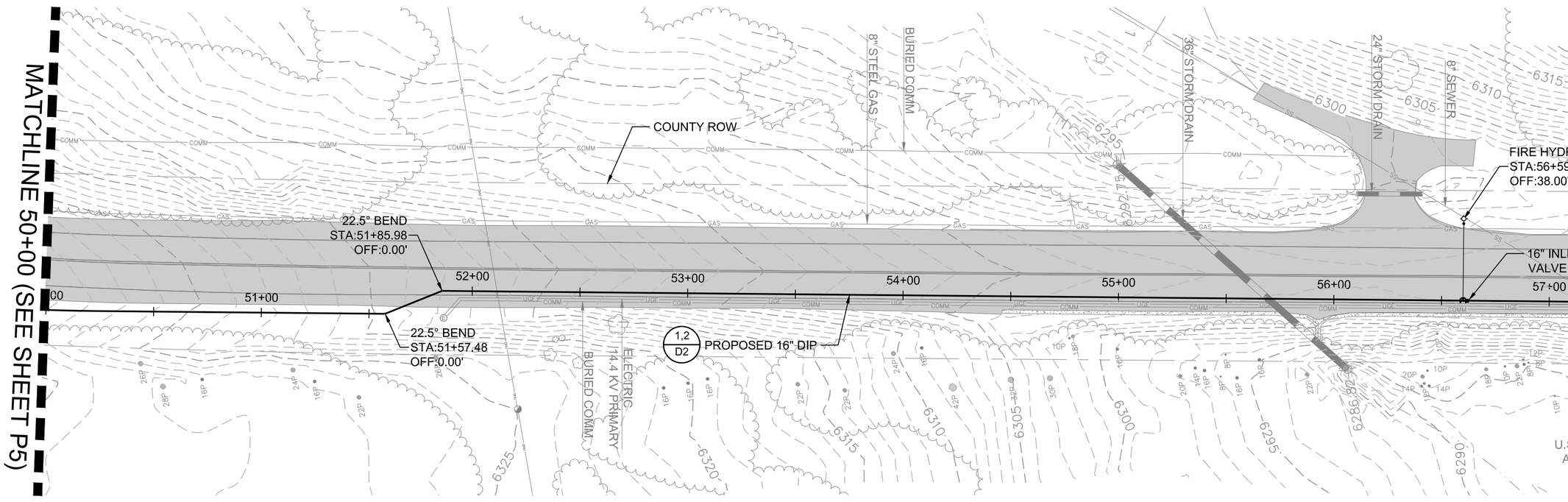
PLAN

SCALE: 1" = 40'

PROFILE Alignment - PT Waterline 40+00 to 50+00

PROFILE

SCALE: 1" = 40' (H)
1" = 8' (V)



PLAN

SCALE: 1" = 40'

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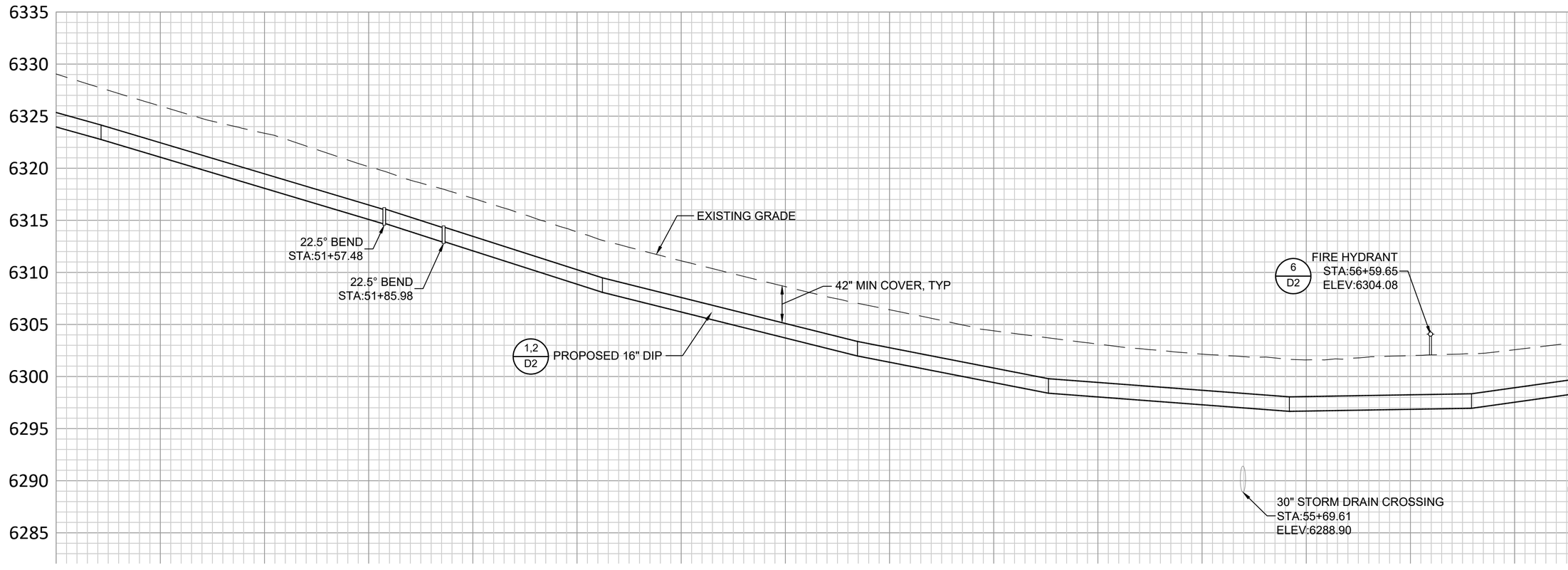
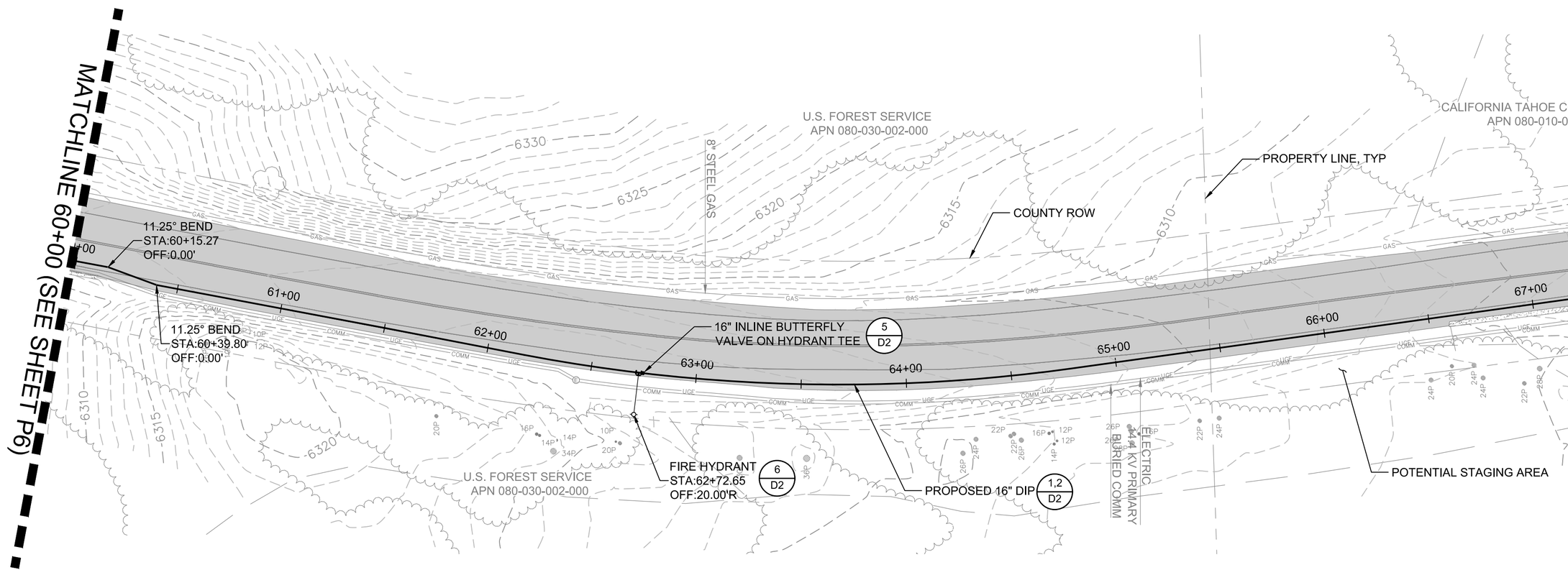
PROFILE Alignment - PT Waterline 50+00 to 60+00



PROFILE

SCALE: 1" = 40' (H)
1" = 8' (V)



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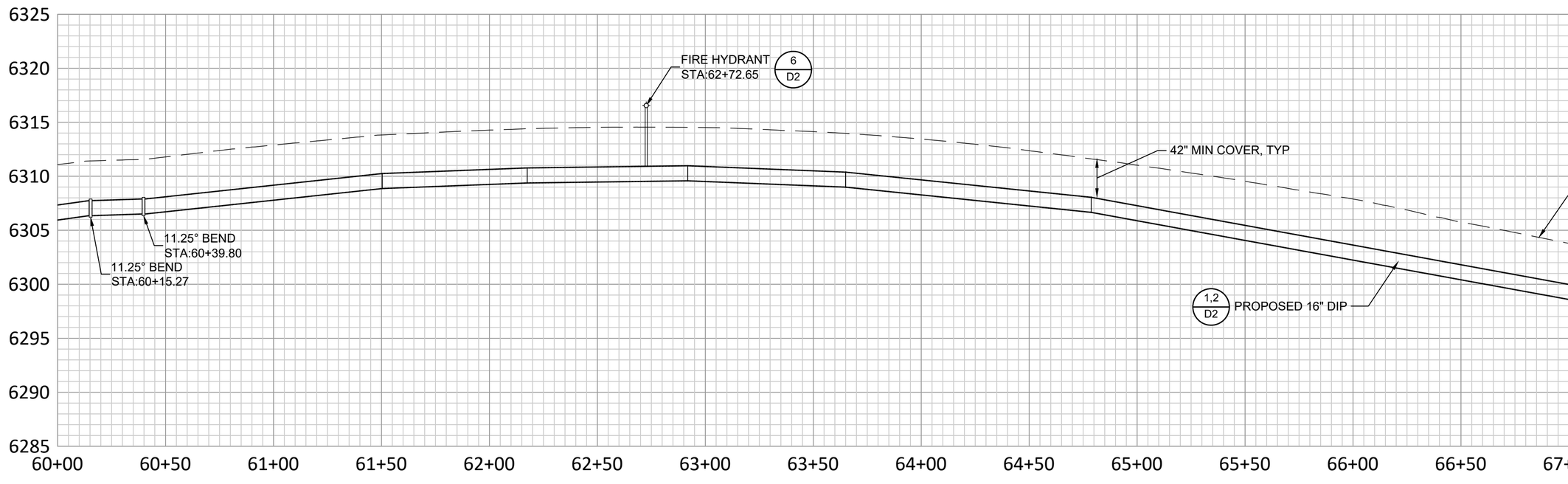
PLAN

SCALE: 1" = 40'

PROFILE Alignment - PT Waterline 60+00 to 70+00



PROFILE

SCALE: 1" = 40' (H)
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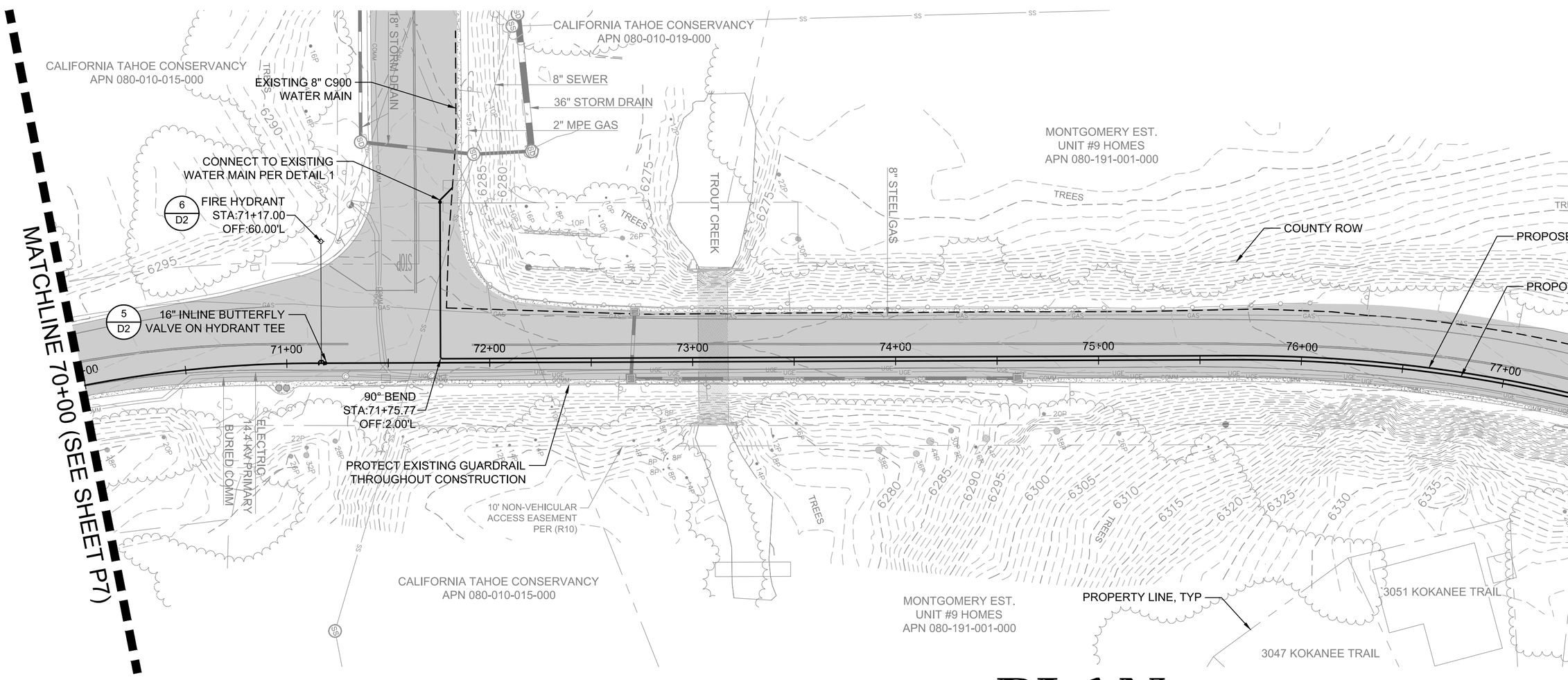

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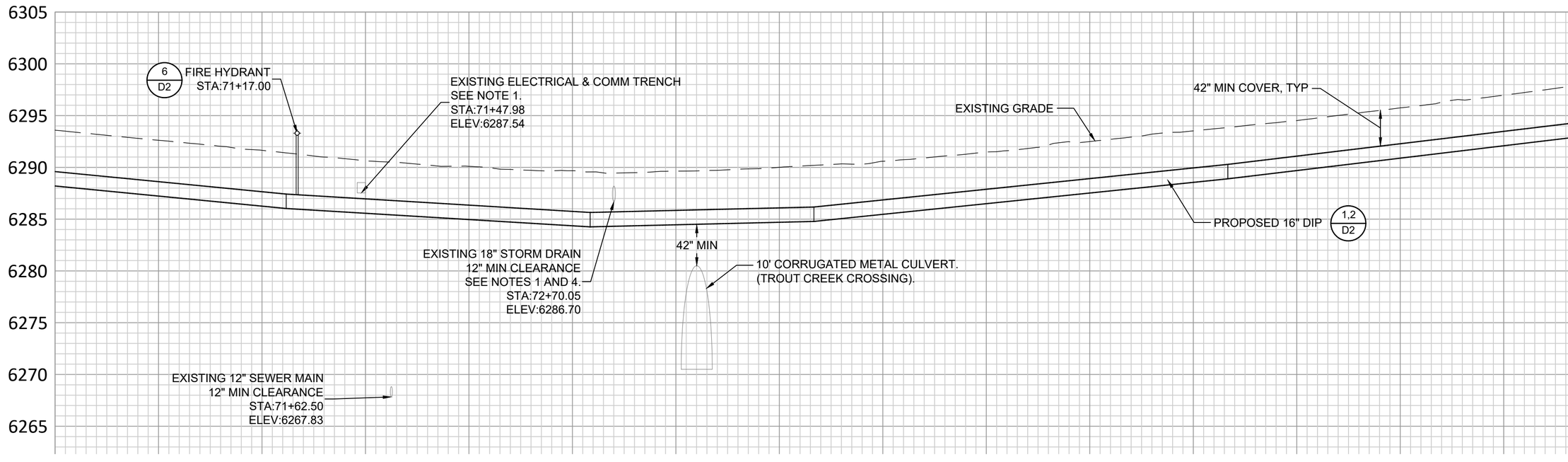
PLAN

SCALE: 1" = 40'

8" RESTRAINE
PROPOS
8" BEND (FLxM
12"x8" REDUCE
(FLxF

PROFILE Alignment - PT Waterline 70+00 to 80+00



PROFILE

SCALE: 1" = 40' (H)
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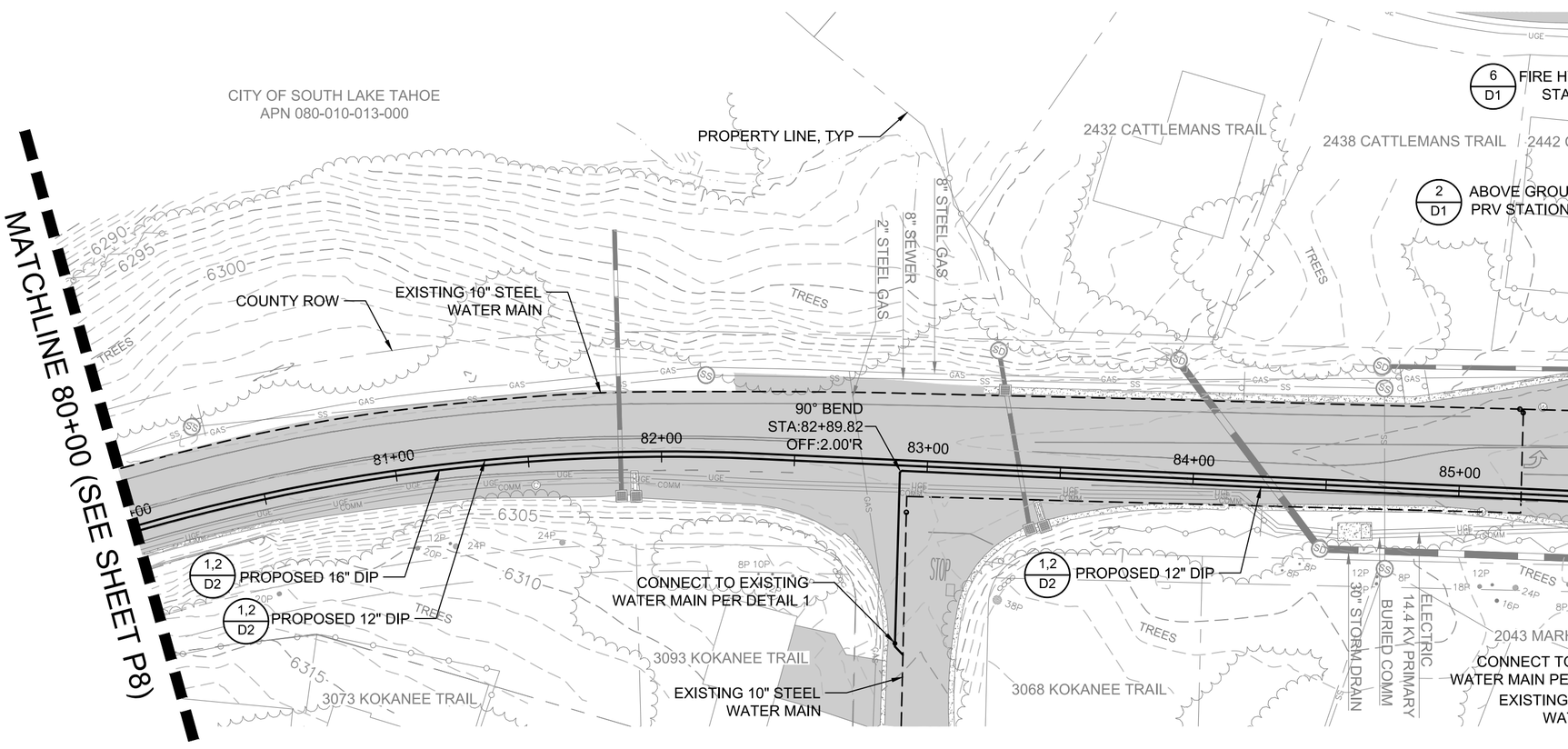
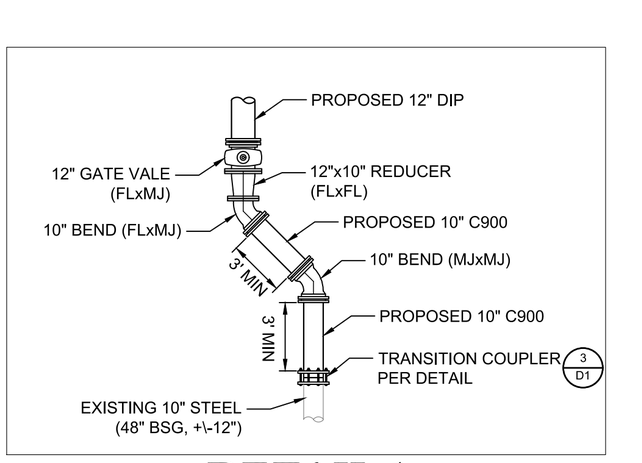


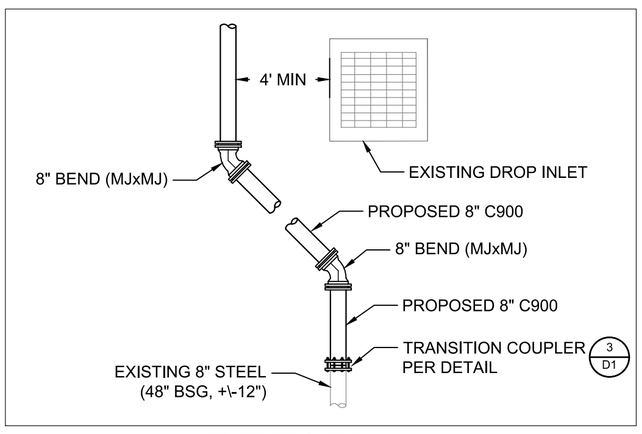
PLAN

SCALE: 1" = 40'



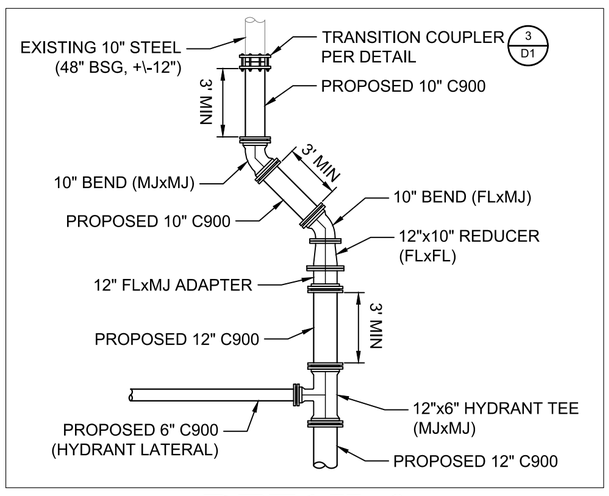
DETAIL 1

SCALE: 1" = 5'



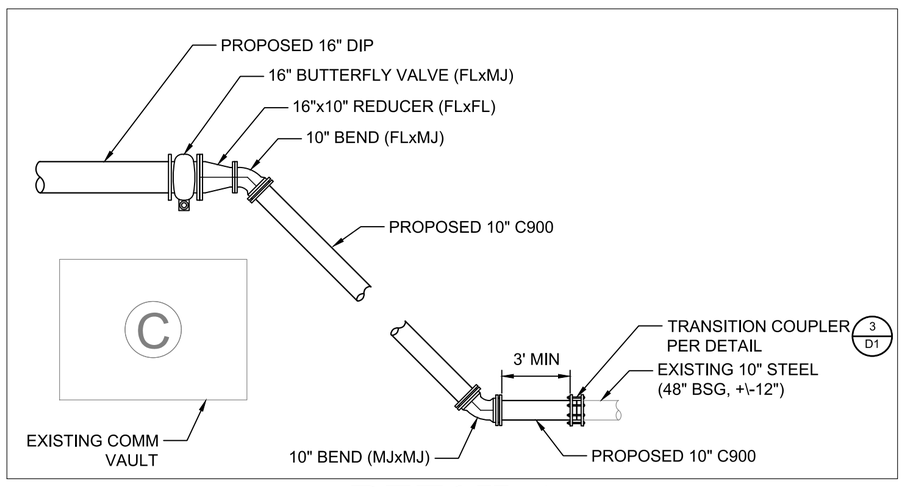
DETAIL 2

SCALE: 1" = 5'



DETAIL 3

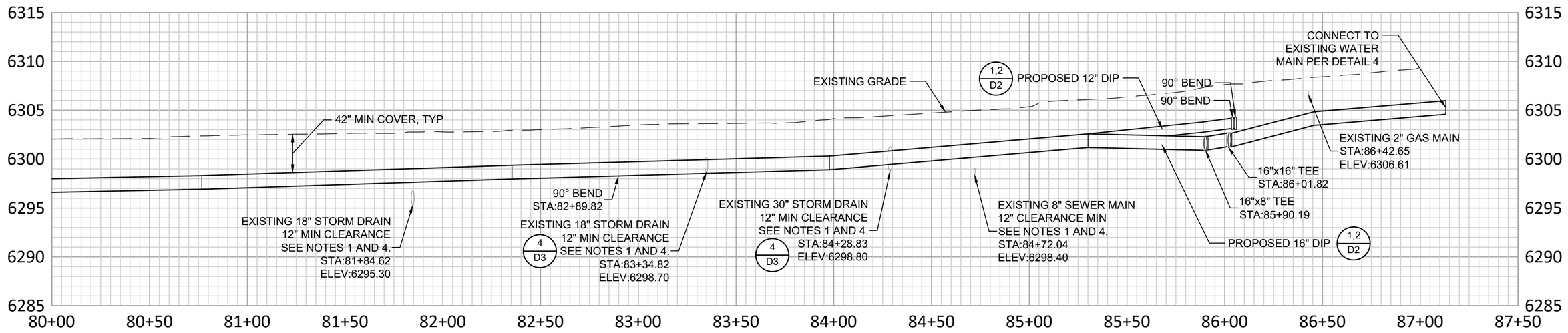
SCALE: 1" = 5'



DETAIL 4

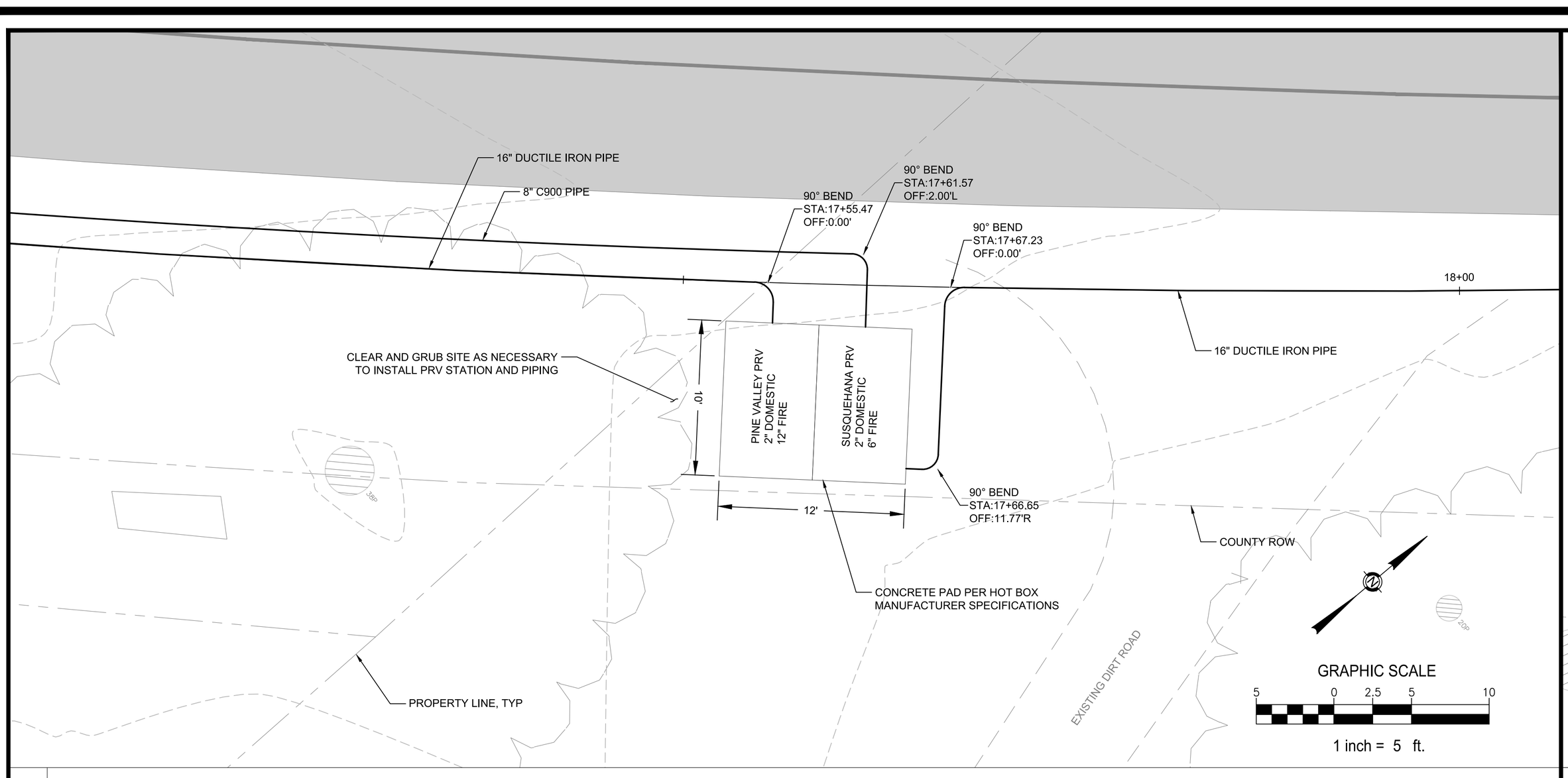
SCALE: 1" = 5'

PROFILE Alignment - PT Waterline 80+00 to 87+50



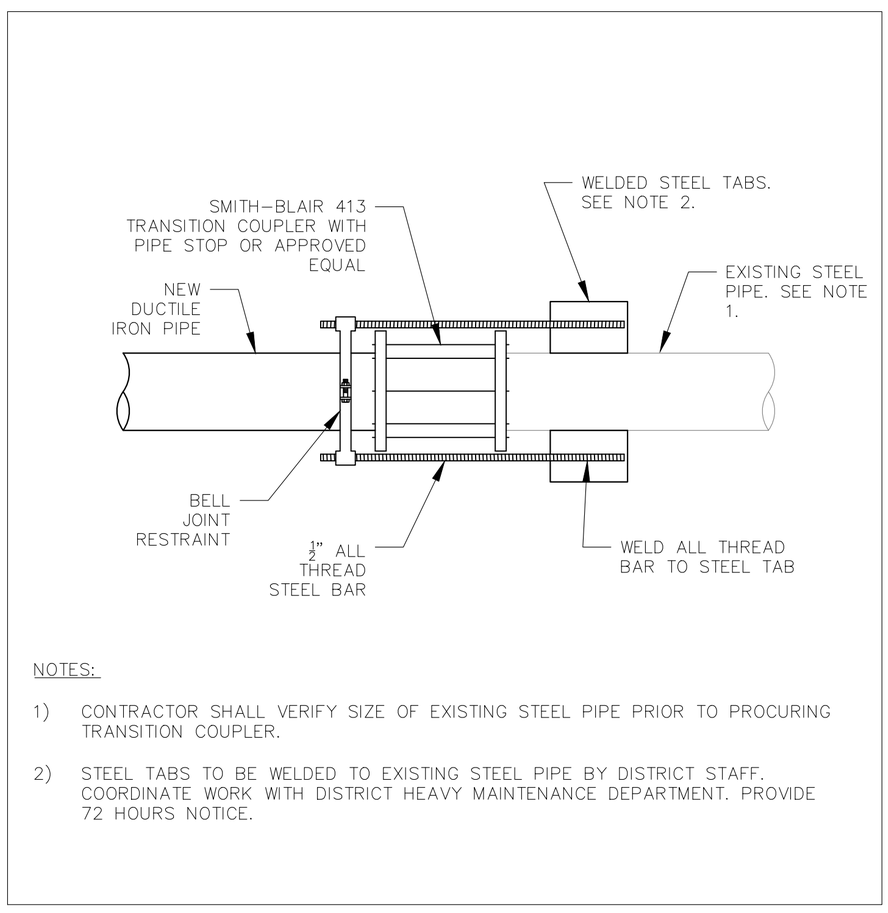
PROFILE

SCALE: 1" = 40' (H)
1" = 8' (V)



1 PRV STATION #1

2 PR



NOTES:

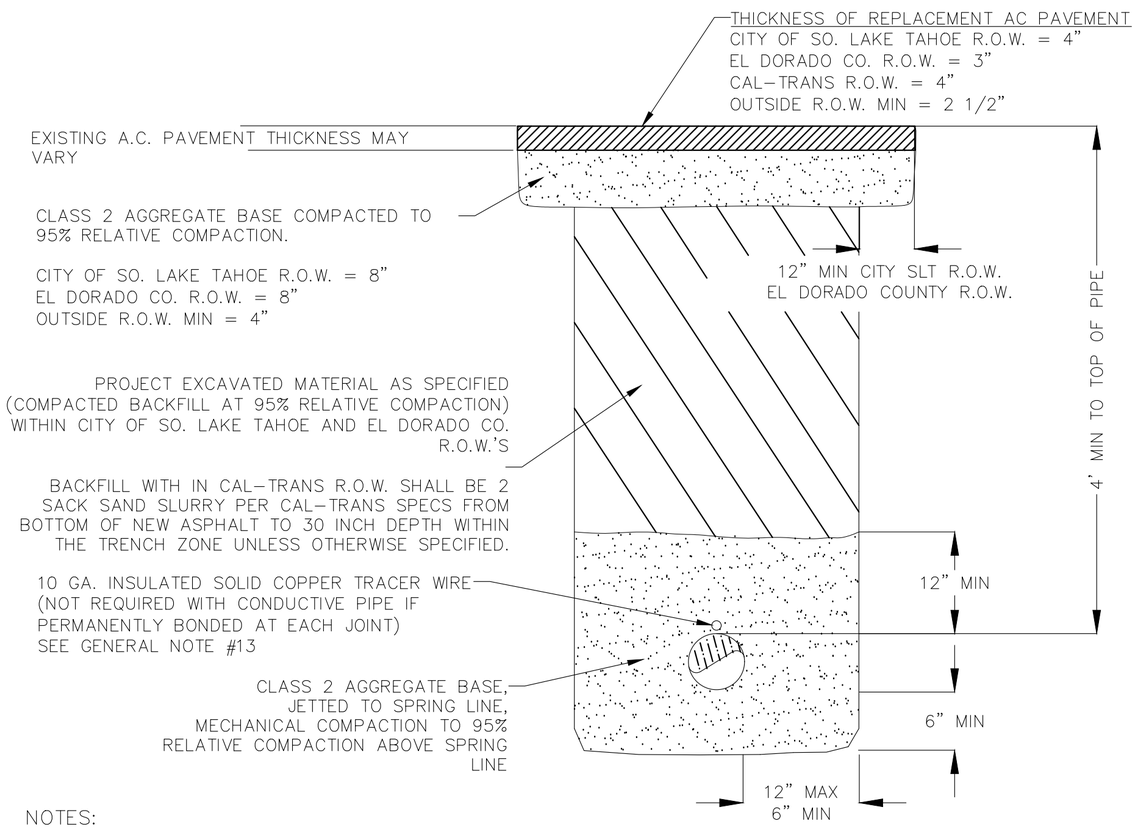
1) CONTRACTOR SHALL VERIFY SIZE OF EXISTING STEEL PIPE PRIOR TO PROCURING TRANSITION COUPLER.

2) STEEL TABS TO BE WELDED TO EXISTING STEEL PIPE BY DISTRICT STAFF. COORDINATE WORK WITH DISTRICT HEAVY MAINTENANCE DEPARTMENT. PROVIDE 72 HOURS NOTICE.

3 TRANSITION COUPLER DETAIL

4 NOT USED

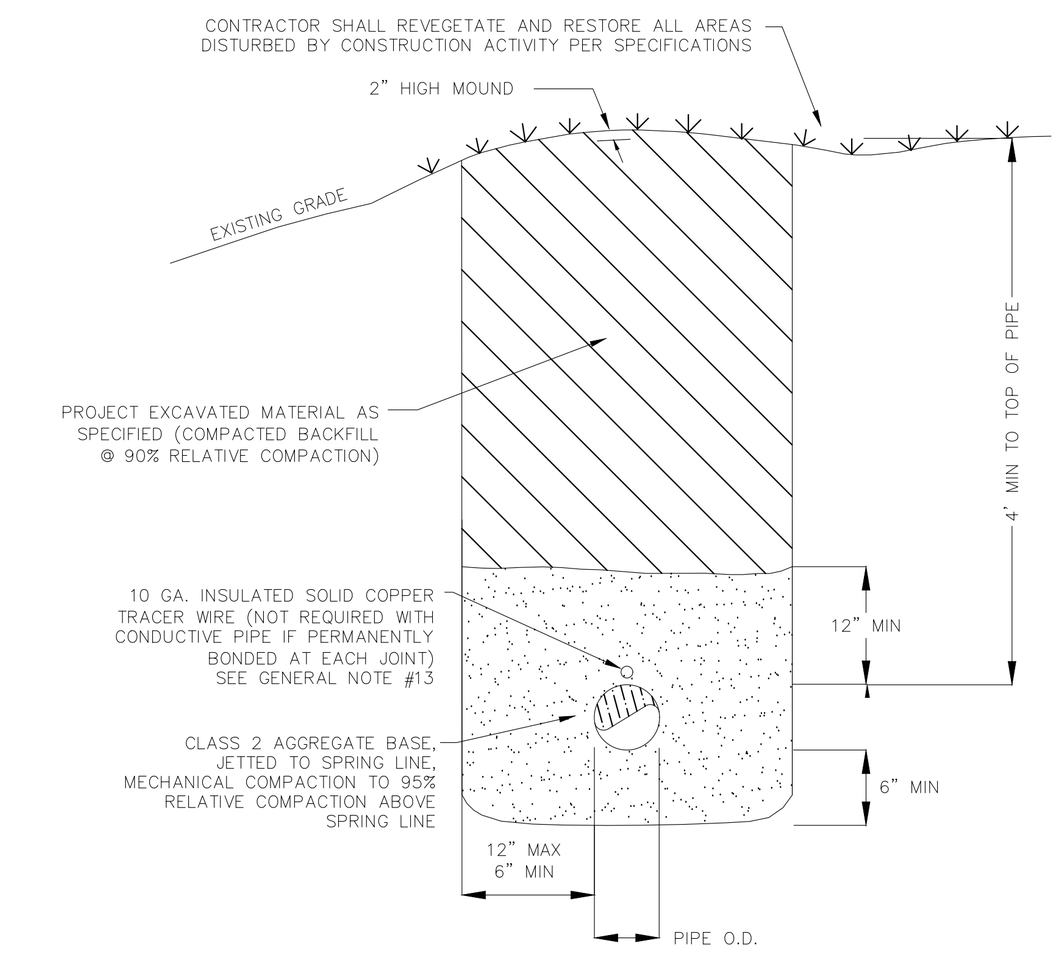
5 NO



NOTES:

1) CONTRACTOR PAY ITEM FOR TRENCH WIDTH PLUS TWENTY FOUR INCHES (24") IN CITY OF SOUTH LAKE TAHOE AND EL DORADO COUNTY RIGHT OF WAY. TRENCH WIDTH AND TRENCH PAVEMENT REPLACEMENT EXCEEDING MAXIMUM AS DESCRIBED HERE IN AND IN THE SPECIFICATIONS SHALL BE COMPLETED AT NO ADDITIONAL EXPENSE TO THE DISTRICT.
2) CONTRACTOR SHALL REPLACE ALL TRAFFIC STRIPING DISTURBED BY CONSTRUCTION.
3) NO RECYCLED MATERIAL TO BE USED IN PIPE ZONE.

1 TRENCH DETAIL - WITHIN PAVED AREAS



NOTE:

1) NO RECYCLED MATERIAL TO BE USED IN PIPE ZONE.

2 TRENCH DETAIL - OUTSIDE PAVED AREAS

3 RE

NOTES

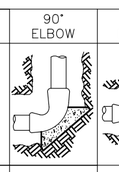
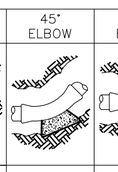
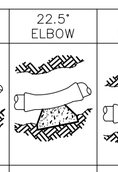
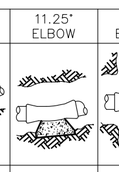
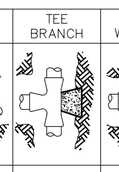
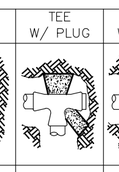
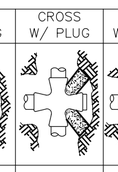
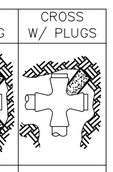
1) ALL FOR
2) NU 46-
3) ALL SYS
4) CO SYS
5) VAL LEN
4) ALL

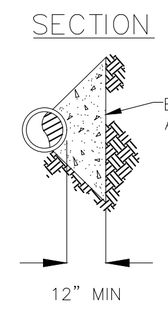
WRAP TRA AROUND H
HYDRANT AT BURY L EXCEED 3" ABOVE
WRAP FILT OVER DRA
MIN. 12"
HYDRANT REMAIN CL
CONC CONFORMIN

NOTES:

1) FIRE H C-502 METAL
2) FIRE L INSTAL
3) GATE STAMP
4) HYDRA PETRO FORME
5) THE E TO BE SHALL
6) HYDRA PLACE
7) HYDRA MUST DETER
8) THE C
9) HYDRA
10) PROVID SUPPL
11) FOR A MINIMU

THRUST BLOCK AREA REQUIRED – SQUARE FEET

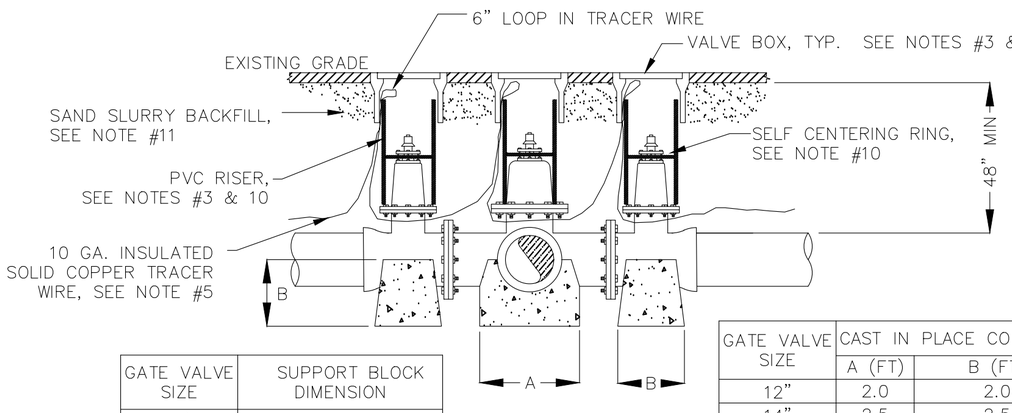
TYPE OF FITTING		90° ELBOW	45° ELBOW	22.5° ELBOW	11.25° ELBOW	TEE BRANCH	TEE W/ PLUG	CROSS W/ PLUG	CROSS W/ PLUGS
TYPICAL INSTALLATION									
SIZE OF PIPE	6"	4	4	2	2	4	4	4	4
	8"	10	6	3	3	10	10	10	10
	10"	12	8	4	4	15	15	15	15
	12"	16	10	6	6	20	20	20	20
	14"	21	12	6	6	22	21	22	21
	16"	27	15	8	8	22	27	27	27
	18"	45	25	13	13	32	45	45	45
	24"	65	35	18	18	45	65	65	65



NOTES:

1) JOINTS, FLANGE BOLTS AND FACE OF PLUGS TO BE KEPT CLEAR OF CONCRETE.
2) BLOCKS MUST BE POURED AGAINST UNDISTURBED SOIL.
3) THRUST BLOCKS TO BE CONSTRUCTED OF CLASS 423-C-2500 OR BETTER P.C.C.
4) THRUST BLOCKS AREA IS BASED ON TEST PRESSURE OF 150 PSI AND A HORIZONTAL SOIL BEARING STRENGTH OF 1500 PSI.
5) NUTS AND BOLTS ON ALL MJ FITTINGS SHALL BE PAINTED WITH TWO COATS OF KOPPERS 505, TNEMEC 46-450', AMERON OR EQUAL, 15 MILS EACH COAT.

4 TYPICAL THRUST BLOCK



GATE VALVE SIZE	SUPPORT BLOCK DIMENSION
6"	USE 1- 4"X8"X16" PRECAST STRUCTURAL SUPPORT BLOCK
8"	
10"	

GATE VALVE SIZE	CAST IN PLACE CONCRETE	
	A (FT)	B (FT)
12"	2.0	2.0
14"	2.5	2.5
16"	3.0	3.0
18"	3.0	3.0

NOTES:

1) GATE VALVES FOURTEEN INCH (14") DIAMETER AND SMALLER SHALL BE MUELLER OR APPROVED EQUAL AS PER AWWA C-509, RESILIENT RUBBER SEAT RING, WEDGE DISC, NON-RISING STEM. BRONZE STEM NUT AND O-RING SEALS ABOVE AND BELOW THE THRUST COLLAR, WITH TWO INCH (2") SQUARE OPERATING NUT. VALVES SIXTEEN INCH (16") AND LARGER SHALL BE BUTTERFLY VALVES AS SPECIFIED AND SUBMITTED FOR APPROVAL.
2) THE MAIN LINE VALVE CLUSTER SHALL CONSIST OF A FLANGED TEE AND FLANGED X MECHANICAL JOINT VALVES OR FLANGED COUPLING ADAPTERS.
3) VALVE BOX RISER PIPE TO BE EIGHT INCH (8") PVC, SDR-35 AND INSTALLED PERPENDICULARLY CENTERED AROUND AND COVERING THE UPPER VALVE BONNET AND OPERATOR.
4) VALVE BOX SHALL BE CHRISTY G5 BOX WITH METAL LID MARKED "WATER"
5) THE 10 GA. TRACER WIRE SHALL BE ROUTED FROM THE NEW MAIN, LOOPED THROUGH THE VALVE BOXES AND CLAMPED TO THE EXISTING WATER MAIN
6) USING STAINLESS STEEL CLAMPS. CONTINUITY BETWEEN ALL NEW AND EXISTING PIPELINES SHALL BE MAINTAINED.
7) EXPOSED NUTS AND BOLTS ON MJ FITTINGS TO BE PAINTED WITH TWO COATS OF KOPPERS 505, TNEMEC 46-450, AMERON OR EQUAL 15 MILS EACH COAT.
8) ALL FLANGES TO BE BURIED, COAT ENTIRE ASSEMBLY WITH PETROLATUM SATURATED FABRIC TAPE WRAP SYSTEM IN ACCORDANCE WITH DISTRICT REQUIREMENTS.
9) CONCRETE FOR SUPPORT BLOCKS SHALL BE FORMED TO MAINTAIN MINIMUM TWO INCH (2") CLEARANCE FROM FLANGE BOLTS.
10) PRE CAST STRUCTURAL SUPPORT BLOCKS SHALL BE SOLID AND CONFORM TO ASTM C90.
11) PROVIDE AND INSTALL SELF CENTERING ALIGNMENT RING WITH SLIDING ADJUSTER AS MANUFACTURED BY THE AMERICAN FLOW CONTROL CORP. AND SUPPLIED FOR A TRENCH ADAPTER VALVE BOX ASSEMBLY.
12) THE REQUIREMENTS FOR TRENCH BACK FILL AT ALL INTER TIE VALVE CLUSTERS SHALL INCLUDE THE PLACEMENT OF TWO SACK SAND SLURRY WITHIN 3' OF ALL VALVE BOXES BETWEEN THE AB PIPE ZONE MATERIAL AND BOTTOM OF AC PAVEMENT. THIS REQUIREMENT SHALL NOT APPLY TO SINGLE VALVE INSTALLATIONS.
13) FOR ALL VALVE OPERATING NUTS EXCEEDING FORTY EIGHT INCHES (48") BURY THE CONTRACTOR SHALL PROVIDE VALVE OPERATOR EXTENSIONS WITH TRASH RINGS TO A MINIMUM DEPTH OF THIRTY SIX INCHES (36").

5 WATER VALVE ASSEMBLY

6 FI

NOTES:

1) ALL SERVICE CONNECTIONS SHALL CONFORM TO AWWA C-800-84 AND BE INSTALLED FROM THE NEW MAIN TO EACH EXISTING SERVICE LINE. SERVICE SADDLE SHALL BE DOUBLE STAINLESS STEEL STRAP, FUSION BONDED EPOXY COATED SMITH BLAIR #317 OR APPROVED EQUAL.

2) NEW CURB-STOP SHALL BE SIZED AS INDICATED ON PLANS AND BE MUELLER #300/B20283 OR APPROVED EQUAL.

3) CORPORATION STOP SHALL BE SIZED AS INDICATED ON PLANS AND BE MUELLER #300/B20013 OR APPROVED EQUAL FOR 3/4" TO 1" USE MUELLER #300/2969 OR APPROVED EQUAL FOR 1 1/2" TO 2".

4) SINGLE HOUSE SERVICE SHALL BE 3/4" POLYETHYLENE WITH 3/4" FITTINGS. DOUBLE HOUSE SERVICE SHALL BE 1" POLYETHYLENE TO FORD #U68-43 SPACING "U" BRANCH OR EQUAL WITH TWO 3/4" CURB-STOPS AND SERVICE CONNECTIONS.

5) ALL WATER SERVICES SHALL HAVE A HAND-TAMPED SAND BEDDING NINE INCHES (9") ABOVE AND BENEATH THE TUBING AND SHALL HAVE SIX INCHES (6") MINIMUM CLEARANCE ON EACH SIDE.

6) ALL WATER SERVICE SHALL BE POLYETHYLENE 200 PSI CLASS IRON PIPE SIZE FOR 3/4" TO 1". COPPER TUBE SIZE FOR 1 1/2" TO 2". PIPE STIFFENER INSERTS TO BE USED AT ALL CONNECTIONS.

7) WATER VALVE BOX SHALL BE CHRISTY G5 FOR SINGLE SERVICE, AND CHRISTY B1017 FOR DOUBLE SERVICE OR APPROVED EQUAL WITH A METAL LID MARKED "WATER". WATER VALVE BOX INSTALLED IN ASPHALT SHALL BE 1/4" TO 1/2" BELOW FINISH GRADE.

8) ALL CORP-STOPS, CURB-STOPS AND POLYETHYLENE SERVICE LINES SHALL BE DISINFECTED AND HYDROSTATIC TESTED ALONG WITH THE NEW MAIN PRIOR TO BEING PLACED INTO SERVICE.

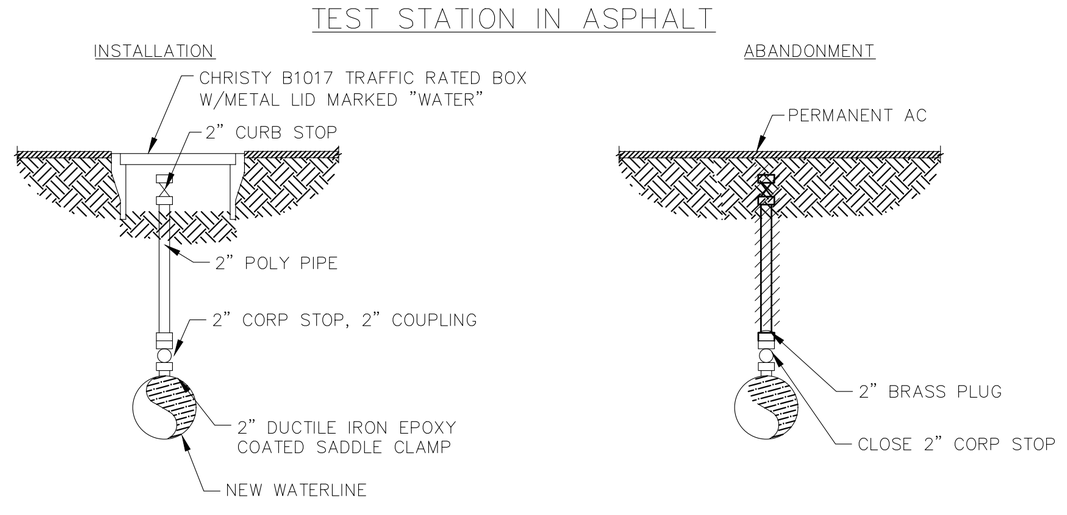
9) ALL TUBING CONNECTIONS SHALL BE THE COMPRESSION TYPE; MUELLER OR APPROVED EQUAL.

10) 10 GA. SOLID COPPER TRACER WIRE SHALL BE INSTALLED FROM THE NEW MAIN ALONG NEW SERVICE LINE TO THE EXISTING WATER SERVICE LINE WITH A SIX INCH (6") MINIMUM LOOP AT THE TOP OF THE RISER PIPE.

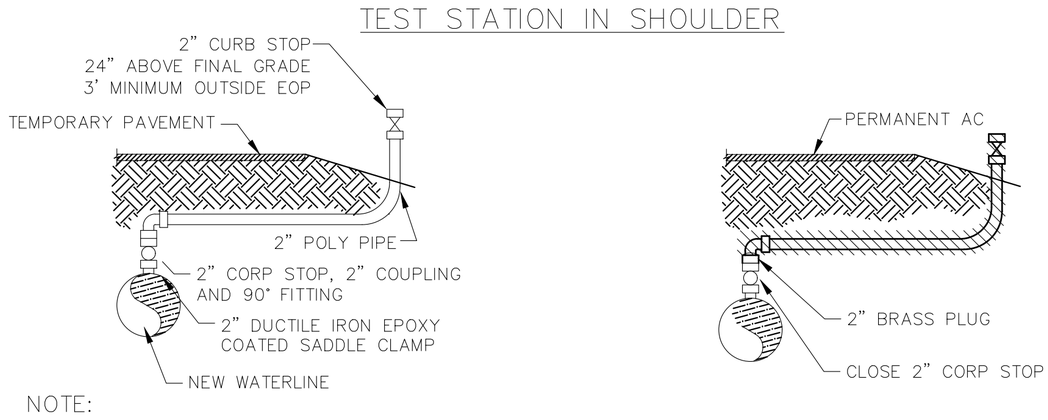
11) WATER SERVICE CONNECTIONS INSTALLED ON THE OPPOSITE SIDE OF THE STREET FROM WATER MAIN SHALL UTILIZE TRENCHLESS TECHNOLOGY (I.E. PNEUMATIC RAM OR MOLE) OR OTHER METHOD APPROVED BY DISTRICT ENGINEER.

1 WATER SERVICE

TEST STATION IN ASPHALT



TEST STATION IN SHOULDER



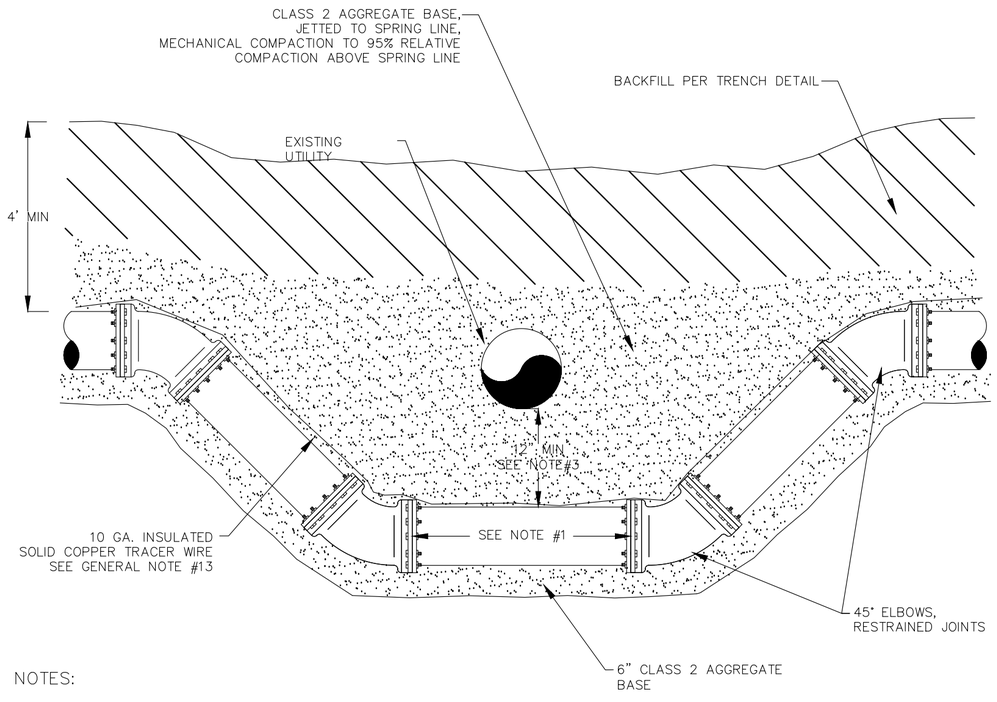
NOTE:

1) CORPORATION STOP SHALL BE MUELLER #300/2969 OR APPROVED EQUAL.

2) CONTRACTOR TO DEMOLISH PIPING AFTER ALL DISINFECTION TESTING IS COMPLETE.

2 TEST STATION

3 CU



NOTES:

1) CONSTRUCT WATERLINE USING ONE OF THE FOLLOWING METHODS:

   A) THE WATER MAIN SHALL BE CONSTRUCTED PLACING A FULL STICK OF PIPE CENTER ON THE CROSSING, WITH NO PIPE JOINTS IN THAT SECTION, OR;
   B) THE WATER MAIN IS TOTALLY ENCASED IN AT LEAST FOUR INCHES (4") OF TWO (2) SACK DRY SAND CEMENT SLURRY FOR A DISTANCE OF AT LEAST TEN FEET (10') ON EACH SIDE OF THE POINT OF CROSSING, OR;
   C) THE WATER MAIN IS INSTALLED IN A PIPE SLEEVE THAT EXTENDS, WITHOUT JOINTS, AT LEAST TEN FEET (10') ON EACH SIDE OF THE POINT OF CROSSING.

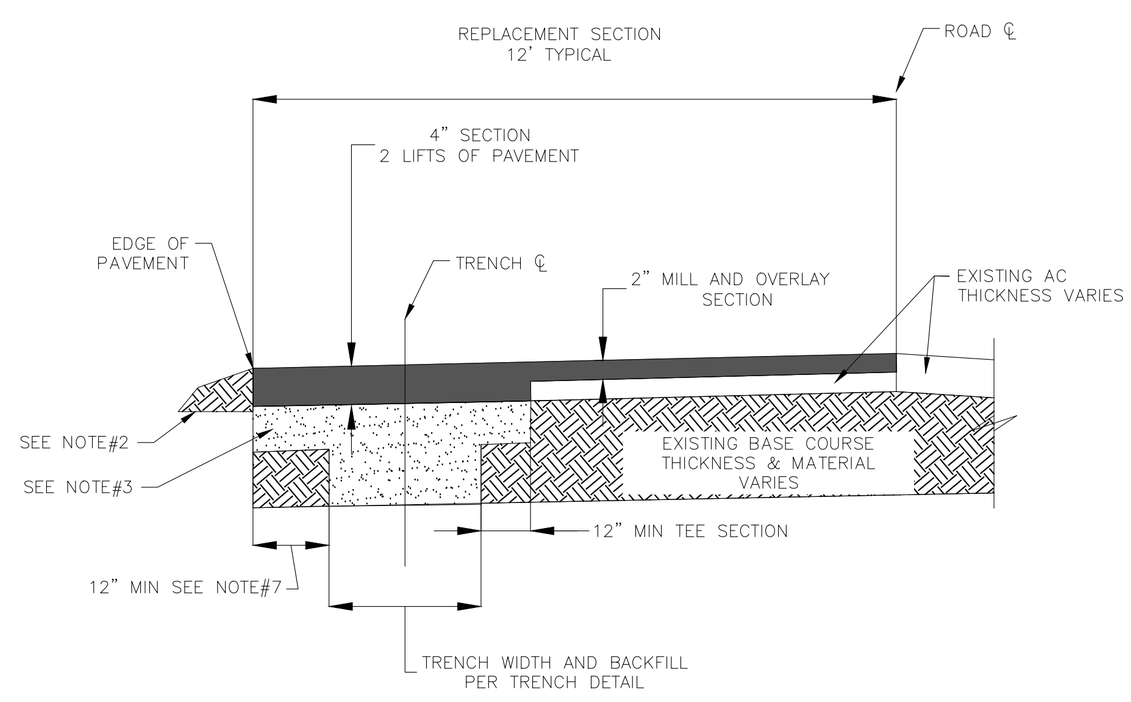
2) ALL JOINTS SHALL BE RESTRAINED.

3) IF COMPACTION UNDER EXISTING UTILITY CAN NOT BE ACCOMPLISHED, USE TWO (2) SACK SAND SLURRY TO FILL THE VOID UNDER THE UTILITY.

4) NO RECYCLED BASE IN PIPE ZONE BACKFILL OF NEW WATER MAIN OR EXISTING UTILITY.

5) DUE TO FIELD CONDITIONS ONE OR MORE 45° ELBOWS MAY BE EXCHANGED FOR 90° ELBOWS AS REQUIRED TO MAKE OFFSET.

4 WATER MAIN VERTICAL OFFSET



NOTE:

1) APPLY TACK COAT ON ALL EDGES SAWCUT OR GROUND OUT
2) CONTRACTOR TO BACK FINISHED PAVING WITH 12" MINIMUM GRANULAR MATERIAL (NATIVE/GRINDINGS/TYPE II) AND WHEEL ROLL TO STABILIZE
3) TYPE II AGG BASE 8" MINIMUM THICKNESS COMPACTED TO 95% RELATIVE COMPACTION
4) CONTRACTOR TO REPLACE ALL STRIPPING DAMAGED OR REMOVED DURING CONSTRUCTION
5) CONTRACTOR TO REMOVE ANY LOOSE ASPHALT IN GRIND OUT SECTION PRIOR TO INSTALL OF NEW ASPHALT
6) ALL PAVING REPLACEMENT LIMITS TO FIELD VERIFIED WITH ENGINEER
7) IF TRENCH EDGE IS WITHIN 36" OF EDGE OF PAVING CONTINUE TEE TO EDGE, IF THE DISTANCE IS GREATER THAN 36" STOP TEE AT 12"

5 SINGLE LANE PAVEMENT REPLACEMENT

6 NO

NOTES:

1) WHE

2) ALL DIST

3) ALL SHA

4) ALL MAT

Appendix B – USFWS Species List and CNDDB Database Search Results

Multiple Occurrences per Page

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (South Lake Tahoe (3811988) OR Meeks Bay (3912011) OR Emerald Bay (3812081) OR Echo Lake (3812071) OR Freel Peak (3811978) OR Minden (3811987) OR Woodfords (3811977))
 AND (Federal Listing Status IS (Endangered OR Threatened OR Proposed Endangered OR Proposed Threatened OR Candidate OR Delisted) OR State Listing Status IS (Endangered OR Threatened OR Rare OR Delisted OR Candidate Endangered OR Candidate Threatened))

Rana sierrae **Element Code:** AAABH01340

Sierra Nevada yellow-legged frog

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G2
	State:	Threatened		**State:**	S2
	Other:	CDFW_WL-Watch List, IUCN_EN-Endangered, USFS_S-Sensitive			
Habitat:	**General:**	ALWAYS ENCOUNTERED WITHIN A FEW FEET OF WATER. TADPOLES MAY REQUIRE 2 - 4 YRS TO COMPLETE THEIR AQUATIC DEVELOPMENT.			
	Micro:				

Occurrence No.	8 **Map Index:** 30411	**EO Index:**	4271	**Element Last Seen:**	2020-07-16
Occ. Rank:	Unknown	**Presence:**	Presumed Extant	**Site Last Seen:**	2020-07-16
Occ. Type:	Natural/Native occurrence	**Trend:**	Unknown	**Record Last Updated:**	2024-12-20

Quad Summary: Echo Lake (3812071)

County Summary: El Dorado

Lat/Long:	38.84598 / -120.09679	**Accuracy:**	non-specific area
UTM:	Zone-10 N4303691 E751962	**Elevation (ft):**	7823
PLSS:	T12N, R17E, Sec. 34, W (M)	**Acres:**	33.0

Location: TAMARACK LAKE AND TWO NEARBY PONDS, WEST OF UPPER ECHO LAKE, DESOLATION WILDERNESS, ELDORADO NATIONAL FOREST.

Detailed Location: PONDS ARE LOCATED 0.2 MILES NE AND 0.2 MILES EAST OF CAGWIN LAKE.

Ecological: TAMARACK LAKE WAS STOCKED WITH FISH IN 1967 AND 2000. FISH REMOVAL OCCURRED IN 2011. LARGE NUMBER OF GARTER SNAKES OBSERVED IN 2017.

General: COLLECTED IN 1975. 1 LARVA OBSERVED IN 2002. NONE FOUND IN 2003. 2 IN 2004. 4 SUBADULTS & 6 LARVAE IN 2006. NONE IN 2007 & 2008. 1 LARVA FOUND IN 2011. FROGS REINTRODUCED IN 2015-2017. ADULTS DETECTED IN 2016, 2017, 2018 & 2020.

Owner/Manager: USFS-ELDORADO NF

Occurrence No.	62	**Map Index:** 44169	**EO Index:**	44169	**Element Last Seen:**	1913-09-XX
Occ. Rank:	None		**Presence:**	Possibly Extirpated	**Site Last Seen:**	1913-09-XX
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2024-12-09

Quad Summary:	Emerald Bay (3812081)
County Summary:	El Dorado

Lat/Long:	38.90221 / -120.06183	**Accuracy:**	specific area
UTM:	Zone-10 N4310029 E754795	**Elevation (ft):**	6400
PLSS:	T12N, R17E, Sec. 11 (M)	**Acres:**	1384.4

Location:	FALLEN LEAF LAKE, SOUTH OF LAKE TAHOE.
Detailed Location:	COLLECTION LOCALITIES GIVEN ONLY AS "NEAR FALLEN LEAF LAKE" AND "FALLEN LEAF." MAPPED BY CNDDB NON-SPECIFICALLY ACROSS THE EXTENT OF THE LAKE.
Ecological:	ACCORDING TO JENNINGS, RANA SIERRAE IS EXTIRPATED FROM THE GENERAL VICINITY; HOWEVER, IT IS UNCLEAR WHERE EXACTLY THEY SURVEYED, SO MORE RESEARCH IS NEEDED.
General:	A COLLECTION WAS MADE HERE BY BURKE; DATE WAS NOT PROVIDED, BUT APPEARS ON HANDWRITTEN CATALOGE WITH OTHER YEARS BETWEEN 1887 AND 1907. A SET OF COLLECTIONS WERE MADE HERE BY SLEVIN IN SEP 1913.
Owner/Manager:	UNKNOWN

Occurrence No.	83	**Map Index:** 44764	**EO Index:**	44764	**Element Last Seen:**	1952-06-01
Occ. Rank:	None		**Presence:**	Possibly Extirpated	**Site Last Seen:**	1952-06-01
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2024-12-06

Quad Summary:	Echo Lake (3812071)
County Summary:	El Dorado

Lat/Long:	38.80081 / -120.01761	**Accuracy:**	non-specific area
UTM:	Zone-10 N4298899 E758998	**Elevation (ft):**	6500
PLSS:	T11N, R18E, Sec. 17 (M)	**Acres:**	183.8

Location:	UPPER TRUCKEE RIVER, 3.5 MILES ESE OF PHILLIPS, ELDORADO NATIONAL FOREST.
Detailed Location:	COLLECTION LOCALITY GIVEN AS "UPPER TRUCKEE R, 3.5 MI ESE PHILLIPS." MAPPED BY CNDDB ALONG RIVER REACH APPROXIMATELY ESE OF PHILLIPS ON THE UPPER TRUCKEE RIVER.
Ecological:	
General:	COLLECTED HERE BY ZWEIFEL AND RIEMER ON 1 JUN 1952. ACCORDING TO JENNINGS, RANA SIERRAE IS EXTIRPATED FROM THE GENERAL VICINITY; HOWEVER, IT IS UNCLEAR WHERE EXACTLY THEY SURVEYED, SO MORE RESEARCH IS NEEDED.
Owner/Manager:	USFS-ELDORADO NF

Occurrence No.	92	**Map Index:**	44803	**EO Index:**	44803	**Element Last Seen:**	1949-09-23
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	2018-07-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2024-12-06

Quad Summary:	Echo Lake (3812071)
County Summary:	El Dorado

Lat/Long:	38.82197 / -120.04977	**Accuracy:**	non-specific area
UTM:	Zone-10 N4301157 E756129	**Elevation (ft):**	7100
PLSS:	T11N, R17E, Sec. 12, NE (M)	**Acres:**	92.2

Location:	MEADOW NE OF AUDRIAN LAKE, SOUTH SIDE OF HIGHWAY 50 ABOUT 1.5 ROAD MILES NW OF ECHO SUMMIT, SOUTH OF LAKE TAHOE.
Detailed Location:	COLLECTION LOCALITY GIVEN BY HENDRICKSON AS "MEADOW, 0.25 MI W ANDRIAN LAKE, ECHO PASS" AT 7200 FT ELEVATION. PRESUMABLY ANDRIAN WAS A TYPO. MAPPED BY CNDDB AT THE MEADOW ABOUT 1/4 MILE NW OF LAKE AUDRIAN, 1 MILE NW OF ECHO SUMMIT.
Ecological:	ACCORDING TO JENNINGS, RANA SIERRAE IS EXTIRPATED FROM THE GENERAL VICINITY; HOWEVER, IT IS UNCLEAR WHERE EXACTLY THEY SURVEYED, SO MORE RESEARCH IS NEEDED.
General:	TWO COLLECTIONS BY A. MILLER FROM 1 MILE EAST OF PHILLIPS AT 7100 FT FROM19 JUL 1945 ARE ALSO ATTRIBUTED HERE. COLLECTED HERE BY HENDRICKSON 23 SEP 1949. NONE DETECTED ON 10 JUL 2018.
Owner/Manager:	USFS-ELDORADO NF

Occurrence No.	131	**Map Index:**	45953	**EO Index:**	45953	**Element Last Seen:**	2023-08-05
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2023-08-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2024-12-05

Quad Summary:	Echo Lake (3812071), Pyramid Peak (3812072), Rockbound Valley (3812082)
County Summary:	El Dorado

Lat/Long:	38.86048 / -120.14107	**Accuracy:**	non-specific area
UTM:	Zone-10 N4305179 E748068	**Elevation (ft):**	8142
PLSS:	T12N, R17E, Sec. 30 (M)	**Acres:**	1621.0

Location:	FROM HEATHER LAKE TO ROPI LAKE AND MANY SURROUNDING LAKES, DESOLATION WILDERNESS, ELDORADO NATIONAL FOREST.
Detailed Location:	OCCURRENCE INCLUDES LAKE ALOHA, LAKE OF THE WOODS, PYRAMID LAKE, GEFO LAKE, WACA LAKE, AND MANY NEARBY PONDS AND DRAINAGES. MAPPED BY CNDDB BASED PRIMARILY ON GIS DATA PROVIDED BY US FOREST SERVICE AND CA DEPARTMENT OF FISH AND WILDLIFE.
Ecological:	
General:	DETECTED MANY TIMES IN VARIOUS SURVEYS OF PORTIONS OF THIS OCCURRENCE MOST YEARS BETWEEN 1993 AND 2023. MANY OF THESE BODIES OF WATER HAVE SIGNIFICANT BREEDING POPULATIONS, BUT TYPICALLY ONLY A FEW INDIVIDUALS ARE SEEN DURING A SURVEY.
Owner/Manager:	USFS-ELDORADO NF

Occurrence No.	237	**Map Index:**	70199	**EO Index:**	71073	**Element Last Seen:**	1863-09-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1863-09-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2024-12-06

Quad Summary:	Echo Lake (3812071)
County Summary:	El Dorado

Lat/Long:	38.82391 / -120.03178	**Accuracy:**	2/5 mile
UTM:	Zone-10 N4301422 E757683	**Elevation (ft):**	7400
PLSS:	T11N, R18E, Sec. 06 (M)	**Acres:**	0.0

Location:	SUMMIT OF JOHNSONS PASS, SE OF LOWER ECHO LAKE, SOUTH OF LAKE TAHOE.
Detailed Location:	COLLECTION LOCALITY DESCRIBED AS "SUMMIT JOHNSON'S PASS, SIERRA NEVADA."
Ecological:	
General:	OCCURRENCE KNOWN FROM A SEP 1863 COLLECTION MADE BY STORER AND COOPER. ACCORDING TO JENNINGS, RANA SIERRAE IS EXTIRPATED FROM THE GENERAL VICINITY; HOWEVER, IT IS UNCLEAR WHERE EXACTLY THEY SURVEYED, SO MORE RESEARCH IS NEEDED.
Owner/Manager:	USFS-ELDORADO NF

Occurrence No.	243	**Map Index:**	70205	**EO Index:**	71086	**Element Last Seen:**	1935-08-18
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1935-08-18
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2024-12-03

Quad Summary:	Woodfords (3811977), Freel Peak (3811978), Minden (3811987), South Lake Tahoe (3811988)
County Summary:	Alpine, El Dorado

Lat/Long:	38.87994 / -119.88147	**Accuracy:**	4/5 mile
UTM:	Zone-11 N4307401 E250044	**Elevation (ft):**	9000
PLSS:	T12N, R19E, Sec. 29 (M)	**Acres:**	0.0

Location:	0.5 MILE NE OF STAR LAKE, SE OF LAKE TAHOE, HUMBOLDT-TOIYABE NATIONAL FOREST.
Detailed Location:	COLLECTION LOCALITY DESCRIBED AS "0.5 MI NE STAR LAKE" IN EL DORADO COUNTY. THE DRAINAGE NEAREST TO 0.5 MILE NE OF STAR LAKE IS THE HEAD OF STUTLER CANYON, JUST OVER THE COUNTY LINE INTO ALPINE COUNTY. UNCERTAIN IF NW WAS MEANT.
Ecological:	
General:	COLLECTION MADE BY R. SMITH ON 18 AUG 1935. ACCORDING TO JENNINGS, R. SIERRAE IS EXTIRPATED FROM THE GENERAL VICINITY; HOWEVER, IT IS UNCLEAR WHERE EXACTLY THEY SURVEYED, SO MORE RESEARCH IS NEEDED.
Owner/Manager:	USFS-HUMBOLDT-TOIYABE NF

Occurrence No.	333	**Map Index:**	C0921	**EO Index:**	75612	**Element Last Seen:**	2024-07-08
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2024-07-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2024-12-26

Quad Summary: Freel Peak (3811978)

County Summary: El Dorado

Lat/Long:	38.82686 / -119.94485	**Accuracy:**	specific area
UTM:	Zone-11 N4301685 E244356	**Elevation (ft):**	8362
PLSS:	T11N, R18E, Sec. 1, W (M)	**Acres:**	42.0

Location: HELL HOLE MEADOW ALONG TROUT CREEK TRIBUTARY, ABOUT 4 MILES SE OF MEYERS, SOUTH OF LAKE TAHOE.

Detailed Location: FELLERS SITE ID #LT-06.

Ecological:

General: DETECTED IN 1997, 1999, 2000, 2002, AND EACH YEAR BETWEEN 2012 AND 2024. POPULATION AS HIGH AS 6 ADULTS, 19 SUBADULTS, AND 71 LARVAE SEEN DURING CERTAIN YEARS.

Owner/Manager: USFS-LAKE TAHOE BMU

Occurrence No.	640	**Map Index:**	95679	**EO Index:**	96816	**Element Last Seen:**	2014-07-07
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2014-07-07
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2024-08-16

Quad Summary: Freel Peak (3811978)

County Summary: El Dorado

Lat/Long:	38.83415 / -119.93757	**Accuracy:**	specific area
UTM:	Zone-11 N4302473 E245013	**Elevation (ft):**	8300
PLSS:	T11N, R18E, Sec. 01, NW (M)	**Acres:**	11.0

Location: 1.4 MILES WEST OF ARMSTRONG PASS, NW OF HELL HOLE, CARSON RANGE, SOUTH OF SOUTH LAKE TAHOE.

Detailed Location:

Ecological:

General: 1 ADULT OBSERVED 7 AUG 2012. EGGS AND ADULT OBSERVED 27 JUN 2013. 1 ADULT OBSERVED ON 7 JUL 2014.

Owner/Manager: USFS-LAKE TAHOE BMU

Occurrence No.	641	**Map Index:**	95680	**EO Index:**	96817	**Element Last Seen:**	2008-09-10
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-09-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-03-25

Quad Summary: Caples Lake (3812061), Echo Lake (3812071)

County Summary: El Dorado

Lat/Long:	38.75384 / -120.05565	**Accuracy:**	2/5 mile
UTM:	Zone-10 N4293578 E755861	**Elevation (ft):**	8900
PLSS:	T10N, R17E, Sec. 02, S (M)	**Acres:**	0.0

Location: 1 MILE NORTH OF LITTLE ROUND TOP, ELDORADO NATIONAL FOREST.

Detailed Location:

Ecological:

General: 9 INDIVIDUALS WERE OBSERVED IN THIS VICINITY ON BY M. BROWN ON 10 SEP 2008.

Owner/Manager: USFS-ELDORADO NF

Occurrence No.	836	**Map Index:**	C0790	**EO Index:**	132025	**Element Last Seen:**	1958-07-07
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	2009-05-15
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2024-12-03

Quad Summary:	Carson Pass (3811968), Freel Peak (3811978)
County Summary:	Alpine

Lat/Long:	38.75475 / -119.93888	**Accuracy:**	3/5 mile
UTM:	Zone-11 N4293663 E244617	**Elevation (ft):**	7117
PLSS:	T10N, R19E, Sec. 6, N (M)	**Acres:**	776.0

Location:	ALONG HIGHWAY 88, ABOUT 2 ROAD MILES WEST OF HIGHWAY 89 INTERSECTION, HOPE VALLEY, HUMBOLDT TOIYABE NATIONAL FOREST.
Detailed Location:	1958 LOCALITIES DESCRIBED AS "ROADSIDE DITCH ALONG HWY 88 2 MI W JCT HWY 88 & 89, HOPE VALLEY," AND "BACKWATER OF W CARSON R HOPE VALLEY 7100.'" ATTRIBUTED 1957 RECORD WITH LOCALITY DESCRIBED AS ONLY "HOPE VALLEY."
Ecological:	ACCORDING TO JENNINGS, R. SIERRAE IS EXTIRPATED FROM THE GENERAL VICINITY; HOWEVER, IT IS UNCLEAR WHERE EXACTLY THEY SURVEYED, SO MORE RESEARCH IS NEEDED.
General:	COLLECTED FROM THE VICINITY 25 MAY 1957. COLLECTED ON 7 JUL 1958. NONE FOUND DURING SURVEYS IN 2002 AND 2009.
Owner/Manager:	USFS-TOIYABE NF, DFG

Occurrence No.	849	**Map Index:**	C0970	**EO Index:**	132198	**Element Last Seen:**	2023-08-29
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2023-08-29
Occ. Type:	Introduced Back into Native Hab./Range			**Trend:**	Unknown	**Record Last Updated:**	2024-12-13

Quad Summary:	Echo Lake (3812071)
County Summary:	El Dorado

Lat/Long:	38.86526 / -120.12266	**Accuracy:**	specific area
UTM:	Zone-10 N4305760 E749649	**Elevation (ft):**	8463
PLSS:	T12N, R17E, Sec. 29, NE (M)	**Acres:**	8.0

Location:	JABU LAKE AND ADJACENT POND, EAST OF LAKE ALOHA, DESOLATION WILDERNESS, ELDORADO NATIONAL FOREST.
Detailed Location:	
Ecological:	LAKE WAS STOCKED WITH FISH IN 1962 AND 2000. NO FISH DETECTED DURING SURVEYS IN 2003-2011.
General:	NONE DETECTED IN 2003, 2006, 2008 & 2011. FROGS REINTRODUCED TO JABU LAKE IN 2014-2017. FROGS & LARVAE DETECTED IN 2017 & 2021.. 5 ADULTS & 1 SUBADULT ON 29 JUL 2021. 8 SUBADULTS AND 9 LARVAE FOUND ON 23 AUG 2023.
Owner/Manager:	USFS-ELDORADO NF

Occurrence No.	850	**Map Index:**	C0971	**EO Index:**	132200	**Element Last Seen:**	2020-09-03
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2020-09-03
Occ. Type:	Introduced Back into Native Hab./Range			**Trend:**	Unknown	**Record Last Updated:**	2024-08-20

Quad Summary:	Echo Lake (3812071)
County Summary:	El Dorado

Lat/Long:	38.86079 / -120.11368	**Accuracy:**	specific area
UTM:	Zone-10 N4305288 E750444	**Elevation (ft):**	8171
PLSS:	T12N, R17E, Sec. 28, NW (M)	**Acres:**	39.0

Location:	LAKE LUCILLE, LAKE MARGERY AND NEARBY PONDS, EAST OF LAKE ALOHA, DESOLATION WILDERNESS, ELDORADO NATIONAL FOREST.
Detailed Location:	
Ecological:	MARGERY LAKE WAS STOCKED WITH FISH IN 1972 & 2000. LAKE LUCILLE WAS STOCKED IN 1974. FISH REMOVED AND ABSENT IN BOTH LAKES BY 2011.
General:	NONE DETECTED IN 2003, 2006, 2007 & 2011. FROG REINTRODUCTIONS STARTED IN 2014. 22 FROGS WERE RELEASED IN 2016, AND 18 ADULTS RELEASED IN 2017. DETECTED DURING SURVEYS IN 2016 & 2017. 8 ADULTS, 1 SUBADULT, & 2 LARVAE DETECTED IN 2020.
Owner/Manager:	USFS-ELDORADO NF

Occurrence No.	867	**Map Index:**	C1054	**EO Index:**	132282	**Element Last Seen:**	1911-06-22
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	2018-07-07
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2024-12-06

Quad Summary:	Emerald Bay (3812081)
County Summary:	El Dorado

Lat/Long:	38.93655 / -120.05437	**Accuracy:**	3/5 mile
UTM:	Zone-10 N4313862 E755319	**Elevation (ft):**	6247
PLSS:	T13N, R17E, Sec. 36 (M)	**Acres:**	776.0

Location:	VICINITY OF TALLAC (HISTORICAL SITE), NORTH OF FALLEN LEAF LAKE, SOUTH LAKE TAHOE.
Detailed Location:	1911 SPECIMEN LOCALITY DESCRIBED AS "LAKE TAHOE, NEAR TALLAC." MAPPED TO VICINITY OF TALLAC INDICATED ON 1896 PYRAMID PEAK TOPOGRAPHIC MAP. ATTRIBUTED SPECIMEN COLLECTED FROM "LAKE TAHOE," EXACT LOCATION UNKNOWN.
Ecological:	ACCORDING TO JENNINGS, RANA SIERRAE IS EXTIRPATED FROM THE GENERAL VICINITY; HOWEVER, IT IS UNCLEAR WHERE EXACTLY THEY SURVEYED, SO MORE RESEARCH IS NEEDED.
General:	COLLECTED FROM THE VICINITY ON UNKNOWN DATE SOME TIME BEFORE 1879. COLLECTED IN JUN 1911. NONE DETECTED DURING SURVEY ON 7 JUL 2018 AT "BALDWIN MEADOW."
Owner/Manager:	USFS-LAKE TAHOE BMU

Haliaeetus leucocephalus **Element Code:** ABNKC10010

bald eagle

Listing Status:	**Federal:**	Delisted	**CNDDB Element Ranks:**	**Global:**	G5
	State:	Endangered		**State:**	S3
	Other:	BLM_S-Sensitive, CDF_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern, USFS_S-Sensitive			
Habitat:	**General:**	OCEAN SHORE, LAKE MARGINS, AND RIVERS FOR BOTH NESTING AND WINTERING. MOST NESTS WITHIN 1 MILE OF WATER.			
	Micro:	NESTS IN LARGE, OLD-GROWTH, OR DOMINANT LIVE TREE WITH OPEN BRANCHES, ESPECIALLY PONDEROSA PINE. ROOSTS COMMUNALLY IN WINTER.			

Occurrence No.	96	**Map Index:**	14269	**EO Index:**	26908	**Element Last Seen:**	2005-05-19
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2005-05-19
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-06-12

Quad Summary: Emerald Bay (3812081)

County Summary: El Dorado

Lat/Long:	38.96568 / -120.08684	**Accuracy:**	80 meters
UTM:	Zone-10 N4317005 E752399	**Elevation (ft):**	6230
PLSS:	T13N, R17E, Sec. 22, SE (M)	**Acres:**	0.0

Location: EMERALD POINT, AT THE NORTH SIDE OF THE MOUTH OF EMERALD BAY, SW LAKE TAHOE, EMERALD BAY STATE PARK.

Detailed Location: "EMERALD BAY" NEST TERRITORY. STATE PARKS NEST ID: EMB16. BALD EAGLES WINTER IN VICINITY OF NEST AT EMERALD BAY, CASCADE LAKE AND THE SW EDGE OF LAKE TAHOE UP TO A 3 MI RADIUS SOUTHWARD.

Ecological: NEST TREE IS A 150' TALL, 72" DBH JEFFREY PINE; HABITAT SURROUNDING NEST TREE CONSISTED OF MIXED CONIFER FOREST, WITH PATCHY UNDERSTORY OF MAINLY MANZANITA, ON A FLAT PENINSULA.

General: IN 1981, INTACT NEST (BUT IN POOR CONDITION) OBSERVED. LAST OCCUPIED IN 1970. REOCCUPIED IN 1997; 1 FLEDGED. ACTIVE, 2000-2003, INACTIVE IN 2004. ACTIVE IN 2005; 1 FLEDGED.

Owner/Manager: DPR-EMERALD BAY SP

Occurrence No.	360	**Map Index:**	99454	**EO Index:**	101009	**Element Last Seen:**	2015-03-21
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2015-03-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2016-03-23

Quad Summary: Meeks Bay (3912011)

County Summary: El Dorado

Lat/Long:	39.06294 / -120.11594	**Accuracy:**	80 meters
UTM:	Zone-10 N4327721 E749535	**Elevation (ft):**	6240
PLSS:	T14N, R17E, Sec. 17, NE (M)	**Acres:**	0.0

Location: SUGAR PINE POINT, LAKE TAHOE; ABOUT 0.4 MI NE OF HWY 89 AT W LAKE BLVD & 0.6 MI ESE OF HAZEL ST AT 4TH AVE IN TAHOMA.

Detailed Location: MAPPED TO PROVIDED COORDINATES.

Ecological: NEST IN LIVE JEFFREY PINE IN MIXED CONIFER FOREST ON SHORE OF LAKE TAHOE. NEARBY TRAIL AND POPULAR PUBLIC BEACH 300M AWAY ARE SOURCES OF DISTURBANCE.

General: NESTING ATTEMPTS FAILED EACH YEAR FROM 2012 THROUGH 2014. NESTING PAIR WITH DOWNY CHICK OBSERVED ON 21 MAR 2015.

Owner/Manager: DPR-SUGAR PINE POINT SP

Empidonax traillii **Element Code:** ABPAE33040

willow flycatcher

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	Endangered		**State:**	S3
	Other:	IUCN_LC-Least Concern, USFS_S-Sensitive			

Habitat:	**General:**	INHABITS EXTENSIVE THICKETS OF LOW, DENSE WILLOWS ON EDGE OF WET MEADOWS, PONDS, OR BACKWATERS; 2000-8000 FT ELEVATION.
	Micro:	REQUIRES DENSE WILLOW THICKETS FOR NESTING/ROOSTING. LOW, EXPOSED BRANCHES ARE USED FOR SINGING POSTS/HUNTING PERCHES.

Occurrence No.	123	**Map Index:**	58879	**EO Index:**	58915	**Element Last Seen:**	2004-06-22
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-06-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-09-05

Quad Summary:	Emerald Bay (3812081)
County Summary:	El Dorado

Lat/Long:	38.94155 / -120.06255	**Accuracy:**	non-specific area
UTM:	Zone-10 N4314394 E754591	**Elevation (ft):**	6250
PLSS:	T13N, R17E, Sec. 26, S (M)	**Acres:**	178.0

Location:	TAYLOR CREEK MARSH, TALLAC CREEK, AND BALDWIN BEACH, JUST SOUTH OF LAKE TAHOE.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A WET MEADOW WITH WILLOW CLUMPS, GRASSES. CREEK RUNS THROUGH OR ALONG MEADOW. THERE IS SOME DISTURBANCE FROM PEOPLE WALKING THROUGH MEADOW.
General:	2 BREEDING ADULTS OBSERVED ON EAST SIDE OF CREEK ON 24 JUN 1992. 2 BREEDING ADULTS OBSERVED ON WEST SIDE OF CREEK ON 26 JUN 1992. BREEDING & NESTING SITE. 4 ADULTS OBSERVED FROM 22 JUN 2004 THROUGHOUT SUMMER. NUMBER OF FLEDGLINGS UNKNOWN.
Owner/Manager:	USFS-LAKE TAHOE BMU

Occurrence No.	124	**Map Index:**	59165	**EO Index:**	59201	**Element Last Seen:**	1935-06-29
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1935-06-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2005-01-07

Quad Summary:	South Lake Tahoe (3811988)
County Summary:	El Dorado

Lat/Long:	38.91453 / -119.97244	**Accuracy:**	non-specific area
UTM:	Zone-11 N4311493 E242276	**Elevation (ft):**	6250
PLSS:	T12N, R18E, Sec. 03 (M)	**Acres:**	135.3

Location:	VICINITY OF TROUT CREEK IN LAKE VALLEY NEAR SIERRA HOUSE.
Detailed Location:	11 EGG SET COLLECTIONS FROM "LAKE VALLEY, NEAR SIERRA HOUSE" AND 1 EGG SET COLLECTION FROM "TROUT CREEK, NEAR SIERRA HOUSE".
Ecological:	
General:	MVZ #9088 - #9099. ALL COLLECTIONS BY MILTON RAY. 3 COLLECTIONS FROM 30 JUN 1910, 3 FROM 1 JUL 1910. 4 COLLECTIONS FROM 26-28 JUN 1912. 1 COLLECTION FROM 5 JUL 1922 & 1 COLLECTION FROM 29 JUN 1935.
Owner/Manager:	UNKNOWN

Occurrence No.	133	**Map Index:** 65847	**EO Index:**	65926	**Element Last Seen:**	2004-07-27
Occ. Rank:	Excellent		**Presence:**	Presumed Extant	**Site Last Seen:**	2004-07-27
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2006-09-08

Quad Summary: Echo Lake (3812071)

County Summary: El Dorado

Lat/Long:	38.80101 / -120.01878	**Accuracy:**	1/10 mile
UTM:	Zone-10 N4298918 E758895	**Elevation (ft):**	6475
PLSS:	T11N, R18E, Sec. 17, NW (M)	**Acres:**	0.0

Location: 0.9 MI SE OF ECHO SUMMIT, UPPERMOST UPPER TRUCKEE AT SOUTH UPPER TRUCKEE ROAD BRIDGE.

Detailed Location: "UPPERMOST UPPER TRUCKEE AT SOUTH UPPER TRUCKEE ROAD BRIDGE." MAPPED WHERE TRUCKEE RIVER CROSSES THE ROAD, SLIGHTLY SOUTH OF UTMS GIVEN IN SOURCE (WHICH WERE ROUNDED TO THE NEAREST 100 M & OBTAINED FROM A MAP).

Ecological: DOMINANTS: SALIX LEMMONII, S. GEYERIANA & MOUNTAIN ALDER. BEAVER POND WITH BEAVER ALSO DETECTED. LAND USED FOR RECREATION, INCLUDING DOGS IN THE MEADOW.

General: BREEDING & NESTING SITE. 2 ADULTS OBSERVED DURING MONITORING FROM 5 JUN THROUGH 13 AUG 2004. PAIR WAS UNSUCCESSFUL & NOT DETECTED AFTER 27 JUL 2004.

Owner/Manager: USFS-LAKE TAHOE BMU

Riparia riparia

Element Code: ABPAU08010

bank swallow

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	Threatened		**State:**	S3
	Other:	BLM_S-Sensitive, IUCN_LC-Least Concern			
Habitat:	**General:**	COLONIAL NESTER; NESTS PRIMARILY IN RIPARIAN AND OTHER LOWLAND HABITATS WEST OF THE DESERT.			
	Micro:	REQUIRES VERTICAL BANKS/CLIFFS WITH FINE-TEXTURED/SANDY SOILS NEAR STREAMS, RIVERS, LAKES, OCEAN TO DIG NESTING HOLE.			

Occurrence No.	145	**Map Index:** 14341	**EO Index:**	12973	**Element Last Seen:**	1976-06-12
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	1976-06-12
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	1989-08-10

Quad Summary: Emerald Bay (3812081)

County Summary: El Dorado

Lat/Long:	38.93490 / -120.01963	**Accuracy:**	1 mile
UTM:	Zone-10 N4313777 E758336	**Elevation (ft):**	6240
PLSS:	T12N, R18E, Sec. 05, NE (M)	**Acres:**	0.0

Location: TAHOE KEYS, JUST N OF TOWN OF SOUTH LAKE TAHOE, ON LAKE TAHOE.

Detailed Location:

Ecological:

General: DFG COLONY #ED01. ONE BIRD OBSERVED IN 1976; ALSO, 10 BIRDS OBSERVED AT LAKE TAHOE, EL DORADO COUNTY, IN 1962.

Owner/Manager: PVT

Oncorhynchus clarkii henshawi **Element Code:** AFCHA02081

Lahontan cutthroat trout

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G5T3
	State:	None		**State:**	S2
	Other:	AFS_TH-Threatened, CDFW_SSC-Species of Special Concern			
Habitat:	**General:**	HISTORICALLY IN ALL ACCESSIBLE COLD WATERS OF THE LAHONTAN BASIN IN A WIDE VARIETY OF WATER TEMPS AND CONDITIONS.			
	Micro:	CANNOT TOLERATE PRESENCE OF OTHER SALMONIDS. REQUIRES GRAVEL RIFFLES IN STREAMS FOR SPAWNING.			

Occurrence No.	19	**Map Index:**	14294	**EO Index:**	14865	**Element Last Seen:**	1939-XX-XX
Occ. Rank:	None			**Presence:**	Extirpated	**Site Last Seen:**	1939-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1996-01-11

Quad Summary: Emerald Bay (3812081)

County Summary: El Dorado

Lat/Long:	38.93035 / -120.05444	**Accuracy:**	specific area
UTM:	Zone-10 N4313174 E755334	**Elevation (ft):**	6280
PLSS:	T13N, R17E, Sec. 36, W (M)	**Acres:**	115.8

Location: TAYLOR CREEK, BETWEEN FALLEN LEAF LAKE AND LAKE TAHOE.

Detailed Location:

Ecological: SPAWN TAKEN FROM CREEK AND RAISED IN SISSON HATCHERY. ALL CUTTHROAT FROM LAKE TAHOE ARE PROBABLY HYBRIDIZED.

General: POPULATION PRESENT IN 1895, THE LAST WILD CUTTHROAT TROUT WAS OBSERVED IN 1939.

Owner/Manager: USFS-ELDORADO NF

Gulo gulo

Element Code: AMAJF03010

wolverine

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G4
	State:	Threatened		**State:**	S1
	Other:	CDFW_FP-Fully Protected, IUCN_LC-Least Concern, USFS_S-Sensitive			
Habitat:	**General:**	FOUND IN THE NORTH COAST MOUNTAINS AND THE SIERRA NEVADA. FOUND IN A WIDE VARIETY OF HIGH ELEVATION HABITATS.			
	Micro:	NEEDS WATER SOURCE. USES CAVES, LOGS, BURROWS FOR COVER AND DEN AREA. HUNTS IN MORE OPEN AREAS. CAN TRAVEL LONG DISTANCES.			

Occurrence No.	12	**Map Index:**	14330	**EO Index:**	23350	**Element Last Seen:**	1941-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1941-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1989-08-10

Quad Summary:	Echo Lake (3812071)
County Summary:	El Dorado

Lat/Long:	38.81211 / -120.02983	**Accuracy:**	1/5 mile
UTM:	Zone-10 N4300118 E757896	**Elevation (ft):**	7377
PLSS:	T11N, R18E, Sec. 07, SE (M)	**Acres:**	0.0

Location:	SIERRA CREST-ECHO SUMMIT APPROX 4.6 MI SE OF LOWER ECHO LAKE ON HWY 50, ALSO AT CODY MDWS.
Detailed Location:	
Ecological:	
General:	SIGN OF PRESENCE OBSERVED AND ONE OBSERVATION IN 1978.
Owner/Manager:	UNKNOWN

Occurrence No.	188	**Map Index:**	34774	**EO Index:**	29198	**Element Last Seen:**	1990-07-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1990-07-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1996-03-14

Quad Summary:	Emerald Bay (3812081)
County Summary:	El Dorado

Lat/Long:	38.95199 / -120.11756	**Accuracy:**	non-specific area
UTM:	Zone-10 N4315400 E749786	**Elevation (ft):**	7000
PLSS:	T13N, R17E, Sec. 20, SE (M)	**Acres:**	4.7

Location:	WEST OF EMERALD BAY; 0.3 MILE WEST OF EAGLE CREEK X HIGHWAY 89; NNE OF EAGLE LAKE.
Detailed Location:	TAKE EAGLE FALLS TRAILHEAD, OFF HWY 89, AND LEAVE TRAIL AND GO IN NW DIRECTION JUST BEFORE BRIDGE CROSSING EAGLE CREEK, CLIMB UNTIL DISTINCT SOUTHEAST-FACING GRANITE PLATEAU IS REACHED (ABOUT 7000 FT ELEVATION).
Ecological:	UPPER MONTANE/SUBALPINE CONIFEROUS FOREST INTERGRADE (SPARSE, OPEN, GRANITIC); HABITAT CONSISTS OF: PINUS JEFFREYI, ABIES CONCOLOR, JUNIPERUS OCCIDENTALIS AUSTRALIS, ARTEMISIA SSP, ARCTOSTAPHYLOS SPP.
General:	1 OBSERVED ROAMING ON PLATEAU IN THE AFTERNOON/EVENING; SITE IS WITHIN DESOLATION WILDERNESS BOUNDARY, SO DIRECT HABITAT ALTERATION IS NOT ANTICIPATED; FALCO PEREGRINUS ANATUM, PANDION HALIAETUS, ACCIPITER COOPERII, AQUILA CHRYSAETOS OBS.
Owner/Manager:	USFS-LAKE TAHOE BMU

Bombus occidentalis

Element Code: IIHYM24252

western bumble bee

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	Candidate Endangered		**State:**	S1
	Other:	IUCN_VU-Vulnerable, USFS_S-Sensitive			

Habitat:	**General:**	ONCE COMMON AND WIDESPREAD, SPECIES HAS DECLINED PRECIPITOUSLY FROM CENTRAL CA TO SOUTHERN B.C., PERHAPS FROM DISEASE.
	Micro:	

Occurrence No.	150	**Map Index:**	98425	**EO Index:**	99851	**Element Last Seen:**	1975-09-19
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1975-09-19
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-12-07

Quad Summary:	Emerald Bay (3812081)
County Summary:	El Dorado

Lat/Long:	38.93683 / -120.02692	**Accuracy:**	3/5 mile
UTM:	Zone-10 N4313970 E757696	**Elevation (ft):**	6250
PLSS:	T12N, R18E, Sec. 06 (M)	**Acres:**	0.0

Location:	POPE BEACH, LAKE TAHOE.
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN THE GENERAL VICINITY OF POPE BEACH, SOUTH LAKE TAHOE.
Ecological:	
General:	COLLECTIONS FROM 15 SEP 1975 AND 19 SEP 1975.
Owner/Manager:	USFS-LAKE TAHOE BMU

Occurrence No.	153	**Map Index:**	98447	**EO Index:**	99875	**Element Last Seen:**	1915-07-02
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1915-07-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-12-08

Quad Summary:	Echo Lake (3812071), Emerald Bay (3812081)
County Summary:	El Dorado

Lat/Long:	38.87215 / -120.09207	**Accuracy:**	1 mile
UTM:	Zone-10 N4306609 E752277	**Elevation (ft):**	6800
PLSS:	T12N, R17E, Sec. 22 (M)	**Acres:**	0.0

Location:	GLEN ALPINE CREEK, TAHOE.
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN THE GENERAL VICINITY OF GLEN ALPINE CREEK, WITHIN THE DESOLATION WILDERNESS, SOUTHEAST OF FALLEN LEAF LAKE.
Ecological:	
General:	COLLECTED 2 JUL 1915.
Owner/Manager:	USFS-LAKE TAHOE BMU

Occurrence No.	154	**Map Index:**	70026	**EO Index:**	99877	**Element Last Seen:**	1917-09-08
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1917-09-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-12-08

Quad Summary: Emerald Bay (3812081)

County Summary: El Dorado

Lat/Long:	38.90676 / -120.09849	**Accuracy:**	4/5 mile
UTM:	Zone-10 N4310432 E751599	**Elevation (ft):**	9000
PLSS:	T12N, R17E, Sec. 09 (M)	**Acres:**	0.0

Location: MOUNT TALLAC.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB CENTERED ON MOUNT TALLAC, DESOLATION WILDERNESS, WEST OF LAKE TAHOE.

Ecological:

General: COLLECTED 8 SEP 1917.

Owner/Manager: USFS-LAKE TAHOE BMU

Occurrence No.	155	**Map Index:**	98452	**EO Index:**	99883	**Element Last Seen:**	1915-07-23
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1915-07-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-12-09

Quad Summary: Emerald Bay (3812081)

County Summary: El Dorado

Lat/Long:	38.90218 / -120.06184	**Accuracy:**	non-specific area
UTM:	Zone-10 N4310027 E754794	**Elevation (ft):**	6500
PLSS:	T12N, R17E, Sec. 11 (M)	**Acres:**	2222.0

Location: FALLEN LEAF LAKE, LAKE TAHOE.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN THE GENERAL VICINITY OF FALLEN LEAF LAKE, SOUTH OF LAKE TAHOE.

Ecological:

General: COLLECTED 23 JUL 1915.

Owner/Manager: USFS-LAKE TAHOE BMU

Occurrence No.	156	**Map Index:**	69996	**EO Index:**	99879	**Element Last Seen:**	1985-06-23
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1985-06-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2016-01-20

Quad Summary: Echo Lake (3812071)

County Summary: El Dorado

Lat/Long:	38.84057 / -120.06138	**Accuracy:**	1 mile
UTM:	Zone-10 N4303189 E755054	**Elevation (ft):**	7400
PLSS:	T12N, R17E, Sec. 36 (M)	**Acres:**	0.0

Location: ECHO LAKE.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN THE GENERAL VICINITY OF ECHO LAKE, ELDORADO NATIONAL FOREST. A COLLECTION WITH LOCALITY GIVEN ONLY AS ECHO IS ALSO ATTRIBUTED HERE.

Ecological:

General: COLLECTED 10 AUG 1940 AND 23 JUN 1985.

Owner/Manager: USFS-ELDORADO NF

Occurrence No.	157	**Map Index:**	98448	**EO Index:**	99880	**Element Last Seen:**	1931-07-12
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1931-07-12
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-12-08

Quad Summary: Echo Lake (3812071), Pyramid Peak (3812072)

County Summary: El Dorado

Lat/Long:	38.84967 / -120.11950	**Accuracy:**	2/5 mile
UTM:	Zone-10 N4304038 E749976	**Elevation (ft):**	8000
PLSS:	T12N, R17E, Sec. 32 (M)	**Acres:**	0.0

Location: LAKE OF THE WOODS.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN THE GENERAL VICINITY OF LAKE OF THE WOODS, DESOLATION WILDERNESS, ELDORADO NATIONAL FOREST.

Ecological:

General: COLLECTED 12 JUL 1931.

Owner/Manager: USFS-ELDORADO NF

Occurrence No.	159	**Map Index:**	95047	**EO Index:**	99882	**Element Last Seen:**	1948-07-18
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1948-07-18
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-12-09

Quad Summary: Carson Pass (3811968), Freel Peak (3811978)

County Summary: Alpine

Lat/Long:	38.76945 / -119.93572	**Accuracy:**	non-specific area
UTM:	Zone-11 N4295287 E244943	**Elevation (ft):**	7100
PLSS:	T11N, R18E, Sec. 25 (M)	**Acres:**	3322.0

Location: HOPE VALLEY.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB NON-SPECIFICALLY ACROSS THE EXTENT OF HOPE VALLEY, SOUTH OF LAKE TAHOE.

Ecological:

General: COLLECTED 18 JUL 1948.

Owner/Manager: USFS, DFG, UNKNOWN

Occurrence No.	297	**Map Index:**	B6155	**EO Index:**	119194	**Element Last Seen:**	2007-07-17
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-07-17
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-09-09

Quad Summary: Echo Lake (3812071), Emerald Bay (3812081)

County Summary: El Dorado

Lat/Long:	38.87543 / -120.02362	**Accuracy:**	1/5 mile
UTM:	Zone-10 N4307164 E758206	**Elevation (ft):**	6289
PLSS:	T12N, R18E, Sec. 19 (M)	**Acres:**	70.0

Location: WASHOE MEADOWS STATE PARK, ABOUT 1.0 MI W OF CA-89 AT SAWMILL RD & 1.4 MI SW OF THE LAKE TAHOE AIRPORT.

Detailed Location: MAPPED TO COORDINATES GIVEN WITH SPECIMEN LOCALITY, "SOUTH LAKE TAHOE." ACCURACY UNCERTAIN.

Ecological:

General: COLLECTED ON 17 JUL 2007.

Owner/Manager: DPR-WASHOE MEADOWS SP

Rorippa subumbellata **Element Code:** PDBRA270M0

Tahoe yellow cress

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1
	State:	Endangered		**State:**	S1
	Other:	Rare Plant Rank - 1B.1, SB_BerrySB-Berry Seed Bank, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive			
Habitat:	**General:**	LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS.			
	Micro:	SANDY BEACHES, ON LAKESIDE MARGINS AND IN RIPARIAN COMMUNITIES; ON DECOMPOSED GRANITE SAND. 1895-2410 M.			

Occurrence No.	1	**Map Index:**	14462	**EO Index:**	8257	**Element Last Seen:**	2017-09-28
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-09-28
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-08

Quad Summary:	South Lake Tahoe (3811988)
County Summary:	El Dorado

Lat/Long:	38.95461 / -119.95451	**Accuracy:**	specific area
UTM:	Zone-11 N4315892 E243976	**Elevation (ft):**	6232
PLSS:	T13N, R18E, Sec. 28, SE (M)	**Acres:**	19.0

Location:	FROM STATELINE SW TO BIJOU PARK, LAKE TAHOE.
Detailed Location:	OCCURRENCE EXTENDS UP INTO NV. INCLUDES EDGEWOOD SITE (PORTIONS OF THIS SITE IN NEVADA NOT MAPPED), TAHOE MEADOES SITE, AND BIJOU PARK SITE. MAPPED AS 3 POLYGONS ACCORDING TO A 1979 KNAPP MAP, 1981 FERREIRA MAP, AND 2017 TYC DIGITAL DATA.
Ecological:	IN BEACH SAND WITH PHACELIA FRIGIDA AND PHLOX SP. ALONG BEACH AND IN BANKS OF DITCH ENTERING LAKE. LAKE INUNDATED IN 1979 AND 1982.
General:	DETAILED POP INFO AVAILABLE AT CNDDB. PORTIONS OF SITE WERE SEEN IN 1979-1981, NO PLANTS IN 1982, SEEN IN 1990 & 1993, NO PLANTS IN 1994-1997, SEEN IN 1998-2009 AND 2017. INCLUDES FORMER EO #2 & #3.
Owner/Manager:	PVT

Occurrence No.	4	**Map Index:**	14433	**EO Index:**	8255	**Element Last Seen:**	2015-06-09
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2015-06-09
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-09-21

Quad Summary:	South Lake Tahoe (3811988)
County Summary:	El Dorado

Lat/Long:	38.94771 / -119.96571	**Accuracy:**	specific area
UTM:	Zone-11 N4315157 E242981	**Elevation (ft):**	6230
PLSS:	T13N, R18E, Sec. 33, NW (M)	**Acres:**	6.0

Location:	TAHOE LAKESHORE LODGE, BETWEEN TIMBER COVE MARINA AND THE TAHOE MARINA INN, SOUTH LAKE TAHOE.
Detailed Location:	TIMBER COVE SITE. ON THE PROPERTY OF TAHOE LAKESHORE LODGE AND SPA, 930 BALBIJOU RD. 2013 OBSERVATION AT ELEVATION 6242' IS HIGHER THAN PREVIOUS POPULATIONS FOUND BETWEEN 6223' & 6230'; PLANTS TRANSPLANTED TO TYC MITIGATION SITE.
Ecological:	ON DECOMPOSED GRANITE BEACH WITH SCATTERING OF GRASSES AND FORBS. COARSE SAND. ASSOCIATED WITH ACHILLEA MILLEFOLIUM, CAREX DOUGLASII, CHAMOMILLA SUAVEOLENS, ERIOGONUM NUDUM, GAYOPHYTUM DIFFUSUM, LEYMUS TRITICOIDES, LUPINUS LEPIDUS, ETC.
General:	PLANTS SEEN IN 1981-1988 AND 1990, NO PLANTS FOUND IN 1993-2001, PLANTS SEEN IN 2002-2005, NO PLANTS IN 2006, PLANTS SEEN IN 2007-2009, 2013 (214 PLANTS) & 2015 (304 PLANTS). ADDITIONAL POPULATION INFORMATION IS AVAILABLE AT CNDDB.
Owner/Manager:	PVT

Occurrence No.	5	**Map Index:**	14397	**EO Index:**	8251	**Element Last Seen:**	2019-06-12
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2019-06-12
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-08

Quad Summary: South Lake Tahoe (3811988), Emerald Bay (3812081)

County Summary: El Dorado

Lat/Long:	38.94022 / -120.00389	**Accuracy:**	specific area
UTM:	Zone-10 N4314412 E759682	**Elevation (ft):**	6233
PLSS:	T12N, R18E, Sec. 5, N (M)	**Acres:**	42.0

Location: FROM REGAN BEACH WEST TO THE EAST END OF POPE BEACH, SOUTH LAKE TAHOE.

Detailed Location: INCLUDES THE FOLLOWING SITE NAMES: TAHOE KEYS, UPPER TRUCKEE WEST, UPPER TRUCKEE EAST, REGAN/AL TAHOE, POPE BEACH, LIGHTHOUSE. PORTIONS OF OCCURRENCE MAY BE EXTIRPATED. MAPPED AS SEVERAL POLYGONS BY CNDDB.

Ecological: ON DECOMPOSED GRANITE BEACH, DENSE GROWTH OF RUSHES/GRASSES ABOVE BEACH, AND IN MOIST BACKSHORE AREAS. WITH PHACELIA FRIGIDA, LEPIDIUM, SALIX, LUPINUS, AND GRASSES.

General: DETAILED POP INFO AVAILABLE AT CNDDB. PORTIONS OF SITE WERE SEEN IN 1979-1983, 1985, 1986, 1988, 1990-2010, 2017, 2019. INCLUDES FORMER EO #7, 8, 9, & 23.

Owner/Manager: PVT, CTC, USFS

Occurrence No.	6	**Map Index:**	14422	**EO Index:**	8254	**Element Last Seen:**	1979-XX-XX
Occ. Rank:	None			**Presence:**	Extirpated	**Site Last Seen:**	2009-09-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-08

Quad Summary: South Lake Tahoe (3811988)

County Summary: El Dorado

Lat/Long:	38.94545 / -119.97324	**Accuracy:**	80 meters
UTM:	Zone-11 N4314928 E242319	**Elevation (ft):**	6229
PLSS:	T13N, R18E, Sec. 32, SE (M)	**Acres:**	0.0

Location: EL DORADO BEACH, BETWEEN BIJOU AND AL TAHOE, LAKE TAHOE.

Detailed Location: FOUND IN A HEAVILY USED PORTION OF THE BEACH, NEAR THE SECTION LINE BETWEEN SECTIONS 32 AND 33, APPROXIMATELY 50 FT EAST OF A DRAINAGE CULVERT DISCHARGE ON THE BEACH. PLANT WAS WEDGED BETWEEN TWO ROCKS IN AN AREA OF HEAVY FOOT TRAFFIC.

Ecological: ON BEACH WEDGED BETWEEN ROCKS.

General: 1 PLANT SEEN IN 1979. NO PLANTS FOUND DURING SURVEYS IN 1980-1983, 1985, 1986, 1988, 1990, 1993-2009. SITE WAS EXTENSIVELY DISTURBED IN THE EARLY 1980'S BY A BANK STABILIZATION PROJECT.

Owner/Manager: PVT, CITY OF SOUTH LAKE TAHOE

Occurrence No.	10	**Map Index:**	14215	**EO Index:**	3105	**Element Last Seen:**	18XX-XX-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1994-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-03-02

Quad Summary:	Emerald Bay (3812081)
County Summary:	El Dorado

Lat/Long:	38.91207 / -120.11204	**Accuracy:**	80 meters
UTM:	Zone-10 N4310985 E750405	**Elevation (ft):**	7900
PLSS:	T12N, R17E, Sec. 04, SW (M)	**Acres:**	0.0

Location:	TALLAC LAKE, SOUTHWEST OF LAKE TAHOE.
Detailed Location:	MAPPED ALONG THE SHORELINE OF TALLAC LAKE BECAUSE TYPICALLY HABITAT IS ALONG THE BEACHES OF LAKES.
Ecological:	
General:	PLANT SEEN IN THE 1800'S (CITATION BY STUCKEY). KNAPP COULD NOT FIND IN 1980, HE PRESUMES IT TO BE EXTIRPATED. SEARCHED FOR BUT NOT SEEN IN 1994.
Owner/Manager:	USFS-ELDORADO NF

Occurrence No.	11	**Map Index:**	14293	**EO Index:**	3911	**Element Last Seen:**	2020-09-20
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2020-09-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-08

Quad Summary:	Emerald Bay (3812081)
County Summary:	El Dorado

Lat/Long:	38.94327 / -120.0681	**Accuracy:**	specific area
UTM:	Zone-10 N4314570 E754104	**Elevation (ft):**	6230
PLSS:	T13N, R17E, Sec. 26 (M)	**Acres:**	55.0

Location:	BETWEEN CASCADE CREEK AND KIVA BEACH, LAKE TAHOE.
Detailed Location:	MAPPED AS MANY POLYGONS FROM 1990 & 1991 MAPS, LTBMU DIGITAL DATA, & TYC DIGITAL DATA. SURVEYS INCLUDE PLANTED INDIVIDUALS. NW POLYGON IS NONSPECIFIC; MAPPED ALONG SHORELINE OF CA TAHOE CONSERVANCY PROPERTY. INCLUDES FORMER OCCS #12 & 32.
Ecological:	ON COARSE SANDY BEACHES OF DECOMPOSED GRANITE, ALONG CREEK & EDGES OF MEADOW. GROWING WITH JUNCUS BALTICUS, VERBASCUM THAPSUS, RORIPPA CURVISILIQUA, EPILOBIUM SP, ETC. ADJACENT LAGOON AND CREEK MOUTH HAVE DRASTICALLY ALTERED HABITAT.
General:	PLANTS PRESENT AT VARIOUS SITES FROM 1979-2009. POPULATION COUNT FOR PORTIONS OF OCCURRENCE: 3030 IN 2010, ~2321 IN 2013, ~3718 IN 2014, ~3245 IN 2016, 302 IN 2017, 1244 IN 2019, SEEN IN 2020. ADDITIONAL POPULATION INFO AVAILABLE AT CNDDB.
Owner/Manager:	USFS-LAKE TAHOE BMU, PVT

Occurrence No.	13	**Map Index:**	14314	**EO Index:**	3910	**Element Last Seen:**	2008-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-09-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-11-15

Quad Summary:	Emerald Bay (3812081)
County Summary:	El Dorado

Lat/Long:	38.93822 / -120.03881	**Accuracy:**	non-specific area
UTM:	Zone-10 N4314091 E756661	**Elevation (ft):**	6229
PLSS:	T13N, R17E, Sec. 25, S (M)	**Acres:**	27.0

Location:	JAMESON BEACH AND KIVA BEACH, NEAR CAMP RICHARDSON, LAKE TAHOE.
Detailed Location:	KIVA BEACH/VALHALLA AND JAMESON SITES. W POLYGON: KIVA BEACH BETWEEN POPE ESTATE AND VALHALLA ESTATE, MAPPED ACCORDING TO 1979 MAP. E POLYGON: NON-SPECIFIC, MAPPED BY CNDDB PARALLEL TO JAMESON BEACH RD BASED ON SITE NAME AND VAGUE 2010 MAP.
Ecological:	ON BEACH. ONLY NARROW, MARGINAL HABITAT REMAINS.
General:	KIVA BEACH/VALHALLA (INCL EO#11): SEEN IN 1979, 1981, 1991, 1992, NONE IN 1995-2002, SEEN IN 2003-2005, 0 IN 2006 & 2007, SEEN IN 2008, 0 IN 2009. JAMESON: UNK WHEN ORIGINALLY SEEN (PLANTED?), NONE IN 2001-2004, 13 IN 2006, 0 IN 2007-2009.
Owner/Manager:	USFS-LAKE TAHOE BMU, PVT

Occurrence No.	14	**Map Index:**	14245	**EO Index:**	3914	**Element Last Seen:**	2008-XX-XX
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-09-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-08

Quad Summary:	Emerald Bay (3812081)
County Summary:	El Dorado

Lat/Long:	38.95979 / -120.09599	**Accuracy:**	80 meters
UTM:	Zone-10 N4316326 E751628	**Elevation (ft):**	6225
PLSS:	T13N, R17E, Sec. 22, NW (M)	**Acres:**	5.0

Location:	NW SIDE OF EMERALD BAY, 0.5 AIR MILE NE OF FANNETTE ISLAND.
Detailed Location:	ABOUT 25 FEET NORTHEAST OF BOAT DOCK AT EMERALD BAY BOAT CAMP.
Ecological:	PLANTS UNDER A LEANING SNAG.
General:	<15 PLANTS SEEN IN 1979, NONE SEEN IN 1980-83 & 1986, 8 IN '90, 0 IN '91-92, UNK # IN '93-94, 0 IN '95-96, '98, '00, 5 IN '01, UNK # IN '02, 0 IN '03, 24 IN '04, 77 IN '05, 0 IN '06-07, 6 IN '08, 0 IN '09.
Owner/Manager:	DPR-EMERALD BAY SP

Occurrence No.	15	**Map Index:**	14226	**EO Index:**	3915	**Element Last Seen:**	2019-08-31
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2019-08-31
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-08

Quad Summary: Emerald Bay (3812081)

County Summary: El Dorado

Lat/Long:	38.9492 / -120.10331	**Accuracy:**	specific area
UTM:	Zone-10 N4315131 E751032	**Elevation (ft):**	6230
PLSS:	T13N, R17E, Sec. 28, NE (M)	**Acres:**	9.0

Location: SOUTHWEST EMERALD BAY, FROM VIKINGSHOLM BOAT HARBOR EAST ABOUT 0.3 MILE, LAKE TAHOE.

Detailed Location: EAGLE CREEK/AVALANCHE SITE. PLANTS FOUND SOUTHEAST OF MOUTH OF EAGLE CREEK IN VICINITY OF AVALANCHE DEBRIS. MAPPED AS 4 POLYGONS ACCORDING TO KERBAVAZ MAPS, 2017 TYC DIGITAL DATA, AND DEAN COORDINATES. ADDITIONAL POP INFO AT CNDDB.

Ecological: FINE TO COARSE-GRAINED SAND. ASSOCIATES VARY FROM SITE TO SITE AND INCLUDE CAREX, RUMEX, ALNUS, SALIX, VERBASCUM, EPILOBIUM, AND MIMULUS.

General: <15 IN 1979, 27 IN '90, 150 IN '91, 220 IN '92, 155 IN '93, 0 PLANTS IN '95, '96, '98, & 2000, 51 IN '01, 35 IN '02, 265 IN '03, 493 IN '04, 601 IN '05, 71 IN '06, 404 IN '07, 354 IN '08, 373 IN '09, SEEN IN 2017, 40 IN 2018, 1 IN 2019.

Owner/Manager: DPR-EMERALD BAY SP

Occurrence No.	16	**Map Index:**	14228	**EO Index:**	3426	**Element Last Seen:**	2017-09-05
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-09-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-08

Quad Summary: Meeks Bay (3912011)

County Summary: El Dorado

Lat/Long:	39.00098 / -120.10233	**Accuracy:**	specific area
UTM:	Zone-10 N4320881 E750934	**Elevation (ft):**	6235
PLSS:	T13N, R17E, Sec. 4, SE (M)	**Acres:**	3.0

Location: SOUTH END OF RUBICON BAY, NORTHERN BOUNDARY OF D.L. BLISS STATE PARK, LAKE TAHOE.

Detailed Location: N COLONY = RUBICON BAY SITE. S COLONY = DL BLISS SP SITE: A TRANSPLANT SITE JUST INSIDE THE PARK BOUNDARY AT LESTER BEACH, ADJACENT TO THE DAY USE PARKING AREA. MAPPED AS 2 POLYGONS TO INCLUDE A 1989 WALTER MAP AND 2017 TYC DIGITAL DATA.

Ecological: ON DECOMPOSED GRANITE BEACH WITH PHACELIA HASTATA SSP. COMPACTA ON FLAT GROUND. ADJACENT TO WILLOW THICKET WITH A JUNCUS "TURF" AT THE BASE.

General: N COLONY: SEEN IN 1981-1983, 1986, 1988, 1990, 1993, 1994, NONE IN 1998, SEEN IN 1999, NONE IN 2000, SEEN IN 2001-2009, 2017. S COLONY: NONE IN 1979-1988, PLANTED IN 1989, SEEN IN 1990, 1993-2009, 2017. ADD'L POP INFO AVAILABLE AT CNDDB.

Owner/Manager: USFS-DL BLISS SP, PVT

Occurrence No.	17	**Map Index:**	14204	**EO Index:**	3427	**Element Last Seen:**	2020-08-20
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2020-08-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-08

Quad Summary:	Meeks Bay (3912011)
County Summary:	El Dorado

Lat/Long:	39.03686 / -120.12305	**Accuracy:**	specific area
UTM:	Zone-10 N4324806 E749013	**Elevation (ft):**	6230
PLSS:	T14N, R17E, Sec. 29, NE (M)	**Acres:**	17.0

Location:	MEEKS BAY, LAKE TAHOE.
Detailed Location:	MEEKS BAY AND MEEKS BAY ENCLOSURE SITES. POPULATIONS INCLUDE BOTH NATURALLY OCCURING AND PLANTED INDIVIDUALS. MAPPED AS 4 POLYGONS IN THE SE 1/4 SECTION 20 & THE NE 1/4 SECTION 29. ADDITIONAL POPULATION INFORMATION IS AVAILABLE AT CNDDB.
Ecological:	ON ROCKY, DECOMPOSED GRANITE BEACH, ALONG SANDBAR, IN SANDY AREAS BETWEEN BOULDERS, AND NEAR MOUTH OF CREEK. ASSOCIATES INCLUDE RUMEX, SALIX, RORIPPA CURVISILIQUA, ALNUS INCANA, MIMULUS GUTTATUS, JUNCUS, SOLIDAGO CANADENSIS, ETC.
General:	TYPE. SEEN IN 1979-1981; 0 IN 1982-1983 & 1986; SEEN IN 1988, 1990-1992; 0 IN 1993 -1994; SEEN IN 1996-2005; 0 IN 2006; SEEN IN 2007-2009, 2013, & 2015; 0 IN '17 & '18 (HIGH WATER YEARS), 16 IN 2020.
Owner/Manager:	USFS-LAKE TAHOE BMU

Occurrence No.	18	**Map Index:**	14198	**EO Index:**	13187	**Element Last Seen:**	2009-09-10
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-09-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-11-07

Quad Summary:	Meeks Bay (3912011), Homewood (3912012)
County Summary:	El Dorado, Placer

Lat/Long:	39.06790 / -120.12705	**Accuracy:**	specific area
UTM:	Zone-10 N4328241 E748557	**Elevation (ft):**	6229
PLSS:	T14N, R17E, Sec. 08, SW (M)	**Acres:**	13.3

Location:	TAHOMA, ON SMALL PRIVATE BEACHES ABOUT 0.1 MILE NORTHWEST PLACER / EL DORADO COUNTY LINE, LAKE TAHOE.
Detailed Location:	IN 1981, ONE PLANT OBSERVED GROWING NEXT TO A ROCK & CEMENT PATH AT THE BASE OF SOME WILLOWS. MAPPED ACCORDING TO A 1979 KNAPP MAP AND A 1981 FERREIRA MAP.
Ecological:	WHITE, SANDY, DECOMPOSED GRANITE BEACH.
General:	2 PLANTS SEEN IN 1979, 1 PLANT IN 1980 & 1981, 0 PLANTS SEEN IN 1982, 1983, 1986, 1988, 1990, UNK # OF PLANTS SEEN IN 1993 & 1994, 0 PLANTS IN 1995-2001, 7 IN 2003, 3 IN 2004, 500 IN 2005, 0 IN 2006 & 2007, 245 IN 2008, 339 IN 2009.
Owner/Manager:	PVT

Occurrence No.	24	**Map Index:**	32012	**EO Index:**	3948	**Element Last Seen:**	2016-08-02
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2016-08-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-09-26

Quad Summary:	Emerald Bay (3812081)
County Summary:	El Dorado

Lat/Long:	38.97783 / -120.09404	**Accuracy:**	specific area
UTM:	Zone-10 N4318334 E751733	**Elevation (ft):**	6230
PLSS:	T13N, R17E, Sec. 15, NW (M)	**Acres:**	1.0

Location:	DL BLISS STATE PARK, ABOUT 1 MILE NORTHWEST OF EMERALD POINT, LAKE TAHOE.
Detailed Location:	ALONG THE SHORE OF A SHALLOW COVE SOUTH OF LIGHTHOUSE. MAPPED BY CNDDB FROM 2016 MCNAIR COORDINATES IN THE NW 1/4 OF THE NW 1/4 OF SECTION 15.
Ecological:	GROWING IN COARSE GRANITE SAND ON BENCH AT THE BASE OF SLOPE LOCATED ABOUT 15 FEET FROM THE WATER'S EDGE. PRIMARILY ON BARE SAND WITH SOME CAREX, ALNUS, AND CHRYSOTHAMNUS.
General:	33 PLANTS SEEN IN 1992. 84 PLANTS SEEN IN 1993. 12 PLANTS SEEN IN 2016.
Owner/Manager:	DPR-DL BLISS SP

Occurrence No.	25	**Map Index:**	32013	**EO Index:**	3947	**Element Last Seen:**	2018-08-31
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2018-08-31
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-09

Quad Summary:	Emerald Bay (3812081)
County Summary:	El Dorado

Lat/Long:	38.9659 / -120.0839	**Accuracy:**	specific area
UTM:	Zone-10 N4317038 E752654	**Elevation (ft):**	6230
PLSS:	T13N, R17E, Sec. 22, NE (M)	**Acres:**	9.0

Location:	EMERALD POINT AND EAGLE POINT, MOUTH OF EMERALD BAY, LAKE TAHOE.
Detailed Location:	7 COLONIES TOTAL. 4 COLONIES MAPPED ON EMERALD POINT AND 3 COLONIES MAPPED ON EAGLE POINT. ADDITIONAL POPULATION INFORMATION IS AVAILABLE AT CNDDB. INCLUDES FORMER OCCURRENCE #S 26 & 27.
Ecological:	IN COARSE SAND AMONG SMALL COBBLES AND SANDY PATCHES OF DECOMPOSED GRANITE. ASSOCIATED WITH VERBASCUM, TRIFOLIUM, SALIX, POPULUS TREMULOIDES, GRASSES, AND CAREX. PLANTS ABOUT 15 TO 25 FEET FROM THE LAKE AND 1 FOOT ABOVE THE WATER LEVEL.
General:	EMERALD POINT: SEEN IN 1979, 0 IN 1980-86, SEEN IN 1990-94, 0 IN 1995-98 & 2000, SEEN IN 2001-05, 2007-09, 2016, & 2018. EAGLE POINT: SEEN IN 1991-94, 0 IN 1995-1998, 2000-03, SEEN IN 2004-05, 0 IN 2006-07, SEEN IN 2008-09.
Owner/Manager:	DPR-EMERALD BAY SP, DL BLISS

Occurrence No.	33	**Map Index:**	70991	**EO Index:**	71909	**Element Last Seen:**	2008-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-09-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-11-08

Quad Summary: Meeks Bay (3912011)

County Summary: El Dorado

Lat/Long:	39.03135 / -120.11600	**Accuracy:**	80 meters
UTM:	Zone-10 N4324214 E749641	**Elevation (ft):**	6225
PLSS:	T14N, R17E, Sec. 29, E (M)	**Acres:**	0.0

Location: MEEKS BAY VISTA, SOUTH OF MEEKS BAY, LAKE TAHOE.

Detailed Location: ABOUT 100 YARDS SOUTH OF THE MEEKS BAY VISTA/RUBICON BAY PROPERTY LINE.

Ecological: JUST ABOVE WATER LINE ON A WHITE SAND POCKET BEACH.

General: 15 PLANTS SEEN IN 1980 AND 1981, NO PLANTS FOUND IN 1982, 1983, 1986, & 1990, UNKNOWN NUMBER OF PLANTS SEEN IN 1993, 0 PLANTS IN 1994, 1998, 2000-2002, 230 PLANTS IN 2003, 0 IN 2005-2007, 3 IN 2008, 0 IN 2009.

Owner/Manager: PVT

Occurrence No.	34	**Map Index:**	90858	**EO Index:**	91896	**Element Last Seen:**	2014-06-21
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2014-06-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-08-25

Quad Summary: Meeks Bay (3912011)

County Summary: El Dorado

Lat/Long:	39.05524 / -120.11356	**Accuracy:**	specific area
UTM:	Zone-10 N4326872 E749770	**Elevation (ft):**	6230
PLSS:	T14N, R17E, Sec. 16, SW (M)	**Acres:**	1.0

Location: MOUTH OF GENERAL CREEK, SUGAR PINE POINT STATE PARK, LAKE TAHOE.

Detailed Location: MAPPED BY CNDDB IN THE SW 1/4 OF THE SW 1/4 OF PROJECTED SECTION 16 BASED ON 2014 DEAN COORDINATES. ONLY AREAS NEAR CREEK MOUTH WERE SURVEYED IN 2014; MORE PLANTS MAY OCCUR IN AREA.

Ecological: UPLAND SANDY HABITAT NORTH AND SOUTH OF MOUTH OF CREEK.

General: 13 PLANTS OBSERVED IN 2001, 383 PLANTS IN 2002, 104 IN 2003, 86 IN 2004, 908 IN 2005, 12 IN 2006, 69 IN 2007, 80 IN 2008, 56 IN 2009, 36 IN 2014.

Owner/Manager: DPR-Z'BERG SUGAR PINE POINT SP

Occurrence No.	35	**Map Index:**	A6100	**EO Index:**	107854	**Element Last Seen:**	2014-09-04
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2020-07-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-02

Quad Summary: Emerald Bay (3812081)

County Summary: El Dorado

Lat/Long:	38.93674 / -120.02515	**Accuracy:**	specific area
UTM:	Zone-10 N4313966 E757851	**Elevation (ft):**	6235
PLSS:	T12N, R18E, Sec. 6, NE (M)	**Acres:**	1.0

Location: POPE BEACH PICNIC AREA NORTH OF TRUCKEE MARSH, LAKE TAHOE.

Detailed Location: AT PICNIC TABLES ABOUT 200 FEET WEST OF THE BATHROOM, JUST SOUTH OF PARKING AREA. MAPPED BY CNDDB FROM 2014 & 2016 LTBMU DIGITAL DATA, IN THE NE 1/4 OF THE NE 1/4 OF PROJECTED SECTION 6.

Ecological: WITH CAREX SP, WILLOWS AND PINES. AREA USED TO BE FENCED.

General: 12 PLANTS OBSERVED IN 2014. NO PLANTS OBSERVED IN 2020.

Owner/Manager: USFS-LAKE TAHOE BMU

Occurrence No.	36	**Map Index:** A6103	**EO Index:**	107855	**Element Last Seen:**	2016-08-02
Occ. Rank:	Fair		**Presence:**	Presumed Extant	**Site Last Seen:**	2016-08-02
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2017-09-26

Quad Summary: Emerald Bay (3812081)

County Summary: El Dorado

Lat/Long:	38.98684 / -120.09443	**Accuracy:**	specific area
UTM:	Zone-10 N4319333 E751668	**Elevation (ft):**	6230
PLSS:	T13N, R17E, Sec. 10, W (M)	**Acres:**	1.0

Location: BEACH COVE ABOUT 1.5 AIR MILES NNW OF TIP OF EMERALD POINT, D.L. BLISS STATE PARK.

Detailed Location: MAPPED BY CNDDB IN THE WEST HALF OF SECTION 10, BASED ON 2016 MCNAIR COORDINATES.

Ecological: IN OPEN SAND ON HIGHER PART OF BEACH.

General: 5 PLANTS OBSERVED IN 2016.

Owner/Manager: DPR-DL BLISS SP

Occurrence No.	39	**Map Index:** B7150	**EO Index:**	120219	**Element Last Seen:**	2017-09-05
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	2017-09-05
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2021-04-08

Quad Summary: Meeks Bay (3912011)

County Summary: El Dorado

Lat/Long:	39.01043 / -120.11386	**Accuracy:**	specific area
UTM:	Zone-10 N4321898 E749902	**Elevation (ft):**	6232
PLSS:	T14N, R17E, Sec. 33, SW (M)	**Acres:**	2.0

Location: SOUTH END OF SOUTH LANE, RUBICON BAY, LAKE TAHOE.

Detailed Location: MAPPED AS 2 POLYGONS ACCORDING TO 2017 TYC DIGITAL DATA, IN THE SW CORNER OF SECTION 33. DOCUMENTED HERE IN 2017 BUT AREA HAD BEEN SEARCHED PREVIOUSLY IN 1979 AND 1980 FOR RORIPPA SUBUMBELLATA WITHOUT FINDING ANY PLANTS.

Ecological:

General: AT LEAST 5 PLANTS OBSERVED IN 2017.

Owner/Manager: PVT

Occurrence No.	40	**Map Index:** B7151	**EO Index:**	120220	**Element Last Seen:**	2017-09-05
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	2017-09-05
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2021-04-01

Quad Summary: Meeks Bay (3912011)

County Summary: El Dorado

Lat/Long:	39.01652 / -120.11722	**Accuracy:**	specific area
UTM:	Zone-10 N4322564 E749589	**Elevation (ft):**	6230
PLSS:	T14N, R17E, Sec. 32, E (M)	**Acres:**	1.0

Location: APPROXIMATELY 0.15 MI SOUTH OF THE SOUTH END OF LAKESIDE AVE, RUBICON BAY, LAKE TAHOE.

Detailed Location: MAPPED ACCORDING TO 2017 TYC DIGITAL DATA, IN THE EAST 1/2 OF SECTION 32.

Ecological:

General: AT LEAST 2 PLANTS SEEN IN 2017.

Owner/Manager: PVT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
Phone: (775) 861-6300 Fax: (775) 861-6301

In Reply Refer To: 04/18/2025 15:36:22 UTC
Project Code: 2025-0085271
Project Name: South Tahoe Public Utility District - Pioneer Trail Waterline and Facilities Upgrade Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
(775) 861-6300

PROJECT SUMMARY

Project Code: 2025-0085271

Project Name: South Tahoe Public Utility District - Pioneer Trail Waterline and Facilities Upgrade Project

Project Type: Utility Infrastructure Maintenance

Project Description: STPUD is to replace and upgrade existing waterlines in the right-of-way of Pioneer Trail and install pressure reducing valves for residential water distribution lines in South Lake Tahoe, CA. A total of 1.5 miles of new water line will be installed to allow for redundancy in water distribution and to increase fire-flows to the adjacent residential areas. Project implementation will occur over the course of one year likely in 2023.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.89323735,-119.97331021583756,14z

Counties: El Dorado County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Wolf *Canis lupus* Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is **final** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered
North American Wolverine *Gulo gulo luscus* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Species may be present based on transient occurrence as it moves through or too suitable habitat. Effects should be considered to species and projects should consult with the Service, however, depending on the project, consultation may not be necessary. Species profile: https://ecos.fws.gov/ecp/species/5123	Threatened
Sierra Nevada Red Fox *Vulpes vulpes necator* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4252	Endangered

BIRDS

NAME	STATUS
California Spotted Owl *Strix occidentalis occidentalis* Population: Sierra Nevada No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7266	Proposed Threatened

REPTILES

NAME	STATUS
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
Sierra Nevada Yellow-legged Frog *Rana sierrae* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9529	Endangered

FISHES

NAME	STATUS
Lahontan Cutthroat Trout *Oncorhynchus clarkii henshawi*	Threatened

NAME	STATUS
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3964	

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper

Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

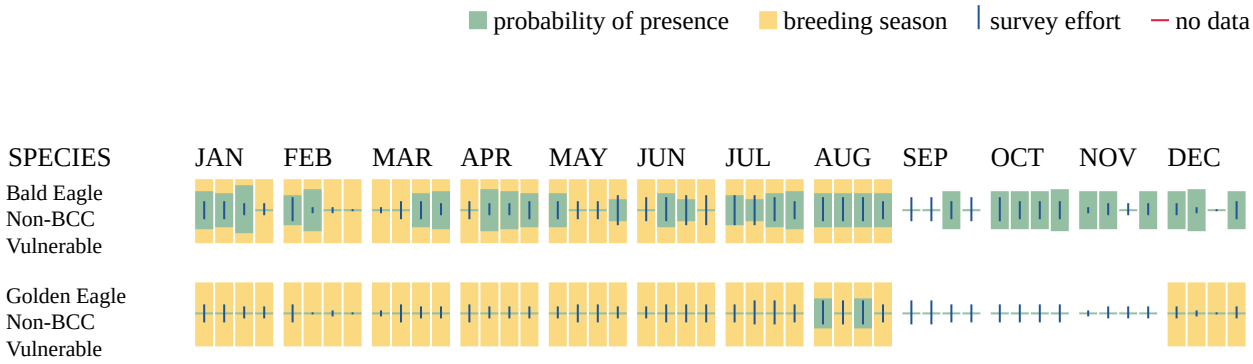
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Dipper *Cinclus mexicanus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11928	Breeds Mar 21 to Aug 21
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Black-throated Gray Warbler *Setophaga nigrescens* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9584	Breeds May 1 to Jul 20
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10955	Breeds Mar 1 to Jul 31
Calliope Hummingbird *Selasphorus calliope* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9526	Breeds May 1 to Aug 15
Cassin's Finch *Haemorhous cassinii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15

NAME	BREEDING SEASON
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10575	Breeds Jun 1 to Aug 31
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9465	Breeds May 15 to Aug 10
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31
Hermit Warbler *Setophaga occidentalis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11957	Breeds May 5 to Jul 15
Lawrence's Goldfinch *Spinus lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Lewis's Woodpecker *Melanerpes lewis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Long-eared Owl *asio otus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Western Grebe *aechmophorus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10669	Breeds Apr 20 to Aug 5

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

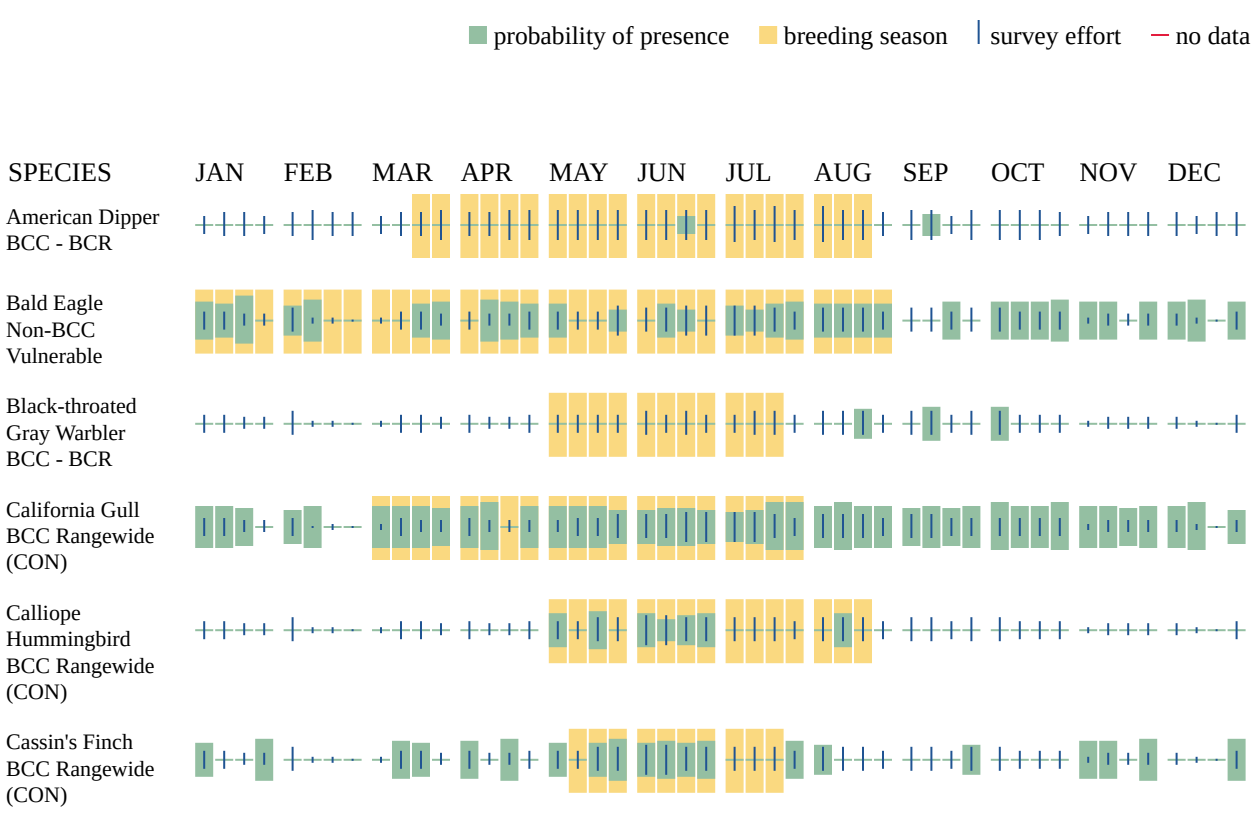
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



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WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R4SBC
- R4SBA
- R3UBH

FRESHWATER POND

- PUBF

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1B
- PSS1/EM1B

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