CHURCH STREET EXTENSION/TROUT CREEK RESTORATION PROJECT

Initial Study/Mitigated Negative Declaration

Prepared for
Town of Truckee

June 2019

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2600 Capitol Avenue
Suite 200
Sacramento, CA 95816
916.564.4500
www.esassoc.com

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CHAPTER 1
Project Description

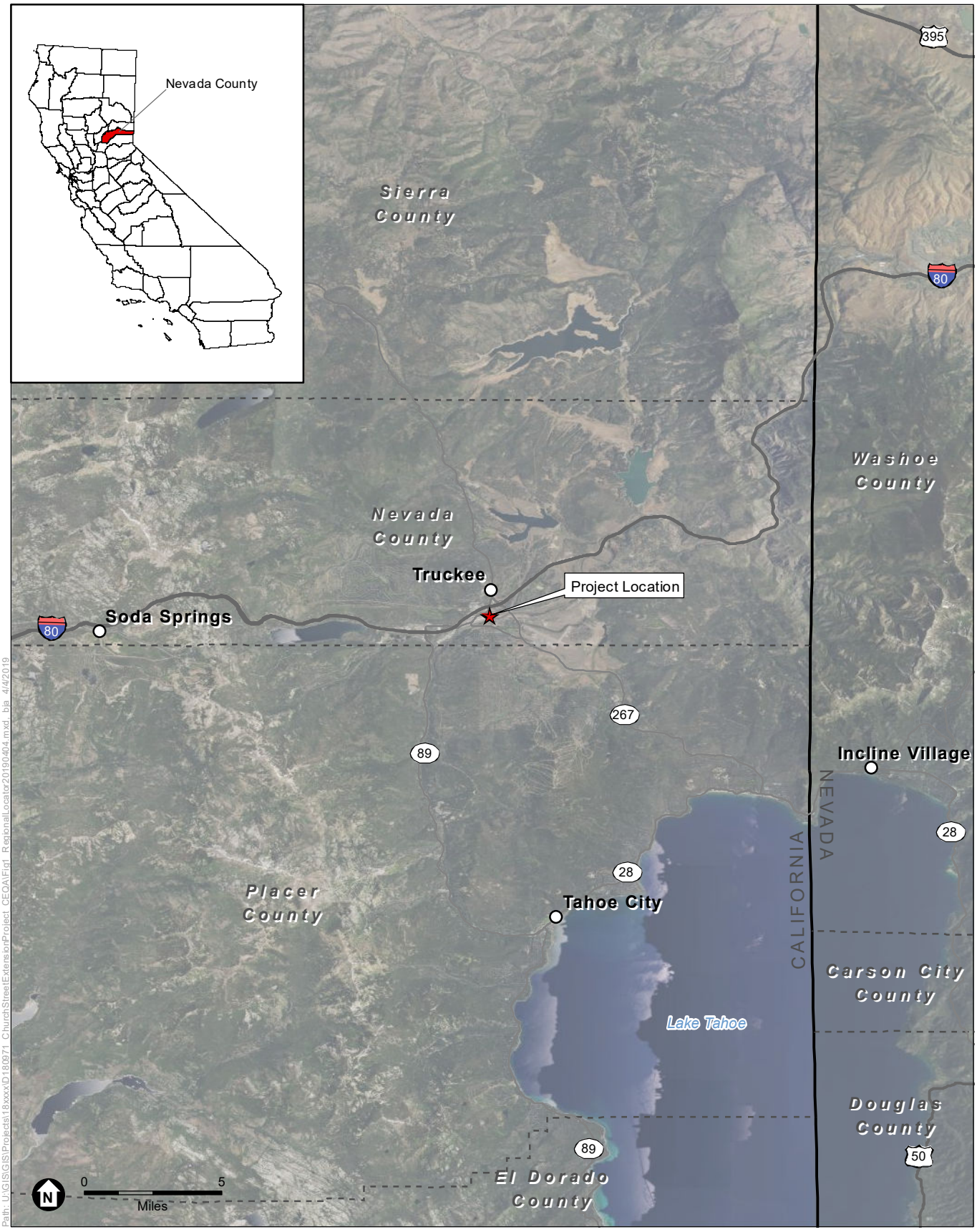
1.1 Introduction

Truckee Development Associates (TDA) is currently developing the Truckee Railyard, a 34-acre parcel adjacent to the Union Pacific Railroad (UPRR) east of Downtown Truckee. The parcel is bounded on the north and east by Trout Creek, the south by the UPRR, and is accessed from the west by means of Church Street and Truckee Way (formerly known as Donner Pass Road). As part of their work in the Truckee Railyard, TDA has recently extended Church Street through the UPRR balloon track. A second access from Glenshire Drive to the east will be necessary to fully develop the parcel. This second access from Glenshire Drive will require a new crossing of Trout Creek and will connect to Church Street east of the UPRR balloon track. In addition, the Town has been restoring portions of Trout Creek upstream of the Truckee Railyard parcel over the last 14 years and has plans to restore the remaining portion of Trout Creek downstream to the UPRR right-of-way.

For this project, the Town is proposing two components: the Church Street Extension component and the Trout Creek Restoration component. The Church Street Extension component will extend Church Street to Glenshire Drive, including a new crossing of Trout Creek. The crossing over Trout Creek will consist of a precast concrete arch bridge with a natural streambed. The Trout Creek Restoration component will restore Reaches 4 and 5 of Trout Creek through the project area. This project component will restore Trout Creek from the western side of the balloon track downstream to the UPRR right-of-way. Depending on funding sources, the restoration of the creek may be completed in one or two construction phases. Preference is for the restoration of the creek to be completed during one construction phase. However, if two phases are required, Phase 1 will include restoration of a segment of Reach 5 immediately upstream and downstream of the new Church Street crossing to accommodate the roadway extension component of the project; Phase 2 of the Trout Creek Restoration will include the remainder of Reach 5 and all of Reach 4.

1.2 Project Location

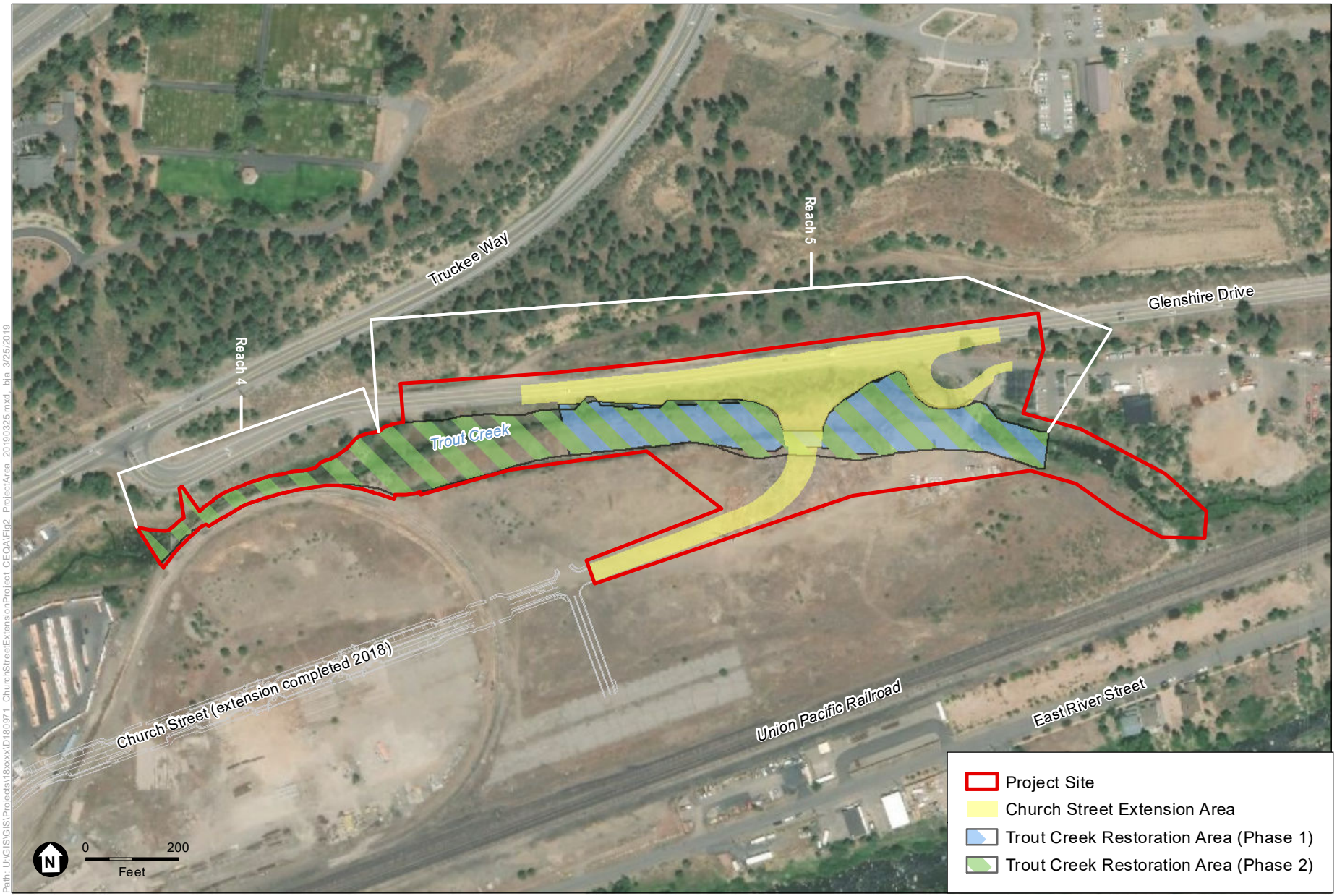
The project site is located at the eastern end of historic Downtown Truckee in the Railyard Master Plan Area. The project site is comprised primarily of a site historically occupied by the railyard and lumber mill, and is generally bounded by Glenshire Drive to the north, commercial uses and undeveloped land to the east, UPRR right-of-way to the south, and the existing Church Street and UPRR balloon track to the west (**Figures 1** and **2**). This location corresponds to Section 11 of Township 17 North, Range 16 East of the Truckee, California U.S. Geological Survey (USGS) 7.5-minute series quadrangle. The proposed project site is located within the Town of Truckee, in



SOURCE: NAIP, 2016; ESRI, 2012; ESA, 2019

Church Street Extension / Trout Creek Restoration Project

Figure 1
Project Location



SOURCE: DigitalGlobe, 2016; ESE, 2019; WaterWays Consulting, 2019; ESA, 2019

Church Street Extension / Trout Creek Restoration Project

Figure 2
Project Site

Nevada County, totaling approximately 11.35 acres (this acreage includes the construction footprint for both project components as well as staging areas, access routes, and buffers). Access to the site is currently provided by Church Street on the west as well as a 64-inch corrugated metal pipe (CMP) culvert crossing of Trout Creek at Rock & Rose, Inc. on the north. The majority of the site, outside of the Trout Creek corridor, consists of disturbed or developed land and was previously used for UPRR operations and other industrial purposes including lumber mills. In the recent past, the majority of the project site was occupied by a material and equipment storage yard for the Rock & Rose, Inc. landscaping company. Adjacent land uses include an electrical substation, civic, residential, and commercial uses to the east, west, and northwest; Glenshire Drive and U.S. Forest Service land to the north; and the UPRR and Truckee River to the south. Elevation in the project site ranges from 5,780 feet above mean sea level along Trout Creek to 5,820 feet above mean sea level along Glenshire Drive.

1.3 Purpose and Objectives of the Proposed Project

Church Street Extension

The primary objectives of the Church Street Extension include the following:

- Provide a connected community with places that are easily accessible to pedestrians, bicyclists, and drivers;
- Create a street and sidewalk network that is physically connected to the existing Downtown, surrounding neighborhoods, and Trout Creek and visually connected to the natural features including the Truckee River and surrounding mountains;
- Advance the Town's vision for the Railyard Area by creating an easterly extension of the existing Downtown;
- Create a strong connection between the Railyard and the historic core; and
- Guide development of the Railyard Master Plan Area in a manner consistent with Town planning and policy documents, including the General Plan and the Downtown Specific Plan.

Trout Creek Restoration

The primary objectives of the Trout Creek Restoration include the following:

- Develop a restoration design that will restore natural geomorphic function to lower Trout Creek, improve bed mobility, and reduce fine sediment loads into the channel;
- Improve ecological value through creation of a functioning riparian corridor and enhancement of aquatic habitat;
- Improve water quality by managing local runoff from existing and proposed urban developments and, where feasible, treating urban runoff before it enters Trout Creek;
- Provide 100-year flood protection through the project reach and reduce peak runoff, where feasible, from adjacent new developments through a stormwater management program; and

- Improve the recreational and aesthetic value of lower Trout Creek by integrating the stream and riparian restoration project with the recreational opportunities provided as part of the Railyard Master Plan.

1.4 Background

Church Street Extension

The Church Street Extension component of the proposed project was originally conceived of in the Railyard Master Plan. The Master Plan is a tool to guide development of the Railyard Master Plan Area, including the project site, in a manner that is consistent with Town planning and policy documents, including the General Plan and the Downtown Truckee Specific Plan. The purpose of the Truckee Railyard Mixed-Use Development Master Plan is to capture and describe the Town's vision for the Railyard Area and to guide its future redevelopment. The Master Plan describes the scale and character of development envisioned for the Railyard Area and includes development standards and design guidelines to help ensure that future development is consistent with the Town's vision for the area. An Environmental Impact Report (EIR) was prepared to evaluate any potentially significant environmental effects that may result from implementation of this Master Plan. The Draft EIR was completed and released for the community's review and comment in November 2008 and the Final EIR was published in May 2009. The Truckee Railyard Master Plan was adopted by the Town Council on July 2, 2009, and became effective on August 2, 2009. The Railyard Master Plan Final EIR, including the Mitigation Monitoring and Reporting Program (MMRP), was also certified by the Town Council on July 2, 2009, through Town Council Resolution No. 2009-32. Both became effective August 2, 2009. The Railyard Master Plan was updated in 2016 and was subsequently adopted by the Town Council in November 2016.

Trout Creek Restoration

Over the past 14 years, the Town of Truckee has led an effort to restore habitat conditions, improve water quality, and reduce flood risk along approximately one mile of Trout Creek through Downtown Truckee. Given the complexities of restoration in an urban environment and the associated cost of replacing undersized culverts with bridges, replacing concrete with natural channel material, coordinating project elements and easements with private property owners, and addressing utility conflicts, the project is being implemented in phases as funding becomes available. In 2006, Reach 2 was constructed. In 2011 and 2012, Reach 3 of the Trout Creek Restoration Project was constructed, which included a portion of Trout Creek from Truckee Way at the upstream end to the UPRR balloon track at the downstream end. In 2013, Reach 1 Phase 1 of the Trout Creek Restoration Project was constructed, which included a portion of Reach 1 from approximately 50 feet downstream of the School Street crossing to Truckee Way.

1.5 Proposed Project

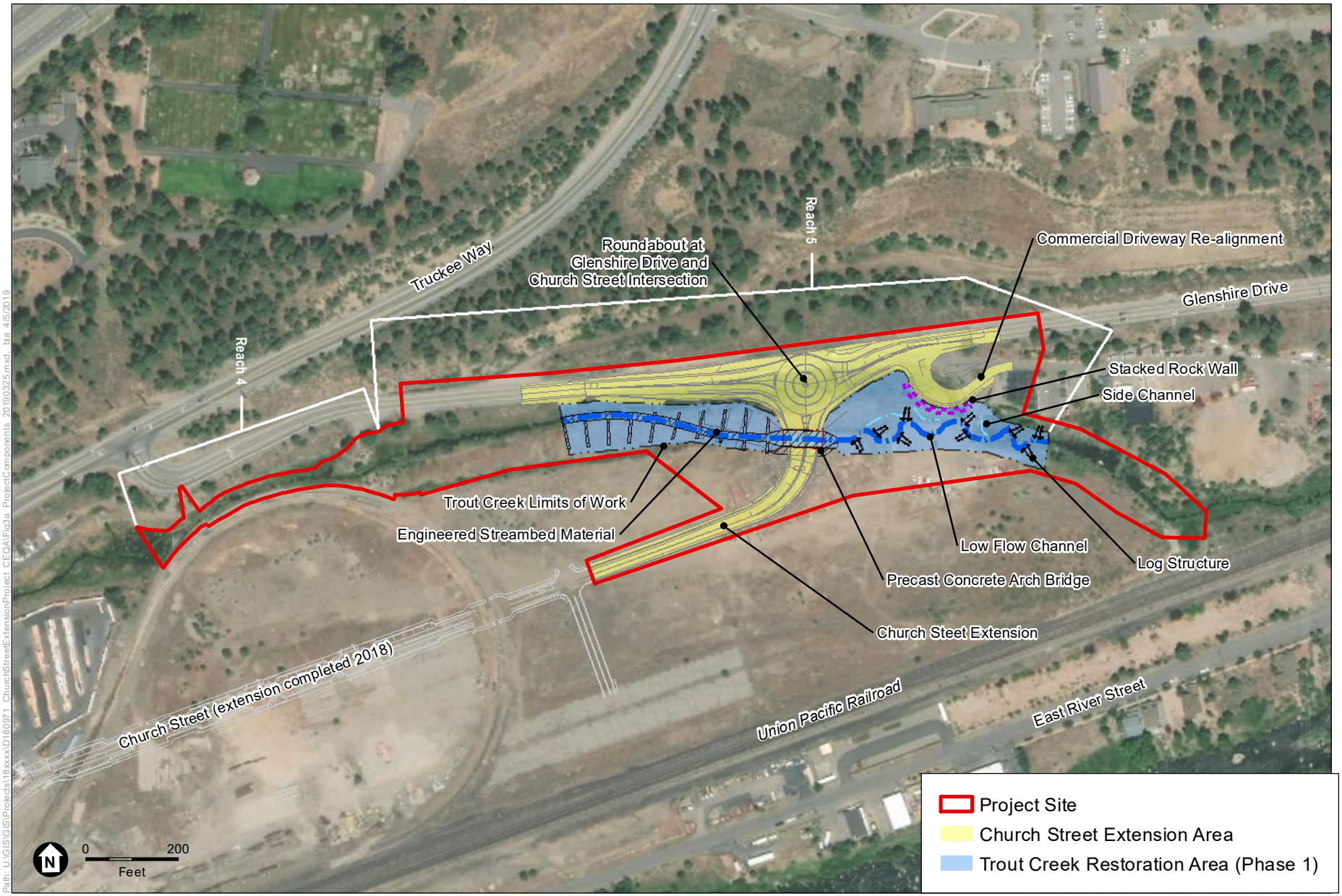
Proposed Church Street Extension Component

The Church Street Extension component of the proposed project, also referred to in planning documents as Town CIP C1804, will construct a new roadway (an extension of existing Church Street) connecting Church Street with Glenshire Drive (**Figure 3a** and **3b**). The western end of the extension will connect with the existing Church Street where it currently terminates near the eastern side of the balloon track, and the eastern end of the extension will intersect with Glenshire Drive just west of Rock & Rose, Inc. The extension of Church Street will consist of an approximately 700-foot segment of two-lane roadway, with roadside swales along the roadway and associated stormwater detention basins located immediately south of the proposed bridge over Trout Creek. The extension will also include Class II bike lanes on each side of the roadway. The project includes a complete drainage system and utilities installation.

In addition to constructing a new roadway section, the Church Street Extension component of the proposed project will include a new roadway crossing over Trout Creek. The proposed bridge will span approximately 40 feet and consist of a precast concrete arch bridge with a natural bottom. The bridge will accommodate two lanes of traffic, and will include Class II bike lanes on each side of the roadway. In order to ensure the new bridge structure will have the proper hydrology and capacity to contain the 100-year storm event plus any required freeboard, the restoration of Trout Creek immediately upstream and downstream of the bridge structure has been designed to minimize sediment load and bridge scour, to improve riparian and aquatic habitat, and to provide flood protection.

A third element of the Church Street Extension component of the proposed project will be the construction of a roundabout at the new Church Street/Glenshire Drive intersection. A roundabout was determined to be the preferred intersection configuration after an alternatives analysis was conducted during the Phase 1 design process. The roundabout will support two lanes of traffic, and will include splitter islands at the western, southern, and eastern approaches. A stormwater detention basin will be located northeast of the roundabout, and an additional stormwater detention basin will be located southeast of the roundabout. To accommodate the roundabout, Glenshire Drive will be widened east and west of the intersection for a total of approximately 640 feet. Installation of the roundabout will require the existing driveway to the Rock & Rose, Inc. landscaping company to be reconfigured and relocated to the west by approximately 60 feet of the existing connection to Glenshire Drive.

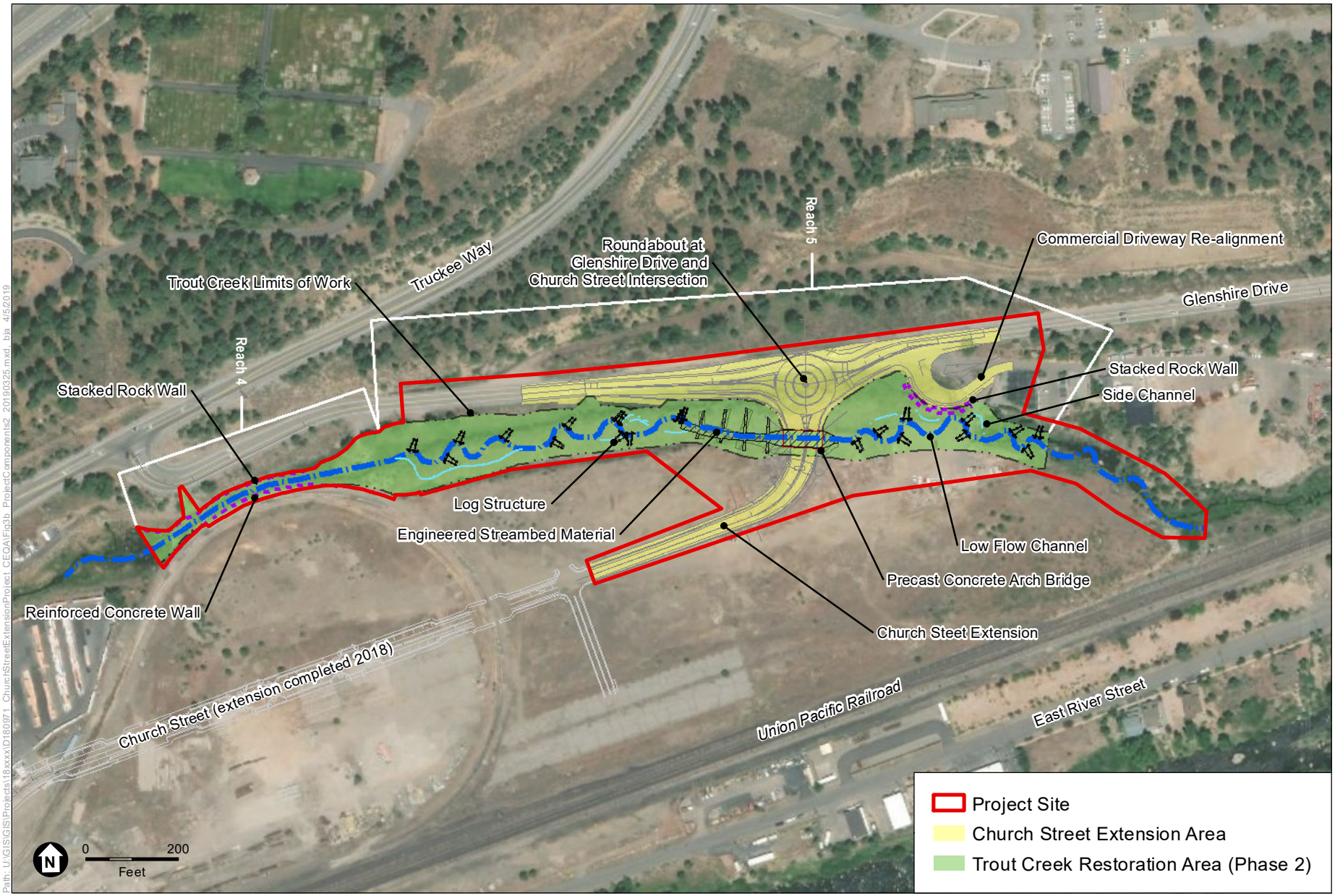
The Phase 1 (30% design level) project layout in **Appendix A** shows the conceptual design of the extension, bridge, roundabout, and driveway. The Church Street Extension construction footprint is approximately 2.68 acres.



SOURCE: DigitalGlobe, 2016; ESE, 2019; WaterWays Consulting, 2019; ESA, 2019

Church Street Extension / Trout Creek Restoration Project

Figure 3a
Project Components (Phase 1)



SOURCE: DigitalGlobe, 2016; ESE, 2019; WaterWays Consulting, 2019; ESA, 2019

Church Street Extension / Trout Creek Restoration Project

Figure 3b
Project Components (Phase 2)

Proposed Trout Creek Restoration Component

Due to the cumulative loss of aquatic habitat, diminished riparian habitat values, and reduced ability to improve water quality through the removal of sediments and pollutants, the Town has led an effort to restore portions of Trout Creek over the last 14 years. The Trout Creek Restoration component of the proposed project will include restoration of approximately 5.29 acres of habitat along Reaches 4 and 5, completing implementation of the downstream portion of the Trout Creek Restoration Project. Depending on funding sources, the restoration of the creek may be completed in one or two construction phases. Preference is for the restoration of the creek to be completed during one construction phase. However, if two phases are required, Phase 1 will include restoration of a segment of Reach 5 from the downstream extent of Reach 5 to immediately upstream of the new Church Street crossing to accommodate the roadway extension project (see Figure 3a); Phase 2 of the Trout Creek Restoration will include the remainder of Reach 5 and all of Reach 4 (see Figure 3b). Reaches 4 and 5 are located completely within the proposed Railyard Master Plan Development.

The preliminary restoration design for Reaches 4 and 5 of Trout Creek identifies a comprehensive approach to restore channel form and function, enhance riparian vegetation, and improve aquatic habitat conditions within the constraints imposed upon the project. The proposed restoration of Reaches 4 and 5 encompasses approximately 2,600 linear feet of Trout Creek and will begin at the downstream end of the previously restored Reach 3, adjacent to the balloon track, ending several hundred feet downstream of the existing Rock & Rose, Inc. 64-inch CMP culvert crossing at Trout Creek. Restoration includes removal of this undersized 64-inch CMP culvert, which currently constrains the creek channel. Within Reach 4 a portion of the stream channel is confined on the south side by the balloon track and the hillslope on the north side.

Currently, the profile, planform, and bankfull geometry of the Trout Creek channel generally lack variability in planform and is constrained to a channel geometry that is larger than a natural channel would have been, limiting more frequent interaction of flow with the floodplain. This is likely due to the fact that the existing channel was constructed along the margin of the valley to accommodate industrial activities on the adjacent terrace and to maximize conveyance. There is also evidence that an informal levee/berm was constructed and maintained along much of Reach 5 to limit flooding. The material used to construct the levee appears to have been scraped from the adjacent terrace/historic floodplain.

Reach 4

Reach 4 extends for approximately 600 feet from the downstream end of Reach 3, which was constructed in 2012, to the downstream limit of the UPRR balloon track. Reach 4 is currently confined to a narrow corridor that abuts the Glenshire Drive fill slope on the north side and a metal sheet pile wall made of old railroad box cars that retain the rail line ballast material on the south side. At the downstream end of Reach 4 a historic road crossing and fill associated with the old lumber mill juts out from the north side. Previous efforts to relocate the balloon track, reduce its size, or propose a different approach to turning around the trains that utilize the balloon track were unsuccessful. Consequently, the balloon track exists as a constraint to widening the floodplain through this reach. Despite the inability to widen the floodplain, there is still a desire to

protect adjacent areas from flooding during the 100-year event and to maximize floodplain area and habitat in less constrained reaches.

To accommodate the 100-year flood event, achieve the desired profile through the project reach that maximizes lower gradient meadow habitat in less confined reaches, and maximize channel width through Reach 4, the channel gradient will be steepened in Reach 4 relative to other reaches. The proposed channel gradient through this reach is 1.75% with a proposed typical active channel dimension of 12 feet for the top width and 1.5 feet of depth. Narrow floodplain benches totaling 8 feet of width will occur on either side of the active channel, creating a valley bottom width of 20 feet. To accommodate the channel and floodplain benches and the desired profile, a reinforced concrete wall will be constructed to support the UPRR balloon track and a stacked rock wall will be constructed along the hillslope leading up to Glenshire Drive. The stacked rock wall will resemble the rock walls implemented in Reach 1.

Natural stream substrate, salvaged from channel excavation within the project area, will be incorporated into the active channel area. To protect against lateral movement of the channel and erosion of the floodplain benches and the hill side stacked rock wall, large diameter rock will be buried in a trench along the toe of the channel. Rock weirs will likely be installed through this reach, similar to those constructed in Reaches 1 and 3, to act as riffle control, and randomly placed boulders and large woody debris will be randomly incorporated into the creek bed to provide for local scour and deposition and to enhance aquatic habitat.

Reach 5

The upstream end of Reach 5 begins at the eastern extent of the balloon track, flowing east for approximately 2,000 feet to the downstream end of the reach, several hundred feet east of the existing Rock & Rose, Inc. 64-inch CMP culvert crossing at Trout Creek. The upstream end of the reach is relatively flat and confined on the north side by Glenshire Drive and on the south side by an un-engineered levee that has been rebuilt following levee breaching events during high flow conditions. A small ditch parallels the main channel to the south of the levee. This feature is a historic ditch that diverted water from Trout Creek to a log pond to the east that was associated with the milling operation. Towards the downstream end of Reach 5 Trout Creek crosses the Rock & Rose, Inc. material yard access road through an undersized 64-inch CMP culvert that is perched at the downstream end. Downstream of the crossing the channel is more confined and incised into the terrace.

Under the proposed project, Reach 5 will be characterized by a large, relatively unconfined meadow and associated meandering channel, extending from the downstream end of Reach 4 for approximately 700 feet to the proposed Church Street Extension crossing. The proposed meadow will have a valley slope of 0.75% and a meandering active channel with localized channel gradients that range from 0.75% to less than 0.5%, depending on location. This reach will include a variable-width floodplain that ranges from 95 to 150 feet in width and will include irregular topography consisting of swales (mimicking cut-off historic channels), secondary channels (connecting to the mainstem channel), and alcoves. The active channel dimensions will vary between a top width of 9 to 12 feet and a depth of 1.5 feet. Floodplain roughness will include

embedded boulders, large woody debris, and hummock features. The large floodplain area will provide an opportunity to create a variety of off-channel habitats that could include segments of cut-off channels that would support a diversity of wetland types.

A steeper gradient channel is proposed through the Church Street Extension crossing that consists of an armored streambed and floodplain (roughened channel consisting of Engineered Streambed Material). This design will maximize wet meadow/floodplain habitat in areas outside the crossing by creating lower gradient reaches and eliminating the grade through the crossing.

Downstream of the constrained Church Street Extension crossing, the gradient will flatten and the floodplain will widen. The 64-inch CMP culvert at the Rock & Rose, Inc. material yard will be removed as a constraint, and a precast concrete arch bridge with a natural bottom will be installed, allowing a wider floodplain and associated meandering channel. To accommodate the reconfigured and relocated driveway for Rock & Rose, Inc. landscaping company, a stacked rock wall will be constructed along the hillslope north of Trout Creek. The stacked rock wall will resemble the rock walls implemented in Reach 1. The approach to this portion of Reach 5 will be similar to the segment upstream of Church Street with a variable-width floodplain that will include irregular topography consisting of swales (mimicking cut-off historic channels), secondary channels (connecting to the mainstem channel), and alcoves. The active channel dimensions will vary between a top width of 9 to 12 feet and a depth of 1.5 feet. Floodplain roughness will include embedded boulders, large woody debris, and hummock features. The large floodplain area will provide an opportunity to create a variety of off-channel habitats that could include segments of cut-off channels that would support a diversity of wetland types. The downstream end of the Trout Creek Restoration component of the project will tie into the existing Trout Creek channel near a historic beaver dam.

The engineering plans for the Trout Creek Restoration component of the project have been developed to the 30% design level (Appendix A).

Construction Methods

Construction of the Church Street Extension/Trout Creek Restoration Project will employ currently accepted typical construction methods. Construction staging will be located within the project site in existing developed or disturbed areas.

Church Street Extension

The contractor will establish access routes and staging areas for travel within the site and storage of materials and equipment in areas that are currently developed or disturbed. Trucks and equipment will access the site using the existing Church Street which currently terminates east of the UPRR balloon track. First, vegetation removal and a rough grading of the road alignment will occur. Rubber-tired trucks will be used to off-haul cut and vegetation, and to import fill and aggregate base. Rollers will be used to compact both the aggregate base and the pavement. Standard paving equipment will be used to pave the roadway extension. Installation of the precast concrete arch bridge over Trout Creek will require the use of a crane. The contractor(s) will

prepare and implement a dust control plan for constructions activities consistent with Northern Sierra Air Quality Management District (NSAQMD) Rule 226.

Trout Creek Restoration

The contractor will establish access routes and staging areas for travel within the site and storage of materials and equipment in areas that are currently developed or disturbed. Prior to grading within the Trout Creek channel, the low flow channel, floodplain swale, and floodplain bench will be cleared and grubbed. Woody vegetation removed during clearing and grubbing will be re-used as part of the proposed project to construct the identified channel and floodplain wood structures. Unused woody vegetation may be shredded/chipped for re-use on site for mulch. Materials (e.g., soils, rocks, gravels, etc.) will be transported on site with a rubber wheeled dump truck, tracked dump truck, front end loader, and/or tracked skid-steer loader. In-channel work will likely utilize either a small scale excavator or a wheeled backhoe. Smaller equipment is preferred for in-channel work in order to minimize impacts to existing riparian vegetation. In order to protect creek resources and protect aquatic organisms, in-channel work may require limited dewatering. Channel dewatering is not anticipated to be continuous over the entire restoration area; it is anticipated that the contractor will dewater select portions of the channel during installation of specific features. Floodplain and channel grading will likely utilize a tracked bulldozer and medium size excavator. The contractor(s) will prepare and implement a dust control plan for constructions activities consistent with NSAQMD Rule 226.

Dewatering Plan

In accordance with federal Clean Water Act Section 402, the selected contractor(s) will develop, implement, and maintain a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will be submitted to and approved by the Lahontan Regional Water Quality Control Board (LRWQCB) and the State Water Resources Control Board (SWRCB). The plan will describe the proposed methods of erosion and sediment controls for construction activities. Additionally, the contractor shall ensure environmental and worker protection; operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations; and minimize air, waterway, and subsoil contamination or pollution and other undesirable effects. A component of the SWPPP is a dewatering plan for in-channel activities.

Dewatering operations are practices that manage the discharge of water and sediment when stream flow and subsurface flow must be removed from a work location so that construction tasks may be accomplished. Stream flow diversion and dewatering is undertaken in order to protect creek resources (i.e., reduce turbidity and nuisance sediment transport) and to protect aquatic organisms.

Schedule and Equipment

Construction of the project is anticipated to take approximately 4 to 5 months and is scheduled for 2021. If the Trout Creek Restoration component of the proposed project is constructed in phases (due to funding constraints), Phase 1 will be constructed in 2021 and Phase 2 will be constructed at a later date when funding is secured. Construction hours will be set in coordination with the Truckee Community Development Director and the Public Works Director. Excavators,

compactors, dump trucks, backhoes, bulldozers, bobcats, graders, rollers, and scrapers are potential large equipment to be used on the project. Project construction could occur either at once (continuous) or in stages, depending on timing and scheduling constraints. Utility relocations and installation will be coordinated with the corresponding utility companies and construction sequencing. Creek restoration work will likely occur in late summer or early fall when creek flows are at their lowest. Per NSAQMD. requirements, the contractor(s) will use grid power for job site power needs as feasible.

Traffic Control

Construction activities associated with the proposed roundabout at the intersection of Glenshire Drive and the Church Street Extension may require partial roadway closures on Glenshire Drive over the course of several days. During this period, one lane of traffic will be available to through traffic and flaggers will be used to manage traffic flow through the construction zone. The contractor will prepare and implement a traffic control plan as part of the construction documents required by the Town of Truckee Engineering Division for any roadway closures (full or partial) needed to construct the project. The traffic control plan will designate how vehicular traffic, bicyclists, and pedestrians will be routed around any lane closures. Unimpeded emergency vehicle access will be provided at all times.

1.6 Project Approvals and Permits

The Town of Truckee would adopt the initial study/mitigated negative declaration (IS/MND) as the lead agency. Additionally, the following permits, reviews, consultations, and approvals (see **Table 1**, below) would also be required to be completed or approved prior to the commencement of project construction.

TABLE 1
PERMITS AND APPROVALS NEEDED

Agency	Permit/Approval	Status
Federal		
United States Army Corps of Engineers (USACE)	Clean Water Act, Section 404 Nationwide Permit (NWP) 14/ NWP 27 Permit for discharge of dredged or fill material in waters of the United States	Not yet applied. Anticipated application date of 2020.
State		
California Department of Fish and Wildlife (CDFW)	California Fish and Game Code Section 1600-1602 Streambed Alteration Agreement	Not yet applied. Anticipated application date of 2020.
Lahontan Regional Water Quality Control Board (LRWQCB)	Clean Water Act, Section 401 Water Quality Certification	Not yet applied. Anticipated application date of 2020.
California State Water Resources Control Board (SWRCB)	• General Order for Dewatering and other Low Threat Discharge to Surface Waters Permit • National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit • General Waste Discharge Requirements for Dredge and Fill Discharges	Not yet applied. Anticipated application date of 2020.

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CHAPTER 2
Initial Study

1. Project Title:	Church Street Extension/Trout Creek Restoration Project
2. Lead Agency Name and Address:	Town of Truckee Truckee Town Council 10183 Truckee Airport Road Truckee, CA 96161 (530) 582-2932
3. Contact Person and Phone Number:	Todd Landry Senior Engineer (530) 582-2904
4. Project Location:	Town of Truckee
5. Project Sponsor's Name and Address:	Town of Truckee
6. General Plan Designation(s):	Railyard Master Plan Area Downtown Study Area
7. Zoning:	Trout Creek (TC), Industrial Heritage (IH), Downtown Master Plan (DMP), and Open Space (OS)

8. Description of Project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

See Chapter 1, Project Description above.

9. Surrounding Land Uses and Setting. (Briefly describe the project's surroundings.)

See Chapter 1, Project Description above.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

See Section 1.6, Project Approvals and Permits (Table 1) above.

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

See Tribal Cultural Resources section below.

2.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☒ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature _____ Date _____

Signature _____ Date _____

2.2 Environmental Checklist

Aesthetics

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
1. AESTHETICS — Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☐	☐	☒

Environmental Setting

Aesthetic or visual resources include the "scenic character" of a particular region and site. Scenic features can include both natural features, such as vegetation and topography, and manmade features (e.g. historic structures). Areas that are more sensitive to potential effects are usually readily observable, such as land found adjacent to major roadways and hilltops.

Visual Environment

The project site is located east of historic Downtown Truckee, comprised primarily of a site historically occupied by the railyard and lumber mill. The project site is generally bounded by Glenshire Drive to the north, commercial uses and undeveloped land to the east, Union Pacific Railroad (UPRR) right-of-way to the south, and the existing Church Street and UPRR balloon track to the west (Figure 2). Topography of the project area is relatively flat with minor sloping near Trout Creek, and the majority of the site, outside of the Trout Creek corridor, is disturbed or developed. The project site is partially obscured by trees to the north and east. Adjacent land uses include an electrical substation, civic, residential, and commercial uses to the east, west, and northwest; Glenshire Drive and U.S. Forest Service land to the north; and the UPRR and Truckee River to the south. The nearest residences are located approximately 300 feet west of the project site on Trout Creek Road and 575 feet south of the project site on East River Street. Potential viewer groups include vehicle occupants on adjacent roadways, including Glenshire Drive, Truckee Way, and East River Street, as well as residents on East River Street and Trout Creek Road.

Discussion

a) **No Impact.** There are no designated scenic vistas or notable geographic features identified in the vicinity of the project site in the Master Plan; as a result, the proposed project would have **no impact** on a scenic vista (Town of Truckee, 2016).

b) **No Impact.** A review of the current California Department of Transportation (Caltrans) Map of Designated Scenic Routes indicates that there are no officially designated state scenic highways within the Town of Truckee. Although Interstate 80 runs through Truckee and is an Eligible State Scenic Highway (approximately 1,200 feet north of the project site), it is not officially designated (Caltrans, 2011). Therefore, the proposed project would result in **no impact**.

c) **Less than Significant.** Construction of the proposed project would result in temporary changes to local visual conditions, such as grading, clearing of vegetation, and the presence of equipment in the project area. These impacts would be temporary in nature and would not extend beyond the anticipated approximation of 4-5 months of construction activity. Given the relatively short-term nature of these construction-related activities, construction-related visual impacts are considered **less than significant**.

Completion of the proposed project would result in some permanent visual changes to the project area, including a new extension of Church Street and restoration of a section of Trout Creek. However, these changes are consistent with the objectives of the Town's Railyard Master Plan, General Plan, and Downtown Specific Plan and are in part intended to improve the aesthetic value of the Railyard Master Plan Area. For these reasons, visual impacts from the proposed project are considered a **less-than-significant** impact.

d) **No Impact.** The proposed project does not propose any new light sources or reflective surfaces that would represent potential sources of glare. Therefore, the proposed project would have **no impact** to aesthetics due to new sources of light and glare.

References

California Department of Transportation (Caltrans), 2011. California Scenic Highway Mapping System, Tuolumne County. Available: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/. Accessed December 6, 2018.

Town of Truckee, 2016. Truckee Railyard Mixed-Use Development Master Plan. November 2016.

Agricultural and Forest Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
2. AGRICULTURE AND FORESTRY RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Environmental Setting

According to the Nevada County Important Farmland 2016 Map (CDC, 2017a), areas of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance do not occur within eastern Nevada County, including within the Town of Truckee and the entire project area. The project site is not zoned as forestland, timberland, or Timberland Production (Town of Truckee, 2016).

Discussion

a) **No Impact.** The project site is not listed as Prime Farmland, Unique Farmland, or Farmland of Statewide importance pursuant to the Farmland Mapping and Monitoring Program. Therefore, there would be **no impact**.

b) **No Impact.** The project site is not currently used for agricultural purposes and is not designated for agricultural use by the Truckee Railyard Master Plan. Additionally, the project site and surrounding parcels are not currently under a Williamson Act contract (CDC, 2017b). Therefore, the proposed project would have **no impact** relating to existing zoning for agricultural use or a Williamson Act contract.

c-e) **No Impact.** There are no areas within the boundary of the project site that are zoned as Farmland, forest land, timberland, or timberland zoned Timberland Production. Accordingly, there would be no changes to the existing environment resulting in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Therefore, there would be **no impact**.

References

California Department of Conservation (CDC), 2017a. Nevada County Important Farmland 2016. Available: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/nev16.pdf. Accessed December 7, 2018.

CDC, 2017b. State of California Williamson Act Contract Land Available: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/2016%20Statewide%20Map/WA_2016_11X17.pdf. Accessed December 7, 2018.

Town of Truckee, 2016. Truckee Railyard Mixed-Use Development Master Plan. November 2016.

Air Quality

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Environmental Setting

The project site is located at the eastern end of historic Downtown Truckee, Nevada County in the Railyard Master Plan Area. The area maintains good ventilation and atmospheric mixing, with moderate temperatures, which results in generally good air quality conditions. The terrain of the region is mountainous, which limits mixing of air near the surface. Summer temperatures average at a low of 40°F and a high of 80°F, while winter temperatures average at a low of 17°F and a high of 41°F.

The project site is within the Northern Sierra Air Quality Management District (NSAQMD), and is located in a mountain-type air basin near the California-Nevada border. The NSAQMD's attainment status for criteria air pollutants, according to state and federal standards, are summarized in **Table AQ-1**.

Discussion

a) **Less than Significant.** The Town of Truckee adopted the Particulate Matter Air Quality Management Plan (Plan) in 1999 in response to their designation of nonattainment for Particulate Matter less than ten microns in diameter (PM_{10}). The Plan contains nine objectives and 13 control strategies, all aimed towards the goal of achieving compliance with State Ambient Air Quality Standards (AAQS) and National Ambient Air Quality Standards (NAAQS). The goal of the Plan aligns with the goals of the NSAQMD, thus compliance with the NSAQMD California Environmental Quality Act (CEQA) guidance (Guidance; NSAQMD 2016) would demonstrate consistency with the Plan. NSAQMD CEQA guidance has three main requirements when addressing project-related potential impacts to air quality: (1) preparation of a dust control plan pursuant to District Rule 226, (2) analysis of associated emissions under the provided thresholds of significance, and (3) inclusion of appropriate mitigation and commitments.

TABLE AQ-1
NSAQMD CRITERIA POLLUTANT ATTAINMENT STATUS

Pollutant and Averaging Time	Designation	
	State Standards	Federal Standards
Ozone (1-hour)	Nonattainment	No Federal Standard
Ozone (8-hour)	Nonattainment	Nonattainment
Carbon Monoxide	Unclassified	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Respirable Particulate Matter (PM_{10})	Nonattainment	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Unclassified	Unclassified/Attainment
Lead	Attainment	Unclassified/Attainment
Visibility Reducing Particles	Unclassified	No Federal Standard
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Vinyl Chloride	Unclassified	No Federal Standard

NOTE: CARB makes area designations for ten criteria pollutants (O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, lead, visibility reducing particles, sulfates, and hydrogen sulfide). CARB does not designate areas according to the vinyl chloride standard.

SOURCE: California Air Resources Board, 2017. *Area Designation Maps*. Available: www.arb.ca.gov/desig/adm/adm.htm. Accessed April 3, 2019.

As required by the Guidance, the proposed project would prepare and implement a dust control plan for constructions activities consistent with District Rule 226. Emissions associated with the proposed project are analyzed and compared to the NSAQMD significance thresholds in section b), below, and associated impacts are determined to fall under NSAQMD's Significance Level A, i.e., less-than-significant. The applicable project commitment associated with Level A, use of grid power for job site power needs as feasible, will be implemented.

In summary, the proposed project would meet all three requirements of the NSAQMD guidance listed above, and thus, would remain consistent with the goals identified in the Town of Truckee's Particulate Matter Air Quality Management Plan, namely to support achievement of attainment status for AAQS and NAAQS. Additionally, the proposed project would follow all applicable criteria under NSAQMD guidance. This impact would be **less than significant**.

b) **Less than Significant.** The proposed project would result in both construction-related and operational emissions, which were modeled for this analysis using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. Project-specific information was used for modeling when possible. Where project-specific data is unavailable, CalEEMod defaults were used as inputs, which capture assumed values consistent with standard practice. CalEEMod assumptions and detailed output can be found in **Appendix B**.

The proposed project includes two components: (1) the Church Street Extension, and (2) the Trout Creek Restoration. The restoration component could occur in one or two phases. If two phases are required, the second would occur at an undetermined later date once funding is available. However, the most conservative scenario was used to model emissions; it was assumed that all construction would occur in one phase, from June 2021 to October 2021. Operational emissions from the proposed project would come from mobile sources through use of the Church Street extension.

As shown in **Table AQ-2** and **Table AQ-3**, both construction and operational estimated emissions fall below the NSAQMD thresholds. Because the proposed project would result in less-than-significant impacts associated with both construction emissions and operational emissions of criteria air pollutants, it would not result in a cumulative considerable net increase in any of the criteria pollutants for which the NSAQMD is in nonattainment.

TABLE AQ-2
PROPOSED PROJECT CONSTRUCTION EMISSIONS IN POUNDS PER DAY

Construction Year	ROG (ppd)	NO_X (ppd)	PM_{10} (ppd)
2021	9.02	22.00	1.05
NSAQMD Thresholds	24	24	79
Exceeds Threshold?	**No**	**No**	**No**

NOTE: Project construction emissions estimates were made using CalEEMod version 2016.3.2.

SOURCE: ESA, 2019.

TABLE AQ-3
PROPOSED PROJECT OPERATIONAL EMISSIONS IN POUNDS PER DAY

Source Category	ROG (ppd)	NO_X (ppd)	PM_{10} (ppd)
Area	<1	0	<1
Energy	0	0	0
Mobile	<1	<1	1.14
NSAQMD Thresholds	24	24	79
Exceeds Threshold?	**No**	**No**	**No**

NOTE: Project construction emissions estimates were made using CalEEMod version 2016.3.2.

SOURCE: ESA, 2019.

Therefore, potential impacts related to the construction and operation of the proposed project, according to NSAQMD's CEQA Guidance, would be **less than significant** and no mitigation is required.

c) **Less than Significant.** Constructions emissions are short term and temporary by nature and are all well below significance thresholds. Operational emissions are negligible. Any impacts on sensitive receptors would be temporary and short term in duration and

minimized by both the preparation of a dust control plan pursuant to District Rule 226 and utilizing grid power for the job site to the greatest extent possible. This impact would be **less than significant**.

d) **Less than Significant.** The proposed project includes only roadway extension and creek restoration and thus, would not add any new odor sources to the surrounding area. Potential impacts of the proposed project related to odor-generating emissions would negligible. This impact would be **less than significant**.

References

Northern Sierra Air Quality Management District (NSAQMD), 2016. Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects, May 2016.

Town of Truckee, 1999. Particulate Matter Air Quality Management Plan, adopted July 15, 1999.

Biological Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
4. BIOLOGICAL RESOURCES — Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Environmental Setting

Data Sources/Methodology

Biological resources within the project site were identified by Environmental Science Associates (ESA) biologist Joshua Boldt through field reconnaissance surveys and an aquatic resource delineation conducted on November 14, 2017 and November 9, 2018. Prior to the surveys, a review of pertinent literature and database queries was conducted for the project site and surrounding area. The surveys were conducted on foot and existing habitat types, plants, and wildlife species within and adjacent to the project site were recorded. The biological surveys focused on identifying and delineating habitat for special-status plant and wildlife species, although general habitat conditions were noted and incidental species observations were recorded. An aquatic resource delineation was also conducted (ESA, 2019).

During the biological surveys, the biologist walked meandering transects through the entire project site, spaced closely to obtain maximum visual coverage of the habitats present. Habitats present at the project site were compared to the habitat requirements of the regionally occurring special-status species and used to determine which of these species had the potential to occur at or adjacent to the project site. Aquatic resources were delineated according to methods outlined in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western*

Mountains, Valleys, and Coast Region (Version 2.0) (USACE, 2010). Botanical taxonomy and nomenclature conforms to *The Jepson Manual: Vascular Plants of California (Second Edition)* (Baldwin et al., 2012) as revised by the Jepson eFlora (Jepson Flora Project, 2019). Common names of plant species are derived from the Jepson Manual or Calflora (2019).

The primary sources of data referenced for this section include the following:

- U.S. Fish and Wildlife Service (USFWS) list of federal endangered and threatened species that may occur in the proposed project location, and/or may be affected by the proposed project (USFWS, 2019a);
- USFWS Critical Habitat for Threatened and Endangered Species (online mapping program) (USFWS, 2019b);
- National Wetlands Inventory (USFWS, 2019c);
- California Natural Diversity Database (CNDDB) list of special-status species occurrences within the Truckee, CA and eight surrounding USFS 7.5-minute topographic quadrangles (Independence Lake, Hobart Mills, Boca, Norden, Martis Peak, Granite Chief, Tahoe City, Kings Beach) (California Department of Fish and Wildlife [CDFW], 2019a);
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants within the Truckee and eight surrounding USGS 7.5-minute topographic quadrangles (CNPS, 2019);
- Special Vascular Plants, Bryophytes, and Lichens List (CDFW, 2019b);
- Special Animals List (CDFW, 2019c); and
- Church Street Extension/Trout Creek Restoration Project Aquatic Resources Delineation Report (ESA, 2019).

Regional Setting

Regionally, the project site is located within the northern High Sierra Nevada subregion of the California Floristic Province (Baldwin et al., 2012). Regional natural plant communities surrounding the project site include those that are common to the Sierra Nevada such as coniferous forests, sagebrush and bitterbrush scrub, montane chaparral, montane riparian, perennial grassland, and meadow. The project site is predominantly situated on the flood plain of the Truckee River, and terrain is generally flat, with minor sloping near Trout Creek. The climate is typically temperate to very cold and dry. Data from the Western Regional Climate Center for the Truckee Ranger Station weather station indicates that average annual precipitation is 30.15 inches and average annual snowfall is 201.8 inches. The average maximum annual temperature is 59.1 degrees Fahrenheit and average minimum annual temperature is 27.8 degrees Fahrenheit (Western Regional Climate Center, 2019).

Project Site Setting

Plant Communities and Wildlife Habitats

Wildlife habitats are generally described in terms of dominant plant species and plant communities along with landform, disturbance regime, and other unique environmental characteristics. The wildlife habitats described in this section are based on the CDFW's *A Guide to Wildlife Habitats*

(Mayer and Laudenslayer, 1988) that is used in CDFW's California Wildlife Habitat Relationships System. The California Wildlife Habitat Relationships (CWHR) habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly occurring birds, mammals, reptiles, and amphibians.

Wildlife habitats generally correspond to plant communities. Plant communities are assemblages of plant species that occur together in the same area and are repeated across landscapes. Both species composition and relative abundance define them. Plant communities within the project site were identified using field reconnaissance and aerial photography. Within CDFW's current vegetation classification system, vegetation alliances are the scientifically derived hierarchical class that corresponds best with plant communities and are designed to be the unit for conservation of rare or threatened plant communities (Sawyer et al., 2009). Vegetation alliances typically represent a much finer scale of vegetation description than wildlife habitats but correspond appropriately with one or several wildlife habitat types. CDFW provides crosswalks to help correlate vegetation alliances with wildlife habitats and the descriptions below make use of the crosswalk.
A description of each habitat type is presented below. Related vegetation alliances are listed following the wildlife habitat description and are based on the alliance descriptions presented by Sawyer et al. (2009) (vegetation alliances are not listed for some wildlife habitats).

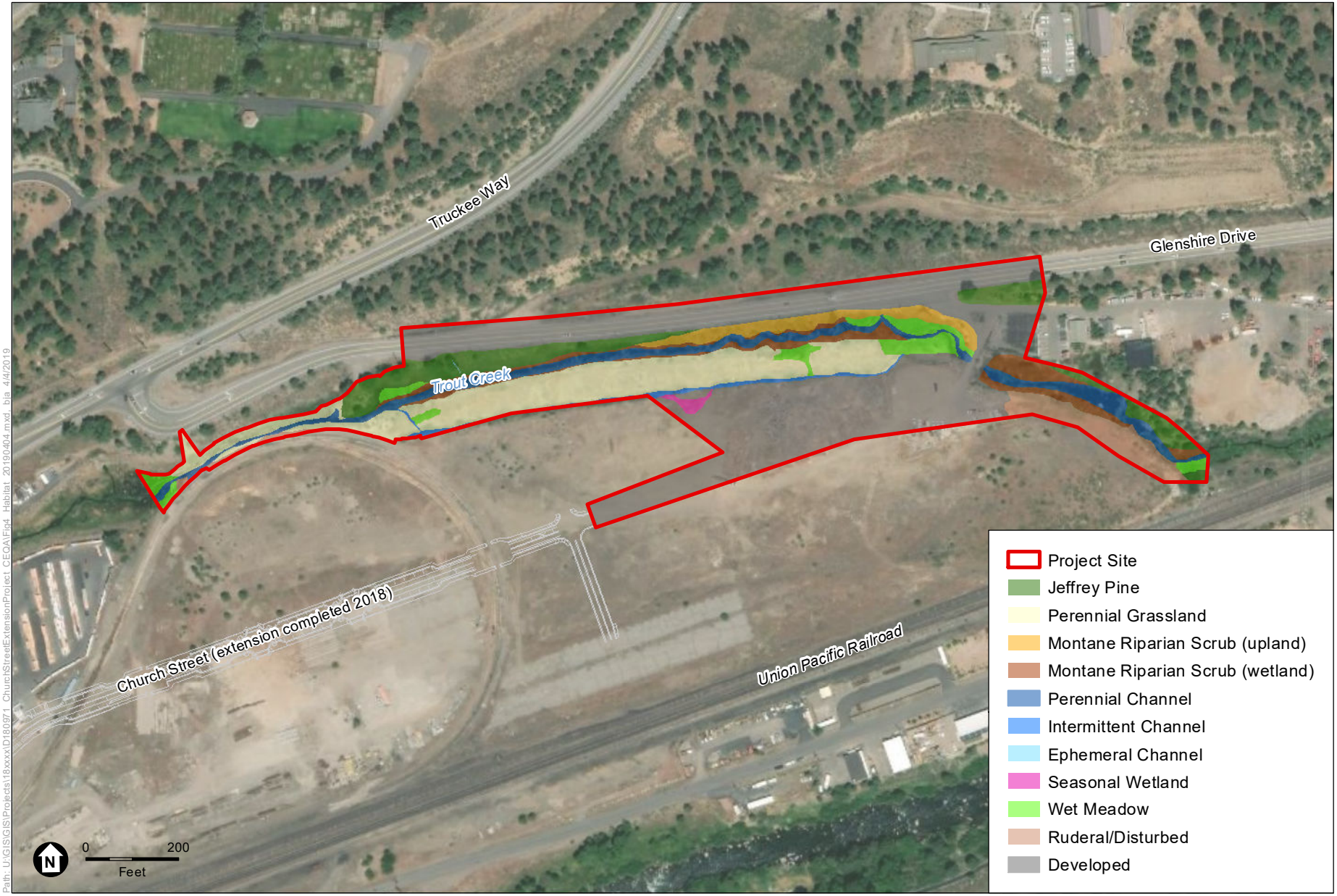
Habitats present in the project site are characterized by developed land associated with the Union Pacific Railroad (UPRR) and other development, ruderal/disturbed areas, perennial grassland, Jeffrey pine forest, montane riparian scrub (upland), montane riparian scrub (wetland), seasonal wetland, wet meadow, and riverine habitat. Because native habitats have been altered by changes in land use throughout much of the project site, native plant communities are limited within the project site to those areas adjacent to Trout Creek. **Table BIO-1** and **Figure BIO-1** summarize the extent of wildlife habitats in the project site.

TABLE BIO-1
HABITAT TYPES WITHIN THE PROJECT SITE

Habitat Type	Area (acres)
Perennial Grassland	2.054
Montane Riparian Scrub (upland)[2]	0.417
Montane Riparian Scrub (wetland)[1,2]	0.780
Jeffrey Pine Forest	1.086
Ruderal/Disturbed	0.541
Developed	5.077
Wet Meadow[1,2]	0.485
Seasonal Wetland[1,2]	0.046
Riverine-Perennial[1,2]	0.715
Riverine-Intermittent[1,2]	0.148
Riverine-Ephemeral[1,2]	0.001
Total for the Project site	**11.349**

NOTES:
1 Clean Water Act jurisdiction;
2 1600 jurisdiction

SOURCE: ESA, 2019



SOURCE: DigitalGlobe, 2016; ESE, 2019; WaterWays Consulting, 2019; ESA, 2019

Church Street Extension / Trout Creek Restoration Project

Figure BIO-1
Wildlife Habitats

Perennial Grassland

Perennial grasslands occur as dry meadows or open grasslands on drier sites adjacent to and in association with wet meadows in the project site. Perennial grassland soils are usually saturated for a short period after snowmelt but drain fairly rapidly in most years, becoming completely dry by mid-summer. As a result, most plants in perennial grasslands grow rapidly throughout the summer until soil aridity forces them into dormancy. In the project site, this habitat type is dominated by perennial bunchgrasses and other perennial grasses such as bromes (*Bromus* spp.), blue wild rye (*Elymus glaucus*), beardless wild rye (*Elymus triticoides*), fescues (*Festuca* spp.), Kentucky bluegrass (*Poa pratensis*), squirreltail (*Elymus elymoides*), and spike false oat (*Trisetum spicatum*). Dry tolerant sedges (i.e. threadleaf sedge [*Carex filifolia*]) and rushes as well as a variety of forbs are less common associates of these grasses. This community forms a dense sod adjacent to and upland of wetland meadows.

Vegetation Alliances

- *Elymus glaucus* (Blue wild rye meadows)

Montane Riparian Scrub

The vegetation of montane riparian zones is quite variable and often structurally diverse. This habitat is typically associated with mountain lakes, ponds, rivers, streams as well as seeps, bogs and meadows. Water may be permanent or ephemeral. In the project site, montane riparian scrub occurs along Trout Creek and within an intermittent channel. This community supports several willow species, but no single willow species is dominant. In the project site, the montane riparian scrub community is characterized by Lemmon's willow (*Salix lemmonii*), narrow-leaved willow (*Salix exigua*), and Pacific willow (*Salix lasiandra*). The understory on the banks of Trout Creek supports rushes (*Juncus* spp), sedges (*Carex* spp.), meadow barley (*Hordeum brachyantherum*), and fringed willowherb (*Epilobium ciliatum*). Some areas of this habitat type meet the federal definition of a water of the U.S. and are mapped as montane riparian scrub (wetland) (see discussion under Aquatic Resources, below). Areas not meeting the federal definition of a water of the U.S. are mapped as montane riparian scrub (upland).

Vegetation Alliances

- *Salix exigua* (Sandbar willow thickets)
- *Salix lemmonii* (Lemmon's willow thickets)

Jeffrey Pine Forest

Jeffrey pine forest occurs as a narrow band along Glenshire Drive near the northern boundary of the project site. It is likely this community was present throughout the project site prior to development. Jeffrey pine (*Pinus jeffreyi*) is the dominant species found in varying densities in the upper canopy layer of this habitat type. The dominant shrub layer species includes big sagebrush (*Artemisia tridentata*), antelope bitterbrush (*Purshia tridentata*) and rubber rabbitbrush (*Ericameria nauseosa*).

Vegetation Alliances

- *Pinus jeffreyi* (Jeffrey pine forest)

Wet Meadow

Wet meadows are characterized by standing water or saturated soils and are composed of moisture-loving members of the grass, rush, and sedge families, often to the exclusion of other herbaceous perennials. Shrub or tree layers are usually absent or very sparse. They may, however, be an important feature of the meadow edge or on higher ground where soils are somewhat drier. Wet meadows occur where water is at or near the surface most of the growing season, following spring runoff. As surface waters recede, plants tolerant of waterlogged soils begin to appear. The shrub layer, when present, is dominated almost exclusively by willows. Within the project site, wet meadow is found in close association with Trout Creek. These areas are dominated by Baltic rush (*Juncus balticus*), woolly sedge (*Carex pellita*), or other wet meadow graminoids such as small fruited bulrush (*Scirpus microcarpus*), creeping spikerush (*Eleocharis macrostachya*), and Nebraska sedge (*Carex nebrascensis*).

Vegetation Alliances

- *Carex nebrascensis* (Nebraska sedge meadows)
- *Juncus arcticus* (var. *balticus, mexicanus*) (Baltic and Mexican rush marshes)

Seasonal Wetland

Seasonal wetlands are freshwater wetlands that support ponded or saturated soil conditions during winter and spring and are mostly dry through the summer and fall. Vegetation is characterized by both annual and perennial species including native and non-native grasses and forbs. Plant species found within seasonal wetlands are adapted to withstand short periods of inundation. Seasonal wetland plants typically initiate growth as aquatic or semi-aquatic plants and transition to a dry-land environment as the wetland dries. Seasonal wetlands are colonized by low-growing, hardy perennials that tolerate disturbance and annuals that tolerate seasonal soil saturation. Upland grasses and forbs often establish after wetland species desiccate and features become dry. Within the project site, one small seasonal wetland occurs in a topographic micro-depression adjacent to the intermittent channel, surrounded by developed and ruderal lands. Associated wetland plant species identified within this feature include creeping spike rush and purslane speedwell (*Veronica peregrina*).

Vegetation Alliances

- *Eleocharis macrostachya* (Pale spike rush marshes)

Riverine

Riverine habitats are distinguished by ephemeral, intermittent, or perennial running water, and occur in association with a variety of terrestrial habitats. Trout Creek, a perennially flowing channel, is the dominant riverine habitat feature within the project site. Within the project site, the north bank of Trout Creek is confined by Glenshire Drive and the south bank is confined by a man-made berm which limits the width and lateral movement of Trout Creek. The montane riparian scrub and wet meadow habitat types that border Trout Creek are hydrologically driven communities that depend on hydrologic processes, including the frequency, duration, timing, and magnitude of flooding. In addition to Trout Creek, two seasonal drainages occur in the project site. A narrow intermittent overflow channel flows parallel to and is located south of Trout Creek,

eventually draining to Trout Creek within the project site. A small ephemeral channel flows from a roadside ditch along Glenshire Drive south into Trout Creek.

Trout Creek originates approximately four miles northwest of Truckee in the Tahoe Donner subdivision. The creek flows southwest through the subdivision and into Truckee. The creek exits Downtown Truckee at the east end, where it flows under Truckee Way and into the project site. After leaving the project site, Trout Creek flows along the north side of the railroad tracks for approximately ¼-mile before crossing under the tracks and confluencing with the Truckee River. Trout Creek provides habitat for native fish species include the Tahoe sucker (*Catostomus tahoensis*) and the speckled dace (*Rhinichthys osculus*) and nonnative introduced salmonids including brown trout (*Salmo trutta*), brook trout (*Salvelinus fontinalis*), and rainbow trout (*Oncorhynchus mykiss*).

Ruderal/Disturbed

Areas defined as ruderal/disturbed have been altered by human actions such that the natural communities no longer exist. Ruderal/disturbed areas are dominated by weedy forbs such as prickly lettuce (*Lactuca serriola*), woolly mullein (*Verbascum thapsus*), white sweetclover (*Melilotus alba*), common dandelion (*Taraxacum officinale*), and several grass species.

Developed

Developed areas include paved and unpaved roadways, parking lots, development, and infrastructure. Vegetation associated with developed areas consists of ornamental shrubs and trees.

Aquatic Resources

Wetlands and Other Waters of the U.S.

Wetlands are ecologically complex habitats that support a variety of both plant and animal life. In a jurisdictional sense, the federal government defines wetlands in Section 404 of the Clean Water Act (CWA) as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support (and do support, under normal circumstances) a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3[b] and 40 CFR 230.3). Under normal circumstances, the federal definition of wetlands requires three wetland identification parameters be present: wetland hydrology, hydric soils, and hydrophytic vegetation. Examples of wetlands include freshwater marsh, seasonal wetlands, and vernal pool complexes that have a hydrologic link to other waters of the U.S (see definition below for "other waters of the U.S."). The U.S. Army Corps of Engineers (USACE) is the responsible agency for regulating wetlands under Section 404 of the CWA, while the U.S. Environmental Protection Agency (EPA) has overall responsibility for the CWA. The CDFW does not normally have direct jurisdiction over wetlands unless they are subject to regulation under Streambed Alteration Agreements or they support state-listed endangered species; however, CDFW has trust responsibility for wildlife and habitats pursuant to California law.

"Other waters of the U.S." refers to those hydric features that are regulated by the CWA but are not wetlands (33 CFR 328.4). To be considered jurisdictional, these features must exhibit a

defined bed and bank and an ordinary high-water mark. Examples of other waters of the U.S. include rivers, creeks, intermittent and ephemeral channels, ponds, and lakes.

An aquatic resources delineation was conducted for the project site by ESA in November 2017 and November 2018 (ESA, 2019). The aquatic resources delineation identified 2.175 acres of aquatic resources within the project site that are expected to be subject to regulation under Section 404 of the CWA (see Figure BIO-1 and Table BIO-1). Aquatic resources within the project site consist of wet meadow, seasonal wetland, montane riparian scrub (wetland), perennial channel, intermittent channel, and ephemeral channel. Aquatic community and habitat were classified using the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin Classification) (Federal Geographic Data Committee, 2013). The aquatic resources delineation has not yet been verified by the USACE and should be considered preliminary until verification in writing is received from the USACE.

Seasonal Wetland (Palustrine Emergent Wetland – Seasonally Flooded)

Seasonal wetlands are ephemeral wetlands that pond water or remain saturated for extended periods during a portion of the year, often throughout the wet season, then dry up in spring or early summer. Based upon observations or inferences of wetland hydrology, soils, and vegetation, one seasonal wetland was noted in the project site in the central portion of the project site totaling approximately 0.046 acre. This feature is adjacent to the intermittent channel and receives surface water from the channel. The seasonal wetland within the project site is classified as "palustrine emergent wetland (seasonally flooded)" using the *Classification of Wetlands and Deepwater Habitats of the United States* (Federal Geographic Data Committee, 2013).

Wet Meadow (Palustrine Emergent Wetland – Seasonally Flooded)

Typically, wet meadows occur where water is at or near the surface most of the growing season following spring runoff. Wet meadows at all elevations generally have a simple structure consisting of a layer of herbaceous plants. Shrub or tree layers are usually absent or very sparse: they may, however, be an important feature of the meadow edge. Based upon observations or inferences of wetland hydrology, soils, and vegetation, 16 wet meadow wetlands were noted in the project site totaling approximately 0.485 acre. All of these features are adjacent to Trout Creek and receive surface and/or groundwater from the creek. The wet meadow wetlands within the project site are classified as "palustrine emergent wetland (seasonally flooded)" using the *Classification of Wetlands and Deepwater Habitats of the United States* (Federal Geographic Data Committee, 2013).

Montane Riparian Scrub (Wetland) (Palustrine Scrub-Shrub Wetland – Seasonally Flooded)

At the project site, montane riparian scrub habitat occurs as a narrow, dense grove of broad-leaved, winter deciduous trees and shrubs as well as occasional evergreen trees with a grassy understory along the banks and adjacent floodplain of Trout Creek. This habitat forms a mosaic of with wet meadow habitat (on wetter sites) and montane riparian scrub (upland) (on drier sites). Based upon observations or inferences of wetland hydrology, soils, and vegetation, nine montane riparian scrub wetlands were noted in the project site totaling approximately 0.780 acre. All of these features are adjacent to Trout Creek and receive surface and/or groundwater from the creek.

The montane riparian scrub wetlands within the project site are classified as "palustrine scrub-shrub wetland (seasonally flooded)" using the *Classification of Wetlands and Deepwater Habitats of the United States* (Federal Geographic Data Committee, 2013).

Perennial Channel/Riverine Perennial

Perennial channels are classified as "riverine perennial" using the *Classification of Wetlands and Deepwater Habitats of the United States* (Federal Geographic Data Committee, 2013). A perennial channel is a stream, or stream portion, that flows continuously during the calendar year. Riverine perennial habitat within the project site occurs in the form of Trout Creek, comprising approximately 0.715 acre.

Intermittent Channel/Riverine Intermittent

Intermittent channels are classified as "riverine intermittent" using the *Classification of Wetlands and Deepwater Habitats of the United States* (Federal Geographic Data Committee, 2013). An intermittent channel has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow. The project site contains one intermittent channel, comprising approximately 0.148 acre. The linear nature of this channel suggests that it was excavated, likely for the purposes of draining the adjacent area.

Ephemeral Channel/Riverine Intermittent

Ephemeral drainages are classified as "riverine intermittent" using the *Classification of Wetlands and Deepwater Habitats of the United States* (Federal Geographic Data Committee, 2013). An ephemeral channel has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow. A single ephemeral channel, totaling approximately 0.001 acre, receives flows from a roadside ditch adjacent to Glenshire Drive then flows south into Trout Creek.

1600 Jurisdictional Waters (Fish and Game Code)

The extent of 1600 jurisdiction includes waters of the U.S., as well as additional waters and adjacent riparian habitat which may not be federally jurisdictional, including all portions of the bed, banks, and channel of any stream, including intermittent and ephemeral streams. This is typically extended laterally to the upland edge (and outer dripline) of any associated riparian vegetation. The lateral extent of 1600 jurisdiction within a stream is therefore delineated to the top of the physical bank of the channel, or the upland edge (outer dripline) of riparian vegetation, whichever is broader. Based on field investigations, montane riparian scrub (upland) habitat would extend 1600 jurisdictional limits beyond the federal Section 404 CWA limits in some areas. A total of approximately 2.592 acres of 1600 jurisdictional habitat occurs within the project site (see Figure BIO-1 and Table BIO-1).

Sensitive Natural Community

A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special

concern to local, state, or federal agencies. Most sensitive natural communities are given special consideration because they perform important ecological functions, such as maintaining water quality and providing essential habitat for plants and wildlife. Some plant communities support a unique or diverse assemblage of plant species and therefore are considered sensitive from a botanical standpoint. CEQA may identify the elimination of such communities as a significant impact.

Sensitive natural communities include: a) areas of special concern to federal, state, or local resource agencies; b) areas regulated under Section 404 of the CWA; c) areas protected under Section 402 of the CWA; and d) areas protected under state and local regulations and policies. Habitat types on the project site that would be considered sensitive by regulatory agencies include wetlands and other waters of the U.S., which are regulated under Section 404 of the CWA.

The CDFW's *California Natural Community List* (CDFW, 2019d) ranks vegetation alliances in California according to their degree of rarity imperilment (as measured by rarity, trends, and threats). All alliances are listed with a G (global) and S (state) rank. Alliances with State ranks of S1-S3 are considered of special concern by the CDFW, and all associations within them are also considered to be highly imperiled. CDFW guidance recommends all alliances with State ranks of S1-S3 be considered and analyzed under CEQA.

The following vegetation alliances are considered of special concern by CDFW and should therefore be considered a sensitive natural community under CEQA regulations:

Vegetation Alliances

- *Salix lemmonii* (61.113.00) Lemmon's willow thickets (S3)

Wildlife Movement Corridors

Wildlife movement corridors are considered an important ecological resource by various agencies (CDFW and USFWS) and under CEQA. Movement corridors may provide favorable locations for wildlife to travel between different habitat areas such as foraging sites, breeding sites, cover areas, and preferred summer and winter range locations. They may also function as dispersal corridors allowing animals to move between various locations within their range. Topography and other natural factors, in combination with urbanization, can fragment or separate large open-space areas. Areas of human disturbance or urban development can fragment wildlife habitats and impede wildlife movement between areas of suitable habitat. This fragmentation creates isolated "islands" of vegetation that may not provide sufficient area to accommodate sustainable populations, and can adversely affect genetic and species diversity. Movement corridors mitigate the effects of this fragmentation by allowing animals to move between remaining habitats, which in turn allows depleted populations to be replenished and promotes genetic exchange between separate populations.

Trout Creek and its associated riparian corridor provide a movement corridor for areas between its headwaters and the Truckee River. The creek corridor allows common aquatic and terrestrial wildlife species to safely disperse back and forth between suitable habitats upstream and

downstream. Waterways such as Trout Creek (along with its associated riparian corridor) provide important movement corridors, which allow dispersal and subsequent gene flow between wildlife populations separated by roads and populated areas.

Special-Status Species

Special-status species are legally protected under the state and federal Endangered Species Acts or other regulations or are species that are considered sufficiently rare by the scientific community to qualify for such listing. These species are classified under the following categories:

1. Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (50 Code of Federal Regulations [CFR] 17.12 [listed plants], 17.11 [listed animals] and various notices in the Federal Register [FR] [proposed species]);

2. Species that are candidates for possible future listing as threatened or endangered under the federal Endangered Species Act (61 FR 40, February 28, 1996);

3. Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 California Code of Regulations [CCR] 670.5);

4. Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.);

5. Animal species of special concern to CDFW;

6. Animals fully protected under Fish and Game Code (California Fish and Game Code, Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]);

7. Species that meet the definitions of rare and endangered under CEQA. CEQA Section 15380 provides that a plant or animal species may be treated as "rare or endangered" even if not on one of the official lists (State CEQA Guidelines, Section 15380); and

8. Plants considered under the CDFW and CNPS to be "rare, threatened or endangered in California" (California Rare Plant Rank [CRPR] 1A, 1B, and 2) as well as CRPR Rank 3 and 4[1] plant species.

A list of special-status species that have the potential to occur within the vicinity of the project site was compiled based on data contained in the CNDDB (CDFW, 2019a), the USFWS list of Federal Endangered and Threatened Species that Occur in or may be Affected by the proposed project (USFWS, 2019a), and the CNPS Inventory of Rare and Endangered Plants (CNPS, 2019). A list of special-status species, their general habitat requirements, and an assessment of their potential to occur within and adjacent to the project site is provided below in **Table BIO-2**.

[1] CRPR 3 and 4 plants may be analyzed under CEQA §15380 if sufficient information is available to assess potential impacts to such plants. Factors such as regional rarity vs. statewide rarity should be considered in determining whether cumulative impacts to a CRPR 3 or 4 plant are significant even if individual project impacts are not. CRPR 3 and 4 plants may be considered regionally significant if, for example, the occurrence is located at the periphery of the species' range, or exhibits unusual morphology, or occurs in an unusual habitat/substrate. For these reasons, CRPR 3 and 4 plants should be included in the special-status species analysis. CRPR 3 and 4 plants are also included in the California Natural Diversity Database Special Plants, Bryophytes, and Lichens List. [Refer to the current online published list available at: http://www.dfg.ca.gov/biogeodata.].

TABLE BIO-2
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT SITE

Species	Status Federal/State/CNPS	Habitat Description	Potential for Occurrence within the Project Site
Amphibians			
Ambystoma macrodactylum sigillatum southern long-toed salamander	--/CSC/--	High elevation meadows and lakes in the Sierra Nevada, Cascade, and Klamath Mountains. Aquatic larvae occur in ponds and lakes. Outside of breeding season adults are terrestrial and associated with underground burrows of mammals and moist areas under logs and rocks.	Unlikely. No suitable habitat within the project site.
Lithobates pipiens northern leopard frog	--/CSC/--	Native range is east of the Sierra Nevada-Cascade crest. Near permanent or semi-permanent water in a variety of habitats. Highly aquatic species. Shoreline cover, submerged and emergent aquatic vegetation are important habitat characteristics.	Low. The project site provides limited and low quality habitat for this species. Limited aquatic vegetation in Trout Creek.
Rana sierrae Sierra Nevada yellow-legged frog	FE/ST/--	Always encountered within a few feet of water. Tadpoles may require 2 - 4 years to complete their aquatic development.	Low. Limited and low quality habitat in the project site. Little available backwater or off-channel refugia. Swift water in creek limits habitat suitability. Lack of nearby ponds or lakes that support breeding SNYLF populations. Introduced predatory salmonids occur within the stream channels in the project site.
Birds			
Accipiter cooperii Cooper's hawk	--/SWL/--	Nests in riparian areas and oak woodlands, forages at woodland edges.	Unlikely. No suitable habitat within the project site.
Accipiter gentilis Northern goshawk	--/CSC/--	Within and in vicinity of coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	Unlikely. No suitable habitat within the project site. The Jeffrey pine forest in the project site is not suitable habitat due to a lack of dense, mature trees.
Antigone canadensis tabida Greater sandhill crane	--/ST,CFP/--	Nests in open areas of wet meadows. These areas are often interspersed with emergent marsh.	Unlikely. No suitable habitat within the project site. The wet meadows in the project site are small and disconnected from similar habitats. The project site does not support emergent marsh.
Cypseloides niger Black swift	--/CSC/--	Breeds very locally in the Sierra Nevada and Cascade Range, the San Gabriel, San Bernardino, and San Jacinto Mts., and in coastal bluffs and mountains from San Mateo Co. south probably to San Luis Obispo Co. Nests in moist crevice or cave on sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons. Forages widely over many habitats.	Unlikely. No suitable habitat within the project site.
Empidonax traillii Sierra Nevada willow flycatcher	--/SE/--	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters. Requires dense willow thickets for nesting/roosting. Low, exposed branches are used for singing posts/hunting perches.	**Medium**. The montane riparian scrub habitat in the project site is not suitable nesting habitat, but this species could potentially migrate through the area.

TABLE BIO-2 (CONTINUED)
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT SITE

Species	Status Federal/State/CNPS	Habitat Description	Potential for Occurrence within the Project Site
Birds (cont.)			
Haliaetus leucocephalus Bald eagle	FDL/SE,CFP/--	Found in large trees along lake margins and rivers for both nesting and wintering. Roosts communally in winter.	Unlikely. No suitable habitat within the project site.
Pandion haliaetus Osprey	--/SWL/--	Breeds in northern California from Cascade Ranges south to Lake Tahoe, and along the coast south to Marin Co. Nests near ocean shores, bays, freshwater lakes, and larger streams. Large nests built in large trees, snags, and dead-topped trees within 15 miles of a good fish-producing body or water.	Unlikely. No suitable habitat within the project site.
Picoides arcticus Black-backed woodpecker	--/--/--	Coniferous forests in the Sierra Nevada and Cascades to the Siskiyou Mountains. Recently burned coniferous forest, areas with dense standing dead trees, and less commonly in unburned forests.	Unlikely. No suitable habitat within the project site.
Setophaga petechia Yellow warbler	--/CSC/--	Riparian plant associations. Prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging. Also nests in montane shrubbery in open conifer forests.	**Medium**. Suitable nesting habitat is available in the project site and this species is known from the vicinity.
Fish			
Oncorhynchus clarkii henshawi Lahontan cutthroat trout	FT/--/--	Historically in all accessible cold waters of the Lahontan Basin in a wide variety of water temps and conditions. Cannot tolerate presence of other salmonids. Requires gravel riffles in streams for spawning.	Low. Low quality habitat within the project site. Trout Creek is not suitable habitat for this species due to the high level of disturbance and narrow channel width. In addition, LCT are currently not known to occur in the project area, though they are found in the Truckee River downstream of the Town.
Mammals			
Aplodontia rufa californica Sierra Nevada mountain beaver	--/CSC/--	Dense growth of small deciduous trees and shrubs, wet soil, and abundance of forbs in the Sierra Nevada and east slope. Needs dense understory for food and cover. Burrows into soft soil. Needs abundant supply of water.	Unlikely. The narrow riparian corridor along the reach of Trout Creek in the project site is not suitable habitat for this species.
Gulo gulo California wolverine	FPT/ST,CFP/--	Typically found in very remote areas of the northern North America and high elevation areas of the Sierra Nevada and Rocky Mountains.	Unlikely. The presence of a populated area in and near the project site precludes the use of the area by wolverine.
Lasionycteris nocivagans Silver-haired bat	--/--/--	Found primarily in coastal and montane forests, with streams, ponds, and open brushy areas for foraging habitat. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and under rocks.	Low. Maternity and roosting colonies unlikely to occur on-site because of lack of suitable habitat. Could occur during migration or for foraging.

TABLE BIO-2 (CONTINUED)
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT SITE

Species	Status Federal/State/CNPS	Habitat Description	Potential for Occurrence within the Project Site
Mammals (cont.)			
Lepus americanus tahoensis Sierra Nevada snowshoe hare	--/CSC/--	Boreal riparian areas in the Sierra Nevada. Thickets of deciduous trees in riparian areas and thickets of young conifers.	Low. Limited and low quality habitat within the project site.
Lepus townsendii townsendii Western white-tailed jackrabbit	--/CSC/--	Sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grassland east of the Sierra Crest.	Low. Limited and low quality habitat within the project site.
Martes caurina sierrae Sierra marten	--/--/--	Preferred habitat is characterized by dense, multi-storied coniferous forest that includes a high percentage of snags and downed logs in proximity to riparian corridors.	Unlikely. No suitable habitat within the project site.
Myotis volans Long-legged myotis	--/--/--	Usually occur in woodland and forest habitat, but occupy drier areas. Roost in hollow trees, under tree bark and in caves and abandoned mines.	Unlikely. No suitable habitat within the project site.
Ochotona princeps schisticeps *Gray-headed pika*	--/--/--	Mountainous areas, generally at higher elevations, often above the treeline up to the limit of vegetation. At lower elevations found in rocky areas within forests or near lakes. Talus slopes, occasionally on mine tailings. Prefers talus-meadow interface.	Unlikely. No suitable habitat within the project site.
Pekania pennanti Fisher – West Coast DPS	--/CSC/--	Extensive forested areas with continuous canopy in higher elevations. Avoids entering open areas that have no overstory or shrub cover.	Unlikely. No suitable habitat within the project site.
Taxidea taxus American badger	--/SC,CSC/--	Occurs in a wide variety of open forest, shrub, and grassland habitats that have friable soils for digging.	Low. Limited and low quality habitat within the project site. Site is isolated from associated habitat.
Vulpes vulpes necato *Sierra Nevada red fox*	FC/ST/--	Found from the Cascades down to the Sierra Nevada. Found in a variety of habitats from wet meadows to forested areas. Use dense vegetation & rocky areas for cover & den sites. Prefer forests interspersed with meadows or alpine fell-fields.	Low. Limited and low quality habitat within the project site.
Plants			
Arabis rigidissima var. *demota* Galena Creek rockcress	--/--/1B.2	Perennial herb found on well-drained, stony soil underlain by basic volcanic rock in upper montane coniferous forests. 2255 – 2560 meters. Blooms July – August.	Unlikely. No suitable habitat within the project site.
Artemisia tripartita subsp. *tripartita* Threetip sagebrush	--/--/2B.3	Shrub found in openings on rocky, volcanic soils in upper montane coniferous forests. 2200 – 2600 meters. Blooms in August.	Unlikely. No suitable habitat within the project site.
Astragalus austiniae Austin's astragalus	--/--/1B.3	Perennial herb found in rocky soils in alpine boulder and rock fields and subalpine coniferous forests. 2440 – 2970 meters. Blooms July – September.	Unlikely. No suitable habitat within the project site.

TABLE BIO-2 (CONTINUED)
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT SITE

Species	Status Federal/State/CNPS	Habitat Description	Potential for Occurrence within the Project Site
Plants (cont.)			
Astragalus whitneyi var. *lenophyllus* Woolly-leaved milk-vetch	--/--/4.3	Perennial herb found in rocky soils in alpine boulder and rock fields and subalpine coniferous forests.2135 – 3050 meters. Blooms July – August.	Unlikely. No suitable habitat within the project site.
Botrychium ascendens Upswept moonwort	--/--/2B.3	Perennial rhizomatous herb found in moist habitats in meadows and near springs and streams. 1115 – 2700 meters. Blooms July and August.	**Medium**. Suitable habitat is present in the project site.
Botrychium crenulatum Scalloped moonwort	--/--/2B.2	Perennial rhizomatous herb found in habitats with wet or moist soils such as marshes, meadows, and along the edges of lakes and streams. 1268 – 3280 meters. Blooms June – September.	**Medium**. Suitable habitat is present in the project site.
Botrychium lunaria Common moonwort	--/--/2B.3	Perennial rhizomatous herb found in habitats with wet or moist soils such as marshes, meadows, and along the edges of lakes and streams. 1980 – 3400 meters. Blooms August.	**Medium**. Suitable habitat is present in the project site.
Botrychium minganense Mingan moonwort	--/--/2B.2	Perennial rhizomatous herb found in habitats with wet or moist soils such as marshes, meadows, and along the edges of lakes and streams. 1455 – 2180 meters. Blooms July – September.	**Medium**. Suitable habitat is present in the project site.
Bruchia bolanderi Bolander's bruchia	--/--/4.2	Moss species which grows on damp clay soils. This species is ephemeral in nature and takes advantage of disturbed sites. 1700 – 2800 meters.	**Medium**. Suitable habitat is present in the project site.
Carex davyi Davy's sedge	--/--/1B.3	Perennial herb found in dry, sparse meadows in subalpine and upper montane coniferous forests. 1500 – 3200 meters. Blooms May – August.	**Medium**. Suitable habitat is present in the project site.
Carex lasiocarpa Woolly-fruited sedge	--/--/2B.3	Perennial rhizomatous herb; generally found in standing water in sphagnum bogs, freshwater marsh, lakes, and ponds. 1700 – 2100 meters. Blooms June – July.	Unlikely. No suitable habitat within the project site.
Carex limosa Mud sedge	--/--/2B.2	Perennial rhizomatous herb found in sphagnum bogs and edges of lakes. 1200 – 2700 meters. Blooms June – August.	Unlikely. No suitable habitat within the project site.
Ceanothus fresnensis Fresno ceanothus	--/--/4.3	Perennial evergreen shrub found on rocky slopes and in openings in cismontane woodlands and lower montane coniferous forests. 900 – 2103 meters. Blooms May – July.	Unlikely. No suitable habitat within the project site.

TABLE BIO-2 (CONTINUED)
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT SITE

Species	Status Federal/State/CNPS	Habitat Description	Potential for Occurrence within the Project Site
Plants (cont.)			
Claytonia megarhiza Fell-fields claytonia	--/--/2B.3	Perennial herb found in crevices between rocks or in rocky or gravelly soils in alpine fell fields and subalpine coniferous forest. 2600 – 3532 meters. Blooms July – September.	Unlikely. No suitable habitat within the project site.
Cryptantha glomeriflora Clustered-flower cryptantha	--/--/4.3	Annual herb found on sandy granitic or volcanic soils on open slopes and in dry meadows and creek beds. 1800 – 3750 meters. Blooms June – September.	**Medium**. Suitable habitat is present in the project site.
Drosera anglica English sundew	--/--/2B.3	Carnivorous perennial herb found in swamps, bogs, fens and peatlands. 1300 – 2255 meters. Blooms June – September.	Unlikely. No suitable habitat within the project site.
Epilobium howellii Subalpine fireweed	--/--/4.3	Perennial stoloniferous herb found in wet meadows and mossy seeps. 2000 – 3150 meters. Blooms July – August.	**Medium**. Suitable habitat is present in the project site.
Epilobium oreganum Oregon fireweed	--/--/1B.2	Perennial herb found in and near springs, bogs, and small streams. Associated with serpentine soils. 500 – 2240 meters. Blooms June – September.	**Medium**. Suitable habitat is present in the project site.
Erigeron eatonii var. *nevadincola* Nevada daisy	--/--/2B.3	Perennial herb found on rocky soils in Great Basin scrub, lower montane coniferous forest, and pinyon-juniper woodland. 1400 – 2900 meters. Blooms May – July.	Unlikely. No suitable habitat within the project site.
Erigeron miser Starved daisy	--/--/1B.3	Perennial herb found on rocky, granitic outcrops in upper montane coniferous forest. 1840 – 2620 meters. Blooms June – October.	Unlikely. No suitable habitat within the project site.
Eriogonum umbellatum var. torreyanum Donner Pass buckwheat	--/--/1B.2	Perennial herb found on steep slopes and ridgetops; rocky, volcanic soils; usually in bare or sparsely vegetated areas in upper montane coniferous forest, chaparral, meadows. 1855 – 2620 meters. Blooms July – September.	Unlikely. No suitable habitat within the project site.
Eriophorum gracile Slender cottongrass	--/--/4.3	Perennial rhizomatous herb found on acidic soils in bogs, fens, wet meadows, and seeps. 1280 – 2900 meters. Blooms May – September.	**Medium**. Suitable habitat is present in the project site.
Glyceria grandis American managrass	--/--/2B.3	Perennial rhizomatous aquatic plant found in streams, ditches, ponds, and wet meadows. 15 – 1980 meters. Blooms June – August.	**Medium**. Suitable habitat is present in the project site.
Hackelia amethystina Amethyst stickseed	--/--/4.3	Perennial herb found in openings and disturbed areas within coniferous forest and meadows. 1500 – 2315 meters. Blooms June – August.	**Medium**. Suitable habitat is present in the project site.

TABLE BIO-2 (CONTINUED)
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT SITE

Species	Status Federal/State/CNPS	Habitat Description	Potential for Occurrence within the Project Site
Plants (cont.)			
Ivesia sericoleuca Plumas ivesia	--/--/1B.2	Perennial herb found in vernally mesic areas; usually volcanic substrates in great basin scrub, lower montane coniferous forest, meadows, vernal pools. 1310 – 2200 meters. Blooms May – October.	**Medium**. Suitable habitat is present in the project site.
Juncus luciensis Santa Lucia rush	--/--/1B.2	Annual herb found in vernal pools, ephemeral drainages, wet meadows, and stream banks. 300 – 2040 meters. Blooms April – July.	**Medium**. Suitable habitat is present in the project site.
Lewisia longipetala Long-petaled lewisia	--/--/1B.2	Perennial herb found on mesic, rocky sites in cracks of granite or gravelly volcanic soils within alpine boulder and rock fields and subalpine coniferous forests. 2500 – 2925 meters. Blooms July – September.	Unlikely. No suitable habitat within the project site.
Meesia triquetra Three-ranked hump moss	--/--/4.2	Moss growing on mesic soils in bogs, fens, wet meadows and seeps. 1300 – 2925 meters.	**Medium**. Suitable habitat is present in the project site.
Meesia uliginosa Broad-nerved hump moss	--/--/2B.2	Moss growing on damp soil in bogs, fens, wet meadows and seeps. 1210 – 2804 meters.	**Medium**. Suitable habitat is present in the project site.
Mertensia oblongifolia var. *oblongifolia* Sagebrush bluebells	--/--/2B.2	Perennial herb found on mesic sites in Great Basin scrub, coniferous forests, meadows, and seeps. 1000 – 3000 meters. Blooms April – July.	**Medium**. Suitable habitat is present in the project site.
Nardia hiroshii Hiroshi's flapwort	--/--/2B.3	Liverwort found on damp soils with granitic bedrock in meadows and seeps.	**Medium**. Suitable habitat is present in the project site.
Potamogeton epihydrus Nuttall's ribbon-leaved pondweed	--/--/2B.3	Aquatic perennial rhizomatous herb found in assorted shallow freshwater sites such as marshes and swamps. 369 – 2172 meters. Blooms June – September.	Unlikely. No suitable habitat within the project site.
Potamogeton robbinsii Robbins' pondweed	--/--/2B.3	Aquatic perennial rhizomatous herb found deep water in lakes. 1530 – 3300 meters. Blooms July – August.	Unlikely. No suitable habitat within the project site.
Pseudostellaria sierrae Sierra starwort	--/--/4.2	Perennial rhizomatous herb found in the dry understory of meadows, chaparral, mixed oak, and coniferous forests. 1225 – 2194 meters. Blooms May – August.	**Medium**. Suitable habitat is present in the project site.
Rhamnus alnifolia Alder buckthorn	--/--/2B.2	Perennial deciduous herb found on mesic sites in meadows and seeps, lower montane coniferous forest, upper montane coniferous forest, montane riparian scrub. 1370 – 2130 meters. Blooms May – July.	**Medium**. Suitable habitat is present in the project site.

TABLE BIO-2 (CONTINUED)
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT SITE

Species	Status Federal/State/CNPS	Habitat Description	Potential for Occurrence within the Project Site
Plants (cont.)			
Rorippa subumbellata Tahoe yellowcress	--/SE/1B.1	Perennial rhizomatous herb found on sandy beaches on decomposed granite sand on the shores of Lake Tahoe. 1890 – 1905 meters. Blooms May – September.	Unlikely. No suitable habitat within the project site.
Scutellaria galericulata Marsh skullcap	--/--/2B.2	Perennial rhizomatous herb found mesic sites in swamps, meadows, stream banks and wet places in coniferous forests. 0 -2100 meters. Blooms June – September.	**Medium**. Suitable habitat is present in the project site.
Sphaeralcea munroana Munro's desert mallow	--/--/2B.2	Perennial herb that occurs in deserts, valleys and foothills in association with rabbitbrush and sagebrush. In California it is known only from the Squaw Creek area. 2000 meters. Blooms May – June.	Unlikely. No suitable habitat within the project site.
Stuckenia filiformis subsp. alpina *Slender-leaved pondweed*	--/--/2B.2	Aquatic rhizomatous herb that occurs in shallow, clear water of lakes, drainage channels, marshes and swamps. 300 – 2150 meters. Blooms May – July.	Unlikely. No suitable habitat within the project site.
Subularia aquatica subsp. *americana* water awlwort	--/--/4.3	Aquatic annual herb found on lake margins in upper montane coniferous forests. 1900 – 3100 meters. Blooms July – September.	Unlikely. No suitable habitat within the project site.

STATUS CODES:

FEDERAL (U.S. Fish and Wildlife Service):
FE = Listed as Endangered by the Federal Government
FT = Listed as Threatened by the Federal Government
FPE = Proposed for Listing as Endangered
FPT = Proposed for Listing as Threatened
FC = Candidate for Federal listing
FDL = Federally delisted species

STATE (California Department of Fish and Wildlife):
SE = Listed as Endangered by the State of California
ST = Listed as Threatened by the State of California
SC = Candidate for State listing
SDL = State delisted species
CSC = California species of special concern
CFP = California fully protected species
SWL = Listed on CDFW's species watch list

California Native Plant Society (CNPS):
Rank 1A = Plants presumed extirpated in California and either rare or extinct elsewhere
Rank 1B = Plants rare, threatened, or endangered in California and elsewhere
Rank 2A = Plants presumed extirpated in California, but more common elsewhere
Rank 2B = Plants rare, threatened, or endangered in California but more common elsewhere
Rank 3 = Plants about which more information is needed – a review list
Rank 4 = Plants of limited distribution – a watch list

CNPS Code Extensions:
.1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 = Fairly endangered in California (20-80% occurrences threatened)
.3 = Not very endangered in California (less than 20% of occurrences threatened or no current threats known)

SOURCE: CDFW, 2019a; USFWS, 2019a, CNPS, 2019

The "Potential to Occur" categories are defined as follows:

- **Unlikely**: The project site does not support suitable habitat for a particular species and/or the project site is outside of the species known range.
- **Low Potential**: The project site only provides limited and low quality habitat for a particular species. In addition, the known range for a particular species may be outside of the immediate project area.
- **Medium Potential**: The project site and/or immediate project area provides suitable habitat for a particular species.
- **High Potential**: The project site and/or immediate project area provide ideal habitat conditions for a particular species and/or known populations occur in the immediate project area or within the project site.

Critical Habitat

Critical habitat is defined in Section 3(5)A of the federal Endangered Species Act as the specific portions of the geographic area occupied by the species in which physical or biological features essential to the conservation of the species are found and that may require special management considerations or protection. Specific areas outside of the geographic area occupied by the species may also be included in critical habitat designations upon a determination that such areas are essential for the conservation of the species.

There is no critical habitat designated within or adjacent to the project site (USFWS, 2019b).

Discussion

a) **Less than Significant with Mitigation.** Special-status species and their habitats that may be affected either directly or indirectly through implementation of the proposed project include special-status birds, nesting raptors and migratory birds, and special-status plant species. Each of these potentially affected species is described below.

Special-Status Bird Species

Yellow Warbler

Yellow warbler (*Setophaga petechia*) nests in riparian areas dominated with deciduous species, usually in small trees and shrubs such as willows, cottonwoods, and alder. The project site provides suitable nesting and foraging habitat for yellow warbler within the montane riparian scrub community. Yellow warbler is known to occur within the Truckee area. Direct or indirect impacts to the montane riparian scrub habitat may result in impacts to this species. The impact would be less than significant if construction activities occur during the non-breeding season (i.e., from September 1st through January 31st). However, construction activities conducted during the breeding season between February 1st and August 31st could affect the species adversely and result in a potentially significant impact. Implementation of **Mitigation Measure BIO-1** would mitigate the impact to **less than significant**.

Sierra Nevada Willow Flycatcher

Sierra Nevada willow flycatcher (*Empidonax traillii*) is a rare to uncommon summer resident in wet meadows and montane riparian habitats in the Sierra Nevada and Cascade Range. Willow flycatchers are usually found in broad, open river valleys or large mountain meadows with a dense growth of willow shrubs. The montane riparian scrub habitat in the project site is not suitable nesting habitat for willow flycatcher because it is not dense or extensive enough, but this species could potentially migrate through the area or forage in the area. However, because nesting habitat is not present, any migrating or foraging willow flycatcher found in the project site during construction would be able relocate in order to avoid construction impacts. Therefore, this impact is **less than significant**.

Nesting Raptors and Migratory Birds

Under the Migratory Bird Treaty Act (MBTA), migratory bird species and their nests and eggs are protected from injury or death. California Fish and Game Code Subsections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs.

The project site and the immediate vicinity have the potential to support nesting raptors as well as migratory birds on suitable nest trees and shrubs. Direct impacts on nesting raptors or migratory birds or their habitat such as removal of trees or shrubs could result in substantial lowered reproductive success or habitat loss, thereby potentially adversely affecting local population levels. The raptor or bird species could be adversely affected if active nesting, roosting, or foraging sites are either removed or exposed to a substantial increase in noise or human presence during project activities. The impact would be less than significant if construction activities occur during the non-breeding season (i.e., from September 1st through January 31st). However, construction activities conducted during the breeding season between February 1st and August 31st could affect species adversely and result in a potentially significant impact. Implementation of **Mitigation Measure BIO-1** would mitigate the impact to **less than significant**.

Special-Status Plants

Suitable habitat for a number of special-status plants occurs on the project site. Based on reconnaissance-level surveys conducted on the project site, a review of available databases and literature, and an on-site habitat suitability assessment, 23 special-status plant species were determined to have the potential to occur on the project site (see Table BIO-2). The reconnaissance-level surveys conducted for this project did not record the presence of any special-status plant species; however, these surveys do not constitute a full botanical inventory of the site and do not meet the requirements outlined in the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW, 2018). Therefore, it is not known whether the project site supports any special-status plant species. Implementation of the proposed project could potentially result in direct or indirect impacts to special-

status plant populations if they are located on the project site. **Mitigation Measure BIO-2** will reduce potential impacts to special-status plants to **less than significant**.

b, c) **Less than Significant with Mitigation.** The project site supports sensitive habitats, including protected waters of the U.S. as defined in Section 404 of the Clean Water Act, riparian vegetation, and state jurisdictional waters.

Church Street Extension

Sensitive habitats, including protected wetland habitat and riparian vegetation, as defined in Section 404 of the Clean Water Act and Section 1602 of the California Fish and Game Code, could be affected by project construction through direct removal, filling, hydrological interruption, alteration of bed and bank, and other construction-related activities. Based on the 30% design level engineering plans for the Church Street Extension component of the project, implementation of the street extension component of the project would result in the permanent removal of approximately 0.463 acre of federally protected waters of the U.S. and an additional 0.367 acre of habitat protected under Section 1602 of the California Fish and Game Code. This is a potentially significant impact. Implementation of **Mitigation Measure BIO-3** would mitigate the impact to **less than significant**.

Trout Creek Restoration

Based on the 30% design level engineering plans for the Trout Creek Restoration component of the project, implementation of the restoration component of the project would result in the temporary removal of approximately 1.141 acres of federally protected waters of the U.S. and an additional 0.010 acre of habitat protected under Section 1602 of the California Fish and Game Code. Overall, implementation of the Trout Creek component of the project is not expected to result in any net loss of sensitive natural communities, including waters of the U.S., and instead is expected to result in a net increase in functions and services of wetland and riparian habitat at the project site. Based on the nature of the proposed restoration activities, and the long-term aquatic ecosystem benefits that would result from implementation of restoration of Reaches 4 and 5 of Trout Creek, impacts to sensitive natural communities, including waters of the U.S., are considered **less than significant**.

d) **Less than Significant with Mitigation.** Trout Creek, along with its associated riparian corridor, provides a movement corridor for fish and wildlife to areas upstream and downstream of the project site. Trout Creek provides habitat for native fish species including the Tahoe sucker and the speckled dace, and nonnative introduced salmonids including brown trout, brook trout, and rainbow trout. Construction activities may temporarily disrupt fish and wildlife movement within the project site. The disturbance would only occur during project construction and the disruption of fish and wildlife movement would be temporary in nature. Implementation of the proposed project would not interfere substantially with the movement of terrestrial wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. In addition, the proposed project would have a long-term beneficial

impact on aquatic habitat in Trout Creek and downstream in the Truckee River. The long-term effects of the proposed Trout Creek Restoration component of the project would be beneficial to native and nonnative fish species by improving fish passage and habitat quality within the project reaches, and improving habitat quality downstream of the project reaches by decreasing sedimentation and increasing water quality in the Truckee River due to the habitat degradation that currently exists in the project reaches. Nevertheless, direct or indirect impacts to the riverine habitat in Trout Creek may result in impacts to migratory or resident fish in the project site. **Mitigation Measures BIO-4** and **BIO-5** will reduce potential impacts to migratory or resident fish to **less than significant**.

e) **No Impact.** The Town recognizes the importance of trees and regulates the removal of trees through Section 18.30.155 of the Town of Truckee Development Code. However, no trees are expected to be removed during construction of the Church Street Extension component of the proposed project, and no trees over 24-inches diameter at breast height will be removed during construction of the Trout Creek Restoration component of the project; therefore, a permit for tree removal pursuant to Section 18.30.155 of the Town of Truckee Development Code is not required. The project would not conflict with any local policies or ordinances protecting biological resources. Therefore, there is **no impact**.

f) **No Impact.** The proposed project is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be **no impact**.

Mitigation Measures

Mitigation Measure BIO-1: Perform Pre-Construction Surveys for Nesting Raptors and Migratory Birds. For construction activities expected to occur during the nesting season of raptors (February 1 to August 31) and migratory birds, a pre-construction survey shall be conducted to determine if active nests are present on or within 500 feet of the project site where feasible. Areas that are inaccessible due to private property restrictions shall be surveyed using binoculars from the nearest vantage point. The survey shall be conducted by a qualified biologist no more than seven days prior to the onset of construction. If no active nests are identified during the pre-construction survey, no further mitigation is necessary. If construction activities begin prior to February 1, it is assumed that no birds will nest in the project site during active construction activities and no pre-construction surveys are required. If at any time during the nesting season construction stops for a period of two weeks or longer, pre-construction surveys shall be conducted prior to construction resuming.

If active nests are found on or within 500 feet of the project site, then the Town shall notify CDFW and explain any additional measures that a qualified biologist plans to implement to prevent or minimize disturbance to the nest while it is still active. Depending on the conditions specific to each nest, and the relative location and rate of construction activities, it may be feasible for construction to occur as planned within the 500-foot buffer without impacting the breeding effort. Appropriate measures may include restricting construction activities within 500 feet of active raptor nests, and having a qualified biologist with stop work authority monitor the nest for evidence that the behavior of the parents have changed during construction. Appropriate measures would

be implemented until the young have fledged or until a qualified biologist determines that the nest is no longer active. Construction activities may be halted at any time if, in the professional opinion of the biologist, construction activities are affecting the breeding effort.

Mitigation Measure BIO-2: Perform Pre-Construction Surveys for Special-Status Plants. A qualified plant biologist shall conduct a pre-construction survey(s) in the appropriate season(s) for the plant species identified as having a medium to high potential to occur within the construction disturbance area (see Table BIO-2). Surveys will conform to the procedures in CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW, 2018). If special-status plant species are found, the Town shall consult with CDFW to provide preservation and avoidance measures commensurate with the standards provided in applicable CDFW protocols for the affected species. The preservation and avoidance measures may include appropriate buffer areas clearly marked during project activities, monitoring by a qualified plant biologist, the evaluation of relocating project facilities that would impact special-status plant species populations, and the development and implementation of a replanting plan (collection of seeds, revegetation, and management and monitoring of the habitat to ensure success) for any individuals of the species that cannot be avoided.

Mitigation Measure BIO-3: Wetland and Riparian Mitigation Plan. The Town shall prepare a wetland and riparian mitigation plan that ensures no net loss of waters of the U.S. and riparian vegetation. The wetland and riparian mitigation plan shall be based on a wetland delineation verified by USACE. This measure may be implemented through the CWA Section 404 permit and Streambed Alteration Agreement process. The Town shall compensate for the loss of wetland and riparian habitat through a combination of restoration/enhancement and/or the purchase of mitigation credits at an approved mitigation bank. The ratio of compensation shall be determined in consultation with USACE and CDFW, as part of the CWA Section 404 permit and Streambed Alteration Agreement process, but shall not be less than 1:1.

Mitigation Measure BIO-4: Fish Rescue. Before construction activities commence within Trout Creek (i.e., prior to creek diversion and dewatering), a qualified biologist shall develop and implement a fish capture and translocation plan within the construction dewatering area. The plan will specify that all captured native fish species shall be captured and immediately released to suitable habitat near the project site. The plan will also include measures for the placement of nets with 1/8-inch mesh at the up and downstream extent of the area to be dewatered to keep fish out of the area during fish removal activities. After removal activities have been completed, the work area would then be cleared for dewatering. Fish rescue and relocation would continue until the area is completely dewatered or until it is determined that no fishes remain in the dewatering area. These activities would take place in consultation with CDFW and in accordance with the dewatering plan.

Mitigation Measure BIO-5: Prepare a Dewatering Plan. A dewatering plan will be developed and designed so that any potential discharges to surface water will meet the water quality objectives provided in the *Water Quality Control Plan for the Lahontan Region (Basin Plan)* (LRWQCB, 2016). The Dewatering Plan will describe the procedures necessary to satisfy the requirements of the State of California's General Permit for Discharges of Storm Water Runoff Associated with Construction Activity

(General Storm Water Permit) and the RWQCB 401 water quality certification. The dewatering plan is required to include details on the proposed use of fish screens, intended to prevent entrainment or impingement of small fish (on the suction end of intake pipes), and measures to prevent erosion of sediments downstream.

References

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. The Jepson manual: Vascular plants of California, second edition. University of California Press, Berkeley, CA.

Calflora, 2019. Information on California plants for education, research and conservation [web application]. Berkeley, California: The Calflora Database [a non-profit organization]. Available: http://www.calflora.org/. Accessed March 25, 2019

California Department of Fish and Wildlife (CDFW), 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*. Sacramento, CA.

CDFW, 2019a. *California Natural Diversity Database (CNDDB) Rarefind 5 computer program* (v5.2.14). California Department of Fish and Wildlife Biogeographic Data Branch. Sacramento, CA.

CDFW, 2019b. *Special Vascular Plants, Bryophytes, and Lichens List*. California Department of Fish and Wildlife, Natural Diversity Database. Sacramento, CA. Quarterly publication. 127 pp. Data dated March 2019.

CDFW, 2019c. *Special Animals List*. California Department of Fish and Wildlife, Natural Diversity Database. Sacramento, CA. Periodic publication. 66 pp. Data dated November 2018.

CDFW, 2019d. *California Natural Community List*. Vegetation Classification and Mapping Program. Sacramento, CA. Available: https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/List. Accessed March 25, 2019

California Native Plant Society (CNPS), 2019. *Inventory of Rare and Endangered Plants* (online edition, v8.03 0.39). California Native Plant Society. Sacramento, CA. Accessed April 2, 2019

Environmental Laboratory. 1987. Corps of Engineers Wetland Delineation Manual (Technical Report Y-87-1). U.S. Army Corps of Engineers Waterways Experimental Station. Vicksburg, Mississippi.

Environmental Science Associates (ESA), 2019. *Church Street Extension/Trout Creek Restoration Project Aquatic Resources Delineation Report*. April 2019.

Federal Geographic Data Committee, 2013. *Classification of Wetlands and Deepwater Habitats of the United States. FGDC-STD-004-2013. Second Edition.* Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.

Jepson Flora Project (eds.), 2019. *Jepson eFlora.* http://ucjeps.berkeley.edu/eflora/. Accessed March 25, 2019.

Mayer, K. E., and W.F. Laudenslayer, Jr., 1988. *A Guide to Wildlife Habitats of California*. State of California Resources Agency, California Department of Fish and Game. Sacramento, CA.

Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens, 2009. *A Manual of California Vegetation*. California. 2nd Edition. Native Plant Society Press. Sacramento, CA.

U.S. Army Corps of Engineers (USACE). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Fish and Wildlife Service (USFWS), 2019a. *List of Federal Endangered and Threatened Species that may occur in the Project Area*. Sacramento Fish and Wildlife Office, Endangered Species Division.

USFWS, 2019b. Critical Habitat for Threatened and Endangered Species. Critical Habitat Portal Online Mapper. Available: http://ecos.fws.gov/crithab/. Accessed March 25, 2019.

USFWS. 2019c. National Wetlands Inventory. Available: www.fws.gov/wetlands/Data/Mapper.html. Accessed November 13, 2017; November 8, 2018; and March 25, 2019.

Western Regional Climate Center. 2019. Period of Record General Climate Summary for Truckee RS, California, 1904 –2016. Accessed March 25, 2019.

Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
5. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion

a) **No Impact.** CEQA Guidelines Section 15064.5 requires the lead agency to consider the effects of a project on historical resources. A historical resource is defined as a building, structure, site, or object listed in or determined to be eligible for listing in the California Register of Historical Resources (California Register), or determined by a lead agency to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California. The following discussion focuses on architectural and structural resources. Archaeological resources, including those that are potentially historical resources according to CEQA Guidelines Section 15064.5, are addressed under impact b).

As a result of a records search, background research, and a site survey, it was confirmed that no historical resources are present in the project area (ESA, 2018). As such, there are no architectural or structural resources on the project site that qualify as historical resources as defined in CEQA Guidelines Section 15064.5; therefore, the project would have **no impact** on historical resources, as defined in CEQA Guidelines Section 15064.5.

b) **Less than Significant with Mitigation.** This section discusses archaeological resources, both as historical resources according to CEQA Guidelines Section 15064.5, as well as unique archaeological resources as defined in Public Resources Code Section 21083.2(g). A significant impact would occur if the project would cause a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource.

ESA completed a record search at the North Central Information Center (NCIC) of the California Historical Resources Information System on November 1, 2017. The record search indicated that nine cultural resources studies had previously been completed which partially overlapped or encompassed the project site. One study, *Cultural and Paleontological Resources Study and Historical Evaluation for the Truckee Railyard Master Plan Project* (Pulcheon and Marvin 2008), completely encompassed the current project site. This report also evaluated the CEQA-level significance of the cultural

resources within the project area. In addition to these reports, an additional 65 studies were conducted within a ½-mile of the project site.

The record search also indicated that five cultural resources had been recorded within the project site and 65 additional resources had been recorded within a ½-mile of the project site. On November 7, 2017, ESA archaeologist R. Scott Baxter surveyed the project area in 10-meter transects. Ground surface visibility was excellent, the only limitations being sparse riparian habitat along Trout Creek. On November 9 and 16, 2018, ESA archaeologist Ben Curry conducted a survey of two additional sections of Trout Creek.

Five cultural resources were identified within the project area: P-29-000823 (CA-NEV-695H), P-29-000950 (CA-NEV-714H), P-29-001199/P-29-001204, P-29-001200, and P-29-004376.

- P-29-000823 (CA-NEV-695H), the Sierra Nevada Wood and Lumber Company/Hobart Southern Railway, is a short segment of a much longer historic railway system dating to *ca.* 1896-1955. All that remains of the railway within the project site is a level, earthen railroad grade. Snyder (1998) and subsequently Pulcheon and Marvin (2008:33) recommended that this is not a historical resource under CEQA.

- P-29-000950 (CA-NEV-714H), Lincoln Highway, is a segment of the old Lincoln Highway. This segment coincides with the alignment of Glenshire Drive along the northern edge of the project site. In its current form it is a two-lane asphalt paved roadway. Pulcheon and Marvin (2008:22, 34) as well as Lindström (2002:2) noted that the Lincoln Highway "likely possesses historical significance" and is considered a historical resource under CEQA. However, Lindström and Bennet (2013:1) later indicated that "The Glenshire Drive segment of the Lincoln/Victory highways/Old U.S. 40 has been fully inventoried and evaluated as part of prior studies and found ineligible to the National Register of Historic Places and California Register of Historic Resources." This segment of the highway is, therefore, not a historical resource under CEQA.

- P-29-001199/P-29-001204 is a series of water control ditches and gates, partially integrated into Trout Creek. The creek has been channelized and is linked to a parallel ditch via a pair of sluice gates and shallow ditches. These resources were previously recorded as two separate sites. P-29-001199 was recorded by Lindström and Bennet (2002) as a ditch. P-29-001204 was recorded by Lindström (2002) as a stone retaining wall on the south bank of Trout Creek. While most of this wall is outside the project site, much of the length of the creek in the project site has been channelized. The creek, and the ditch recorded as P-29-001199, are connected by a pair of sluice gates and shallow ditches, creating one integrated water control system. Lindström (2002) and subsequently Pulcheon and Marvin (2008:33) recommended that the two primary components of this resource (P-29-001199 and P-29-001204) are not a historical resource under CEQA.

- P-29-001200 is a fence line recorded as Kearney's Chick Ranch Fence by Lindström (2002). In 2018, four standing fence posts and three fallen fence posts were identified in the project site along Trout Creek. The fence line, when standing, would have

crossed Trout Creek, and would have paralleled the railroad bed on its northern side. The posts are reused railroad ties, with round wire cut nails. Some deer mesh fencing is still present near the northern post next to Trout Creek. Lindström (2002) recommended that the fence line is not a historical resource under CEQA.

- P-29-004376 is a fence line between Trout Creek and Glenshire Drive previously recorded by Mitchell (2012). It is composed of a mix of railroad tie and rail fence posts, strung with a combination of barbed wire, hog wire, and random scraps of bailing wire. The fence has fallen into state of disrepair, with most of the fencing material having fallen down. Only random posts remain standing. P-29-004376 does not meet any of the criteria for listing in the National or California Registers. In addition, the resource lacks physical integrity. As the resource is not eligible for the California Register, it is not considered a historical resource under CEQA.

In summary, none of the cultural resources identified within the project area are historical resources or unique archaeological resources under CEQA.

Through a records search and background research, a surface survey, and an evaluation of cultural resources in the project area, it has been determined that no archaeological resources that qualify as historical resources or unique archaeological resources are in the project site. In addition, based on the environmental context and previous disturbance, there is a low potential that unknown archaeological resources could be discovered during project implementation (ESA, 2018).

If a previously unrecorded archaeological resource were identified during project ground disturbing activities, and was found to qualify as an historical resource per CEQA Guidelines Section 15064.5 or a unique archaeological resource as defined in PRC Section 21083.2(g), any impacts to the resource resulting from the project could be potentially significant. **Mitigation Measure CUL-1**, which will be implemented in the event of inadvertent discovery of unidentified archaeological cultural resources, requires work to halt and the resources to be thoroughly documented and treated appropriately. Implementation of this mitigation measure would ensure that impacts on archaeological resources remain at a **less-than-significant** level.

c) **Less than Significant with Mitigation.** The records search and background research confirmed that no human remains are known to exist in the project area. Therefore, the proposed project is not anticipated to impact human remains, including those interred outside of formal cemeteries.

While unlikely, if any previously unknown human remains were encountered during ground disturbing activities, any impacts to the human remains resulting from the project could be potentially significant. Implementation of **Mitigation Measure CUL-2** would reduce this potential impact to a **less-than-significant** level by ensuring that if human remains are encountered, the find will be reported to the County Coroner. If the remains are determined to be Native American in origin, the Native American Heritage Commission would be contacted and the remains would be treated appropriately.

Mitigation Measures

Mitigation Measure CUL-1: Inadvertent Discovery of Archaeological Resources or Tribal Cultural Resources. If prehistoric or historic-era cultural resources are encountered, all construction activities within 100 feet shall be halted and the Town of Truckee shall be notified. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. An archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology, hereafter "qualified archaeologist," will inspect the findings within 24 hours of discovery.

If it is determined that the project could damage a significant cultural resource, mitigation will be implemented with a preference for preservation in place, consistent with the priorities set forth in CEQA Guidelines Section 15126.4(b)(3). If avoidance is not feasible, a qualified archaeologist will prepare and implement a detailed treatment plan in consultation with the Town of Truckee and, for prehistoric resources, the ethnographically associated Native American tribe. If the resource is determined to be a tribal cultural resource, as defined by Public Resources Code 21074, the Town of Truckee, in consultation with the ethnographically associated Native American tribe, will, if feasible, minimize significant adverse impacts by avoiding the resource or treating the resource with culturally appropriate dignity, which includes protecting the cultural character and integrity of the resource, protecting the traditional use of the resource, and protecting the confidentiality of the resource.

Mitigation Measure CUL-2: Inadvertent Discovery of Human Remains. In the event of discovery or recognition of any human remains during construction activities the provisions of CEQA Guidelines § 15064.5(e) will be followed and such activities will cease within 100 feet of the find until the County Coroner has been contacted to determine that no investigation of the cause of death is required. If it is determined that the remains are Native American in origin, the Native American Heritage Commission (NAHC) will be contacted within 24 hours. The NAHC will then identify the person or persons it believes to be the most likely descendant from the deceased Native American. The most likely descendant would, in turn, make recommendations to the Town of Truckee for the appropriate means of treating the human remains and any grave goods.

References

ESA, Church Street Extension Project Cultural Resources Inventory (D170799), Prepared for Todd Landry, Senior Civil Engineer, Town of Truckee, November 2018.

Lindström, Susan, Trout Creek Restoration Project, Heritage Resource Inventory, Truckee, California, Nevada County. Prepared for by Susan Lindström for PWA, 2002.

Lindström, Susan and Lizzie Bennet, P-29-001199. Site record on file at NCIC, 2002.

Lindström, Susan and Lizzie Bennet, P-29-001199. Site record update on file at NCIC, 2013.

Mitchel, Kelly, P-29-004376. Site record on file at the NCIC, 2012.

North Central Information Center (NCIC), File No. NEV-17-75 California Historical Resources Information System at California State University, Sacramento. On file at ESA, November 1, 2017.

Pulcheon, Andrew and Judith Marvin, Cultural and Paleontological Resources Study and Historical Evaluation for the Truckee Railyard Master Plan Project. Prepared by LSA for the Truckee Community Development Department, 2008.

Snyder, R.A., P-29-000823/CA-NEV-000695H. Site Record on file at NCIC, 1998.

Energy

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
6. ENERGY — Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Discussion

Consistent with Public Resources Code Section 21100(b)(3), this impact analysis evaluates the potential for the project to result in a substantial increase in energy demand and wasteful use of energy during project construction, operation and maintenance. The impact analysis is informed by Appendix G of the CEQA Guidelines. The potential impacts are analyzed based on an evaluation of whether construction energy use estimates for the project would be considered excessive, wasteful, or inefficient.

a) **Less than Significant.** The analysis in this section utilizes the energy input assumptions used to complete the analyses from the Air Quality and Greenhous Gas Emissions sections respectively. Because the California Emissions Estimator Model (CalEEMod) program used for those analyses does not quantify in the output file the fuel volume or type for construction-related sources; additional calculations were completed and are summarized below.

Project Construction

Construction of the project would result in fuel consumption from the use of construction tools and equipment, truck trips to haul material, and vehicle trips generated from construction workers commuting to and from the site. Project construction is expected to consume a total of approximately 19,178 gallons of diesel fuel and 1,140 gallons of gasoline from construction equipment and vendors, hauling, truck trips, and construction worker commute.

Construction activities and corresponding fuel energy consumption would be temporary and localized, as the use of diesel fuel and heavy-duty equipment would not be a long-term condition of the project. In addition, there are no unusual project characteristics that would cause the use of construction equipment or haul vehicles that would be less energy efficient compared with other similar construction sites in other parts of the State. In conclusion, construction-related fuel consumption by the project would not result in inefficient, wasteful, or unnecessary energy use compared with other construction sites in the region. This impact is considered **less than significant**.

Project Operation

Once construction is complete, the source of operational emissions will be minimal and related to maintenance activities. Because the project's operational impacts on energy resources are primarily driven by limited maintenance activities, energy use would be negligible. This impact is considered **less than significant**.

b) **Less than Significant.** The transportation sector is a major end-user of energy in California, accounting for approximately 39 percent of total statewide energy consumption in 2014 (U.S. Energy Information Administration, 2016). In addition, energy is consumed in connection with construction and maintenance of transportation infrastructure, such as streets, highways, freeways, rail lines, and airport runways. California's 30 million vehicles consume more than 16 billion gallons of gasoline and more than 3 billion gallons of diesel each year, making California the second largest consumer of gasoline in the world (CEC, 2016).

With respect to transportation energy, existing energy standards are promulgated through the regulation of fuel refineries and products, such as the Low Carbon Fuel Standard (LCFS), which mandates a 10 percent reduction in the non-biogenic carbon content of vehicle fuels by 2020. Additionally, there are other regulatory programs with emissions and fuel efficiency standards established by USEPA and the California Air Resources Board (CARB) such as Pavley II/LEV III from California's Advanced Clean Cars Program and the Heavy-Duty (Tractor-Trailer) GHG Regulation. CARB has set a goal of 4.2 million Zero Emissions Vehicles (ZEV) on the road by the year 2030 (CARB, 2016). Further, construction sites will need to comply with State requirements designed to minimize idling and associated emissions, which also minimizes use of fuel. Specifically, idling of commercial vehicles and off-road equipment would be limited to five minutes in accordance with the Commercial Motor Vehicle Idling Regulation and the Off-Road Regulation[2].

In terms of local energy planning Nevada County is in the process of developing an Energy Action Plan (Nevada County, 2019). The Draft Plan includes goals related to energy efficiency and fuel efficient transportation practices. The proposed project is consistent with the goals of the draft plan and would not impede progress towards achieving these local goals.

In conclusion, the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency or impede progress towards achieving goals and targets. This impact is considered **less than significant**.

2 California Code of Regulations (CCR), 2005. Title 13, Chapter 10, 2485, updated through 2014.

References

California Air Resources Board (CARB). 2016. *Mobile Source Strategy*, May 2016. Available: https://www.arb.ca.gov/planning/sip/2016sip/2016mobsrc.htm. Accessed March 2019.

California Energy Commission (CEC). 2016. Summary of California Vehicle and Transportation Energy. Available: http://www.energy.ca.gov/almanac/transportation_data/summary.html#vehicles. Accessed March 2019.

Nevada County. 2019. Draft Energy Action Plan.

U.S. Energy Information Administration. 2016. California State Profile and Energy Estimates: Consumption by Sector. Available: http://www.eia.gov/state/?sid=CA#tabs-2. Accessed: March 2019.

Geology, Soils, and Seismicity

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
7. GEOLOGY and Soils — Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

Discussion

a.i) **No Impact.** A geotechnical engineering report was conducted for the proposed project that evaluated geotechnical issues related to the proposed bridge over and restoration actions to Trout Creek (Holdrege and Kull, 2017). The project site is not located within an Alquist-Priolo earthquake fault zone. Therefore, relative to being located on an active fault, there would be **no impact**.

a.ii) **Less than Significant.** The geotechnical engineering report identified the following active faults in the region (Holdrege and Kull, 2017):

- Dog Valley Fault, approximately five miles northwest;
- A group of unnamed faults southeast of Truckee approximately one mile and two miles southwest;
- Polaris Fault, approximately two miles northeast;

- West Tahoe Fault, approximately 16 miles south-southeast;
- North Tahoe Fault, approximately 15 miles southeast.

Earthquakes associated with these faults may cause strong ground shaking at the project site. Movement on the Dog Valley Fault could result in a maximum credible earthquake of 6.75 (Town of Truckee, 2008a). There has been seismic activity felt in Truckee in recent history, including a magnitude 6+ earthquake in 1966, a magnitude 3.6 earthquake in 1998, and a magnitude 4.5 earthquake centered six miles south of Truckee in June of 2004. A seismic event could subject the precast concrete arch bridge to be constructed over Trout Creek to seismic shaking. The estimated peak acceleration with a 10 percent chance of being exceeded over the next 50 years is estimated by the California Geological Survey at 0.33 g (33 percent of gravity) (Town of Truckee, 2008b). The geotechnical engineering investigation estimated 0.480 g (Holdrege and Kull, 2017). The proposed road and bridge would be required to be constructed to Caltrans standards, which would consider the level of seismic shaking the bridge could be subjected to. The geotechnical engineering report included seismic design criteria based on their site-specific investigation, and recommendations to address the estimated level of seismic shaking and the effects of seismic shaking and secondary seismic failures such as liquefaction on the bridge. Note that compliance with Caltrans standards and the implementation of the geotechnical investigation recommendations is a condition of the grading and construction permit. With compliance with Caltrans standards and implementation of the geotechnical recommendations, the impact relative to seismic shaking would be **less than significant**.

a.iii) **Less than Significant.** The soils in the project area are glacial moraine deposits with limited amounts of organic materials and clays and sands (Town of Truckee, 2008b). The geotechnical engineering investigation indicated that the susceptibility of the site to liquefaction is low (Holdrege and Kull, 2017). Therefore, the impact relative to liquefaction would be **less than significant.**

a.iv) **Less than Significant.** Topography of the project area is relatively flat with a relatively gradual slope near Trout Creek. Therefore, the project area would not be susceptible to landslides and the impact would be **less than significant.**

b) **Less than Significant.** The proposed earthmoving construction activities would temporarily disturb soils and alter existing drainage patterns. Disturbed soils are susceptible to high rates of erosion from wind and rain, resulting in sediment transport from the site. As explained in further detail below in *Hydrology and Water Quality*, impacts a) and f), the proposed project would be subject to the requirements of the Town of Truckee Development Code, which requires adherence to Section 402 of the federal Clean Water Act and the National Pollutant Discharge Elimination System (NPDES) permitting process. All construction projects that disturb more than one acre of land are required to acquire coverage under the state Construction General Permit, which would require preparing and implementing a stormwater pollution prevention plan (SWPPP) to minimize the potential erosion of soils and the release of sediment or other pollutants into

Trout Creek and the Truckee River through the use of best management practices (BMPs). Details regarding BMP designed to minimize erosion are discussed below in *Hydrology and Water Quality*, impacts a) and f). With implementation of BMPs and compliance with the state Construction General Permit, the impacts from erosion and loss of topsoil would be **less than significant**.

c) **Less than Significant.** As discussed above in Impact a.iv), the project site has a gradual slope and would not be susceptible to slope failures such as landslides or collapse. The proposed project does not include the withdrawal of groundwater, oil, or natural gas, and therefore would not cause subsidence. As discussed above in Impact a.iii), the project site does not have soils susceptible to liquefaction or lateral spreading (Holdrege and Kull, 2017). Therefore, the impacts relative to unstable soils would be **less than significant.**

d) **Less than Significant.** As discussed above in Impact a.iii), the soils in the project area are glacial moraine deposits with limited amounts of organic materials and clays and sands. Expansive soils are soils with a high percentage of clays susceptible to expansion (shrink-swell) when subjected to alternating wetting and drying. The geotechnical engineering investigation did not encounter expansive soils (Holdrege and Kull, 2017). With minimal amounts of clay, the project would not be susceptible to expansion and the impact would be **less than significant.**

e) **No Impact.** The proposed project would not include the use of septic tanks or alternative wastewater disposal systems, resulting in **no impact**.

f) **No Impact.** Paleontological resources are the fossilized evidence of past life found in the geologic record. Despite the tremendous volume of sedimentary rock deposits preserved worldwide, and the enormous number of organisms that have lived through time, preservation of plant or animal remains as fossils is an extremely rare occurrence. Because of the infrequency of fossil preservation, fossils—particularly vertebrate fossils—are considered to be nonrenewable resources. Because of their rarity, and the scientific information they can provide, fossils are highly significant records of ancient life.

Rock formations that are considered of paleontological sensitivity are those rock units that have yielded significant vertebrate or invertebrate fossil remains (SVP, 2010). This includes, but is not limited to, sedimentary rock units that contain significant paleontological resources anywhere within its geographic extent. As discussed above in Impact a.iii), the soils in the project area are glacial moraine deposits with limited amounts of organic materials and clays and sands. The deposits have been derived from the surrounding igneous rocks of the Sierra Nevada Mountains. Igneous rocks would not contain paleontological resources, resulting in **no impact**.

References

Holdrege & Kull, 2017, *Geotechnical Engineering Report for Church Street to Glenshire Drive Intersection Project. Truckee, California,* December 4, 2017.

Society of Vertebrate Paleontology (SVP), 2010. *Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontologic Resources: Standard Guidelines*, Society of Vertebrate Paleontology News Bulletin, 2010.

Town of Truckee, 2008a. *Town of Truckee Emergency Operations Plan*, February.

Town of Truckee, 2008b. *Truckee Railyard Draft Master Plan EIR*, November.

Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
8. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

a) **Less than Significant.** Greenhouse Gas Emissions (GHG) from both construction activities and operations will be emitted from the proposed project. Construction activities that are associated with the proposed project would include GHG emissions from excavators, compactors, dump trucks, backhoes, bulldozers, bobcats, graders, rollers, and scrapers. Project construction could occur either at once (continuous) or in stages, depending on timing and scheduling constraints. GHG emissions from creek restoration work will likely occur in late summer or early fall when creek flows are at their lowest. Materials (e.g., soils, rocks, gravels, etc.) will be transported on site with a rubber wheeled dump truck, tracked dump truck, front end loader, and tracked skid-steer loader emitting additional GHGs.

Construction of the project is anticipated to take approximately 4 to 5 months and is scheduled for 2021. If the Trout Creek Restoration component of the proposed project is constructed in phases (due to funding constraints), Phase 1 will be constructed in 2021 and Phase 2 will be constructed at a later date when funding is secured. If two phases are required, the second would occur at an undetermined later date once funding is available. However, the most conservative scenario was used to model emissions; it was assumed that all construction would occur in one phase, from June 2021 to October 2021. Operational emissions from the proposed project would be minimal and generated from the use of the Church Street Extension and maintenance activities.

The Northern Sierra Air Quality Management District (NSAQMD) does not currently have GHG significance thresholds and defers to neighboring Districts. Placer County Air Pollution Control District (PCAPCD) CEQA Guidelines recommend both a construction and operational significance threshold of 10,000 metric tons per year of CO_2e. These alternate significance thresholds are appropriate for the proposed project.

GHG emissions from construction activities were estimated using the CalEEMod emissions model with the same assumptions as discussed in the Air Quality analysis. The results of the CalEEMod modeling indicate that the project would generate a total of 204.83 metric tons of CO_2e over the construction period. The resulting operational

emissions would be 53.23 metric tons of CO_2e per year for project. Please refer to Appendix B for all assumptions used to estimate project-related GHG emissions.

Both construction and operational emissions for the proposed project would be well below the 10,000 metric tons CO_{2e} per year significance threshold. Therefore, the proposed project would not generate GHG emissions that would have a significant impact on the environment. This impact would be **less than significant**.

b) **Less than Significant.** In 2006, the California legislature passed Assembly Bill (AB32; California Health and Safety Code Division 25.5, Sections 38500, et seq.), also known as the Global Warming Solutions Act, which requires the California Air Resources Board (CARB) to design and implement feasible and cost-effective emissions limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25-percent reduction in emissions). Pursuant to AB 32, the CARB adopted a *Climate Change Scoping Plan* in December 2008 outlining measures to meet the 2020 GHG reduction goals, which was most recently updated in 2017.

In addition to policy directly guided by AB 32, the legislature in 2008 passed SB 375, which provides for regional coordination in land use and transportation planning and funding to help meet the AB 32 GHG reduction goals. SB 375 aligns regional transportation planning efforts, regional GHG emissions reduction targets, and land use and housing allocations. SB 375 requires Regional Transportation Plans (RTPs) developed by the state's 18 metropolitan planning organizations to incorporate a "sustainable communities strategy" that will achieve GHG emission reduction targets set by the CARB. SB 375 also includes provisions for streamlined CEQA review for some infill projects, such as transit-oriented development. While the proposed project isn't specifically addressed within a RTP, it is consistent with the goals of SB 375 in terms of transportation planning.

In terms of local climate planning, while the Town of Truckee has begun meetings related to Climate Action Planning, no plan has been adopted or put into place to date. Nevada County is in the process of adopting an energy plan for both the facilities it controls and the county in general (Nevada County, 2019). One of the stated goals is to reduce GHGs through energy efficiency measures. The proposed project will not impede the pursuit of the stated County GHG goal as additional GHG emissions are anticipated to be minimal.

With regard to consistency with the applicable state and local climate planning, both construction and operational GHG emissions are well below the PCAPCD significance thresholds, therefore the proposed project is consistent with applicable plans and policies. This impact would be **less than significant**.

References

Nevada County. Draft Energy Action Plan, 2019.

Northern Sierra Air Quality Management District (NSAQMD), 2016. Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects, May 2016.

Placer County Air Pollution Control District (PCAPCD). CEQA Handbook, 2017.

Hazards and Hazardous Materials

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
9. HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

Discussion

a, b) **Less than Significant.** During the construction phase, project construction equipment and materials would include fuels, oils and lubricants, cement and concrete, and asphalt mixtures, which are all commonly used in construction. The routine use or an accidental spill of hazardous materials used in construction could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment.

Construction activities would be required to comply with numerous hazardous materials regulations designed to ensure that hazardous materials are transported, used, stored, and disposed of in a safe manner to protect worker safety, and to reduce the potential for a release of construction-related fuels or other hazardous materials into the environment, including stormwater and downstream receiving water bodies, including Trout Creek and the Truckee River. Contractors would be required to prepare and implement Hazardous Materials Business Plans (HMBPs) that would require that hazardous materials used for construction be used properly and stored in appropriate containers with secondary containment, as needed, to contain a potential release. Construction contractors would be required to acquire coverage under the state Construction General Permit, which requires

the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) for construction activities. The SWPPP would list the hazardous materials (including petroleum products) proposed for use during construction; describe spill prevention measures, equipment inspections, equipment and fuel storage; describe protocols for responding immediately to spills; and describe Best Management Practices (BMPs) for controlling site run-on and runoff. Details regarding BMPs designed to minimize erosion are discussed below in *Hydrology and Water Quality*, impacts a) and f). In addition, the transportation of hazardous materials would be regulated by the U.S. Department of Transportation, Caltrans, and the California Highway Patrol. Together, federal and State agencies determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of an accidental release.

The required compliance with the numerous laws and regulations discussed above that govern the transportation, use, handling, and disposal of hazardous materials would limit the potential for creation of hazardous conditions due to the use or accidental release of hazardous materials, and would render this impact **less than significant**. During operations after the project construction has been completed, there would be no further use of equipment that would use fuels, oils, and/or lubricants.

c) **No Impact.** There are no schools located within one-quarter mile of the project site. Therefore, relative to schools, there would be **no impact**.

d) **Less than Significant.** The footprint of the proposed project site is currently undeveloped land with Trout Creek flowing west to east across the site. Several hazardous materials sites are located in the area (GeoSearch, 2019). However, only the former rail yard and lumber mill on the south side of Trout Creek is close enough to potentially affect the proposed project site. For investigation and site cleanup purposes, the former railyard and lumber mill site is referred to as the Truckee Railyard Balloon Track site on the State Water Resources Control Board (SWRCB) GeoTracker website, one of the hazardous materials lists that comprise the Cortese List (Government Code Section 65962.5). The locations of the various historical lumber yard and railyard structures were all south of proposed project site within the circular rail loop shown on Figure 2 or to the west of both the rail loop and the proposed project site (Regional Water Quality Control Board [RWQCB], 2014; GrafCon, 2013).

To characterize the nature and extent of contamination of the former railyard and lumber mill site, numerous soil samples were collected throughout the area, including just south and west of the proposed project site (GrafCon, 2013). Soil contamination consisted of total petroleum hydrocarbons (TPH) mostly in the heavy fuel oil range, polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and metals. Investigations of the nature and extent of contamination revealed that most of the contamination in soil was close to the main rail lines along the southern portion of the former rail yards. The direction of groundwater is to the southeast and not toward the project site.

In 2012, approximately 5,066 tons of contaminated soil was excavated and removed from the southern portion of the railyard site (GrafCon, 2013). Based on the extent of contamination, a deed restriction was placed over an extended area along the main rail line south of the rail loop, restricting the use of this area to commercial uses; no residential uses would be permitted (RWQCB, 2014). This restricted area is about 600 feet south of the proposed project footprint. The rest of the former railyard and lumber yard area, including the area adjacent to the footprint of the proposed project, has been approved for unrestricted use, including residential. Soil within this area may have residual levels of TPH in the diesel and oil range, and related PAHs, but at concentrations below regulatory standards (GrafCon, 2013). The closest soil sample to the proposed project site was collected in 2012 from surface soil just inside of the rail loop and contained 30 milligrams per kilogram (mg/kg) of TPH in the diesel range, and 130 mg/kg of TPH in the oil range. These concentrations are below the San Francisco RWQCB residential Environmental Screening Levels (ESLs)[3] of 230 mg/kg for TPH as diesel and 5,100 mg/kg for TPH as motor oil (RWQCB, 2016). ESLs are soil screening levels used by regulatory agencies throughout California to assess whether further action is needed for a given site. The soil contamination is not known to extend into the proposed project footprint (GrafCon, 2013). Therefore, relative to being located on a listed hazardous materials site, the impact would be **less than significant**.

e) **Less than Significant.** The proposed project site is about one mile northwest of the Truckee-Tahoe Airport and is located within the airport's Compatibility Land Use Plan (CLUP) (Town of Truckee, 2008). The eastern portion of the site is within the CLUP Compatibility Zone C and the western portion is within CLUP Compatibility Zone D. The zones place various restrictions on development densities, building heights, and types of uses. Zones C and D limit structure heights to 50 and 100 feet respectively. The proposed project would not include the construction of any structures other than the bridge over Trout Creek. The bridge height would be less than 50 feet and would not conflict with any CLUP height restrictions. Therefore, relative to airports, the impact would be **less than significant**.

f) **Less than Significant.** The construction activity and the staging of equipment and materials for the proposed project would occur mostly within the undeveloped area south of Trout Creek, which would not require road closures or lane restrictions. The proposed project would include the construction of a roundabout at the new Church Street Extension/Glenshire Drive intersection. This activity would result in temporary lane restrictions and possibly short-term road closures. As discussed below in the section on Transportation, the construction permit would require the preparation and implementation of a traffic control plan to minimize traffic disruptions and facilitate the re-routing of traffic during construction. With implementation of the traffic control plan, impacts to emergency response and evacuation plans would be **less than significant**.

[3] Although the ESLs are established and periodically updated by the San Francisco RWQCB, ESLs are used as screening levels by regulatory agencies throughout the state.

g) **Less than Significant.** The entire Truckee area is designated as within a high fire hazard severity zone (Town of Truckee, 2008). However, the proposed project site does not have dense vegetation and is not located on steep slopes, factors that contribute to increased wildfire risk. In addition, Trout Creek runs through the project area, further reducing fire risk. The proposed project would not change the site characteristics other than improving aquatic and riparian habitat associated with the creek. The addition of the paved road and bridge would not result in structures that could catch fire. Therefore, relative to wildland fires, the impact would be **less than significant**.

References

GeoTracker, 2019, *Radius Report, Church Street Extension, 10250 Church Street, Truckee, Nevada County, California 96161*, March.

GrafCon, 2013, *Site Management Plan, Truckee Railyard, Balloon Track Parcels Truckee, California*, December.

Regional Water Quality Control Board (RWQCB), 2014, *No Further Action Required for the Truckee Railyard Balloon Track Parcels (APNs 19-420-68, -69, -70, and -72), Truckee, Nevada County, Site Cleanup Program, Case No. T6S054*, November 18.

Regional Water Quality Control Board (RWQCB), 2016, *Environmental Screening Levels (ESLs)*, February.

Town of Truckee, 2008, *Truckee Railyard Draft Master Plan EIR*, November.

Hydrology and Water Quality

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
10.	**HYDROLOGY AND WATER QUALITY — Would the project:**				
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐
e)	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f)	Otherwise substantially degrade water quality?	☐	☐	☒	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☒	☐
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Environmental Setting

Surface Water

The proposed project is located within the Martis Valley Region of the Truckee River Basin. The Truckee River Basin is just over 3,000 square miles starting in the mountains above Lake Tahoe California, flowing past Tahoe City and the Town of Truckee before merging with the Donner Lake drainage, Martis Creek drainage, Prosser Creek, Trout Creek, and Little Truckee River drainages before eventually ending at Pyramid Lake in Nevada. On average, the region receives approximately 40 inches of precipitation with about 75 percent of that falling during the winter months. Snow and ice removal is implemented by the Town of Truckee's Public Works Department. Plowing begins after accumulations reach three inches. Plowing and snow removal

operations may be ongoing 24-hour per day, and last several days after a major storm. Sand is applied as an aide in snow removal (Town of Truckee, 2006).

Water Quality

Surface water within the Truckee River Basin primarily originates as mountain snowmelt of good water quality. However, exposure to pollutants and sedimentation generated from human activity and development has impaired reaches of the River within the vicinity of Truckee. According to the Lahontan Regional Water Quality Control Board (LRWQCB), the Truckee River is on the Clean Water Act Section 303(d) list of impaired water bodies for elevated levels of sedimentation/siltation (SWRCB, 2011). "Impaired" refers to water bodies that do not or are not expected to meet water quality standards despite compliance with NPDES permit requirements.

Water quality in Donner Lake has been found to be impaired due to elevated levels of arsenic, chlordane, and polychlorinated biphenyls (PCBs). In addition, the California Department of Water Resources (DWR) and the LRWQCB are currently operating and maintaining three water quality monitoring stations along the Truckee River. The data obtained through monitoring quantifies Total Maximum Daily Loads (TMDL), which help define the extent of sediment delivery reduction that is necessary to bring the waterway into attainment with applicable water quality standards.

Groundwater

The Town of Truckee obtains its water supply from the Martis Valley Groundwater Basin (MVGB). The basin is a low lying area of approximately 57 square miles that is completely contained within a larger watershed of approximately 167 square miles. The basin has a total subsurface storage volume of 484,000 acre-feet and is made up of three aquifers composed of sediments and volcanic deposits nearly 1,000 feet thick. Infiltration from surface water and precipitation supplies the upper unconfined aquifer system, which in turns feeds adjacent wetland areas (Town of Truckee, 2006).

Annual groundwater recharge depends heavily on snowmelt in the late spring and early summer, from April through June. Estimates of annual groundwater recharge in the MVGB vary, with more recent estimates showing higher recharge. The basin-wide annual recharge was estimated by the Town of Truckee General Plan to be 29,165 acre-feet per year (AFY) (Town of Truckee, 2006). More recent estimates included in the 2013 Martis Valley Groundwater Management Plan estimates 12,143 AFY (dry year) to 56,792 AFY (wet year), with an average annual recharge estimate of 32,745 AFY (Brown and Caldwell, 2013).

The Truckee Donner Public Utility District (TDPUD), Placer County Water Agency (PCWA) and the Northstar Community Services District (NCSD), which all depend on the Martis Valley Basin for water supply, have conducted studies of the basin's capacity. The 2013 Martis Valley Groundwater Management Plan estimates buildout water demand for all users in the MVGB to be approximately 21,000 AFY, which is below the average annual recharge estimates for the MVGB AFY (Brown and Caldwell, 2013).

The Town of Truckee obtains its potable water supply from semi-confined to confined deep-seated aquifers within the Martis Valley Groundwater Basin. According to the 2001 Water Master Plan Update, groundwater quality met all current water quality standards in regards to allowable levels of regulated pollutants. Data gathered by the TDPUD indicates that the current water supply system and its contents are in compliance with existing State maximum contaminant levels (MCLs).

According to the 2013 Martis Valley Groundwater Management Plan, groundwater quality in the MVGB is generally of good quality. Most constituents showed concentration levels in samples that were below drinking-water thresholds, with some exceptions: a) concentrations of arsenic were above the MCL in 4 of the 14 wells sampled, and b) manganese concentrations were elevated above the MCL in one well. TDPUD has also reported arsenic levels above the MCL (Brown and Caldwell, 2013).

Drainage and Flooding

The Town of Truckee maintains a public storm drainage system that discharges into the Truckee River. The Town enforces regulations to ensure that water quality of the municipal storm water discharge is in compliance with the LRWQCB's Truckee River Hydrologic Unit Project Guidelines.

The Town of Truckee's Municipal Code regulates activities influencing the quality of the municipal storm water discharge such as land development projects. Currently, storm water runoff from the Town of Truckee impacts the Truckee River by contributing to stream bank erosion and the transport of contaminants such as automobile lubricants. The Town of Truckee aims to reduce storm hydrographs and storm water runoff within in the Downtown area through implementation of the Downtown River Revitalization Strategy Plan. Measures within this plan include, but are not limited to, infiltration or retention of runoff and use of filter strips on development parcels adjacent to the Truckee River to slow overland flow of runoff and trap pollutants

The area adjacent to Trout Creek, approximately 200 feet in width, is zoned by the Federal Emergency Management Agency (FEMA) as a 100-year flood zone and includes portions of the proposed project (Town of Truckee, 2006).

A tsunami is a very large ocean wave caused by an underwater earthquake or volcanic eruption. The proposed project is located over 190 miles from the Pacific Ocean and would not be affected by tsunami. Seiche occurs within enclosed water bodies, such as lakes, bays, or contained harbors. Seiche does not typically occur along rivers. The risk of a seiche occurring on Donner Lake during a strong seismic event is considerable given the size of the lake and its location on the southwestern edge of the Town. However, the Truckee General Plan notes there are relatively low levels of seismic activity locally to induce such a seismic event (Town of Truckee, 2006). Mudflow can occur as a result of volcanic activity, or denuding of large areas of vegetation from highly erosive soils. The Truckee General Plan notes that some areas in Town have steep slopes that could be susceptible to mudslide; however, the areas listed are not in the proposed project area (Town of Truckee, 2006).

There are five dams in the area of the Town of Truckee. Although failure of any of the dams would cause flooding, Truckee would not be significantly affected by potential inundation. Modeling by the United States Bureau of Reclamation (Reclamation) shows failure by any of these five dams would not result in inundation of Truckee (Town of Truckee, 2006).

Discussion

a, f) **Less than Significant.** Construction activities associated with the proposed project would involve the delivery, handling, and storage of construction materials and wastes, as well as the use of construction equipment, which could result in stormwater contamination and degradation of water quality. The use of heavy equipment during construction of the proposed project would include, but not be limited to, excavation, grading, and earthmoving. Spills or leaks from heavy equipment and machinery could result in oil and grease contamination of receiving waters. Staging areas or construction sites could also be the source of pollution because of the use of paints, solvents, cleaning agents, and metals during construction. Impacts associated with metals in stormwater include toxicity to aquatic organisms, such as bioaccumulation, and the potential contamination of drinking water supplies.

In addition, earthmoving construction activities would temporarily disturb soils and alter existing drainage patterns. Disturbed soils are susceptible to high rates of erosion from wind and rain, resulting in sediment transport from the site. Erosion and sedimentation affects water quality through interference with photosynthesis, oxygen exchange, and the respiration, growth, and reproduction of aquatic species. Additionally, the pollutants mentioned previously can bind to sediment and be transported in runoff, leaving the project site and affecting water quality.

The proposed project would be subject to requirements of the Town of Truckee Development Code which requires adherence to Section 402 of the federal Clean Water Act and the National Pollutant Discharge Elimination System (NPDES) permitting process. Under the NPDES, all construction projects that disturb more than one acre of land are required to prepare and implement a stormwater pollution prevention plan (SWPPP) to minimize the potential erosion of soils and release of sediment and hazardous materials into Trout Creek and the Truckee River. The goal of the NPDES stormwater regulations is to improve the quality of stormwater discharged to receiving waters to the “maximum extent practicable” through the use of BMPs. Construction activities in California are regulated under the NPDES through compliance with the Construction General Permit.

The SWPPP is incorporated into all project plans and specifications. The restoration and road construction contractor(s) will be required to post a copy of the SWPPP at the project location, file a notice of intent to discharge stormwater with the LRWQCB, and implement all measures required by the SWPPP. A component of the SWPPP is a dewatering plan for in-channel activities. A Qualified SWPPP Practitioner (QSP) will be responsible for construction monitoring to ensure that the provisions of the SWPPP are

effectively enforced. In the event of noncompliance, the QSP will have the authority to shut down the construction site or fine the responsible party or parties.

The SWPPP will include the following information and Best Management Practices (BMPs):

- A description of site characteristics, including runoff and drainage characteristics and soil erosion hazard;
- A description of proposed construction procedures and construction-site housekeeping BMPs, including prohibitions on discharging or washing potentially harmful materials into roads, drainages, or Trout Creek; and
- A description of BMPs that will be implemented for erosion and sediment control, including requirements to:
  - Conduct major construction activities involving excavation and spoils haulage during the dry season, to the extent possible;
  - Conduct all construction work in accordance with site-specific construction plans that minimize the potential for increased sediment inputs to surface waters;
  - Grade and stabilize spoils sites to minimize erosion and sediment input to surface waters and generation of airborne particulate matter; and
  - Implement erosion control measures as appropriate to prevent sediment from entering surface waters to the extent feasible, including the use of silt fencing or fiber rolls to trap sediments.
- A Spill Prevention and Response Plan that identifies any hazardous materials to be used during construction; describes measures to prevent, control, and minimize spillage of hazardous substances; describes transport, storage and disposal procedures for these substances; and outlines procedures to be followed in case of a spill of a hazardous material. The Spill Prevention and Response Plan will require that hazardous and potentially hazardous substances stored onsite be kept in securely closed containers located away from drainage courses and areas where stormwater is allowed to infiltrate. Spill prevention kits will be required to be kept in close proximity to construction areas and workers will be trained in their use. It will also stipulate procedures, such as the use of spill containment pans, to minimize hazards during onsite fueling and servicing of construction equipment. Finally, the Spill Prevention and Response Plan will require that all agencies listed in the Spill Prevention and Response Plan be notified immediately of any substantial spill or release.

As described in the project description, channel dewatering is not anticipated to be continuous over the entire restoration area; it is anticipated that the Contractor will dewater select portions of the channel during installation of specific features. The restoration contractor shall be responsible for generating a dewatering plan which complies with the construction stormwater permit.

The contractor would be responsible for selecting the appropriate range of groundwater levels and equipment for the dewatering system used during construction, based on site conditions. The dewatering system would: lower the water table during installation or intercept seepage which would emerge from the sides or the bottom of the installation; improve the stability of the installations and prevent disturbance of the bottom of the installations; provide a reasonably dry working area in the bottom of the installations; and provide for collection and removal of surface water and rainfall. Discharge of water from dewatering activities associated with construction could impact the water quality of receiving waters.

Water from channel dewatering activities would be discharged back into Trout Creek in accordance with regulatory permits. The Town of Truckee would apply and receive coverage under NPDES No. CAG995001 Waste Discharge Requirements (WDR) General Order for Dewatering and Other Low Threat Discharges to Surface Waters prior to construction. Management of dewatering activities in accordance with the conditions of the WDRs would minimize the risk of impacting the water quality of receiving waters.

Following construction, the proposed project would result in increased vehicle use and potential discharge of associated pollutants. Pollutants associated with the operational phase of the proposed project include fuel, oil and grease, tire wear, heavy metals, salt or deicing chemicals, sediment, and other debris. The urban runoff from development of the proposed project would contain levels of pollutants that could adversely affect water quality in Trout Creek and the Truckee River by increasing the aforementioned pollutants in stormwater.

The proposed project is subject to the Town of Truckee Stormwater Quality Ordinance which includes the compliance with the Phase II MS4 Permit through a stormwater management program (SWMP), and any development would be required to implement post-construction stormwater quality Low Impact Development (LID) BMPs, such as streetscapes, bioswales, or vegetated swales along some of the streets, parks, parking lots, and parkways. These would address water quality issues upstream before entering the storm drain system.

The streetscapes, swales, and other LID BMPs mentioned above would be designed to meet the Town of Truckee and state LID standards. As such, these LID BMPs would provide the first line of pretreatment of runoff and would be capable of meeting the water quality objectives of the Town of Truckee Stormwater Quality Ordinance to slow down, filter, and infiltrate stormwater.

As required pursuant to LRWQCB standards, Construction General Permit requirements during project construction would substantially reduce or prevent waterborne pollutants from entering receiving waters and protect water quality during project construction. Compliance with the Town of Truckee Stormwater Quality Ordinance requirements would protect water quality during project operation. Implementation of BMPs would be required as a condition of approval of the proposed project, and would substantially

reduce or prevent waterborne pollutants from entering receiving waters per LRWQCB standards. Therefore, this impact is considered **less than significant**.

b) **Less than Significant.** The proposed project would not pump groundwater for water supply during construction or operation. The proposed project would extend the existing Church Street to Glenshire Drive and would restore Reaches 4 and 5 of Trout Creek. In addition, the proposed Church Street extension would provide a new roadway crossing over Trout Creek and a roundabout at the Church Street Extension intersection with Glenshire Drive. The extension of Church Street and the roundabout would result in new impervious surfaces. However, the extent of these impervious surfaces would be minor, and would not interfere with groundwater recharge. Groundwater dewatering is not anticipated to be required in support of construction of the proposed project. Therefore, the proposed project would result in a **less-than-significant** impact related to the depletion of groundwater supplies or interference with groundwater recharge.

c, d) **Less than Significant.** The proposed project would result in changes to the existing drainage pattern of the project site. The extension of Church Street would add impervious surfaces that could lead to increased erosion, siltation, or on- or off-site flooding. The Town of Truckee General Plan includes policies that requires that storm water drainage systems be incorporated into development projects to effectively control the rate and amount of runoff, so as to prevent increases in downstream flooding potential.

The areas of Trout Creek immediately upstream and downstream of the bridge structure would be reconstructed and restored to allow for proper hydrology of the bridge and to contain 100-year storm events.

Given the relatively small amount of impervious surfaces added by the proposed project in comparison to the Downtown area, the required compliance with General Plan policies for storm drainage, and the restoration of Trout Creek in the project site, drainage would be effectively controlled and erosion would be minimized. Therefore, this impact would be **less than significant**.

e) **Less than Significant.** The proposed project would increase the amount of impervious surfaces which would lead to an increase in runoff water; however, the proposed project will be designed to improve water quality and control stormwater drainage rates by managing local runoff from existing and proposed urban developments and, where feasible, treating urban runoff before it enters Trout Creek. Roadside swales would be constructed along the extension of Church Street and the revised Glenshire Drive, and four stormwater detention basins would be constructed: two on the south side of the new bridge, with one basin on either side of the roadway; and two just east of the roundabout, with one basin on either side of Glenshire Drive. The roadside swales would attenuate stormwater flows and prevent flooding by collecting runoff from the roadway and allowing for infiltration. The stormwater detention basins would serve as larger features where stormwater would be collected and where larger amounts of water could infiltrate the soil. These features would help achieve adherence with the Town of Truckee General

Plan policies and Town ordinances which require the proposed project to control stormwater drainage rates. The roadside swales and stormwater detention basins features would also provide water quality benefits by reducing the off-site transport of sediments, pollutants, and trash through infiltration. Therefore, this impact would be **less than significant**.

g) **No Impact.** The proposed project does not include the construction of housing, and as such would not place houses within a 100-year flood plain that would redirect or impede flood flows. Therefore, **no impact** would occur.

h) **Less than Significant.** As described in the project description, the proposed project would include a new roadway crossing over Trout Creek. The area within 200 feet of Trout Creek is zoned as a 100-year flood zone and includes the location of the proposed roadway crossing. However, in order to ensure the new bridge structure would have the proper hydrology and capacity to contain the 100-year storm event plus any required freeboard, a limited section of Trout Creek immediately upstream and downstream of the bridge structure would be reconstructed and restored and would result in improved flood capacity. Therefore, this impact would be **less than significant**.

i) **No Impact.** As described in checklist items g) and h), the proposed project would not place any new housing in a flood hazard zone and the roadway crossing would be designed to contain a 100-year storm event in addition to restoration to Trout Creek in the area of the crossing. In addition, the proposed project is not located within a dam inundation area. Therefore, no persons or structures would be exposed to a significant risk associated with flooding due to levee failure or dam inundation and **no impact** would occur.

j) **No Impact.** The proposed project is located far from the coast and therefore would not be exposed to coastal flooding hazards such as tsunami. Although a seiche could potentially form in Donner Lake, there are low levels of seismic activity locally and as such inducement of a seiche is unlikely. The proposed project is located in a relatively flat area and is not an area known to be susceptible to mudflow. Therefore, **no impact** would occur.

References

Brown and Caldwell, 2013. Martis Valley Groundwater Management Plan. April, 2013.

SWRCB (State Water Resources Control Board), 2011. 2010 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report). October 11, 2011.

Town of Truckee, 2006. Town of Truckee 2025 General Plan Draft EIR. May, 2006.

Land Use and Planning

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
11. LAND USE AND PLANNING — Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Environmental Setting

The project site is located east of historic Downtown Truckee, comprised primarily of a site historically occupied by the railyard and lumber mill. The project site is generally bounded by Glenshire Drive to the north, commercial uses and undeveloped land to the east, Union Pacific Railroad right-of-way to the south, and Truckee Way to the west to the west (Figure 2). The majority of the site, outside of the Trout Creek corridor, is disturbed or developed. Most recently, the site has been used for material storage by the Rock & Rose, Inc. Adjacent land uses include an electrical substation, civic, residential, and commercial uses to the east, west, and northwest; Glenshire Drive and U.S. Forest Service land to the north; and the Union Pacific Railroad and Truckee River to the south. The project site is within the Railyard Master Plan Area and is designated by the Railyard Master Plan as Trout Creek (TC), Industrial Heritage (IH), Downtown Master Plan (DMP), and Open Space (OS).

Discussion

a) **No Impact.** As described in Section 1.3, the purpose of the Church Street Extension component of the proposed project is to provide a connected community with places that are easily accessible to pedestrians, bicyclists, and drivers as well as create a street and sidewalk network that is physically connected to the existing Downtown, surrounding neighborhoods, and Trout Creek. The proposed project would connect the existing Church Street to Glenshire Drive, providing access to the Truckee Railyard. In addition, the proposed Church Street extension would provide a new roadway crossing over Trout Creek with a new precast modular type bridge, further connecting the Town of Truckee. The Trout Creek Restoration component of the project would consist of the restoration of Reaches 4 and 5 of Trout Creek. Therefore, the proposed project would have **no impact** related to physically dividing an established community.

b) **Less than Significant.** The project includes extending Church Street and restoring Reaches 4 and 5 of Trout Creek, both of which are identified in the Railyard Master Plan. The project is consistent with the goals and policies addressed in the Railyard Master Plan including the following:

> **Goal 2:** Provide a connected community with places that are easily accessible to pedestrians, bicyclists, and drivers.

Policy 2.a: Create a street and sidewalk network that is physically connected to the existing Downtown, surrounding neighborhoods, and Trout Creek and visually connected to the natural features including the Truckee River and surrounding mountains.

Policy 3.b: Facilitate a strong connection between the Railyard Master Plan Area and the existing Downtown through well-designed street and sidewalk improvements, building forms and uses.

Policy 3.c: Preserve and enhance public views of the mountains, Trout Creek, and Truckee River through Railyard development.

Policy 3.m: Improvements to Church Street should also be considered as part of Phase I of the Streetscape Plan.

Policy 4.e: Support restoration of Trout Creek and a greenway along the creek as a prominent natural and recreational feature available to the public.

Further, the proposed project components are allowable land uses permitted by the Railyard Master Plan. Therefore, the proposed project would not conflict with any plan, policy, or regulation adopted for the purposes of avoiding or mitigating an environmental effect. The impact would be **less than significant**.

References

Town of Truckee, 2018. Zoning Districts and Allowable Land Uses. Available: https://www.townoftruckee.com/home/showdocument?id=8201. Accessed November 16, 2018.

Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
12. MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Environmental Setting

The Mineral Land Classification map for Eastern Nevada County classifies the project site as Mineral Resource Zone -4 (MRZ-4) which is defined as an area of no known mineral occurrences, where geologic information does not rule out either the presence or absence of significant mineral resources (Town of Truckee, 1997). Additionally, no known mineral resource recovery sites have been identified in the immediate project vicinity (USGS, 2017).

Discussion

a, b) **No Impact.** The proposed project will not result in the loss of availability of a known mineral resource or affect a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. There would be **no impact** to mineral resources.

References

Town of Truckee, 1997. Downtown Truckee Specific Plan, Chapter 5. Available: https://www.townoftruckee.com/home/showdocument?id=1091. Accessed November 13, 2018.

United States Geological Survey (USGS), 2017. Mineral Resources Online Spatial Data. Available: http://mrdata.usgs.gov/mineral-resources/mrds-us.html. Accessed November 13, 2018.

Noise

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
13. NOISE — Would the project result in:				
a) Exposure of persons to or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Discussion

a) **Less than Significant with Mitigation.** The proposed project does not include the development of residential or commercial land uses that would increase vehicular trips along roadways in the vicinity of the proposed project. Since goals and policies found in the Noise Element of the Town of Truckee 2025 General Plan are aimed at reducing noise exposure on proposed residential developments and do not have any limitation on traffic noise on existing sensitive receptors, the proposed project would not conflict with the Town of Truckee 2025 General Plan (Town of Truckee, 2006).

Although the operation of the proposed project would not conflict with the goals and policies found in the Town of Truckee 2025 General Plan, the construction of the proposed project could expose nearby existing sensitive receptors to noise levels that could conflict with the Town of Truckee's Municipal Code and General Plan. According to the Section 18.44.070 of the Town of Truckee Municipal Code, construction activities are exempt from the noise standard found in the Town's Municipal Code provided activities occur from 7:00 a.m. to 9:00 p.m. on any day except Sunday, or from 9:00 a.m. to 6:00 p.m. on Sunday. In addition, Policy P3.13 of the Town of Truckee 2025 General Plan provides standard construction control measures (Town of Truckee, 2015).

Construction of the proposed project would occur during the construction exempt hours found in the 18.44.070 of the Town of Truckee Municipal Code and would be consistent with the Town's Municipal Code. However, since the proposed project would not include the standard construction control measures found in the Policy P3.13 of the Town of

Truckee's 2025 General Plan, construction of the proposed project would conflict with the of the Town of Truckee's 2025 General Plan and could result in a significant impact. Implementation of **Mitigation Measure Noise-1** would require the applicant to comply with the Town of Truckee's standard construction control measures. After implementation of Mitigation Measure Noise-1 this impact would be reduced to a **less-than-significant** level.

b) **Less than Significant.** Since the operation of the proposed project would not include any activities that would generate significant levels of vibration, it is not anticipated that the operation of the proposed project would expose the nearest sensitive receptor or structure to vibration levels that would result in annoyance. Therefore, only vibration impacts from onsite construction activities are evaluated.

For adverse human reaction, the analysis applies the "strongly perceptible" threshold of 0.9 inch/second peak particular velocity (PPV) for transient sources. For risk of architectural damage to historic buildings and structures, the analysis applies a threshold of 0.12 inch/second PPV (Caltrans, 2013b). A threshold of 0.3 inch/second PPV is used to assess damage risk for all other buildings. There are no historic structures in the vicinity of proposed project that could be adversely affected by project construction-related vibration.

The potential use of a bulldozer during proposed project construction would be expected to generate the highest vibration levels during construction. According to the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment*, bulldozers typically generate vibration levels of 0.089 inch/second PPV at a distance of 25 feet (FTA, 2006). There are single-family residences located approximately 300 feet west of the project site on Trout Creek Road and 575 feet south of the project site on East River Street. These single-family residences would be exposed to a vibration level of 0.001 inch/second PPV, below the applied human annoyance and building damage threshold. Consequently, existing sensitive receptors and structures near the project site would not be affected by substantial groundborne vibration during project construction and this impact would be considered **less than significant**.

c) **Less than Significant.** Although the proposed project would not include facilities or land uses that would contribute to vehicular traffic volumes along local roadway segments, the proposed project would result in the construction of a new intersection and extension of Church Street, which could expose nearby existing sensitive receptors to a substantial increase in traffic noise.

In 2008, the Town of Truckee published the Truckee Railyard Master Plan Draft Environmental Impact Report (DEIR) (Town of Truckee, 2008). The DEIR proposed the development of a substantial number of new residential units, commercial buildings and new roadways in the Town of Truckee. Since the traffic analysis prepared in the DEIR included the proposed project (i.e., extension of Church Street), the traffic volumes under the existing and existing conditions provided in the DEIR were used to evaluate whether

the proposed project could expose nearby sensitive receptors to traffic noise levels that could be considered substantial.

The DEIR used a 2008 baseline year; however, due to natural traffic growth in the region, the baseline traffic volumes in the year 2008 are expected to be less than those currently. Since the DEIR's baseline traffic volumes are less than expected under the proposed project, using the traffic volumes presented in the DEIR is considered a conservative approach to determining the proposed project's incremental contribution to existing traffic noise.

Using algorithms from the Federal Highway Administration's (FHWA) Traffic Noise Model Technical Manual and the traffic volumes provided in the Transportation, Circulation and Parking Chapter of the DEIR (Town of Truckee, 2008), traffic noise levels were estimated for roadways segments near the proposed project under existing and existing plus project conditions. The segments analyzed and the associated results of the modeling are shown in **Table NOI-1**. For the purposes of this analysis a 5 dB increase in traffic noise exposure is considered a substantial increase. According to Caltrans Traffic Noise Supplement, a 5 dB increase in traffic noise is considered a readily perceptible increase in noise levels (Caltrans, 2013a). As shown in Table NOI-1, traffic noise levels under the existing plus project conditions are estimated to be less than existing conditions. The reason for this reduction in traffic noise could be due to the addition of Church Street, which would divert a majority of traffic away from Glenshire Drive. Since none of the roadway segments evaluated would result in a 5 dB increase in traffic noise, the proposed project would not result in a substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project. This would be a **less-than significant** impact.

TABLE NOI-1
TRAFFIC NOISE LEVELS ALONG STREETS
UNDER EXISTING AND EXISTING PLUS PROJECT CONDITIONS

	Traffic Noise Level 50 feet from Center of Roadway, dBA, L_{dn}[1]			
Roadway Segment	**Existing**	**Existing plus Project**	**Incremental Increase**	**Significant? (Yes or No)[2]**
Glenshire, west of Church Street	68	66	-2	No
Glenshire, east of Church Street	68	68	0	No
Church Street, south of Glenshire	N/A	65	N/A	No

NOTES:
1 Noise levels were determine using methodology described in FHWA's Traffic *Noise Model Technical Manual* and traffic volumes provided in the *Truckee Railyard Draft Master Plan EIR* (Town of Truckee, 2008)
2 Traffic noise increases that exceed 5 dB are considered to result in a substantial permanent increase in ambient noise levels.

SOURCE: ESA, 2019

d) **Less than Significant.** Although there would be no long-term operational noise following construction, the construction of the proposed project could result in a substantial temporary increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

Construction noise levels at and near the proposed project would fluctuate depending on the type, number, and duration of use of various pieces of construction equipment. Given the low level of construction-related vehicle trips associated with hauling and commuting workers, these trips would not be expected to raise ambient noise levels along haul routes. **Table NOI-2** shows typical noise levels produced by various types of construction equipment that would operate during the construction of the proposed project.

TABLE NOI-2
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Construction Phase	Average Noise Level (dBA, Leq at 50 feet)	Average Noise Level (dBA, Leq at 1,000 feet)
Backhoe	78	48
Dump Truck	84	54
Grader	85	55
Loader	79	49
Paver	77	48
Excavator	81	51

SOURCE: FHWA, 2006.

The operation of each piece of equipment within the proposed project would not be constant throughout the day, as equipment would be turned off when not in use. Over a typical workday, the equipment would be operating at different locations and all the equipment would not operate concurrently at the same location of the proposed project. To quantify construction-related noise exposure that would occur at the nearest sensitive receptors, it was assumed that the two loudest pieces of construction equipment would operate at the closest location of the proposed project to the nearest off-site sensitive receptors. **Table NOI-3** presents the highest L_{eq} noise levels that sensitive receptors could be exposed to at each of the construction sites.

The Town of Truckee does not contain noise level standards that are applicable to short-term construction activities in their respective general plans and municipal codes. Although there are no applicable local policies or standards available to judge the significance of short-term daytime construction noise levels, the FTA's Transit Noise and Vibration Impact Assessment has identified a daytime 1-hour L_{eq} level of 90 dBA as a noise level where adverse community reaction could occur at residential land uses (FTA, 2006). This noise level is used here to assess whether construction-related noise levels would cause a substantial temporary or periodic increase in ambient noise levels at sensitive receptor locations. As shown in Table NOI-3, onsite construction activities at

each of the reaches would not expose the nearest sensitive receptor to noise levels that would exceed the 90 dBA L_{eq} threshold, and therefore would not result in a significant impact. The temporary increase in ambient noise levels would cause a **less-than-significant** impact.

TABLE NOI-3
SUMMARY OF ESTIMATE NOISE LEVELS AT SENSITIVE RECEPTORS DURING PROPOSED PROJECT CONSTRUCTION

Project Component	Distance to Nearest Sensitive Receptor (feet)	Two Loudest Pieces of Construction Equipment	Combined Noise level from 50 feet (dBA L_{eq})[1]	Attenuated Noise Level (dBA L_{eq})	Exceed 90 dBA Leq (yes or no)?
Trout Creek Restoration	300	Grader, Dump Truck	78	63	No
Church Street Extension	575	Grader, Excavator	82	60	No

NOTE:
[1] Reference construction equipment noise levels were obtained from Caltrans' Roadway Construction Noise Level (RCNM) (FHWA, 2006).

SOURCE: FHWA, 2006.

e, f) **Less than Significant.** The proposed project is located approximately one mile northwest of the Truckee Tahoe Airport. According to the Truckee Tahoe Airport Land Use Compatibility Plan, the proposed project is located approximately 0.2 mile west of the airport's 60 dBA CNEL noise contour (Town of Truckee, 2016). Therefore, the proposed project would not expose people working in the proposed project area to excessive noise levels. A **less-than-significant** impact would occur.

Mitigation Measures

Mitigation Measure Noise-1: Comply with Town of Truckee Noise Standards. The construction contractor(s) shall comply with the standard construction control measures found in P3.13 of the of the Town of Truckee's 2025 General Plan, which includes the following measures:

- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
- Utilize "quiet" air compressors and other stationary noise-generating equipment where appropriate technology exists.
- The project sponsor shall designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. The project sponsor shall also post a telephone number for excessive noise complaints in conspicuous locations in the vicinity of the project site. Additionally, the project sponsor shall send a notice to neighbors in the

project vicinity with information on the construction schedule and the telephone number for noise complaints.

References

Caltrans, 2013a. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September 2013.

Caltrans, 2013b. Transportation and Construction Vibration Guidance Manual. September 2013.

Federal Highway Administration (FHWA), 2006. FHWA Roadway Construction Noise Model User's Guide. January 2006.

Federal Transit Administration (FTA), 2006. Transit Noise and Vibration Impact Assessment. May 2006.

Town of Truckee, 2006. 2025 General Plan. November 16, 2006.

Town of Truckee, 2016. Truckee Tahoe Airport Land Use Compatibility Plan. June 2016.

Population and Housing

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
14. POPULATION AND HOUSING — Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Setting

According to the US Census Bureau, there were 16,553 residents in the Town of Truckee in 2017. The US Census Bureau counted 13,637 households in the Town's census tracts, resulting in an average household size of approximately 1.2 persons (U.S. Census Bureau, 2017).

Discussion

a) **Less than Significant.** The project proposes to construct a new roadway connecting the existing Church Street to Glenshire Drive and restore Reaches 4 and 5 of Trout Creek and does not include any new residential or commercial development. The proposed project would provide temporary employment during construction; however, it would not result in the creation of a significant number of new jobs that would induce substantial population growth. Additionally, the Church Street Extension and Trout Creek Restoration would not indirectly result in inducing substantial population growth. The Church Street Extension component of the project will be an extension of the existing Church Street and will provide a connection with Glenshire Drive. This will not lead to indirect population growth. Growth inducement related to the Truckee Railyard Master Plan was evaluated in the EIR for the Plan. The project would have a **less-than-significant** impact on population growth.

b) **No Impact.** The proposed project would be constructed on undeveloped and UPRR land and would not displace any housing or people. Accordingly, the proposed project would have **no impact** relating to the displacement of housing or people and replacement housing would not be necessary.

References

United States Census Bureau, 2017. Community Facts- Truckee Town. Available: https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml. Accessed November 19, 2018.

Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
15. PUBLIC SERVICES —				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Environmental Setting

Fire protection and emergency medical services are provided to the Town of Truckee and the project site by the Truckee Fire Protection District (TFPD). Station 91 is the nearest fire station, located at 10049 Truckee Way in Truckee, approximately 0.25 mile southwest of the project site (TFPD, 2018). The TFPD has a goal to respond to all emergency calls within eight minutes. Additionally, the TFPD has mutual aid agreements with Northstar Fire Department, Squaw Valley Fire department, and North Tahoe Fire Protection District (Town of Truckee, 2008)

The Town of Truckee Police Department provides law enforcement services in the Town of Truckee, including the project site (Nevada County Sheriff's Office, 2018). Currently the Truckee Police Department employees 33 full time employees including the Police Chief, one lieutenant, and one Support Service Manager. The Truckee Police Department oversees Operations, Support Services, Animal Services, and Parking in the Town of Truckee (Town of Truckee, 2018). The nearest station to the site is the Joseph Center located at 10075 Levon Avenue in Truckee, approximately one mile west of the project site.

The project site is located within the Tahoe Truckee Unified School District (TTUSD, 2018).

Discussion

a.i) **Less than Significant.** No commercial or residential development is proposed as part of the proposed project; therefore, the proposed project would not increase demands on fire protection nor affect the response time of fire services. Fire hydrants will be installed in accordance with the Town of Truckee and State requirements. Additionally, as addressed in the Railyard Master Plan EIR, the proposed project would be subject to plan review by the Truckee Fire District to ensure proper safety standards and emergency response access. A l**ess-than-significant** impact would occur.

a.ii) **Less than Significant.** Construction of the proposed project may result in accidents or emergency incidents that would require police services; however, construction activities would be short-term and limited in scope. Operation of the proposed project may result in accidents or emergency incidents requiring police services as well as increased policing of traffic; however, as addressed in the Railyard Master Plan EIR, additional police staff are anticipated to serve the Master Plan buildout area. Therefore, the proposed project is expected to have a **less-than-significant** impact on police protection.

a.iii-v) **No Impact.** The proposed project would not generate any additional residential population that would increase demand for schools, parks, or other public facilities because no permanent residential population would be created. There is **no impact**.

References

Nevada County Sheriff's Office, 2018. Sheriff's Office Locations. Available: https://www.mynevadacounty.com/167/Sheriffs-Office-Locations. Accessed November 19, 2018.

Tahoe Truckee Unified School District (TTUSD), 2018. District Overview. Available: https://www.ttusd.org/Domain/33. Accessed November 19.

Truckee Fire Protection District (TFPD), 2018. Fire Stations. Available: https://www.truckeefire.org/fire-stations/. Accessed November 19, 2018.

Town of Truckee, 2008. Truckee Railyard Draft Master Plan Draft Environmental Impact Report. Accessed November 19, 2018.

Town of Truckee, 2018. Police. Available: https://www.townoftruckee.com/government/police. Accessed November 19.

Recreation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
16. RECREATION —				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Environmental Setting

Existing recreation in the area includes the Donner Memorial State Park and the Truckee River Regional Park as well as recreational facilities associated with Lake Tahoe.

Discussion

a, b) **No Impact.** The proposed project would not increase the demand for recreation facilities, as the project proposes construction of a new roadway connecting the existing Church Street to Glenshire Drive and restoration of Reaches 4 and 5 of Trout Creek. The proposed project does not include recreational facilities or require the construction or expansion of recreational facilities. Therefore, **no impact** would result from the proposed project.

Transportation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
17. TRANSPORTATION/TRAFFIC — Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

The new CEQA Guidelines Section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the CEQA Guidelines criteria for determining the significance of transportation impacts are primarily focused on projects within transit priority areas, and shifts the focus from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses (which in turn reduces vehicle trips). Vehicle miles traveled, or VMT, is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person.

The newly adopted guidance provides that a lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide. The Town of Truckee is currently engaged in this process and has not yet formally adopted its updated transportation significance thresholds or its updated transportation impact analysis procedures. Since the regulations of SB 743 have not been finalized or adopted by the Town, automobile delay remains the measure used to determine the significance of a traffic impact.

Environmental Setting

Roadways

Regional access to the Town of Truckee is provided via Interstate 80 (I-80). In addition to I-80, State Route (SR) 89 and SR 267 are major regional routes serving Truckee. As of 2017, the peak summer average daily traffic (ADT) on I-80 in the vicinity of the project site is 47,000 vehicles per day. The peak summer ADT on SR 89 to the south of I-80 (south of the project site) is 10,600 vehicles per day; north of I-80 (north of the project site), the peak summer ADT is 4,900 vehicles per day. The peak summer ADT on SR 267 in the vicinity of the project site is 18,200 vehicles per day (Caltrans, 2018).

Local access to the project site is provided via Truckee Way and Glenshire Drive. Based on the latest data available (2004), the peak summer ADT on Truckee Way through Downtown Truckee (west of the project site) is 9,870 vehicles per day. The peak summer ADT on Glenshire Drive between Truckee Way and SR 267 is 7,830 vehicles per day (Town of Truckee, 2006).

Public Transportation

The Town of Truckee is served by Tahoe Truckee Area Regional Transit (TART), North Lake Tahoe Express, Greyhound, and Amtrak. Most of the transit routes operated by these service providers stop at the Truckee Train Depot, which is located approximately one-half mile west of the project site. There are no public bus stops along Truckee Way or Glenshire Drive in the vicinity of the project site.

Bicycle and Pedestrian Facilities

The Town of Truckee currently has approximately 31 miles of dirt and paved trails and 70 miles of bikeways (38 miles of bike lanes and 32 miles of bike routes). Existing bicycle facilities include bike lanes along Truckee Way and Glenshire Drive. There are no existing paved trails in the vicinity of project site other than the sidewalks located along the main streets in Downtown Truckee. It should be noted that as part of the Truckee Railyard Master Plan, new sidewalks will be developed along the new roadways as well as new bike lanes (Town of Truckee, 2015).

Airports and Rail Facilities

The nearest public airport to the project site is the Tahoe-Truckee Airport, which is located approximately two miles to the southeast. In 2016, the airport's two runways served an average of approximately 96 general aviation flights per day. The western end of the proposed Church Street Extension would connect with Church Street near the access road to the Union Pacific Rail Road (UPRR) operations facility.

Discussion

a, b) **Less than significant.** The project is not anticipated to result in a substantial impact to existing traffic loads or street system capacity. No traffic study was required for the project given that the project would not generate any operational vehicle trips and the

distribution/diversion of vehicle trips that would occur with implementation of the Truckee Railyard Master Plan was already evaluated in the EIR for the Plan. As such, the focus of the impact analysis is on construction traffic, while the operational analysis conducted for the proposed roundabout at the intersection of Glenshire Drive and the Church Street extension is summarized below.

Construction

Construction traffic would result in short-term increases in traffic volumes on I-80, SR 89, SR 267, Truckee Way, and Glenshire Drive. The addition of project-related construction vehicle traffic to existing roadway volumes without a corresponding increase in the capacity of the roadway could result in increased congestion and delay for vehicles. The presence of construction truck traffic could temporarily reduce roadway capacities due to the slower travel speeds and larger turning radii of trucks. The impacts of construction traffic would be most noticeable in the immediate vicinity of the project area. A maximum of 30 construction workers will be needed at the project site daily during peak construction activities, which equates to 60 one-way vehicle trips (30 inbound, 30 outbound). In addition, a maximum of 20 daily truck trips would be needed to transport material (e.g., cut and fill, vegetation, water) to/from the project site, which equates to 40 one-way vehicle trips (20 inbound, 20 outbound). In total, the maximum number of vehicle trips that would be generated by the period of peak construction activity is 100 ADT.

Based on existing traffic volumes on regional and local roadways that would be used to access the project site, the addition of up to 100 vehicle trips per day would represent an increase of between 0.2 and 2.0 percent on regional roadways, and between 1.0 and 1.3 percent on local roadways. The magnitude of these increases is within the range of typical daily variation in traffic levels (usually on the order of ± 5 percent) that might be expected on the major roadways serving the project site, and roadway operating conditions on these roadways would remain substantially similar to current conditions. As such, construction traffic generated by the proposed project would not substantially affect the performance of roadway operating conditions in the project vicinity, and impacts related to short-term traffic increases on I-80, SR 89, SR 267, Truckee Way, and Glenshire Drive during construction of the project would be **less than significant**.

The contractor will establish access routes and staging areas for travel within the site and storage of materials and equipment. As such, construction activities would generally take place outside of the public right-of-way and would not substantially conflict with traffic, transit, bicycle, or pedestrian access or circulation along these facilities. However, construction activities associated with the proposed roundabout at the intersection of Glenshire Drive and the Church Street extension may require partial roadway closures on Glenshire Drive over the course of several days. During this period, one lane of traffic would be available to through traffic and flaggers would be used to manage traffic flow through the construction zone. The contractor will prepare and implement a traffic control plan as part of the construction documents required by the Town of Truckee Engineering Division for any roadway closures (full or partial) needed to construct the

project. The traffic control plan would designate how vehicular traffic, bicyclists, and pedestrians would be routed around any lane closures. Unimpeded emergency vehicle access would be provided at all times. Implementation of the traffic control plan would ensure traffic safety and minimize disruptions to vehicular traffic, bicycle, or pedestrian access or circulation along Glenshire Drive.

Given these considerations, construction of the project would result in less-than-significant impacts to transportation and circulation.

Operation

As stated above, the project would not generate any new operational vehicle trips. However, a supplemental operational analysis was conducted for the proposed roundabout at the intersection of Glenshire Drive and the Church Street extension (Traffic Works LLC, 2018), which is summarized below. This analysis was conducted because a roundabout was not evaluated at this location as part of the Truckee Railyard Master Plan EIR, and a capacity analysis was necessary to determine whether the roundabout would operate at an acceptable level of service.

Under Policy P2.1 of the General Plan, the Town strives to maintain LOS D or better at intersections located outside of Downtown (Town of Truckee, 2006). The analysis results indicated that a side-street stop control on the Church Street extension (no traffic control on Glenshire Drive) would operate at poor levels of service (LOS "E") in 2030 assuming full build-out of the Truckee Railyard Master Plan. Alternatively, a single-lane roundabout with a right-turn bypass from eastbound Glenshire Drive to southbound Church Street would result in LOS "C" or better in 2030 assuming full-build-out of the Truckee Railyard Master Plan. Since the proposed roundabout design would result in levels of service that meet the Town's standard during the operational phase, there would be **no impact** to existing traffic loads or street system capacity.

c) **No Impact.** The project would not be located immediately adjacent to any public airports or airstrips. In addition, there would be no permanent structures that would interfere with air traffic operations (e.g., take-offs or landings). Neither construction nor operation of the project components (i.e., Church Street extension, Trout Creek restoration) would generate any aviation activity, result in a change in air traffic patterns at the Tahoe-Truckee Airport, or result in substantial safety risks. There would be **no impact** to airport transportation or air traffic patterns.

d) **Less than Significant.** Trucks accessing the project site would mostly use I-80 and Truckee Way. The Town does not have any formally designated truck routes, but trucks traveling on local roadways would need to adhere to truck weight limits (i.e., 7-tons on Glenshire Drive) and truck prohibitions (i.e., Northwoods Boulevard north of Truckee Way). Furthermore, based on the low number of anticipated construction trips in relation to traffic volumes on regional and local roadways. and their limited duration, construction activities would result in a less-than-significant impact with regard to hazards and incompatible uses. The extension of Church Street, which includes the bridge over Trout

Creek and a roundabout at the intersection of Church Street and Glenshire Drive, would be designed and constructed to comply with all relevant Town standards to ensure that facilities operate safely and efficiently. Detailed designs for the project are provided in Appendix A of this Initial Study. The Town and the Truckee Fire Protection District (TFPD) have adopted roadway standards that preclude the construction of any unsafe design features. Compliance with these established design standards would ensure that operation of the proposed project would result in a **less-than-significant** impact with regard to hazards and incompatible uses.

e) **Less than Significant.** Temporary construction staging would not block or interfere with emergency response vehicles. Increases in traffic volumes on local roadways providing access to the project site could cause intermittent and temporary slowdowns in traffic flow, although as concluded above under impact discussion a, b), operational conditions are not expected to deteriorate on local roadways as a result of project-generated truck trips. Furthermore, the Church Street extension component of the project would create new vehicular access between Downtown Truckee and Glenshire Drive, which would be accessible to large emergency vehicles such as fire engines. The design of the roadway and the roundabout at Glenshire Drive would comply with California Fire Code and TFPD requirements. For these reasons, the project would not result in inadequate emergency access and the impact would be **less than significant**.

f) **Less than Significant.** As described in Section 2.3, the purpose of the proposed Church Street Extension component of the project is to provide a connected community with places that are easily accessible to pedestrians, bicyclists, and drivers as well as create a street and sidewalk network that is physically connected to the existing Downtown, surrounding neighborhoods, and Trout Creek. The proposed project would not propose any activities that would conflict with policies, plans, or programs that support alternative transportation.

Construction of the project may result in temporary lane closures on Glenshire Drive, which would result in intermittent and temporary impedances to bicycle and pedestrian access along that roadway. However, as noted above under impact discussion a, b), the contractor will prepare and implement a traffic control plan as part of the construction documents required by the Town of Truckee Engineering Division for any roadway closures (full or partial) needed to construct the project. The traffic control plan(s) would designate how vehicular traffic, bicyclists, and pedestrians would be routed around any lane closures. Therefore, the project would result in a **less-than-significant** impact to the performance or safety of bicycle, pedestrian, and transit facilities and operations.

Operation of the project would not affect existing or planned alternative transportation facilities/operations on adjacent roadways. As stated previously, there are no public transit stops on adjacent roadways. Existing and planned bicycle and pedestrian facilities will not be removed or precluded by the project components. The existing bicycle lanes on Glenshire Drive will be maintained (reconstructed) leading up to and away from to the proposed roundabout. Within the roundabout, bicyclists would share the lane with low-

speed vehicular traffic because it is typical/best practice that bicycle lanes not be striped in roundabouts. Travel speeds in single-lane roundabouts are low (25 mph or less). As such, the roundabout design would accommodate safe and continuous bicycle traffic along Glenshire Drive, and the proposed bicycle lanes on the Church Street extension would provide bicyclists a new alternative route to and from Downtown Truckee.

References

AirNav.com, 2018. Truckee-Tahoe Airport – FAA Information Effective 06 December 2018. Available: https://www.airnav.com/airport/KTRK. Accessed on December 7, 2018.

California Department of Transportation, 2018. 2017 Traffic Volumes on California State Highways, published 2018. Available: http://www.dot.ca.gov/trafficops/census/volumes2017/. Accessed on December 7, 2018.

Town of Truckee, 2015. Truckee Trails & Bikeways Master Plan, September 2015. Available: https://www.townoftruckee.com/home/showdocument?id=13200. Accessed on December 7, 2018.

Town of Truckee, 2006. 2025 General Plan – Circulation Element. Adopted November 15, 2006. Available: https://www.townoftruckee.com/home/showdocument?id=1212. Accessed on December 7, 2018.

Traffic Works LLC, 2018. Glenshire Drive/Church Street Intersection Control Evaluation. January 29, 2018.

Tribal Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
18. Tribal Cultural Resources —				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	☐	☒	☐	☐
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources. Code Section 5020.1(k), or	☐	☒	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Discussion

a.i, a.ii) **Less than Significant with Mitigation.** Tribal cultural resources are: 1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing in the California Register of Historical Resources (California Register), or local register of historical resources, as defined in PRC Section 5020.1(k); or, 2) a resource determined by the lead CEQA agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). For a cultural landscape to be considered a tribal cultural resource, it must be geographically defined in terms of the size and scope of the landscape (PRC Section 21074[b]). Also, a historical resource, as defined in PRC Section 21084.1, unique archaeological resource, as defined in PRC Section 21083.2(g), or non-unique archaeological resource, as defined in PRC Section 21083.2(h), may also be a tribal cultural resource.

The Truckee Development Associates sent a Sacred Lands Search request letter to the Native American Heritage Commission (NAHC). On November 23, 2015, the United Auburn Indian Community sent a letter to the Town of Truckee asking to be notified of any projects within their traditional territory. The Town of Truckee sent a letter to the UAIC on May 17, 2019. No responses were received.

Through a records search and background research at the North Central Information Center of the California Historical Resources Information System and a surface survey, no known archaeological resources that could be considered tribal cultural resources, listed or

determined eligible for listing in the California Register, or included in a local register of historical resources as defined in PRC Section 5020.1(k), pursuant to PRC Section 21074(a)(1), would be impacted by the project (ESA, 2018). In addition, the Town did not determine any resource that could potentially be affected by the project to be a tribal cultural resource significant pursuant to criteria set forth in PRC Section 5024.1(c).

If any previously unrecorded archaeological resource were identified during ground-disturbing construction activities and were found to qualify as a tribal cultural resource pursuant to PRC Section 21074(a)(1) (determined to be eligible for listing in the California Register or in a local register of historical resources), any impacts to the resource resulting from the project could be potentially significant. Any such potential significant impacts would be reduced to a **less-than-significant** level by implementing **Mitigation Measure CUL-1**. This measure would ensure that work is halted in the vicinity of a find until a qualified archaeologist can make an assessment and provide additional recommendations if necessary, including contacting Native American tribes (refer to Cultural Resources).

References

ESA, *Church Street Extension Project Cultural Resources Inventory (D170799)*, Prepared for Todd Landry, Senior Civil Engineer, Town of Truckee, November 2018.

North Central Information Center (NCIC), File No. NEV-17-75 California Historical Resources Information System at California State University, Sacramento. On file at ESA, November 1, 2017.

Utilities and Service Systems

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
19. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Environmental Setting

The setting information provided below is based on information provided in the Truckee Railyard Draft Master Plan EIR.

Water services are provided to the project site by Truckee Donner Public Utility District (TDPUD). The TDPUD acquires water from the Martis Valley Ground Water Basin, which has a storage volume of 484,000 acre-feet.

Truckee Sanitary District provides wastewater collection services to the project site. The District's collection system includes storm sewers and associated pumping facilities.

Solid waste and recycling services are provided to the project site and surrounding area by Tahoe Truckee Sierra Disposal (TTSD). The Eastern Regional Landfill Material Recovery Facility (MRF) acts as a transfer station for construction material waste before it is transported to the Lockwood Regional Landfill, a 1,535-acre site located in Storey, Nevada.

Truckee Donner Public Utility District provides electrical power services to the project area. Natural gas is provided by Southwest Gas via a two-inch mainline on Church Street.

Discussion

a, b, d, e, g) **No Impact.** The project proposes to restore Reaches 4 and 5 of the Trout Creek as well as construct a new roadway connecting the existing Church Street to Glenshire Drive and does not include any new commercial or residential development. Accordingly, there would not be an increased demand for water or wastewater treatment facilities or additional water supplies as a result of the proposed project. Construction of the proposed project will comply with all the wastewater requirements of the LRWQCB (refer to the Hydrology and Water Quality section for more information), as well as all federal, state, and local statutes and regulations related to solid waste. Therefore, there would be **no impact**.

c) **Less than Significant.** The proposed project includes roadside swales and associated stormwater detention basins located immediately south of the proposed bridge over Trout Creek as well as east of the proposed roundabout, as described in the project description. All construction activities would comply with requirements in the NPDES construction General Permit and a SWPPP would be implemented to regulate water quality associated with construction activities. Construction and operation of stormwater treatment areas would result in impacts to the project site. However, these impacts are considered as part of the proposed project and are evaluated throughout this Initial Study. In instances where significant impacts have been identified for the project, mitigation measures are required to reduce impacts to less than significant levels. Therefore, impacts related to storm water drainage facilities would be **less than significant**.

f) **Less than Significant.** The proposed project would generate minimal waste from temporary construction activities. All solid waste collected at the project site would be brought to the transfer station at the Eastern Regional Landfill MRF before being transferred to the Lockwood Regional Landfill. The landfills that serve the project area have the capacity to accept waste generated by the proposed project. Therefore, the proposed project would result in a **less-than-significant** impact.

References

Town of Truckee, 2008. Truckee Railyard Draft Master Plan Draft Environmental Impact Report. Accessed November 19, 2018.

Wildfire

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
20. WILDFIRE — If located in or near state responsibility areas or lands classified as very high fire hazard severity, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Discussion

a) **Less than Significant.** The construction activity and the staging of equipment and materials for the proposed project would occur mostly within the undeveloped area south of Glenshire Drive, which would not require road closures or lane restrictions. The proposed project would include the construction of a roundabout at the new Church Street Extension/Glenshire Drive intersection. This activity would result in temporary lane restrictions and possibly short-term road closures. As discussed previously in the section on Transportation, the construction permit would require the preparation and implementation of a traffic control plan to minimize traffic disruptions and facilitate the re-routing of traffic during construction. With implementation of the traffic control plan, impacts to emergency response and evacuation plans would be **less than significant**.

b-d) **Less than Significant.** The entire Truckee area is designated as within a high fire hazard severity zone (Town of Truckee, 2008). However, the proposed project site does not have dense vegetation and is not located on steep slopes, factors that contribute to increased wildfire risk. In addition, Trout Creek runs through the project area, further reducing fire risk. The proposed project would not change the site characteristics other than improving aquatic and riparian habitat associated with the creek. The addition of the paved road and bridge would not result in structures that could catch fire. Therefore, relative to wildland fires, the impact would be **less than significant**.

References

Town of Truckee, 2008, *Truckee Railyard Draft Master Plan EIR*, November.

Mandatory Findings of Significance

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
20. MANDATORY FINDINGS OF SIGNIFICANCE —				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

a) **Less than Significant with Mitigation.** Per the impact discussions above, the potential of the proposed project to substantially degrade the environment is **less than significant** with incorporated mitigation measures. As described in this Initial Study, the proposed project has the potential for impacts related to biological resources, cultural resources, and noise. However, these impacts would be avoided or reduced to a less-than-significant level with the incorporation of avoidance and mitigation measures discussed in each section.

b) This section provides a description of other actions in the area and a discussion of the cumulative impacts of those projects, in combination with the previously identified effects of the proposed project. CEQA Guidelines Section 15355 states that "cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."

a) The individual effects may be changes resulting from a single project or a number of separate projects.

b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

The past, present and reasonably foreseeable future conditions of the project site and vicinity were considered for the cumulative analysis. This includes future development within the Railyard Master Plan Area as well as past restoration of Reaches 1-3 of Trout Creek.

Aesthetics. Completion of the proposed project would result in some permanent visual changes to the project area, including a new extension of Church Street and restoration of a section of Trout Creek. Changing the existing vacant land into a new extension of Church Street would not result in significant aesthetics impacts. Further, these changes are consistent with the objectives of the Town's Railyard Master Plan, General Plan, and Downtown Specific Plan and are in part intended to improve the aesthetic value of the Railyard Master Plan Area, and the Town of Truckee identifies the project site as an area to be developed. As such, cumulative impacts to aesthetics would be less than significant.

Agricultural and Forest Resources. The project would have no impact to agricultural and forest resources and thus does not contribute to cumulative impacts.

Air Quality and Greenhouse Gas Emissions. A number of individual projects in the Town of Truckee may be under construction simultaneously with the proposed project. Depending on construction schedules and actual implementation of projects in and around Town, generation of fugitive dust and pollutant emissions during construction may result in short-term air pollutants, which would contribute to short-term cumulative air quality impacts. However, each individual project would be subject to Northern Sierra Air Quality Management District (NSAQMD) rules, regulations, and other mitigation requirements during construction. For cumulative impacts to air quality and greenhouse gas emissions see the Air Quality and Greenhouse Gas Emissions sections above. The thresholds used consider the contribution of other projects within the air basin. Additionally, greenhouse gas emissions are considered cumulative in nature because it is unlikely that a single project would contribute significantly to climate change.

Biological Resources, Cultural Resources, Tribal Cultural Resources, Geology/Soils/Seismicity, Hazards and Hazardous Materials, and Wildfire. The project's impacts for these environmental issues would be limited to the project site, and any significant impacts (biological resources, cultural resources) have been reduced to a less-than-significant level by incorporating proposed mitigation measures. Thus, the proposed project would not contribute to cumulative impacts for these topics.

Energy. Construction of the project would result in fuel consumption from the use of construction tools and equipment, truck trips to haul material, and vehicle trips generated from construction workers commuting to and from the site. This impact would be temporary and localized. Operation impacts to energy are not anticipated. Construction-related fuel consumption by the project would not result in inefficient, wasteful, or unnecessary energy use compared with other construction sites in the region.

Hydrology and Water Quality. Implementation of the proposed project would result in an increase in impervious coverage and an increase in the amount of stormwater generated in the project site. Construction and operational impacts to water quality that would result from implementation of the proposed project would be minimized through implementation of the stormwater pollution prevention plan (SWPPP). In addition, the project incorporates stormwater detention basins to attenuate stormwater flows and

prevent flooding by collecting runoff from the roadway and allowing for infiltration. The Trout Creek Restoration component of the project is expected to result in a net benefit in water quality at the project site and downstream. Both the proposed project and other projects in the Railyard Master Plan Area project would be required to develop plans to address stormwater during construction and operation. With this requirement, cumulative impacts would be less than significant.

Land Use and Land Use Planning. The proposed project is an allowable use under the existing zoning and is consistent with the goals and policies addressed in the Railyard Master Plan; therefore, it would not contribute to cumulative land use issues.

Mineral Resources. The project would have no impact on mineral resources and thus does not contribute to cumulative impacts.

Noise. The project's noise impacts are anticipated to be minor and the project will comply with the noise standards in the Noise Element of the General Plan. The impacts from construction noise would be reduced to a less-than-significant level with implementation of the mitigation measure included in the Noise section. Operation of the proposed project would not result in a substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project. As such, cumulative noise impacts would be less than significant.

Population and Housing. The proposed project would not induce substantial population growth in the area as the project does not include any new residential or commercial development. The proposed project would provide temporary employment for several people during construction. The proposed project would not result in the permanent creation of a significant number of new jobs that would induce substantial population growth. Therefore, cumulative population and housing impacts would be less than significant.

Public Services. No commercial or residential development is proposed as part of the proposed project; therefore, the proposed project would not increase demands on fire protection or police services nor affect the response time of these services. Therefore, cumulative public services impacts would be less than significant.

Recreation. The project would have no impact on recreation and thus does not contribute to cumulative impacts.

Transportation and Traffic. For cumulative impacts see the Transportation and Traffic section above.

Utilities and Service Systems. The project does not include wastewater or water supply systems, and would generate a relatively small amount of solid waste per day only during construction. Stormwater would be treated on-site. Therefore, cumulative impacts to utilities and service systems would be less than significant.

This Draft Initial Study/Mitigated Negative Declaration found that the proposed project and associated activities will potentially impact the environment in the areas of biological resources, cultural resources, and noise. However, these potential impacts will be reduced to a less-than-significant level with implementation of the mitigation measures included in this report, and most impacts are temporary in nature (i.e. would only occur during construction). Other future projects proposed in the region and vicinity may increase impacts identified herein or this project may contribute to other impacts; however, this project is not anticipated to contribute substantially to any one impact, and the proposed project's impacts are not anticipated to be cumulatively considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of future projects; resulting in a **less-than-significant** impact.

c) **Less than Significant with Mitigation.** The proposed project will not result in any substantial adverse effects to human beings, either directly or indirectly, since each potentially significant impact can be reduced to a less-than-significant level with the implementation of the mitigation measures provided in this document. No other substantial adverse effects to human beings are anticipated as a result of this project, resulting in a **less-than-significant** impact.

Appendix A
Design Plans

TOWN OF TRUCKEE

30% DESIGN SUBMITTAL OF

CHURCH STREET EXTENSION TO GLENSHIRE DRIVE & TROUT CREEK RESTORATION REACH 4 & 5 PROJECT

NEVADA COUNTY, CALIFORNIA

CIVIL ENGINEER:

EASTERN SIERRA ENGINEERING

4515 TOWNE DRIVE, SUITE A, RENO, NV 89521
TEL: (775) 828-7220, FAX: (775) 828-7221

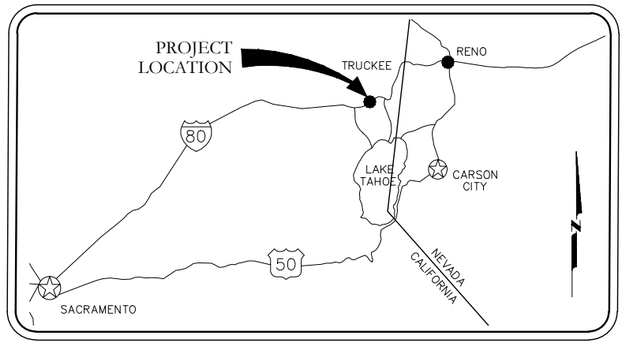
CIVIL ENGINEER:

WATERWAYS CONSULTING, INC.

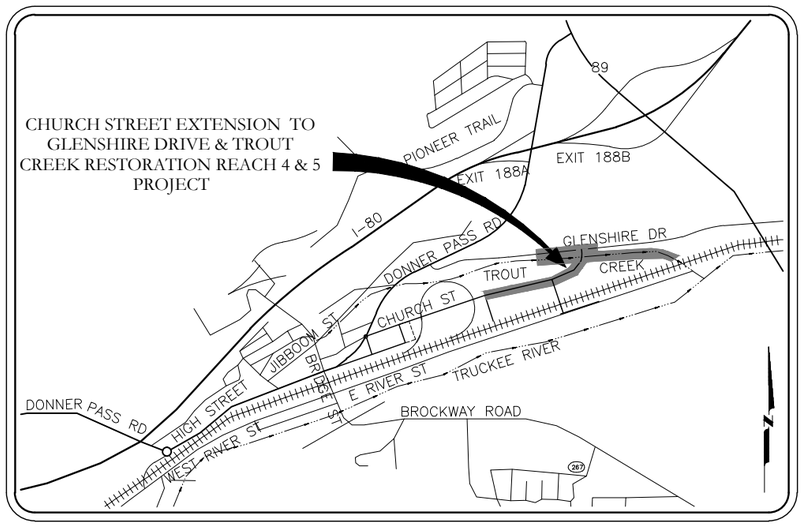
509 Swift Street, Unit A
Santa Cruz, California 95060
Phone: (831) 421-9291, Fax: (888) 819-6847

AGENCY:

TOWN OF TRUCKEE
TOWN ADMINISTRATIVE CENTER
10183 TRUCKEE AIRPORT RD
TRUCKEE, CA 96161
PH: (530) 582-7700
FX: (530) 582-7710



LOCATION MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

INDEX OF SHEETS:

USA NORTH 811 Call 811 Before You Dig

30 PERCENT SUBMITTAL
DATE: 6-29-18

No.	Date	REVISIONS	BY	APPD
1				
2				
3				
4				
5				

TITLE: CHURCH EXTENSION TO GLENSHIRE
TITLE SHEET

PROJECT: TOWN OF TRUCKEE
10183 TRUCKEE AIRPORT ROAD
TRUCKEE, CA 96161
TOWN OF TRUCKEE CALIFORNIA

EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
4515 TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
FAX: (775) 828-7221

Designed:	MRC
Drawn By:	JSC, PS
Approved By:	DDJ
Job No:	17.1.32
Scale:	AS SHOWN
Date:	6-29-18

SHEET No.
C1 OF 20

LEGEND:

- R/W OR ROW
- EASEMENT
- PROPERTY LINE
- PROPOSED PROPERTY LINE
- 200' FEDERAL ROW
- 5960 — INDEX CONTOUR (FADED IF EXISTING)
- 5961 — INTERMEDIATE CONTOUR (FADED IF EXISTING)
- W W — UTILITY W/DESIGNATION
- GRADE BREAK
- SAWCUT (FULL DEPTH)
- FENCE
- FENCE
- x x — FENCE
- (P) AC
- PCC (FADED IF EXISTING)
- TROUT CREEK RESTORATION
- BIOSWALE
- STAMPED CONCRETE (GRADING PLAN)
- STACKED ROCK RETAINING WALL
- (P) DRAIN INLET (FADED IF EXISTING)
- SS MANHOLE (FADED IF EXISTING)
- SS/CLEANOUT (FADED IF EXISTING)
- SD MANHOLE (FADED IF EXISTING)
- UTILITY STUB (FADED IF EXISTING)
- UTILITY BOX (FADED IF EXISTING)
- (E) DI GRATE

ABBREVIATIONS:

@	AT
APPROX	APPROXIMATE
AVE	AVERAGE
AWWA	AMERICAN WATER WORKS ASSOCIATION
BW	BACK OF SIDEWALK
BRW	BOTTOM OF RETAINING WALL
BVP	BEGIN VERTICAL PROFILE
C	CABLE TV
C&G	CURB AND GUTTER
CB	CATCH BASIN OR CABLE BOX
CF	CUBIC FEET
CL	CENTERLINE OR CLEAR
CLF	CHAIN LINK FENCE
CMP	CORRUGATED METAL PIPE
COM	COMMUNICATION
CPP	CORRUGATED PLASTIC PIPE
CONSTR	CONSTRUCT
CT	COMMON TRENCH
CY	CUBIC YARD
DEG OR °	DEGREE(S)
DESC	DESCRIPTION
DI	DROP INLET OR DRAIN INLET
DPR	DONNER PASS ROAD
DWY	DRIVEWAY
ø OR DIA.	DIAMETER
(E)	EXISTING
E	EAST
EA	EACH
(F)	FUTURE
FES	FLARED END SECTION
FV	FLUSH VALVE
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FLG	FLANGED
F-O	FIBER OPTIC
FT	FOOT, FEET
FFC	FRONT FACE OF CURB
FM	FIBER OPTIC MANHOLE
G	GAS
GB	GRADE BREAK
GV	GAS VALVE
GUY	GUY ANCHOR
HDPE	HIGH DENSITY POLYETHYLENE
HOR OR HORIZ	HORIZONTAL
HP	HIGH POINT
IE	INVERT ELEVATION
IN	INCH
INT OR INTX	INTERSECTION
IRR	IRRIGATION
JUP	JOINT UTILITY POLE
L	LENGTH
LF	LINEAR FEET
LIP	LIP OF GUTTER
LP	LOW POINT
LS	LUMP SUM OR LIGHT STANDARD
LT	LEFT
MAX	MAXIMUM
M.D.D.	MAXIMUM DRY DENSITY
MJ	MECHANICAL JOINT
MI	MILE
MIN	MINIMUM
MISC	MISCELLANEOUS
MOD	MODIFIED
MP	METAL PIPE
MRJ	MECHANICAL RESTRAINED JOINT
N	NORTH
NG	NATIVE GROUND
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
# OR NO	NUMBER
OC	ON CENTER
OG	ORIGINAL GRADE
O/H	OVERHEAD
OHE	OVERHEAD ELECTRIC
OHT	OVERHEAD TELEPHONE
OHU	OVERHEAD UTILITY
±	PLUS OR MINUS
(P)	PROPOSED
P	PINE
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE
PCC	POINT OF COMPOUND CURVE INTERSECTION
PI	POINT OF INTERSECTION
℄	PROPERTY LINE
PMS	PAD MOUNTED SWITCH
PP	POWER POLE
POS	POSITIVE
PRC	POINT OF REVERSE CURVATURE
P&P	PLAN AND PROFILE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY OR PIONEER TRAIL
PUD	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
REVEG	REVEGETATION
RIS	UTILITY RISER
RR	RAILROAD
RT	RIGHT
ROE	RIGHT-OF-ENTRY
R/W OR ROW	RIGHT-OF-WAY
S	SLOPE, SOUTH
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SF OR SQ.FT.	SQUARE FOOT/FEET
SG	SUBGRADE
SHLD	SHOULDER
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEAN OUT
SSMH	SANITARY SEWER MANHOLE
STA	STATION
STD	STANDARD
SW	SIDEWALK
SY	SQUARE YARD
TBC	TOP BACK OF CURB
TB	TELEPHONE BOX
TCAB	TELEPHONE CABINET
TEL	TELEPHONE
TMH	TELEPHONE MANHOLE
TOE	TOE OF SLOPE
TOP	OP OF SLOPE
TP	TELEPHONE POLE
TPB	TELEPHONE PULL BOX
TRW	TOP OF RETAINING WALL
TV	TELEVISION
TYP	TYPICAL
W	WATER OR WEST
W/	WITH
WF	WIRE FENCE
WV	WATER VALVE
XING	CROSSING

USA NORTH 811 Call 811 Before You Dig

30 PERCENT SUBMITTAL
DATE: 6-29-18

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1				
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3				
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TITLE: CHURCH EXTENSION TO GLENSHIRE
LEGEND & ABBREVIATIONS

PROJECT: TOWN OF TRUCKEE
10183 TRUCKEE AIRPORT ROAD
TRUCKEE, CA 96161 CALIFORNIA

TOWN OF TRUCKEE

EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
4515 TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
FAX: (775) 828-7221

STAMP

Designed:	MRC
Drawn By:	JSC, PS
Approved By:	DDJ
Job No:	17.1.32
Scale:	AS SHOWN
Date:	6-29-18

SHEET No.
C2 OF 20

P:\2017 Projects\17.1.32 - Church Street to Glenshire\ACAD\SHEETS\17.1.32 SHEET INDEX.dwg 7/2/2018 4:33 PM

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C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C16 C17

GLENSHIRE DRIVE

TROUT CREEK

CHURCH STREET

FLYERS KNOT WAY

200' FEDERAL ROW LINE

A/C

SHEET INDEX

60 0 60 120

SCALE IN FEET
1" = 60'-0"

No.	Date	REVISIONS	BY	APPD
1				
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3				
4				
5				

TITLE: **CHURCH EXTENSION TO GLENSHIRE**
SHEET INDEX

PROJECT: **TOWN OF TRUCKEE**
10183 TRUCKEE AIRPORT ROAD
TRUCKEE, CA 96161
TOWN OF TRUCKEE CALIFORNIA

EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
4315 TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
FAX: (775) 828-7221

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Approved By:	DDJ
Job No:	17.1.32
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Date:	6-29-18

SHEET No.
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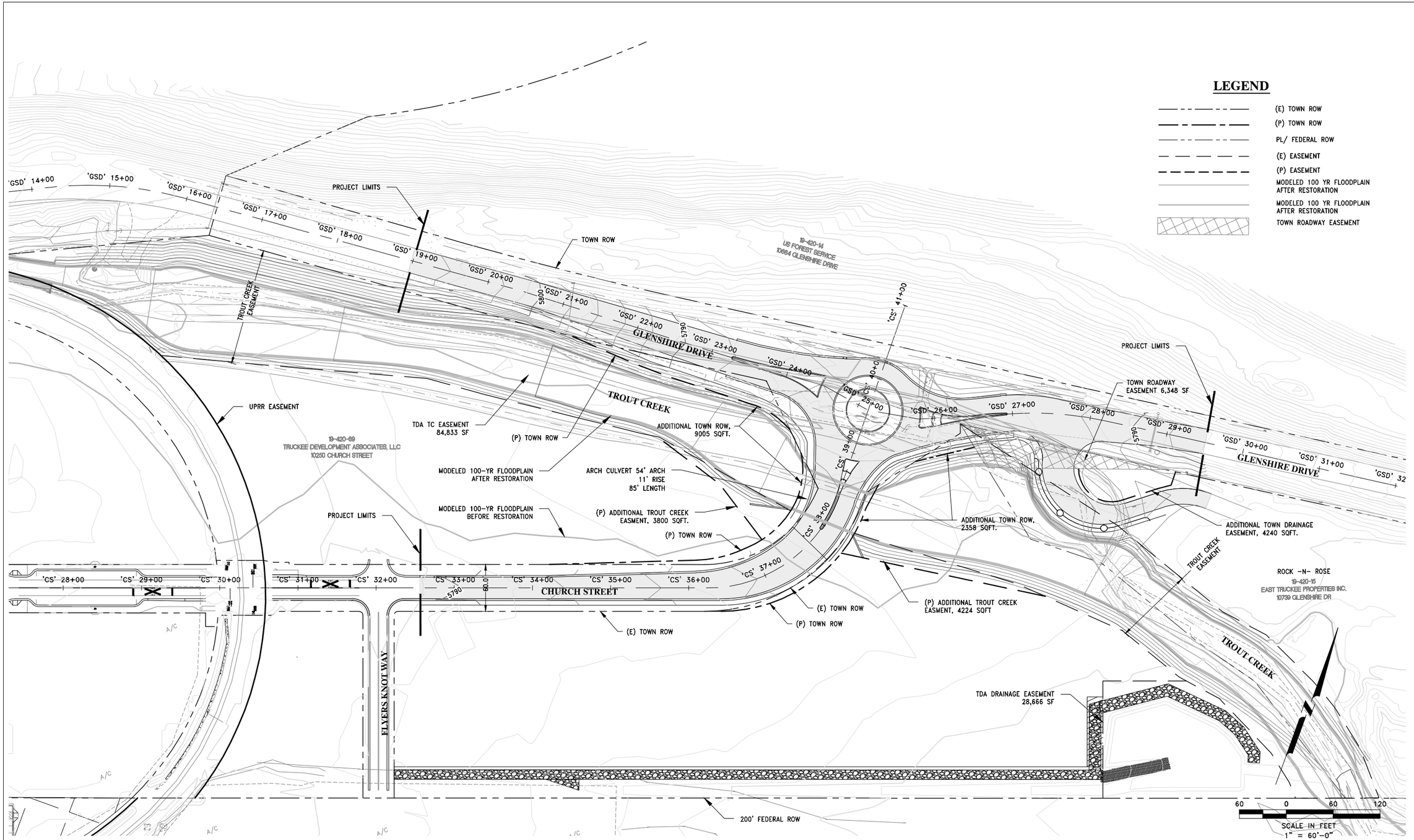

EASEMENTS PLAN VIEW

SCALE: 1"=40'

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1				
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TITLE: **CHURCH EXTENSION TO GLENSHIRE**
SITE PLAN & EASEMENTS

PROJECT: **TOWN OF TRUCKEE**
10183 TRUCKEE AIRPORT ROAD
TRUCKEE, CA 96161
TOWN OF TRUCKEE — CALIFORNIA

EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
4515 TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
FAX: (775) 828-7221

REGISTERED PROFESSIONAL ENGINEER
DEBORAH DAVIS JENKINS
No. C 057235
Exp.12-31-19
CIVIL
STATE OF CALIFORNIA
6-29-18

Designed:	MRC
Drawn By:	JSC, PS
Approved By:	DDJ
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SHEET No.
C4 OF **20**

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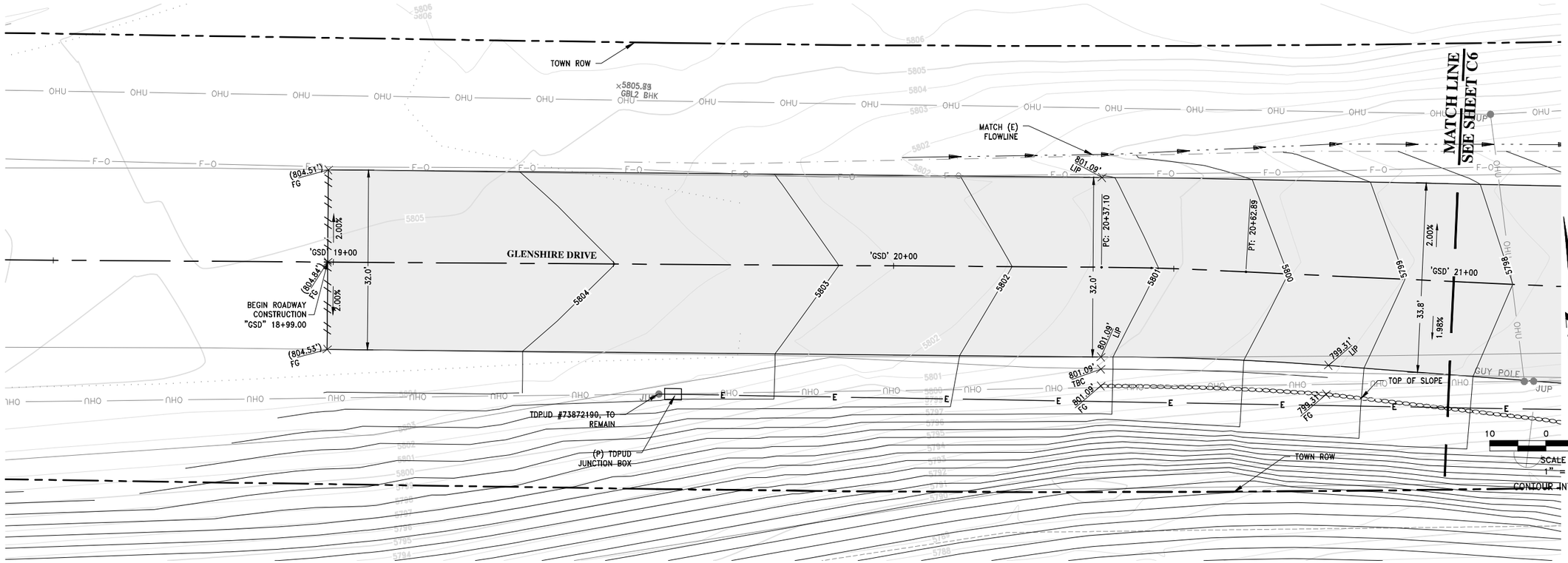

GLENSHIRE DRIVE PLAN VIEW

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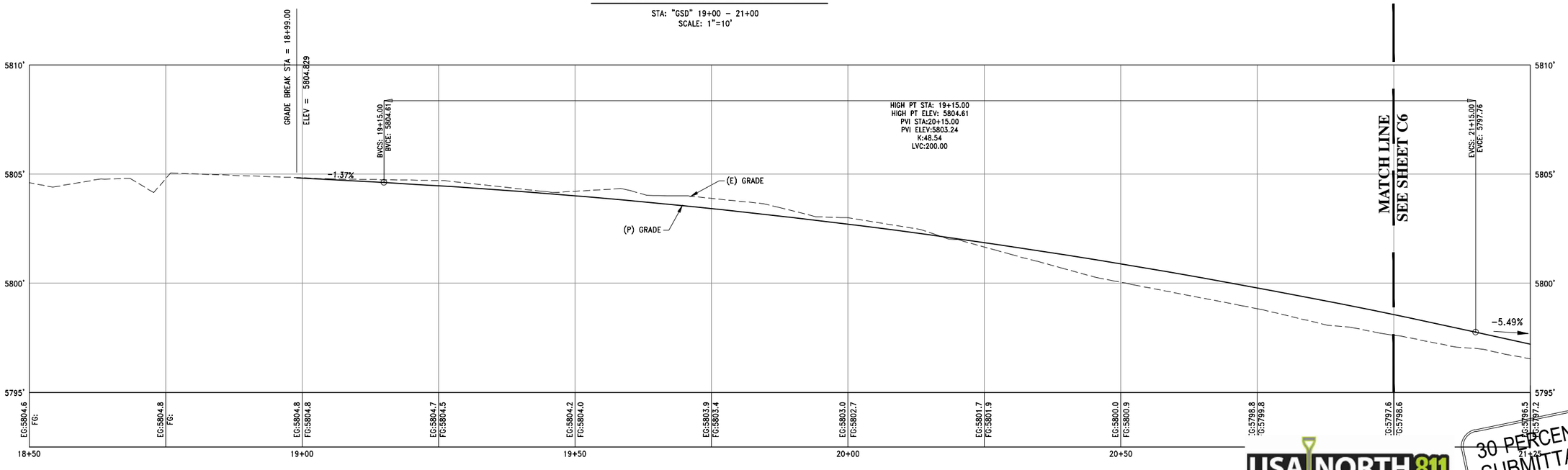

GLENSHIRE DRIVE PROFILE VIEW

STA: "GSD" 19+00 – 21+00
SCALE: HORIZ:1"=10' VERT:1"=2'

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DATE: 6-29-18

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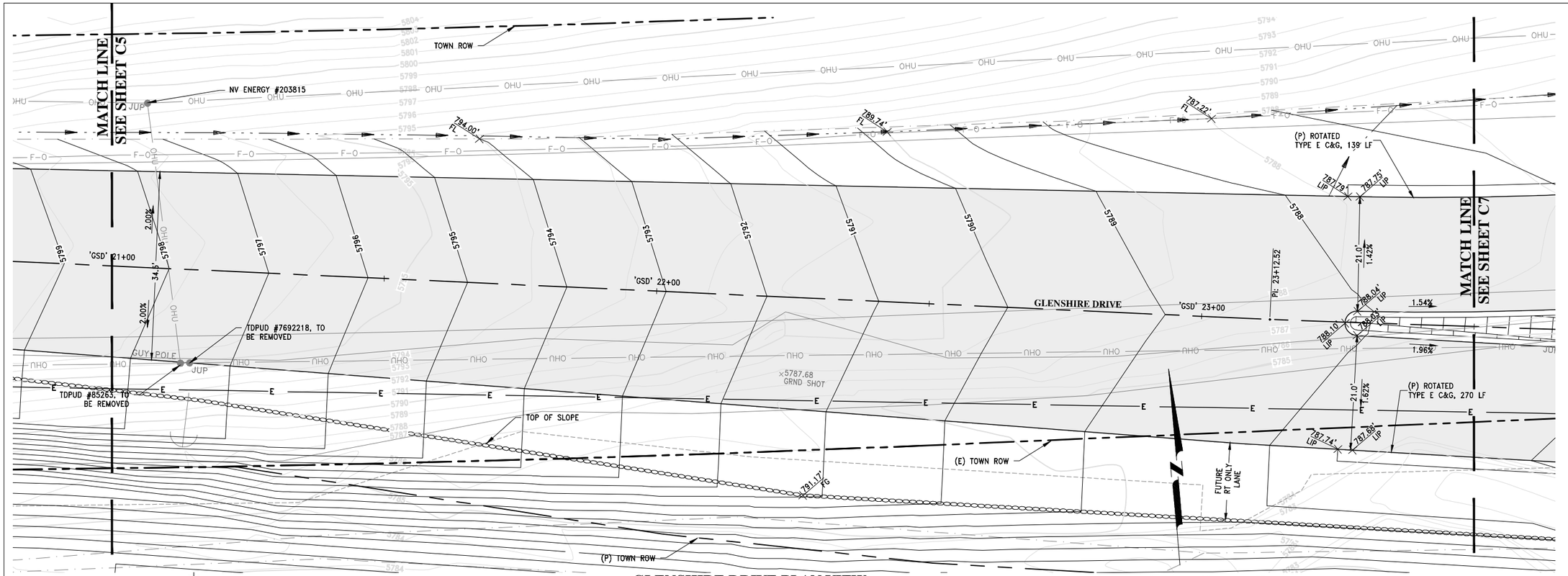
TITLE: CHURCH EXTENSION TO GLENSHIRE PLAN & PROFILE STA "GSD" 19+00 - 21+00

PROJECT: TOWN OF TRUCKEE 10183 TRUCKEE AIRPORT ROAD TRUCKEE, CA 96161 CALIFORNIA

EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
4515 TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
FAX: (775) 828-7221

Designed:	MRC
Drawn By:	JSC, PS
Approved By:	DDJ
Job No:	17.1.32
Scale:	AS SHOWN
Date:	6-29-18

SHEET No.
C5 OF 20



GLENSHIRE DRIVE PLAN VIEW

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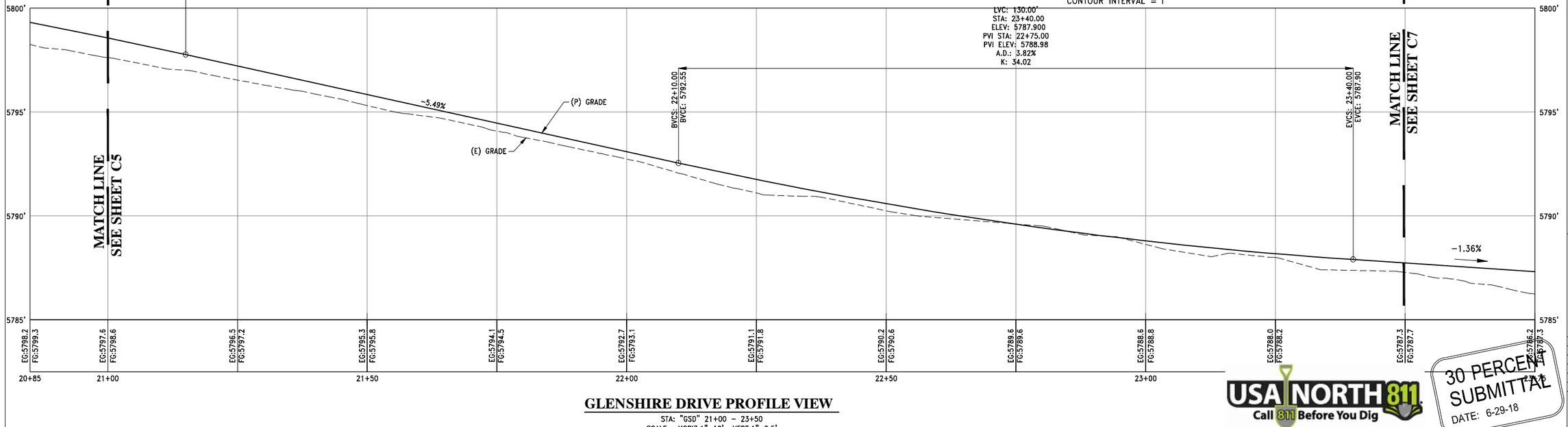

GLENSHIRE DRIVE PROFILE VIEW

STA: "GSD" 21+00 – 23+50
SCALE: HORIZ:1"=10' VERT:1"=2.5'

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TITLE: **CHURCH EXTENSION TO GLENSHIRE**
PLAN & PROFILE
STA "GSD" 21+00 - 23+50

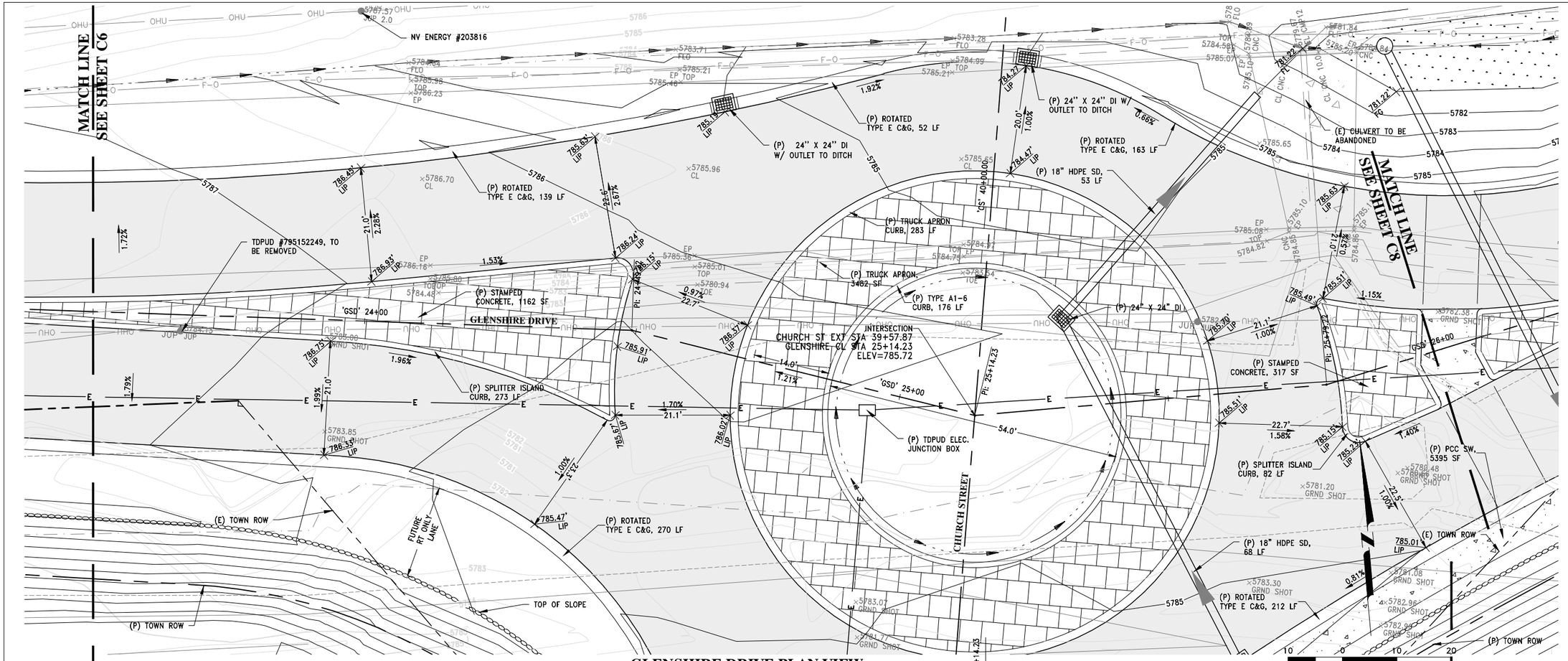
PROJECT: **TOWN OF TRUCKEE**
10183 TRUCKEE AIRPORT ROAD
TRUCKEE, CA 96161

TOWN OF TRUCKEE — CALIFORNIA

EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
4515 TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
FAX: (775) 828-7221

Designed:	MRC
Drawn By:	JSC, PS
Approved By:	DDJ
Job No:	17.1.32
Scale:	AS SHOWN
Date:	6-29-18

SHEET No.
C6 OF **20**



GLENSHIRE DRIVE PLAN VIEW

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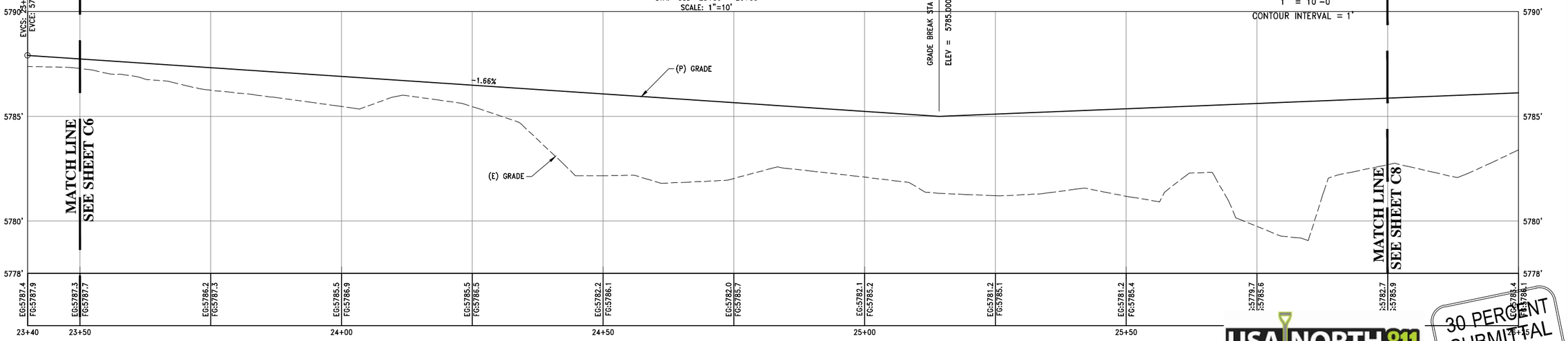

GLENSHIRE DRIVE PROFILE VIEW

STA: "GSD" 23+50 – 26+00
SCALE: HORIZ:1"=10' VERT:1"=2.5'

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DATE: 6-29-18

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3				
4				
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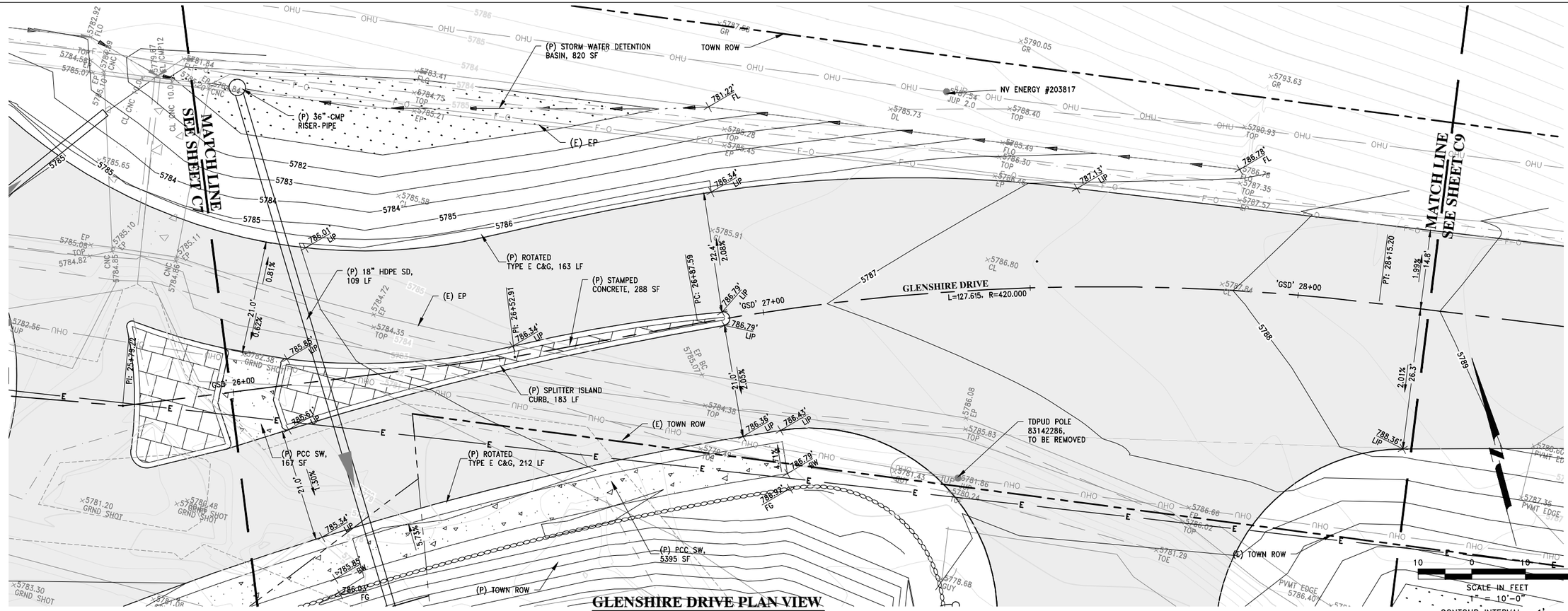
TITLE: CHURCH EXTENSION TO GLENSHIRE
PLAN & PROFILE
STA "GSD" 23+50 - 26+00

PROJECT: TOWN OF TRUCKEE
10183 TRUCKEE AIRPORT ROAD
TRUCKEE, CA 96161
TOWN OF TRUCKEE CALIFORNIA

EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
4515 TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
FAX: (775) 828-7221

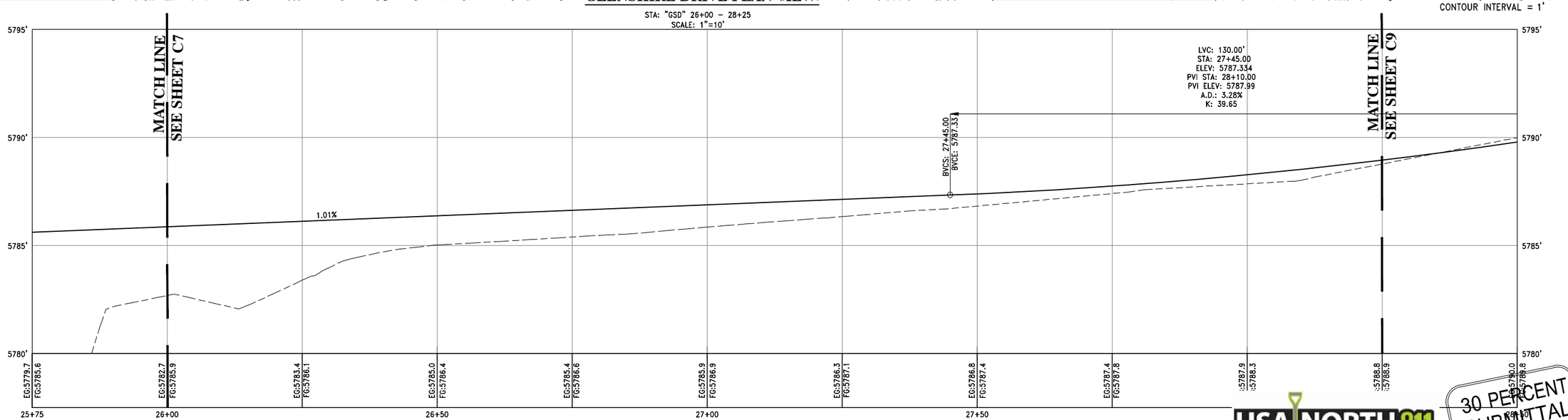
Designed:	MRC
Drawn By:	JSC, PS
Approved By:	DDJ
Job No:	17.1.32
Scale:	AS SHOWN
Date:	6-29-18

SHEET No.
C7 OF 20



GLENSHIRE DRIVE PLAN VIEW

STA: "GSD" 26+00 – 28+25
SCALE: 1"=10'



GLENSHIRE DRIVE PROFILE VIEW

STA: "GSD" 26+00 – 28+25
SCALE: HORIZ:1"=10' VERT:1"=2.5'

USA NORTH 811 Call 811 Before You Dig

30 PERCENT SUBMITTAL
DATE: 6-29-18

No.	Date	REVISIONS	BY	APPD
1				
2				
3				
4				
5				

CHURCH EXTENSION TO GLENSHIRE
PLAN & PROFILE
STA "GSD" 26+00 - 28+25

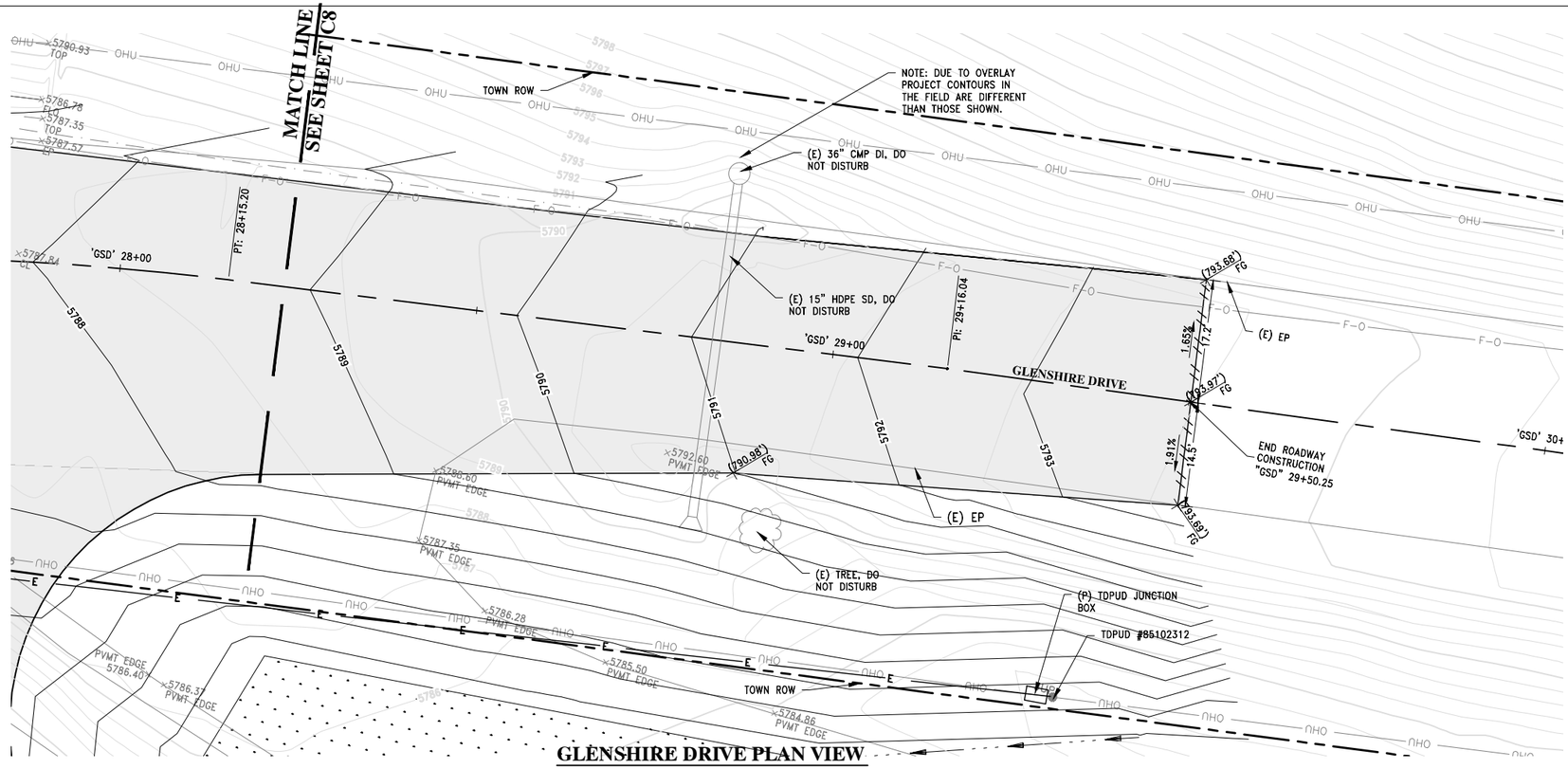
PROJECT: **TOWN OF TRUCKEE**
10183 TRUCKEE AIRPORT ROAD
TRUCKEE, CA 96161

TITLE: **TOWN OF TRUCKEE** CALIFORNIA

EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
4515 TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
FAX: (775) 828-7221

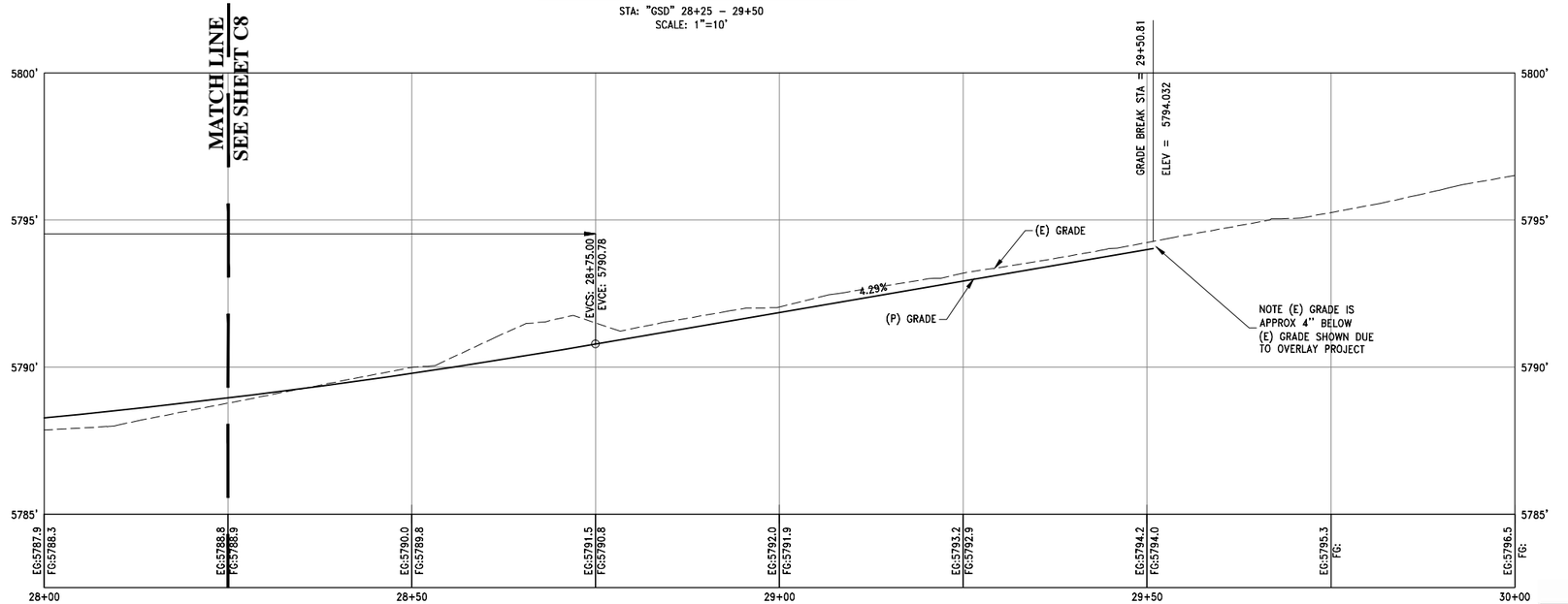
Designed:	MRC
Drawn By:	JSC, PS
Approved By:	DDJ
Job No:	17.1.32
Scale:	AS SHOWN
Date:	6-29-18

SHEET No.
C8 OF **20**



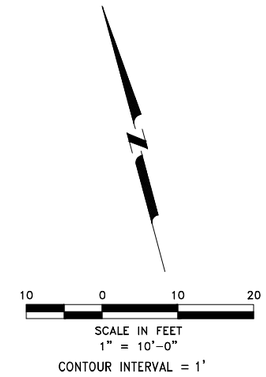
GLENSHIRE DRIVE PLAN VIEW

STA: "GSD" 28+25 – 29+50
SCALE: 1"=10'



GLENSHIRE DRIVE PROFILE VIEW

STA: "GSD" 28+25 – 29+50
SCALE: HORIZ:1"=10' VERT:1"=2.5'



USA NORTH 811 Call 811 Before You Dig

30 PERCENT SUBMITTAL
DATE: 6-29-18

No.	Date	REVISIONS	BY	APPD
1				
2				
3				
4				
5				

TITLE: **CHURCH EXTENSION TO GLENSHIRE PLAN & PROFILE STA "GSD" 28+25 - 29+50**

PROJECT: **TOWN OF TRUCKEE 10183 TRUCKEE AIRPORT ROAD TRUCKEE, CA 96161**

TOWN OF TRUCKEE — CALIFORNIA

EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
4515 TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
FAX: (775) 828-7221

Designed:	MRC
Drawn By:	JSC, PS
Approved By:	DDJ
Job No:	17.1.32
Scale:	AS SHOWN
Date:	6-29-18

SHEET No.
C9 OF **20**

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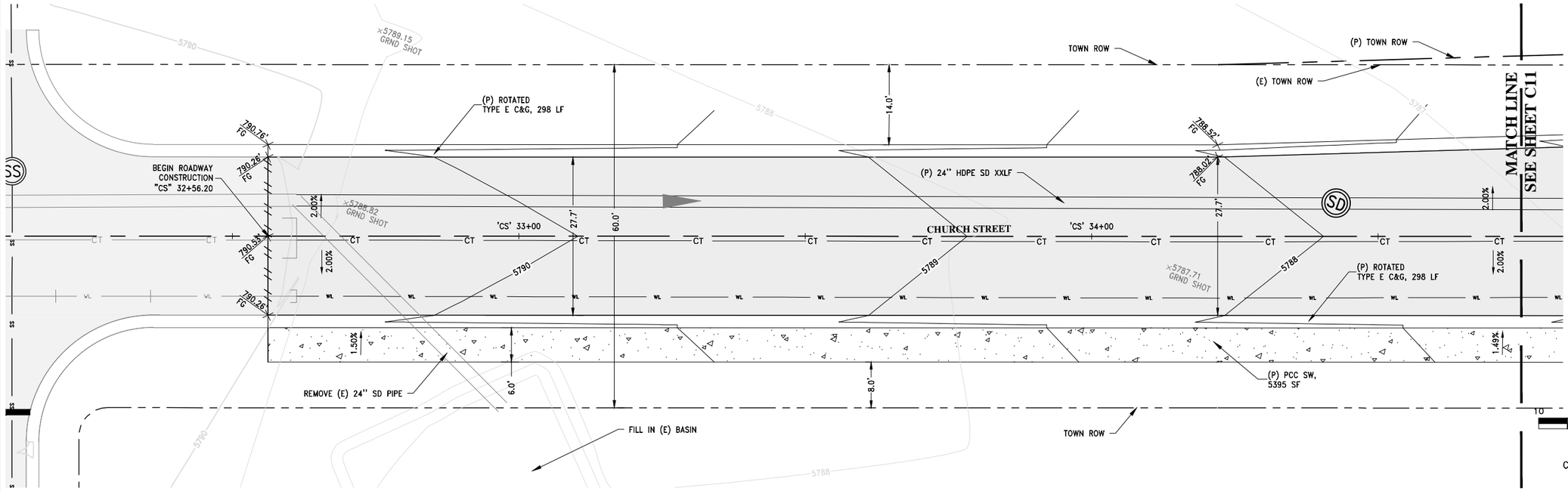
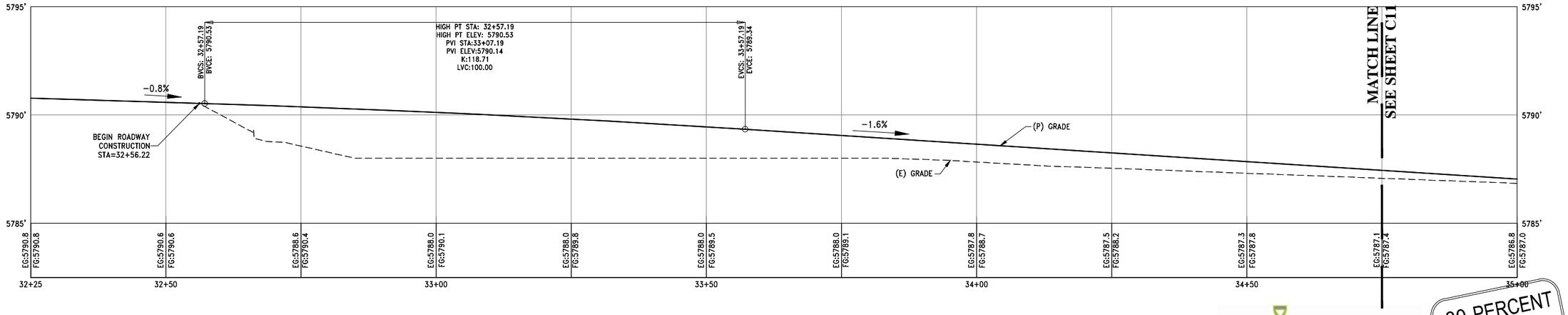


CHURCH ST. PLAN VIEW

STA: "CS" 32+50 – 34+75
SCALE: 1"=10'



CHURCH ST PROFILE VIEW

STA: "CS" 32+50 – 34+75
SCALE: HORIZ:1"=10' VERT:1"=2.5'

USA NORTH 811 Call 811 Before You Dig

30 PERCENT SUBMITTAL
DATE: 6-29-18

No.	Date	REVISIONS	BY	APPD
1				
2				
3				
4				
5				

TITLE: CHURCH EXTENSION TO GLENSHIRE
PLAN & PROFILE
STA "CS" 32+50 - 24+75

PROJECT: TOWN OF TRUCKEE
10183 TRUCKEE AIRPORT ROAD
TRUCKEE, CA 96161
CALIFORNIA

EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
4515 TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
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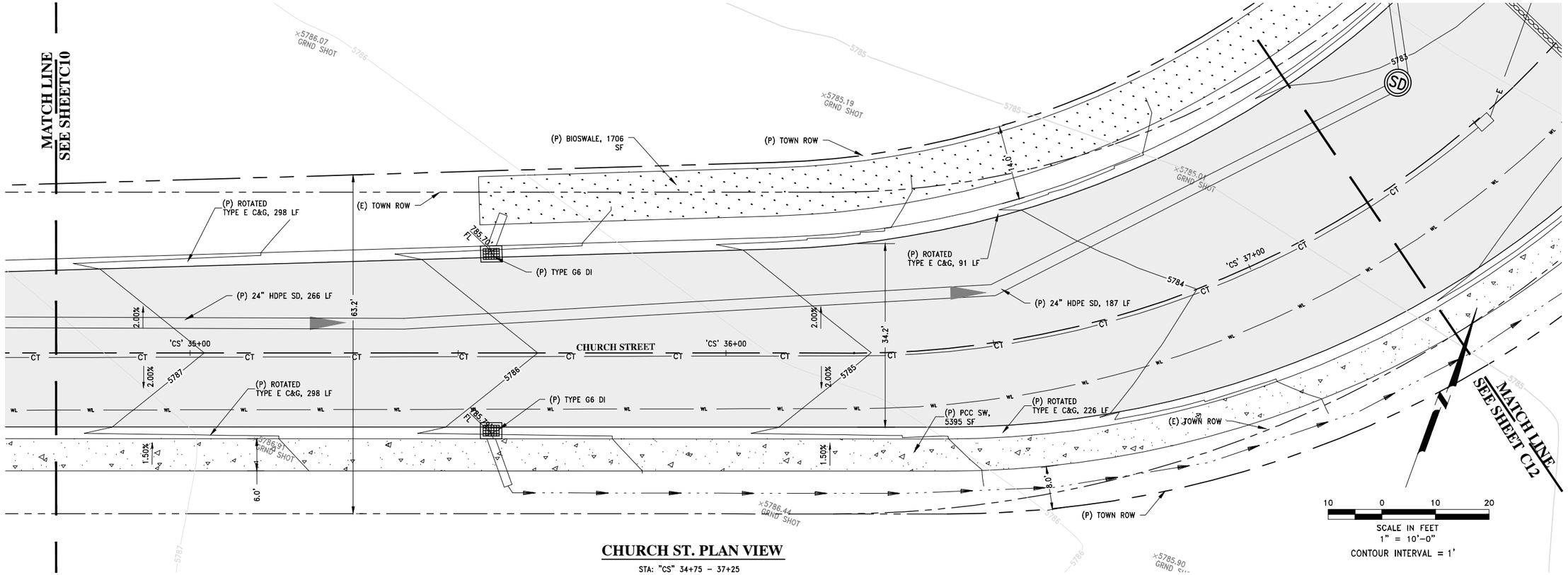
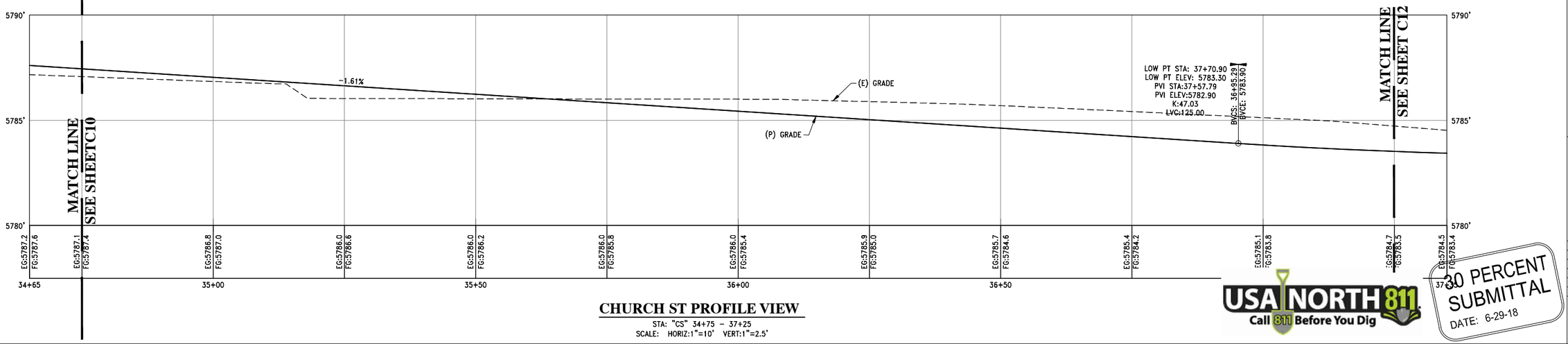
Designed:	MRC
Drawn By:	JSC, PS
Approved By:	DDJ
Job No:	17.1.32
Scale:	AS SHOWN
Date:	6-29-18

SHEET No.
C10 OF 20



CHURCH ST. PLAN VIEW

STA: "CS" 34+75 – 37+25
SCALE: 1"=10'



CHURCH ST PROFILE VIEW

STA: "CS" 34+75 – 37+25
SCALE: HORIZ:1"=10' VERT:1"=2.5'

USA NORTH 811 Call 811 Before You Dig

30 PERCENT SUBMITTAL
DATE: 6-29-18

No.	Date	REVISIONS	BY	APPD
1				
2				
3				
4				
5				

TITLE: CHURCH EXTENSION TO GLENSHIRE
PLAN & PROFILE
STA "CS" 34+75 - 37+25

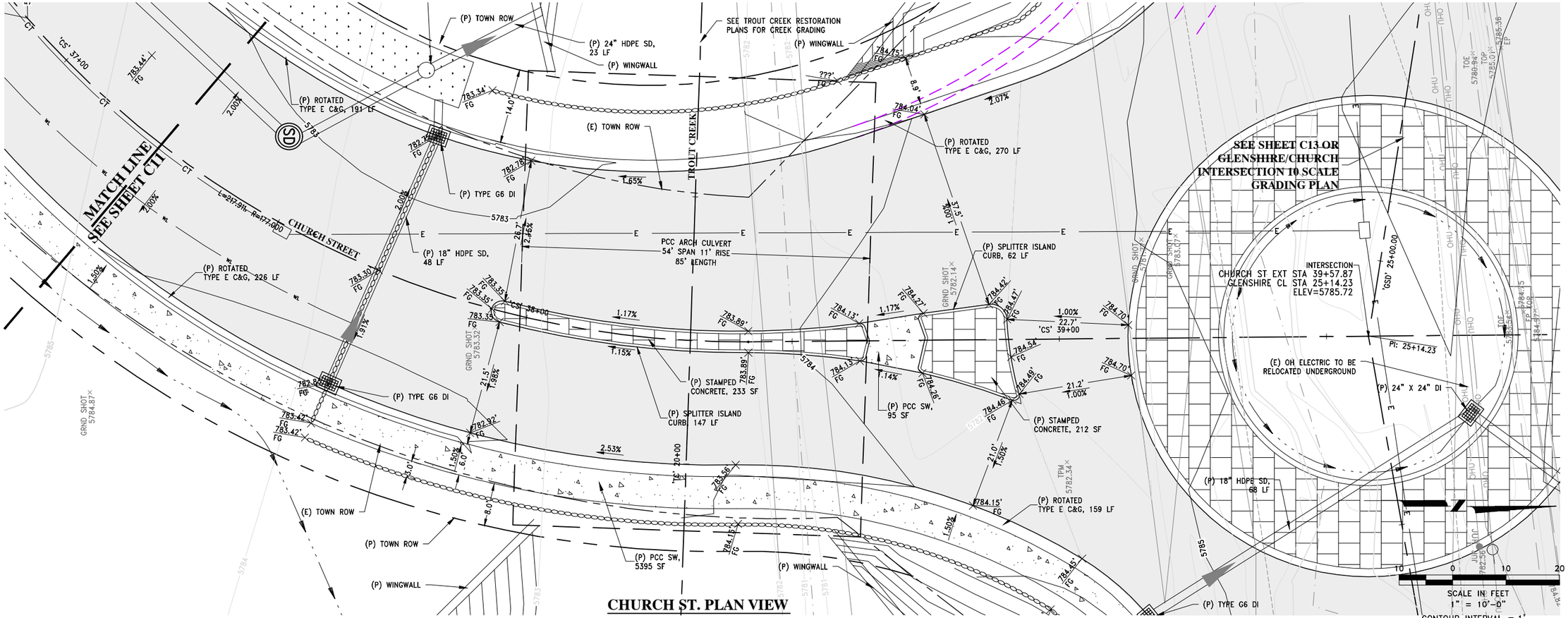
PROJECT: TOWN OF TRUCKEE
10183 TRUCKEE AIRPORT ROAD
TRUCKEE, CA 96161

TOWN OF TRUCKEE CALIFORNIA

EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
4515 TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
FAX: (775) 828-7221

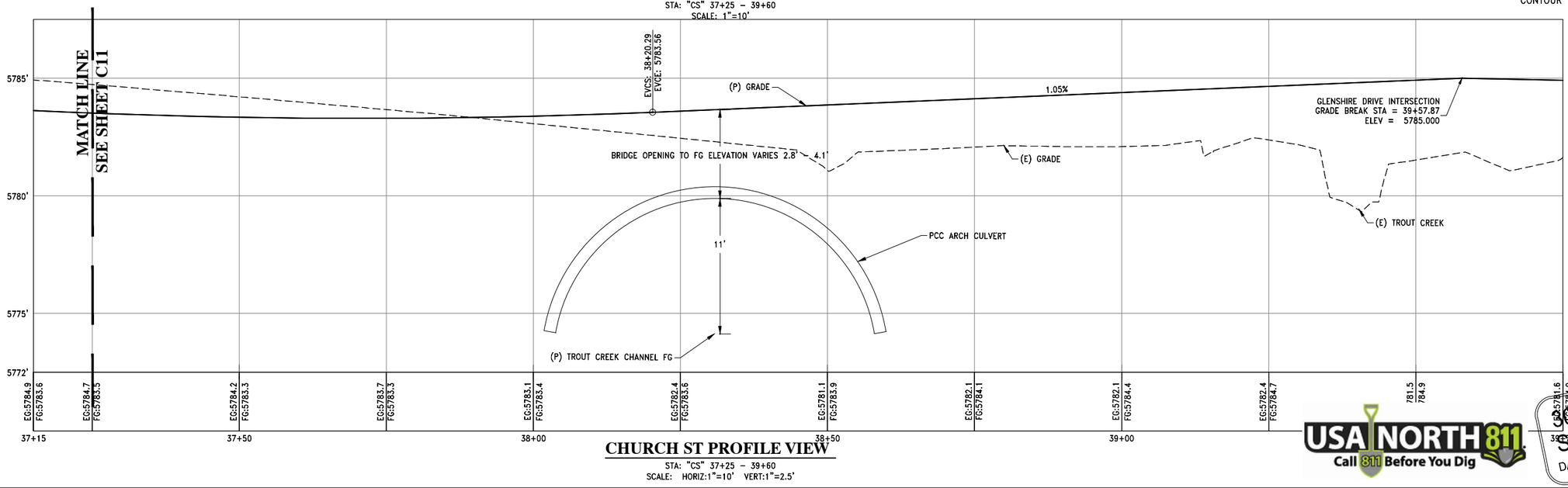
Designed:	MRC
Drawn By:	JSC, PS
Approved By:	DDJ
Job No:	17.1.32
Scale:	AS SHOWN
Date:	6-29-18

SHEET No.
C11 OF 20



CHURCH ST. PLAN VIEW

STA: "CS" 37+25 – 39+60
SCALE: 1"=10'



CHURCH ST PROFILE VIEW

STA: "CS" 37+25 – 39+60
SCALE: HORIZ:1"=10' VERT:1"=2.5'

USA NORTH 811 Call 811 Before You Dig

50 PERCENT SUBMITTAL
DATE: 6-29-18

No.	Date	REVISIONS	BY	APPD
1				
2				
3				
4				
5				

TITLE: CHURCH EXTENSION TO GLENSHIRE
PLAN & PROFILE
STA "CS" 37+25 - 39+60

PROJECT: TOWN OF TRUCKEE
10183 TRUCKEE AIRPORT ROAD
TRUCKEE, CA 96161 CALIFORNIA

EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
451 S TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
FAX: (775) 828-7221

Designed:	MRC
Drawn By:	JSC, PS
Approved By:	DDJ
Job No:	17.1.32
Scale:	AS SHOWN
Date:	6-29-18

SHEET No.
C12 OF 20

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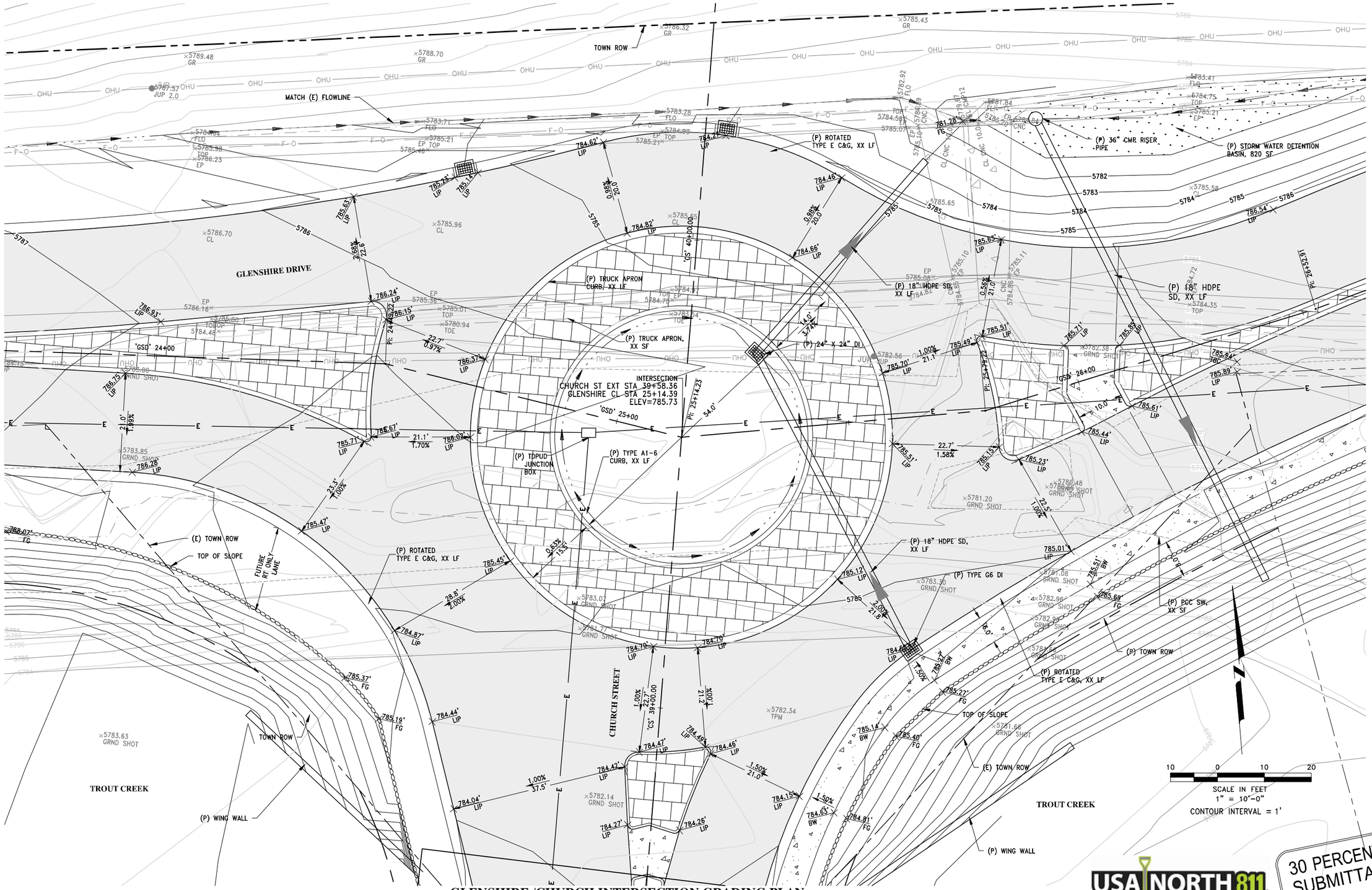

GLENSHIRE /CHURCH INTERSECTION GRADING PLAN

STA: "GSD" 19+00 – 21+00
SCALE: 1"=10'

No.	Date	REVISIONS	BY	APPD
1				
2				
3				
4				
5				

TITLE: **CHURCH EXTENSION TO GLENSHIRE GLENSHIRE-CHURCH INTERSECTION GRADING PLAN**

PROJECT: **TOWN OF TRUCKEE 10183 TRUCKEE AIRPORT ROAD TRUCKEE, CA 96161** — TOWN OF TRUCKEE — CALIFORNIA

EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
4515 TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
FAX: (775) 828-7221

Designed:	MRC
Drawn By:	JSC, PS
Approved By:	DDJ
Job No:	17.1.32
Scale:	AS SHOWN
Date:	6-29-18

SHEET No.
C13 OF **20**

USA NORTH 811 Call 811 Before You Dig

30 PERCENT SUBMITTAL
DATE: 6-29-18

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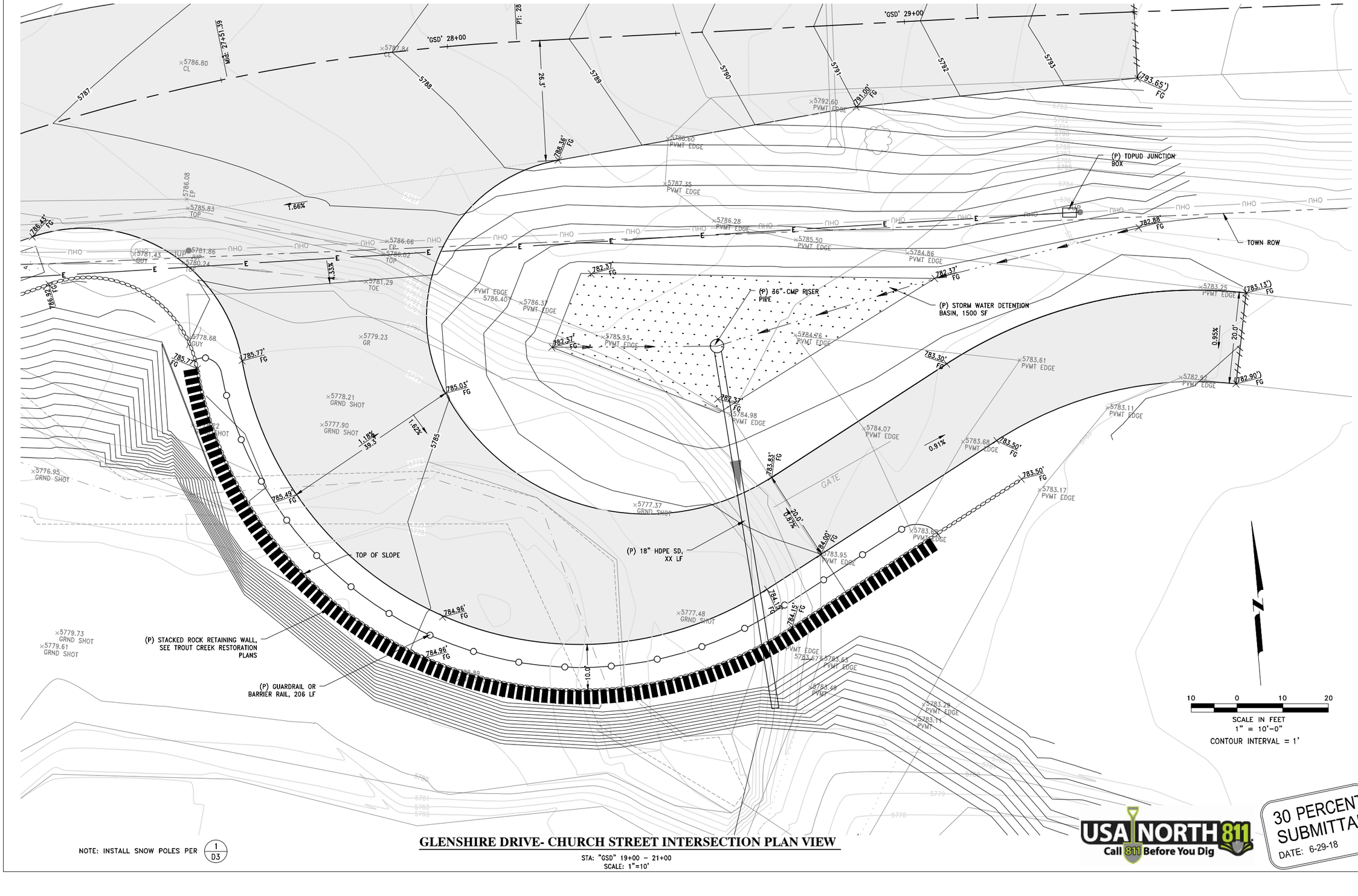


NOTE: INSTALL SNOW POLES PER (1/D3)

GLENSHIRE DRIVE- CHURCH STREET INTERSECTION PLAN VIEW

STA: "GSD" 19+00 – 21+00
SCALE: 1"=10'

USA NORTH 811 Call 811 Before You Dig

30 PERCENT SUBMITTAL
DATE: 6-29-18

No.	Date	REVISIONS	BY	APPD
1				
2				
3				
4				
5				

TITLE: **CHURCH EXTENSION TO GLENSHIRE ROCK-N-ROSE DRIVEWAY GRADING**

PROJECT: **TOWN OF TRUCKEE**
10183 TRUCKEE AIRPORT ROAD
TRUCKEE, CA 96161 CALIFORNIA

TOWN OF TRUCKEE

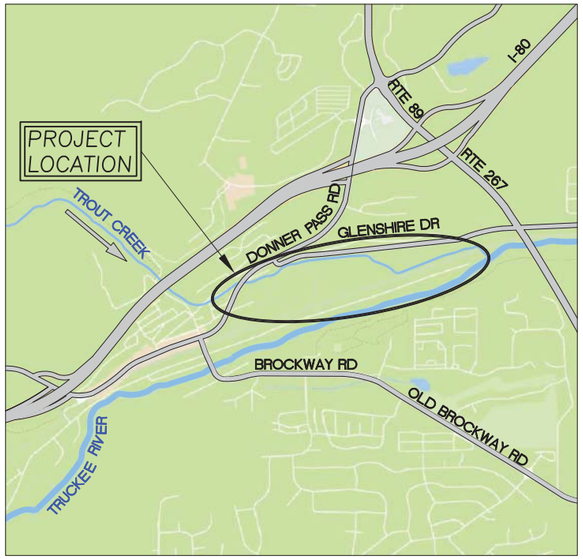
EASTERN SIERRA ENGINEERING
CIVIL ENGINEERING & CONSTRUCTION SERVICES
4515 TOWNE DRIVE
RENO, NV 89521
MAIN: (775) 828-7220
FAX: (775) 828-7221

Designed:	MRC
Drawn By:	JSC, PS
Approved By:	DDJ
Job No:	17.1.32
Scale:	AS SHOWN
Date:	6-29-18

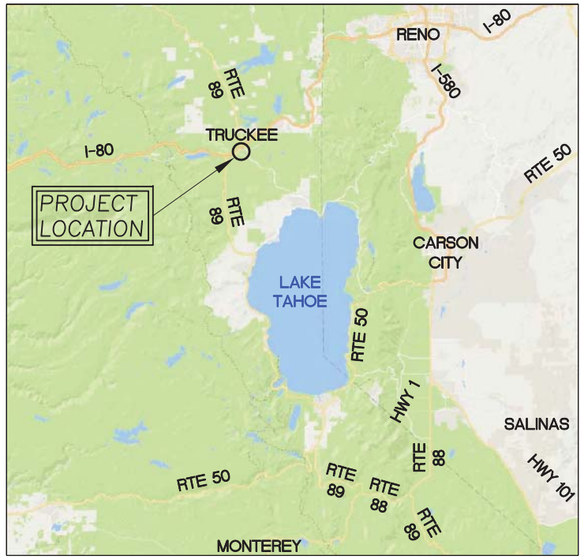
SHEET No.
C14 OF **20**

TROUT CREEK RESTORATION PROJECT
REACH 4 AND 5

30% DESIGN SUBMITTAL



VICINITY MAP
N.T.S. (GOOGLE)



REGIONAL MAP
N.T.S. (GOOGLE)

SHEET INDEX

ABBREVIATIONS

AVG.	AVERAGE
CC	CONCRETE
CY	CUBIC YARDS
DIA.	DIAMETER
E	EXISTING
EG	EXISTING GROUND
ELEV.	ELEVATION
DI	DRAINAGE INLET
FG	FINISHED GRADE
FT	FEET
INV	INVERT
N	NEW
NIC	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
RC	RELATIVE COMPACTION
RSP	ROCK SLOPE PROTECTION
SPK	SPIKE
SQ.FT.	SQUARE FOOT
T	TREE
T.B.D.	TO BE DETERMINED
TYP	TYPICAL
UNK	UNKNOWN
WSE	WATER SURFACE ELEVATION
YR	YEAR

TREE SPECIES
P PINE

GENERAL NOTES

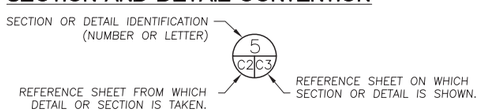
1. TOPOGRAPHIC MAPPING WAS PERFORMED BY:
   SAGE LAND SURVEYING INC.
   10049 MARTIS VALLEY ROAD, UNIT A
   TRUCKEE, CA 96161
   SURVEY DATE; OCTOBER 2017.
2. ELEVATION DATUM: NGVD29 BASED ON NGS BENCH MARK "A921"(PID KS0167).
3. BASIS OF BEARINGS: PRIMARY CONTROL NAD83 CALIFORNIA STATE PLANE, ZONE 2 US SURVEY FEET.
4. AERIAL PHOTO SOURCE: AUTOCAD CIVIL 3D 2016 GEOLOCATION MAP.
5. CONTOUR INTERVAL IS ONE FOOT. ELEVATIONS AND DISTANCES SHOWN ARE IN DECIMAL FEET.
6. THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES ARE NOT SHOWN HEREON.
7. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE 2015 EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS, ISSUED BY THE DEPARTMENT OF TRANSPORTATION (HEREAFTER REFERRED TO AS "STANDARD SPECIFICATIONS").
8. THESE DESIGNS ARE INCOMPLETE WITHOUT THE FINAL STAMPED TECHNICAL SPECIFICATIONS PREPARED BY WATERWAYS CONSULTING, INC. REFER TO TECHNICAL SPECIFICATIONS FOR DETAILS NOT SHOWN HEREON.

PROJECT DESCRIPTION

THESE DRAWINGS PROVIDE 30% DESIGN LEVEL DETAILS FOR RESTORATION OF TROUT CREEK REACHES 4 AND 5 IN TRUCKEE, CALIFORNIA.

WORK SHALL CONSIST OF LOWERING THE CHANNEL PROFILE AND CONSTRUCTING A FLOODPLAIN BENCH, LOW FLOW MEANDER CHANNEL, FLOODPLAIN SWALES, STACKED ROCK RETAINING WALLS AT FLOW CONSTRICTIONS, AN OPEN-BOTTOM 54' SPAN CULVERT ACROSS THE CREEK, AND AN ENGINERED STREAMBED MATERIAL CHANNEL UNDER THE BRIDGE CROSSING.

SECTION AND DETAIL CONVENTION



* CALL BEFORE YOU DIG *
CONTACT UNDERGROUND SERVICE ALERT (USA)
PRIOR TO ANY CONSTRUCTION WORK 1-800-227-2600

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 FAX:(888)819-6847
WWW.WATWAYS.COM

DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
TOWN OF TRUCKEE
10183 AIRPORT ROAD
TRUCKEE, CA 96161

NOTES AND ABBREVIATIONS

TROUT CREEK RESTORATION PROJECT
REACH 4 AND 5
30% DESIGN SUBMITTAL

DESIGNED BY:	J.H.
DRAWN BY:	D.H.
CHECKED BY:	J.D.
DATE:	06/29/18
JOB NO.:	08-663

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

LEGEND

- EXISTING CONTOURS
- LIMITS OF WATERWAYS GRADING
- EXISTING 100-YEAR FLOOD BOUNDARY
- PROPOSED RIPARIAN EASEMENT BY OTHERS
- PROPOSED VALLEY CENTERLINE/DESIGN ALIGNMENT
- PROPOSED LOW FLOW CHANNEL BOTTOM
- PROPOSED FLOODPLAIN SWALE
- PROPOSED LOW FLOW CHANNEL BANKS
- PROPOSED FLOODPLAIN BENCH
- PROPOSED STACKED ROCK RETAINING WALL
- PROPOSED ESM
- EXISTING OVERHEAD UTILITIES
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- EXISTING RAILROAD EASEMENT
- PROPOSED RAILROAD EASEMENT
- PROPOSED LOG STRUCTURE

Utility Poles
PP = Power Pole
TP = Telephone Pole
JUP = Joint Utility Pole
= Power Line
= Telephone Line
= Cable TV
GUY = Guy Anchor
= Flow Line

LOG STRUCTURE (TYP.) C16–C17, C20

REACH 5 – PHASE 1
UPSTREAM LIMIT OF GRADING–
STATION=23+50.67

18.0'
PROPOSED EDGE OF
RAILROAD EASEMENT

(E) METAL WALL WITH
VERTICAL RAILS

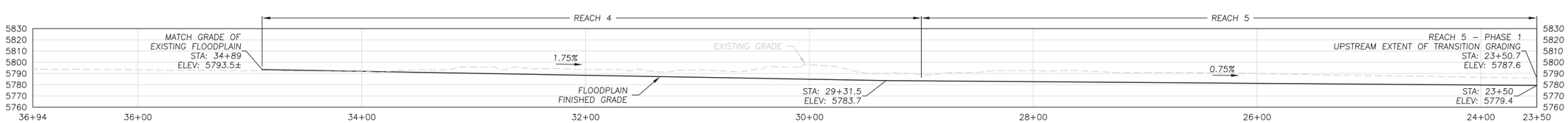
(E) CENTERLINE
RAILROAD

EXISTING 100-YEAR FLOOD LIMITS

(E) EDGE OF
RAILROAD EASEMENT

C16 MATCHLINE C17

REACH 4 AND 5 PLAN
SCALE: 1" = 50'



TROUT CREEK PROFILE
SCALE: 1" = 50'

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 FAX:(888)819-6847
WWW.WATWAYS.COM

DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
TOWN OF TRUCKEE
10183 AIRPORT ROAD
TRUCKEE, CA 96161

REACH 4 AND 5
PLAN AND
PROFILE

TROUT CREEK
RESTORATION PROJECT
REACH 4 AND 5
30% DESIGN SUBMITTAL

DESIGNED BY: J.H.
DRAWN BY: D.H.
CHECKED BY: J.D.
DATE: 06/29/18
JOB NO.: 08-663

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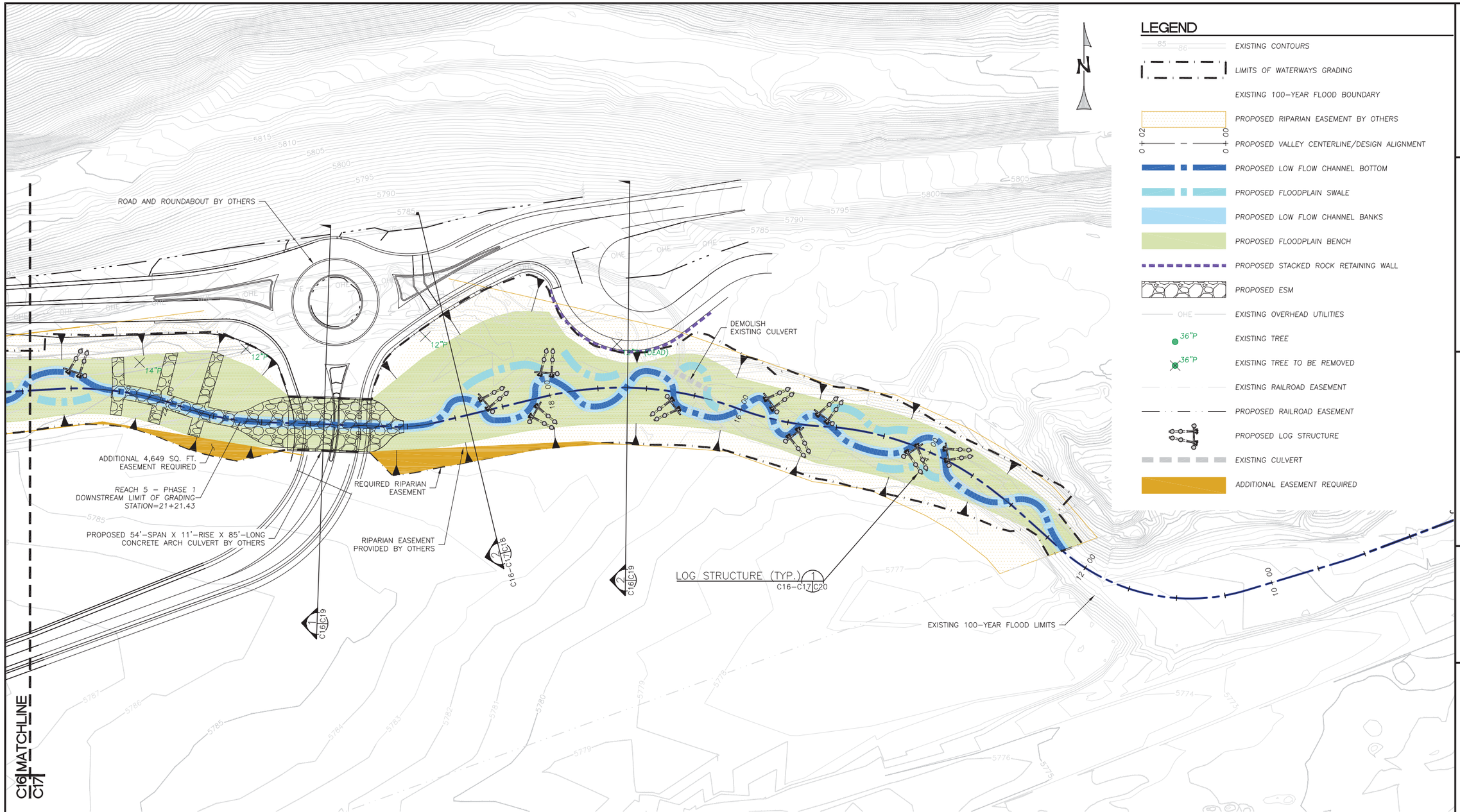
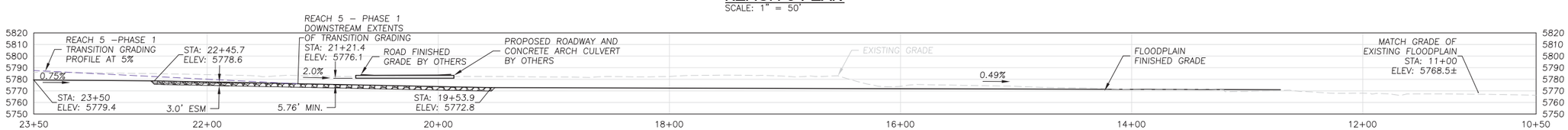
0 1"

C16



REACH 5 PLAN
SCALE: 1" = 50'



TROUT CREEK PROFILE
SCALE: 1" = 50'

WATERWAYS CONSULTING INC.
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DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
TOWN OF TRUCKEE
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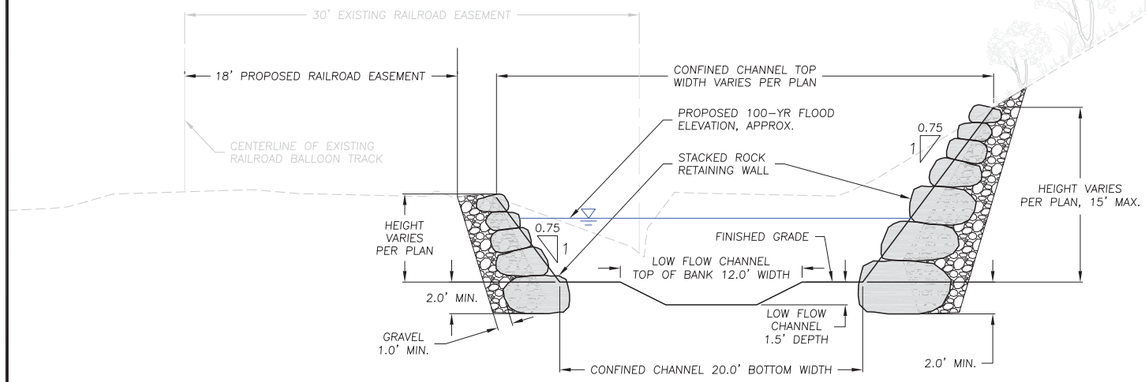
REACH 5 PLAN AND PROFILE

TROUT CREEK
RESTORATION PROJECT
REACH 4 AND 5
30% DESIGN SUBMITTAL

DESIGNED BY: J.H.
DRAWN BY: D.H.
CHECKED BY: J.D.
DATE: 06/29/18
JOB NO.: 08–663

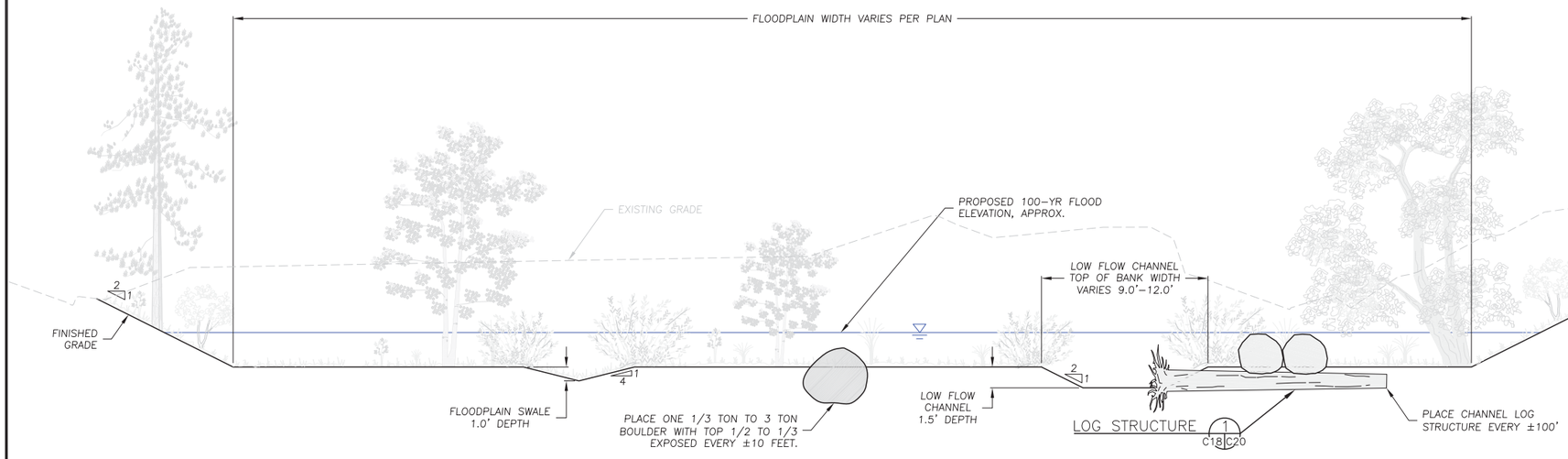
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"



REACH 4 CONSTRICTED CHANNEL TYPICAL SECTION

SCALE: 1" = 5'

1 C16|C18



REACH 5 CHANNEL WITH FLOODPLAIN TYPICAL SECTION

SCALE: 1" = 5'

2 C16-C17|C18

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 FAX:(888)819-6847
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NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
TOWN OF TRUCKEE
10183 AIRPORT ROAD
TRUCKEE, CA 96161

TYPICAL SECTIONS

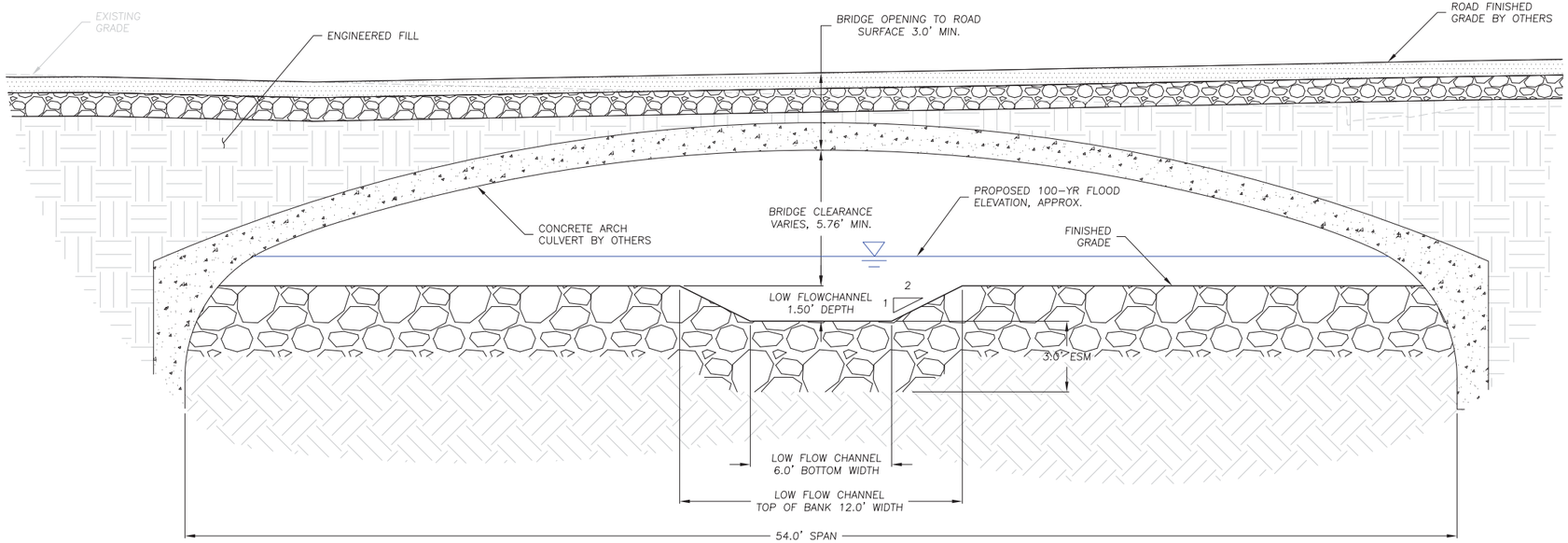
TROUT CREEK
RESTORATION PROJECT
REACH 4 AND 5
30% DESIGN SUBMITTAL

DESIGNED BY:	J.H.
DRAWN BY:	D.H.
CHECKED BY:	J.D.
DATE:	06/29/18
JOB NO.:	08-663

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS

0 1"

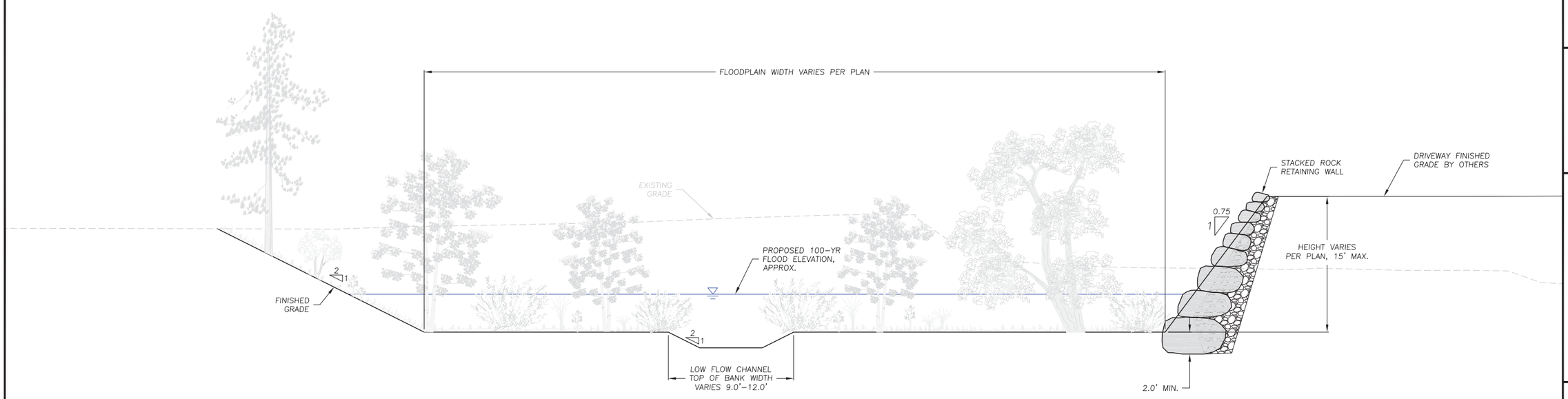
C18



CULVERT TYPICAL SECTION

SCALE: 1" = 3'

1 C17|C19



REACH 5 CONSTRICTED CHANNEL TYPICAL SECTION

SCALE: 1" = 3'

2 C17|C19

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9293 FAX:(888)819-6847
WWW.WATWAYS.COM

DRAFT

NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
TOWN OF TRUCKEE
10183 AIRPORT ROAD
TRUCKEE, CA 96161

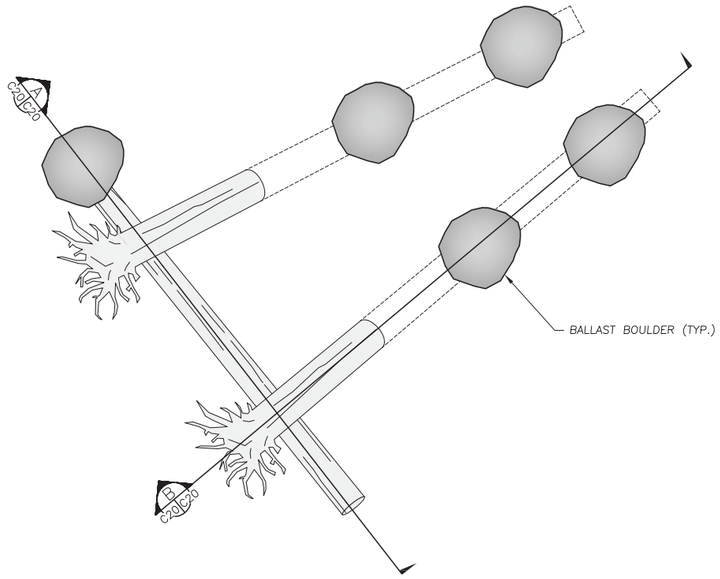
TYPICAL SECTIONS

TROUT CREEK RESTORATION PROJECT
REACH 4 AND 5
30% DESIGN SUBMITTAL

DESIGNED BY:	J.H.
DRAWN BY:	D.H.
CHECKED BY:	J.D.
DATE:	06/29/18
JOB NO.:	08-663

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS

0 1"



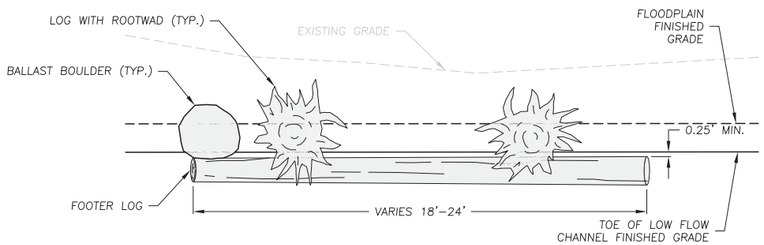
PLAN VIEW

LOG STRUCTURE NOTES

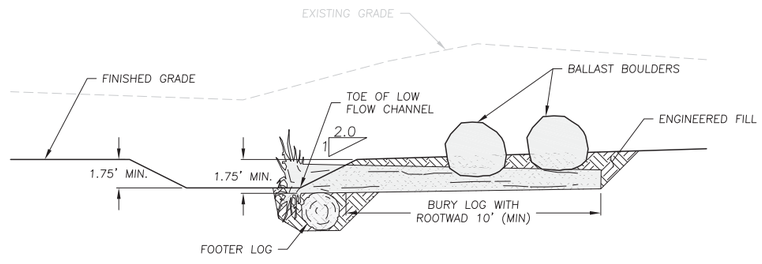
1. PLACEMENT LOCATIONS: LOG STRUCTURE LOCATIONS TO BE DETERMINED BY THE ENGINEER. DESIGNS ARE SHOWN CONCEPTUALLY DUE TO THE INHERENT VARIABILITY OF THE MATERIAL PROPERTIES. THE DESIGN REQUIRES THAT THE ENGINEER WILL OBSERVE CONSTRUCTION OF THE LOG STRUCTURES TO ENSURE THE INTENT OF THE DESIGN IS MET. OBSERVATIONS MUST INCLUDE LOG AND BALLAST BOULDER SELECTION, PLACEMENT, AND BACKFILLING. ANY LOG STRUCTURES CONSTRUCTED WITHOUT THE ENGINEER PRESENT ON-SITE MAY RESULT IN REJECTION OF THE WORK BY THE ENGINEER.

2. LOGS: LOGS SHALL BE PINW, SOUND AND FREE OF SIGNIFICANT DECAY. MATERIALS FOR USE IN THE STRUCTURES SHALL MEET THE FOLLOWING SIZE CRITERIA:

ITEM	DIAMETER	LENGTH	TOTAL COUNT
LOG WITH ROOTWAD	18"–24" (MIN. 18" AT ANY POINT)	25'–30'	36
LOG WITHOUT ROOTWAD	18"–24" (MIN. 18" AT ANY POINT)	22'–25'	18
BALLAST BOULDERS	3'–5' (MIN. 3' AT ANY POINT)	3' (MIN.)	90



TYPICAL FOOTER SECTION (A C20|C20)
SCALE: 1" = 4'



TYPICAL LOG WITH ROOTWAD SECTION (B C20|C20)
SCALE: 1" = 4'

LOG STRUCTURE (1 C20|C20)
SCALE: 1" = 4'

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DETAILS

TROUT CREEK
RESTORATION PROJECT
REACH 4 AND 5
30% DESIGN SUBMITTAL

DESIGNED BY:	J.H.
DRAWN BY:	D.H.
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DATE:	06/29/18
JOB NO.:	08-663

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

Appendix B
Air Quality

Church St. Extension-Trout Creek Restoration

Northern Sierra AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	5.29	Acre	5.29	230,432.40	0
Other Asphalt Surfaces	2.68	Acre	2.68	116,740.80	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	72
Climate Zone	14			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Church St. Extension-Trout Creek Restoration - Northern Sierra AQMD Air District, Annual

Project Characteristics - no utility required

Land Use - Asphalt surfaces = new road
City Park = creek restoration

Construction Phase - scrapping hours provided, otherwise assume full duration of project window for road work and full duration of late summer window for restoration

Off-road Equipment - project specific

Off-road Equipment -

Off-road Equipment - defaults for grading

Off-road Equipment -

Off-road Equipment - default for grading

Off-road Equipment - hours provided for scrapers

Off-road Equipment -

Off-road Equipment - assume no crane, welders, gen sets for building a retaining wall

Off-road Equipment - assume no welders required for pre fab bridges

Grading - Restoration - Steambed mat + Retaining Wall material = 1150 CY + 617 CY

Trips and VMT - pre fab bridge requires flat bed truck = vendor trip
haul trip miles represent roundtrip distance
ROAD phases overlap w/ RESTORATION entire duration; max daily workers for project is 30 per day
assume one vendor trip per day for paving (asphalt truck etc)

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	NumDays	10.00	18.00
tblConstructionPhase	NumDays	20.00	19.00
tblConstructionPhase	NumDays	230.00	18.00
tblConstructionPhase	NumDays	230.00	18.00
tblConstructionPhase	PhaseEndDate	8/22/2022	9/21/2021
tblConstructionPhase	PhaseEndDate	6/27/2022	7/27/2021

tblConstructionPhase	PhaseEndDate	8/9/2021	6/29/2021
tblConstructionPhase	PhaseEndDate	7/25/2022	8/24/2021
tblConstructionPhase	PhaseEndDate	7/12/2021	6/1/2021
tblConstructionPhase	PhaseStartDate	7/26/2022	8/25/2021
tblConstructionPhase	PhaseStartDate	8/10/2021	6/30/2021
tblConstructionPhase	PhaseStartDate	7/13/2021	6/2/2021
tblConstructionPhase	PhaseStartDate	6/28/2022	7/28/2021
tblConstructionPhase	PhaseStartDate	6/29/2021	6/1/2021
tblGrading	MaterialImported	0.00	6,750.00
tblGrading	MaterialImported	0.00	170.00
tblGrading	MaterialImported	0.00	35.00
tblGrading	MaterialImported	0.00	1,767.00
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Scrapers
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Scrapers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	30.00
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tblTripsAndVMT	HaulingTripLength	20.00	4.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	20.00

tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	3.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	57.00	0.00
tblTripsAndVMT	VendorTripNumber	57.00	1.00
tblTripsAndVMT	WorkerTripNumber	3.00	60.00
tblTripsAndVMT	WorkerTripNumber	15.00	60.00
tblTripsAndVMT	WorkerTripNumber	15.00	60.00
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tblTripsAndVMT	WorkerTripNumber	146.00	0.00
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tblTripsAndVMT	WorkerTripNumber	15.00	0.00
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2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1627	1.4795	1.2424	2.2900e-003	1.2030	0.0707	1.2738	0.6039	0.0652	0.6691	0.0000	201.8560	201.8560	0.0544	0.0000	203.2169
Maximum	**0.1627**	**1.4795**	**1.2424**	**2.2900e-003**	**1.2030**	**0.0707**	**1.2738**	**0.6039**	**0.0652**	**0.6691**	**0.0000**	**201.8560**	**201.8560**	**0.0544**	**0.0000**	**203.2169**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1627	1.4795	1.2424	2.2900e-003	1.2030	0.0707	1.2738	0.6039	0.0652	0.6691	0.0000	201.8558	201.8558	0.0544	0.0000	203.2167
Maximum	**0.1627**	**1.4795**	**1.2424**	**2.2900e-003**	**1.2030**	**0.0707**	**1.2738**	**0.6039**	**0.0652**	**0.6691**	**0.0000**	**201.8558**	**201.8558**	**0.0544**	**0.0000**	**203.2167**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2021	8-31-2021	0.9776	0.9776
2	9-1-2021	9-30-2021	0.5011	0.5011
		Highest	0.9776	0.9776

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0138	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0185	0.1049	0.2083	5.1000e-004	0.0339	5.7000e-004	0.0345	9.1100e-003	5.4000e-004	9.6400e-003	0.0000	46.4929	46.4929	2.8000e-003	0.0000	46.5628
Waste						0.0000	0.0000		0.0000	0.0000	0.0914	0.0000	0.0914	5.4000e-003	0.0000	0.2263
Water						0.0000	0.0000		0.0000	0.0000	0.0000	6.4176	6.4176	2.9000e-004	6.0000e-005	6.4427
Total	**0.0323**	**0.1049**	**0.2084**	**5.1000e-004**	**0.0339**	**5.7000e-004**	**0.0345**	**9.1100e-003**	**5.4000e-004**	**9.6400e-003**	**0.0914**	**52.9106**	**53.0020**	**8.4900e-003**	**6.0000e-005**	**53.2320**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0138	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0185	0.1049	0.2083	5.1000e-004	0.0339	5.7000e-004	0.0345	9.1100e-003	5.4000e-004	9.6400e-003	0.0000	46.4929	46.4929	2.8000e-003	0.0000	46.5628
Waste						0.0000	0.0000		0.0000	0.0000	0.0914	0.0000	0.0914	5.4000e-003	0.0000	0.2263
Water						0.0000	0.0000		0.0000	0.0000	0.0000	6.4176	6.4176	2.9000e-004	6.0000e-005	6.4427
Total	**0.0323**	**0.1049**	**0.2084**	**5.1000e-004**	**0.0339**	**5.7000e-004**	**0.0345**	**9.1100e-003**	**5.4000e-004**	**9.6400e-003**	**0.0914**	**52.9106**	**53.0020**	**8.4900e-003**	**6.0000e-005**	**53.2320**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	ROAD - Earthwork	Site Preparation	6/1/2021	6/1/2021	5	1	only 10hr scrapping required
2	ROAD - Borrow	Grading	6/2/2021	6/29/2021	5	20	
3	ROAD - Bio Soil	Grading	6/30/2021	7/27/2021	5	20	
4	ROAD - Paving	Paving	7/28/2021	8/24/2021	5	20	
5	RESTORATION - Earthwork	Site Preparation	8/1/2021	8/25/2021	5	18	180hr at 10hr a day of scrapping
6	ROAD - RipRap	Grading	8/25/2021	9/21/2021	5	20	
7	RESTORATION - Steambed mat	Grading	8/26/2021	9/21/2021	5	19	
8	RESTORATION - Retaining wall	Building Construction	9/22/2021	10/15/2021	5	18	
9	ROAD - Pre fab bridge	Building Construction	9/22/2021	10/15/2021	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 2.68

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
RESTORATION - Retaining wall	Cranes	0	7.00	231	0.29
ROAD - Pre fab bridge	Cranes	1	7.00	231	0.29
ROAD - Borrow	Excavators	1	8.00	158	0.38
ROAD - Paving	Pavers	2	8.00	130	0.42
ROAD - Paving	Rollers	2	8.00	80	0.38
ROAD - Bio Soil	Excavators	1	8.00	158	0.38
ROAD - Borrow	Rubber Tired Dozers	1	8.00	247	0.40

ROAD - Bio Soil	Tractors/Loaders/Backhoes	3	8.00	97	0.37
ROAD - Borrow	Graders	1	8.00	187	0.41
ROAD - Borrow	Tractors/Loaders/Backhoes	3	8.00	97	0.37
ROAD - Paving	Paving Equipment	2	8.00	132	0.36
ROAD - Earthwork	Scrapers	1	10.00	367	0.48
ROAD - RipRap	Excavators	1	8.00	158	0.38
RESTORATION - Steambed mat	Excavators	1	8.00	158	0.38
RESTORATION - Retaining wall	Forklifts	3	8.00	89	0.20
ROAD - Pre fab bridge	Forklifts	3	8.00	89	0.20
RESTORATION - Retaining wall	Generator Sets	0	8.00	84	0.74
ROAD - Pre fab bridge	Generator Sets	1	8.00	84	0.74
ROAD - Bio Soil	Graders	1	8.00	187	0.41
ROAD - RipRap	Graders	1	8.00	187	0.41
RESTORATION - Steambed mat	Graders	1	8.00	187	0.41
ROAD - Bio Soil	Rubber Tired Dozers	1	8.00	247	0.40
ROAD - RipRap	Rubber Tired Dozers	1	8.00	247	0.40
RESTORATION - Steambed mat	Rubber Tired Dozers	1	8.00	247	0.40
RESTORATION - Earthwork	Scrapers	1	10.00	367	0.48
RESTORATION - Retaining wall	Tractors/Loaders/Backhoes	3	7.00	97	0.37
ROAD - Pre fab bridge	Tractors/Loaders/Backhoes	3	7.00	97	0.37
ROAD - RipRap	Tractors/Loaders/Backhoes	3	8.00	97	0.37
RESTORATION - Steambed mat	Tractors/Loaders/Backhoes	3	8.00	97	0.37
RESTORATION - Retaining wall	Welders	0	8.00	46	0.45
ROAD - Pre fab bridge	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
RESTORATION - Retaining wall	6	0.00	0.00	3.00	16.80	6.60	30.00	LD_Mix	HDT_Mix	HHDT
ROAD - Earthwork	1	60.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
ROAD - Borrow	6	60.00	0.00	20.00	16.80	6.60	30.00	LD_Mix	HDT_Mix	HHDT
ROAD - Bio Soil	6	60.00	0.00	1.00	16.80	6.60	60.00	LD_Mix	HDT_Mix	HHDT
ROAD - Paving	6	60.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
ROAD - RipRap	6	60.00	0.00	1.00	16.80	6.60	4.00	LD_Mix	HDT_Mix	HHDT
ROAD - Pre fab bridge	8	60.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
RESTORATION - Steambed mat	6	0.00	0.00	5.00	16.80	6.60	4.00	LD_Mix	HDT_Mix	HHDT
RESTORATION - Earthwork	1	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 ROAD - Earthwork - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.6000e-004	0.0000	6.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8000e-004	6.7200e-003	4.4000e-003	1.0000e-005		2.6000e-004	2.6000e-004		2.4000e-004	2.4000e-004	0.0000	0.8365	0.8365	2.7000e-004	0.0000	0.8432
Total	**5.8000e-004**	**6.7200e-003**	**4.4000e-003**	**1.0000e-005**	**6.6000e-004**	**2.6000e-004**	**9.2000e-004**	**7.0000e-005**	**2.4000e-004**	**3.1000e-004**	**0.0000**	**0.8365**	**0.8365**	**2.7000e-004**	**0.0000**	**0.8432**

3.2 ROAD - Earthwork - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.9000e-004	1.6800e-003	0.0000	3.7000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3222	0.3222	1.0000e-005	0.0000	0.3225
Total	**2.3000e-004**	**1.9000e-004**	**1.6800e-003**	**0.0000**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3222**	**0.3222**	**1.0000e-005**	**0.0000**	**0.3225**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.6000e-004	0.0000	6.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8000e-004	6.7200e-003	4.4000e-003	1.0000e-005		2.6000e-004	2.6000e-004		2.4000e-004	2.4000e-004	0.0000	0.8365	0.8365	2.7000e-004	0.0000	0.8432
Total	**5.8000e-004**	**6.7200e-003**	**4.4000e-003**	**1.0000e-005**	**6.6000e-004**	**2.6000e-004**	**9.2000e-004**	**7.0000e-005**	**2.4000e-004**	**3.1000e-004**	**0.0000**	**0.8365**	**0.8365**	**2.7000e-004**	**0.0000**	**0.8432**

3.2 ROAD - Earthwork - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.9000e-004	1.6800e-003	0.0000	3.7000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3222	0.3222	1.0000e-005	0.0000	0.3225
Total	**2.3000e-004**	**1.9000e-004**	**1.6800e-003**	**0.0000**	**3.7000e-004**	**0.0000**	**3.7000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3222**	**0.3222**	**1.0000e-005**	**0.0000**	**0.3225**

3.3 ROAD - Borrow - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3247	0.0000	0.3247	0.1668	0.0000	0.1668	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2644
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.3247**	**0.0116**	**0.3363**	**0.1668**	**0.0107**	**0.1774**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2644**

3.3 ROAD - Borrow - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	3.4700e-003	5.9000e-004	1.0000e-005	2.5000e-004	1.0000e-005	2.7000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0815	1.0815	3.0000e-005	0.0000	1.0823
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5500e-003	3.7800e-003	0.0335	7.0000e-005	7.3400e-003	6.0000e-005	7.3900e-003	1.9500e-003	5.0000e-005	2.0000e-003	0.0000	6.4436	6.4436	2.8000e-004	0.0000	6.4506
Total	**4.6500e-003**	**7.2500e-003**	**0.0341**	**8.0000e-005**	**7.5900e-003**	**7.0000e-005**	**7.6600e-003**	**2.0200e-003**	**6.0000e-005**	**2.0800e-003**	**0.0000**	**7.5250**	**7.5250**	**3.1000e-004**	**0.0000**	**7.5329**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3247	0.0000	0.3247	0.1668	0.0000	0.1668	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2643
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.3247**	**0.0116**	**0.3363**	**0.1668**	**0.0107**	**0.1774**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2643**

3.3 ROAD - Borrow - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	3.4700e-003	5.9000e-004	1.0000e-005	2.5000e-004	1.0000e-005	2.7000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0815	1.0815	3.0000e-005	0.0000	1.0823
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5500e-003	3.7800e-003	0.0335	7.0000e-005	7.3400e-003	6.0000e-005	7.3900e-003	1.9500e-003	5.0000e-005	2.0000e-003	0.0000	6.4436	6.4436	2.8000e-004	0.0000	6.4506
Total	**4.6500e-003**	**7.2500e-003**	**0.0341**	**8.0000e-005**	**7.5900e-003**	**7.0000e-005**	**7.6600e-003**	**2.0200e-003**	**6.0000e-005**	**2.0800e-003**	**0.0000**	**7.5250**	**7.5250**	**3.1000e-004**	**0.0000**	**7.5329**

3.4 ROAD - Bio Soil - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3244	0.0000	0.3244	0.1667	0.0000	0.1667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2644
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.3244**	**0.0116**	**0.3360**	**0.1667**	**0.0107**	**0.1774**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2644**

3.4 ROAD - Bio Soil - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.9000e-004	5.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1017	0.1017	0.0000	0.0000	0.1017
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5500e-003	3.7800e-003	0.0335	7.0000e-005	7.3400e-003	6.0000e-005	7.3900e-003	1.9500e-003	5.0000e-005	2.0000e-003	0.0000	6.4436	6.4436	2.8000e-004	0.0000	6.4506
Total	**4.5600e-003**	**4.0700e-003**	**0.0336**	**7.0000e-005**	**7.3700e-003**	**6.0000e-005**	**7.4200e-003**	**1.9600e-003**	**5.0000e-005**	**2.0100e-003**	**0.0000**	**6.5452**	**6.5452**	**2.8000e-004**	**0.0000**	**6.5523**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3244	0.0000	0.3244	0.1667	0.0000	0.1667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2643
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.3244**	**0.0116**	**0.3360**	**0.1667**	**0.0107**	**0.1774**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2643**

3.4 ROAD - Bio Soil - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.9000e-004	5.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1017	0.1017	0.0000	0.0000	0.1017
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5500e-003	3.7800e-003	0.0335	7.0000e-005	7.3400e-003	6.0000e-005	7.3900e-003	1.9500e-003	5.0000e-005	2.0000e-003	0.0000	6.4436	6.4436	2.8000e-004	0.0000	6.4506
Total	**4.5600e-003**	**4.0700e-003**	**0.0336**	**7.0000e-005**	**7.3700e-003**	**6.0000e-005**	**7.4200e-003**	**1.9600e-003**	**5.0000e-005**	**2.0100e-003**	**0.0000**	**6.5452**	**6.5452**	**2.8000e-004**	**0.0000**	**6.5523**

3.5 ROAD - Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	3.5100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0161**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.5 ROAD - Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1000e-003	2.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2535	0.2535	2.0000e-005	0.0000	0.2539
Worker	4.5500e-003	3.7800e-003	0.0335	7.0000e-005	7.3400e-003	6.0000e-005	7.3900e-003	1.9500e-003	5.0000e-005	2.0000e-003	0.0000	6.4436	6.4436	2.8000e-004	0.0000	6.4506
Total	**4.5900e-003**	**4.8800e-003**	**0.0338**	**7.0000e-005**	**7.4000e-003**	**6.0000e-005**	**7.4500e-003**	**1.9700e-003**	**5.0000e-005**	**2.0200e-003**	**0.0000**	**6.6970**	**6.6970**	**3.0000e-004**	**0.0000**	**6.7045**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	3.5100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0161**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.5 ROAD - Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1000e-003	2.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2535	0.2535	2.0000e-005	0.0000	0.2539
Worker	4.5500e-003	3.7800e-003	0.0335	7.0000e-005	7.3400e-003	6.0000e-005	7.3900e-003	1.9500e-003	5.0000e-005	2.0000e-003	0.0000	6.4436	6.4436	2.8000e-004	0.0000	6.4506
Total	**4.5900e-003**	**4.8800e-003**	**0.0338**	**7.0000e-005**	**7.4000e-003**	**6.0000e-005**	**7.4500e-003**	**1.9700e-003**	**5.0000e-005**	**2.0200e-003**	**0.0000**	**6.6970**	**6.6970**	**3.0000e-004**	**0.0000**	**6.7045**

3.6 RESTORATION - Earthwork - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0119	0.0000	0.0119	1.2900e-003	0.0000	1.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0105	0.1210	0.0792	1.7000e-004		4.7100e-003	4.7100e-003		4.3300e-003	4.3300e-003	0.0000	15.0562	15.0562	4.8700e-003	0.0000	15.1779
Total	**0.0105**	**0.1210**	**0.0792**	**1.7000e-004**	**0.0119**	**4.7100e-003**	**0.0166**	**1.2900e-003**	**4.3300e-003**	**5.6200e-003**	**0.0000**	**15.0562**	**15.0562**	**4.8700e-003**	**0.0000**	**15.1779**

3.6 RESTORATION - Earthwork - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0119	0.0000	0.0119	1.2900e-003	0.0000	1.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0105	0.1210	0.0792	1.7000e-004		4.7100e-003	4.7100e-003		4.3300e-003	4.3300e-003	0.0000	15.0561	15.0561	4.8700e-003	0.0000	15.1779
Total	**0.0105**	**0.1210**	**0.0792**	**1.7000e-004**	**0.0119**	**4.7100e-003**	**0.0166**	**1.2900e-003**	**4.3300e-003**	**5.6200e-003**	**0.0000**	**15.0561**	**15.0561**	**4.8700e-003**	**0.0000**	**15.1779**

3.6 RESTORATION - Earthwork - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 ROAD - RipRap - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3243	0.0000	0.3243	0.1667	0.0000	0.1667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2644
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.3243**	**0.0116**	**0.3359**	**0.1667**	**0.0107**	**0.1774**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2644**

3.7 ROAD - RipRap - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	7.0000e-005	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0128	0.0128	0.0000	0.0000	0.0129
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5500e-003	3.7800e-003	0.0335	7.0000e-005	7.3400e-003	6.0000e-005	7.3900e-003	1.9500e-003	5.0000e-005	2.0000e-003	0.0000	6.4436	6.4436	2.8000e-004	0.0000	6.4506
Total	**4.5500e-003**	**3.8500e-003**	**0.0335**	**7.0000e-005**	**7.3400e-003**	**6.0000e-005**	**7.3900e-003**	**1.9500e-003**	**5.0000e-005**	**2.0000e-003**	**0.0000**	**6.4564**	**6.4564**	**2.8000e-004**	**0.0000**	**6.4635**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3243	0.0000	0.3243	0.1667	0.0000	0.1667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2643
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.3243**	**0.0116**	**0.3359**	**0.1667**	**0.0107**	**0.1774**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2643**

3.7 ROAD - RipRap - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	7.0000e-005	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0128	0.0128	0.0000	0.0000	0.0129
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5500e-003	3.7800e-003	0.0335	7.0000e-005	7.3400e-003	6.0000e-005	7.3900e-003	1.9500e-003	5.0000e-005	2.0000e-003	0.0000	6.4436	6.4436	2.8000e-004	0.0000	6.4506
Total	**4.5500e-003**	**3.8500e-003**	**0.0335**	**7.0000e-005**	**7.3400e-003**	**6.0000e-005**	**7.3900e-003**	**1.9500e-003**	**5.0000e-005**	**2.0000e-003**	**0.0000**	**6.4564**	**6.4564**	**2.8000e-004**	**0.0000**	**6.4635**

3.8 RESTORATION - Steambed mat - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1803	0.0000	0.1803	0.0926	0.0000	0.0926	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0218	0.2350	0.1507	2.8000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	24.7510	24.7510	8.0000e-003	0.0000	24.9511
Total	**0.0218**	**0.2350**	**0.1507**	**2.8000e-004**	**0.1803**	**0.0110**	**0.1913**	**0.0926**	**0.0101**	**0.1028**	**0.0000**	**24.7510**	**24.7510**	**8.0000e-003**	**0.0000**	**24.9511**

3.8 RESTORATION - Steambed mat - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.4000e-004	5.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0642	0.0642	1.0000e-005	0.0000	0.0644
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**3.4000e-004**	**5.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0642**	**0.0642**	**1.0000e-005**	**0.0000**	**0.0644**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1803	0.0000	0.1803	0.0926	0.0000	0.0926	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0218	0.2350	0.1507	2.8000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	24.7510	24.7510	8.0000e-003	0.0000	24.9511
Total	**0.0218**	**0.2350**	**0.1507**	**2.8000e-004**	**0.1803**	**0.0110**	**0.1913**	**0.0926**	**0.0101**	**0.1028**	**0.0000**	**24.7510**	**24.7510**	**8.0000e-003**	**0.0000**	**24.9511**

3.8 RESTORATION - Steambed mat - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.4000e-004	5.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0642	0.0642	1.0000e-005	0.0000	0.0644
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**3.4000e-004**	**5.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0642**	**0.0642**	**1.0000e-005**	**0.0000**	**0.0644**

3.9 RESTORATION - Retaining wall - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.9200e-003	0.0766	0.0849	1.1000e-004		4.9000e-003	4.9000e-003		4.5100e-003	4.5100e-003	0.0000	10.0748	10.0748	3.2600e-003	0.0000	10.1563
Total	**7.9200e-003**	**0.0766**	**0.0849**	**1.1000e-004**		**4.9000e-003**	**4.9000e-003**		**4.5100e-003**	**4.5100e-003**	**0.0000**	**10.0748**	**10.0748**	**3.2600e-003**	**0.0000**	**10.1563**

3.9 RESTORATION - Retaining wall - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	5.2000e-004	9.0000e-005	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1622	0.1622	0.0000	0.0000	0.1623
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0000e-005**	**5.2000e-004**	**9.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.1622**	**0.1622**	**0.0000**	**0.0000**	**0.1623**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.9200e-003	0.0766	0.0849	1.1000e-004		4.9000e-003	4.9000e-003		4.5100e-003	4.5100e-003	0.0000	10.0748	10.0748	3.2600e-003	0.0000	10.1563
Total	**7.9200e-003**	**0.0766**	**0.0849**	**1.1000e-004**		**4.9000e-003**	**4.9000e-003**		**4.5100e-003**	**4.5100e-003**	**0.0000**	**10.0748**	**10.0748**	**3.2600e-003**	**0.0000**	**10.1563**

3.9 RESTORATION - Retaining wall - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	5.2000e-004	9.0000e-005	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1622	0.1622	0.0000	0.0000	0.1623
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0000e-005**	**5.2000e-004**	**9.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.1622**	**0.1622**	**0.0000**	**0.0000**	**0.1623**

3.10 ROAD - Pre fab bridge - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0144	0.1433	0.1337	2.2000e-004		7.9600e-003	7.9600e-003		7.4400e-003	7.4400e-003	0.0000	19.1534	19.1534	4.8100e-003	0.0000	19.2736
Total	**0.0144**	**0.1433**	**0.1337**	**2.2000e-004**		**7.9600e-003**	**7.9600e-003**		**7.4400e-003**	**7.4400e-003**	**0.0000**	**19.1534**	**19.1534**	**4.8100e-003**	**0.0000**	**19.2736**

3.10 ROAD - Pre fab bridge - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	9.9000e-004	2.6000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2281	0.2281	1.0000e-005	0.0000	0.2285
Worker	4.0900e-003	3.4000e-003	0.0302	6.0000e-005	6.6000e-003	5.0000e-005	6.6500e-003	1.7600e-003	5.0000e-005	1.8000e-003	0.0000	5.7992	5.7992	2.5000e-004	0.0000	5.8055
Total	**4.1200e-003**	**4.3900e-003**	**0.0304**	**6.0000e-005**	**6.6500e-003**	**5.0000e-005**	**6.7100e-003**	**1.7800e-003**	**5.0000e-005**	**1.8200e-003**	**0.0000**	**6.0273**	**6.0273**	**2.6000e-004**	**0.0000**	**6.0340**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0144	0.1433	0.1337	2.2000e-004		7.9600e-003	7.9600e-003		7.4400e-003	7.4400e-003	0.0000	19.1534	19.1534	4.8100e-003	0.0000	19.2736
Total	**0.0144**	**0.1433**	**0.1337**	**2.2000e-004**		**7.9600e-003**	**7.9600e-003**		**7.4400e-003**	**7.4400e-003**	**0.0000**	**19.1534**	**19.1534**	**4.8100e-003**	**0.0000**	**19.2736**

3.10 ROAD - Pre fab bridge - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	9.9000e-004	2.6000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2281	0.2281	1.0000e-005	0.0000	0.2285
Worker	4.0900e-003	3.4000e-003	0.0302	6.0000e-005	6.6000e-003	5.0000e-005	6.6500e-003	1.7600e-003	5.0000e-005	1.8000e-003	0.0000	5.7992	5.7992	2.5000e-004	0.0000	5.8055
Total	**4.1200e-003**	**4.3900e-003**	**0.0304**	**6.0000e-005**	**6.6500e-003**	**5.0000e-005**	**6.7100e-003**	**1.7800e-003**	**5.0000e-005**	**1.8200e-003**	**0.0000**	**6.0273**	**6.0273**	**2.6000e-004**	**0.0000**	**6.0340**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0185	0.1049	0.2083	5.1000e-004	0.0339	5.7000e-004	0.0345	9.1100e-003	5.4000e-004	9.6400e-003	0.0000	46.4929	46.4929	2.8000e-003	0.0000	46.5628
Unmitigated	0.0185	0.1049	0.2083	5.1000e-004	0.0339	5.7000e-004	0.0345	9.1100e-003	5.4000e-004	9.6400e-003	0.0000	46.4929	46.4929	2.8000e-003	0.0000	46.5628

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	10.00	120.35	88.55	91,212	91,212
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	10.00	120.35	88.55	91,212	91,212

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	14.70	6.60	6.60	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.441745	0.043228	0.239449	0.147556	0.039687	0.007004	0.014545	0.055644	0.001831	0.001022	0.005999	0.000606	0.001684
Other Asphalt Surfaces	0.441745	0.043228	0.239449	0.147556	0.039687	0.007004	0.014545	0.055644	0.001831	0.001022	0.005999	0.000606	0.001684

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0138	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Unmitigated	0.0138	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.0600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	9.7100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Total	**0.0138**	**0.0000**	**7.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.0000**	**1.5000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.0600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	9.7100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Total	**0.0138**	**0.0000**	**7.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.0000**	**1.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.4176	2.9000e-004	6.0000e-005	6.4427
Unmitigated	6.4176	2.9000e-004	6.0000e-005	6.4427

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 6.30294	6.4176	2.9000e-004	6.0000e-005	6.4427
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**6.4176**	**2.9000e-004**	**6.0000e-005**	**6.4427**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 6.30294	6.4176	2.9000e-004	6.0000e-005	6.4427
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**6.4176**	**2.9000e-004**	**6.0000e-005**	**6.4427**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0914	5.4000e-003	0.0000	0.2263
Unmitigated	0.0914	5.4000e-003	0.0000	0.2263

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.45	0.0914	5.4000e-003	0.0000	0.2263
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0914**	**5.4000e-003**	**0.0000**	**0.2263**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.45	0.0914	5.4000e-003	0.0000	0.2263
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0914**	**5.4000e-003**	**0.0000**	**0.2263**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Train Emission Factors & Emissions Per Mile

UPRR Engine Emissions

2021 Emission Factors[1]	
NOX	94 g/gal
PM10	2.2 g/gal
HC	3.4 g/gal
ROG[2]	3.6 g/gal
CO2	10,217 g/gal

Composit Train Emission Factors

	ROG	NOx	PM10	CO_2	CH_4
lbs/gallon	7.89E-03	2.07E-01	4.85E-03	2.25E+01	
MT/gallon	-	-	-	1.02E-02	

Criteria Pollutants

RESTORATION	Streambed	1150 2329	CY ton	150 pounds per cubic foot[3]
ROAD	Rip Rap	35 71	CY ton	150 pounds per cubic foot[2]

456	miles per gallon per ton[4]
30	miles traveled (longest distance provided in data request)
5	number of trips

Train Emissions: Per tonnage - Per mile

	ROG	NOx	PM10	CO_2
lbs/mile/ton	1.73E-05	4.54E-04	1.06E-05	-
MT/mile/ton	-	-	-	2.24E-05

Train Emissions: Total and Average per Day or Year

	ROG	NOx	PM10	CO_2
	lbs	lbs	lbs	MT
RESTORATION	1.21E+00	3.17E+01	7.43E-01	1.57E+00
ROAD	3.68E-02	9.66E-01	2.26E-02	4.76E-02
total	1.25	32.72	0.77	1.61
	lbs/day	lbs/day	lbs/day	MT/yr
Average[5]	0.25	6.54	0.15	1.61

[1] *USEPA 2009. Emission Factors for Locomotives EPA-420-F-09-025. April. Available: www3.epa.gov/nonroad/locomotv/420f09025.pdf. Accessed May 2016*

[2] *VOC emissions are assumed to be equal to 1.053 times the HC emissions2*

[3] On average UPRR trains can move one ton of freight 456 miles on a single gallon of gas: Available: http://www.up.com/aboutup/environment/operations/index.htm. Accessed: May 2016

[4]Pete Lien & Sons, FAQ https://petelien.com/21-crushed-faqs/50-how-many-tons-of-riprap-are-in-one-cubic-yard. Accessed 4/1/2016

[5] *Average Daily threshold except CO2e is annual (no averaging)*