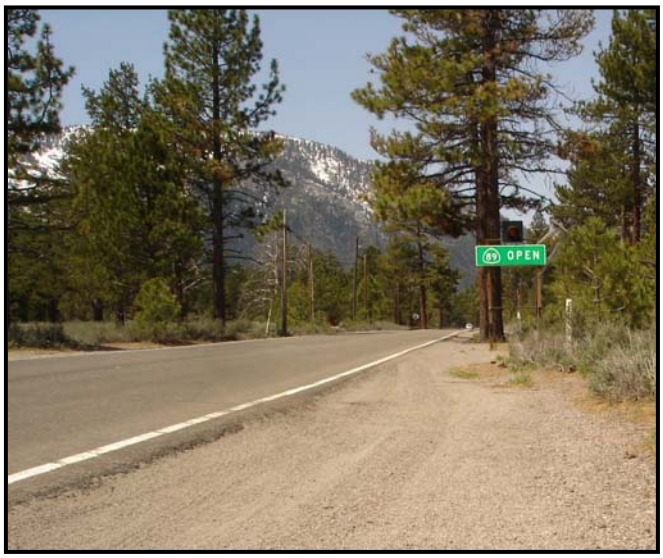
# ED-89 PM 8.6–13.8
# Water Quality Improvements

U.S. Highway 50/State Route 89 "Y" to Cascade Road
EL DORADO COUNTY, CALIFORNIA
DISTRICT 3–ED–89, PM 8.6/13.8
1A8420

## Initial Study with
## Proposed Negative Declaration




**Prepared by the**
**State of California Department of Transportation**

**December 2007**

## GENERAL INFORMATION ABOUT THIS DOCUMENT

**What's in this document:**
The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of the alternatives being considered for the Project, located in El Dorado County, California. The document describes why the Project is being proposed, the existing environment that could be affected by the Project, and the potential impacts from the Project.

**What you should do:**

- Please read this Initial Study. Additional copies of this document, as well as its supporting technical studies, are available for review at the California Department of Transportation North Region Office of Environmental Management, 2800 Gateway Oaks Drive, Sacramento, CA 95833, and at the California Department of Transportation District 3 Office, 703 B Street, Marysville, CA 95901. A copy of the Initial Study is also available at the South Lake Tahoe Branch of the El Dorado County Public Library, 1000 Rufus Allen Boulevard, South Lake Tahoe, CA 96150.
- We welcome your comments. If you have any comments regarding the Project, please send your written comments to Caltrans by the deadline.
  - Submit comments via postal mail to:

    Jody Brown
    Environmental Branch Chief
    Attn: Christopher Carlton
    California Department of Transportation
    2800 Gateway Oaks Drive
    Sacramento, CA 95833

  - Submit comments via email to christopher_carlton@dot.ca.gov.
- Submit comments by the deadline: January 21, 2008.

**What happens next:**
After comments are received from the public and reviewing agencies, Caltrans may: (1) give environmental approval to the Project, (2) undertake additional environmental studies, or (3) abandon the Project. If the Project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the Project.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to the California Department of Transportation, Attn: Christopher Carlton, Office of Environmental Management, 2800 Gateway Oaks Drive, Sacramento, CA 95833; call (530) 741-4450; or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice), or 711.

State Clearinghouse Number: TBD
03-ED-89-PM 8.6/13.8
EA 03-1A8420

State Route 89 Water Quality Improvements
From the U.S. Highway 50/State Route 89 "Y" to Cascade Road, PM 8.6 to PM 13.8
El Dorado County, California

# INITIAL STUDY with Proposed Negative Declaration

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

December 18, 2007
Date of Approval

John D. Webb
Chief, Office of Environmental Services–South
California Department of Transportation

The following persons may be contacted for addition information concerning this document:

Jody Brown
Environmental Branch Chief
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Abstract

Caltrans proposes to implement water quality improvement measures along a segment of State Route 89 in El Dorado County to comply with National Pollutant Discharge Elimination System permit requirements and implement elements of the Lake Tahoe Basin Environmental Improvement Program. Potential impacts are described, especially with regard to traffic and circulation (temporary impacts), visual resources, wetlands, sensitive habitats, and plant and wildlife species.

**State of California**
**Department of Transportation**

State Clearinghouse Number: TBD
03-ED-89-PM 8.6/13.8
EA 03-1A8420

# PROPOSED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

### *Project Description*

The California Department of Transportation (Caltrans) proposes to improve the quality of stormwater runoff by collecting and treating the stormwater runoff from State Route 89 by implementing the following improvements where feasible and warranted: rehabilitate existing drainage systems and install new drainage systems, including infiltration basins and water conveyance systems; deploy treatment best management practices; provide rock slope protection; flatten and protect erodible slopes for erosion control; revegetate bare or erodible areas; where permitted by the Lahontan Regional Water Quality Control Board and Tahoe Regional Planning Agency, allow sheet flow off of roadways where longitudinal basins are proposed and spreading of runoff water where feasible in stream environment zone areas; pave all existing driveway connections within state right-of-way; pave some existing unsurfaced pullouts and construct new pullouts; place asphalt-concrete overlay (1.8 inches); and dig out failed pavement sections before overlay. Culverts in poor condition would be lined or replaced.

### *Determination*

This proposed Negative Declaration (ND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt an ND for the Project. This does not mean that Caltrans' decision regarding the Project is final. This ND is subject to modification based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for the Project and, pending public review, expects to determine from this study that the Project would not have a significant effect on the environment for the following reasons.

The Project would have no impacts on agricultural resources, mineral resources, population and housing, public services, and recreation.

In addition, the Project would have no significant impacts on aesthetics, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, transportation and traffic, and utilities and service systems.

_____ _____

John D. Webb
Chief, Office of Environmental Services—South
California Department of Transportation

Date

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# List of Abbreviated Terms

| | |
|---|---|
| $\mu g/m^3$ | micrograms per cubic meter |
| 208 Plan | *Water Quality Management Plan for the Lake Tahoe Region* |
| AB | Assembly Bill |
| ADL | aerially deposited lead |
| AP | Adopted Plan |
| APE | area of potential effects |
| ARB | California Air Resources Board |
| ARPA | Archaeological Resources Protection Act |
| Basin Plan | *Water Quality Control Plan for the Lahontan Region* |
| BEMZ | Bald Eagle Management Zones |
| BEWH | Bald Eagle Wintering Habitat |
| BMP | best management practice |
| CAAQS | California ambient air quality standards |
| California CAA | California Clean Air Act |
| Cal-IPC | California Invasive Plant Council |
| Caltrans | California Department of Transportation |
| CAP | clean air plan |
| CCD | census county subdivision |
| CDFA | California Department of Food and Agriculture |
| CDFG | California Department of Fish and Game |
| CEQA | California Environmental Quality Act |
| CESA | California Endangered Species Act |
| CFG Code | California Fish and Game Code |
| CFR | Code of Federal Regulations |
| CHRIS | California Historical Resources Information System |
| CIA | community impact assessment |
| CNDDB | California Natural Diversity Database |
| CNEL | community noise equivalent level |
| CNPS | California Native Plant Society |
| CO | carbon monoxide |
| $CO_2$ | carbon dioxide |
| Compact | Tahoe Regional Planning Compact |
| CRHR | California Register of Historical Resources |
| CWA | federal Clean Water Act |
| dB | Decibel |
| dBA | A-weighted decibel |
| dbh | diameter at breast height |
| Draft PEIR | draft program environmental impact report |
| EDR | Environmental Data Resources |
| EIP | Lake Tahoe Basin Environmental Improvement Program |
| El Dorado County General Plan | 2004 *El Dorado County General Plan: A Plan for Managed Growth and Open Roads; a Plan for Quality Neighborhoods and Traffic Relief* |
| EPA | U.S. Environmental Protection Agency |
| ESA | environmentally sensitive area |
| ESCP | erosion and sedimentation control plan |
| ESL | environmental study limit |

| | |
|---|---|
| FEMA | Federal Emergency Management Agency |
| FESA | Federal Endangered Species Act |
| FHWA | Federal Highway Administration |
| FIRM | Flood Insurance Rate Map |
| Forest Service | U.S. Department of Agriculture Forest Service |
| FR | Federal Register |
| | |
| $gC/m^2/yr$ | grams of carbon per meter squared per year |
| General Construction Permit | NPDES General Permit for Construction Activities |
| GHG | greenhouse gas |
| | |
| HRCAs | Home Range Core Areas |
| | |
| IPCC | Intergovernmental Panel on Climate Change |
| IS | initial study |
| ISA | initial site assessment |
| | |
| LTAB | Lake Tahoe Air Basin |
| LTBMU | Lake Tahoe Basin Management Unit |
| | |
| MBTA | Migratory Bird Treaty Act |
| MOA | memorandum of agreement |
| mph | miles per hour |
| MS4 | Municipal Separate Storm Sewer System |
| MTBE | methyl tertiary-butyl ether |
| MVP | maintenance vehicle pullout |
| MYLF | mountain yellow-legged frog |
| | |
| NAAQS | national ambient air quality standards |
| NCIC | North Central Information Center |
| NEPA | National Environmental Policy Act |
| NES | Natural Environmental Study |
| NMFS | National Marine Fisheries Service |
| $NO_2$ | nitrogen dioxide |
| $NO_x$ | Oxides of nitrogen |
| NPDES | National Pollutant Discharge Elimination System |
| NRHP | National Register of Historic Places |
| NTU | Nephelometric Turbidity Units |
| | |
| OHWM | ordinary high water mark |
| | |
| PAC | potential areas of concern |
| PACs | Protected Activity Centers |
| PAS | plan area statement |
| PCWQCA | Porter-Cologne Water Quality Control Act |
| PM | Post Mile |
| PM10 | particulate matter 10 microns in diameter or less |
| PM2.5 | particulate matter PM 2.5 microns in diameter or less |
| ppm | parts per million |
| PQS | Professionally Qualified Staff |
| PRC | Public Resources Code |
| Project | Water Quality Improvements Project (EA 03-1A8420; ED-89 PM 8.6–13.8 |
| PSI | preliminary site investigation |
| PSR | project study report |
| | |
| Regional TMP | *Lake Tahoe Basin Regional Traffic Management Plan* |
| ROG | reactive organic gas |

| | |
|---|---|
| RWQCB | Regional Water Quality Control Board |
| | |
| SEZ | stream environment zone |
| SHPO | State Historic Preservation Officer |
| $SO_2$ | sulfur dioxide |
| South Lake Tahoe General Plan | *1999 City of South Lake Tahoe General Plan* |
| SR | State Route |
| Sta. | Stationing |
| Statewide Permit | statewide NPDES permit |
| SWPPP | storm water pollution prevention plan |
| SWRCB | State Water Resources Control Board |
| | |
| TDS | total dissolved solids |
| TMDL | total maximum daily load |
| TMP | traffic management plan |
| TRPA | Tahoe Regional Planning Agency |
| TRPA Regional Plan | TRPA's *Regional Plan for the Lake Tahoe Basin: Goals and Policies* |
| | |
| U.S. 50 | U.S. Highway 50 |
| USACE | U.S. Army Corps of Engineers |
| USC | United States Code |
| USDA | U.S. Department of Agriculture |
| USGS | U.S. Geological Survey |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| | |
| Washoe Tribe | Washoe Tribe of Nevada and California |
| WDR | waste discharge requirement |
| WPCP | water pollution control plan |

# List of Technical Studies Available

The following technical studies were prepared to support the analysis contained in this Initial Study:

- Air Quality Analysis (Jones & Stokes 2007)
- Archaeological Survey Report (Jones & Stokes 2007)
- Community Impact Assessment (Jones & Stokes 2007)
- Historic Property Survey Report (Jones & Stokes 2007)
- Historic Resources Evaluation Report (Jones & Stokes 2007)
- Hydrology and Water Quality Study (Jones & Stokes 2007)
- Initial Site Assessment for Hazardous Waste (California Department of Transportation 2007)
- Natural Environment Study (Jones & Stokes 2007)
- Noise Analysis (Jones & Stokes 2007)
- Visual Impact Assessment (California Department of Transportation 2007)

These studies are available for review at the California Department of Transportation North Region Office of Environmental Management, 2800 Gateway Oaks Drive, Sacramento, CA 95833, and at the California Department of Transportation District 3 Office, 703 B Street, Marysville, CA 95901. However, in order to protect the resources identified, and pursuant to Section 6254(r) of the Government Code, the Archaeological Survey Report is not part of the public record.

# Chapter 1 Proposed Project

The California Department of Transportation (Caltrans) is the lead California Environmental Quality Act (CEQA) agency responsible for maintaining and improving the California highway system within the Lake Tahoe Basin. This Water Quality Improvements Project (EA 03-1A8420; ED-89 PM 8.6–13.8) (the Project) would implement water quality improvement measures along a segment of State Route (SR) 89 in El Dorado County to comply with National Pollutant Discharge Elimination System (NPDES) permit requirements and to address planned improvements and changes that are part of the Lake Tahoe Basin Environmental Improvement Program (EIP).

This Project is part of an overall program of proposed improvements on the state highway system in El Dorado County to achieve the objectives for water quality identified in the EIP and is included in a draft program environmental impact report (Draft PEIR) prepared by Caltrans (2007a) that addresses the broad range of improvements to eight segments of state highways in El Dorado County. The Draft PEIR and the technical studies prepared to support it discuss improvements at conceptual and preliminary design levels. This initial study (IS) provides a more detailed environmental review of this specific Project. At the time of publishing of this IS, the Draft PEIR has not been finalized and certified. However, this IS uses data and analyses prepared for the Draft PEIR. Where this is the case, the source is cited.

## 1.1 Location

This Project is located on SR 89 in El Dorado County between the SR 89/U.S. Highway 50 (U.S. 50) “Y” in South Lake Tahoe and Cascade Road. The Project limits are from Post Mile (PM) 8.6 to PM 13.8. Figure 1-1, Project Location, shows the Project location in a regional context.

## 1.2 Purpose

The purpose of this Project is to implement NPDES requirements and elements of the EIP that relate to this segment of SR 89.

## 1.3 Need

The Lake Tahoe Basin has experienced environmental degradation over the past 100 years, most notably in the lake’s water clarity and the health of the basin’s forestlands. The lake’s water clarity, which reflects water quality, has become the primary measure of the basin’s environmental health and has declined steadily over the past several decades. The need for this Project is further defined by the requirements and policies of the agencies and orders discussed below.

### 1.3.1 Tahoe Regional Planning Agency

The Tahoe Regional Planning Agency (TRPA) was created with the authority to plan, oversee, and regulate development within the bi-state Lake Tahoe region, which includes the state highways. TRPA was established by Congress under the Tahoe Regional Planning Compact (Compact) created by Public Law 96-551 (enacted by Congress in 1982). The Compact charges TRPA with developing, attaining, and maintaining environmental threshold carrying capacities to protect the unique values of the basin. The nine categories of environmental thresholds created by TRPA under the Compact are:

- water quality,
- air quality,
- scenic resources,
- soil conservation,
- fisheries,
- vegetation,
- wildlife,
- noise, and
- recreation.

The TRPA's *Regional Plan for the Lake Tahoe Basin: Goals and Policies* (TRPA Regional Plan) establishes the overall approach to meeting the threshold standards. Various elements of the plan address specific environmental and planning topics, and TRPA's plan area statements (PASs) and community plans identify goals for specific land use areas throughout the Lake Tahoe Basin. The plans and policies ultimately are implemented through the TRPA Code of Ordinances, which regulates all proposed projects and activities (California Department of Transportation 2007a).

### 1.3.2 Executive Order 13057 and State and Regional Commitments

Presidential Executive Order 13057, issued on July 26, 1997, declared the Lake Tahoe region an area of national environmental concern. The order created a federal partnership of five Cabinet-level agency secretaries and called for a memorandum of agreement (MOA) among the federal partnership, the States of California and Nevada, TRPA, and the Washoe tribal government to facilitate coordination and cooperation. The MOA subsequently was signed by the governor of California, and it affirmed a commitment to manage and protect Lake Tahoe's natural resources; achieve and maintain the previous environmental thresholds; and adopt, fund, and implement the EIP. The $908-million EIP was adopted by TRPA in February 1998. Continued state funding for the EIP since 1999 has reaffirmed California's commitment to protect and restore the environmental quality of Lake Tahoe (California Department of Transportation 2007a).

The EIP identifies restoration, capital improvement, and operational modification work in eight of the nine environmental threshold areas. Approximately 83 EIP projects involve California

**Figure 1-1**
**Project Location**

highways in the Lake Tahoe Basin. Caltrans provides capital funding involvement for approximately 28 projects and is the lead agency for 20 projects (California Department of Transportation 2007a). This Project incorporates elements of EIP Project 995 intended to install road runoff treatment and erosion control facilities along SR 89 from the "Y" to the Placer County line.

### 1.3.3 National Pollutant Discharge Elimination System Permit Requirements

In 1987, the federal Clean Water Act (CWA) was amended to include Section 402(p), established a framework for regulating municipal and industrial stormwater discharges under the NPDES. Caltrans was issued a statewide NPDES permit (Statewide Permit) (Order 99-06-DWQ, NPDES CAS000003) from the State Water Resources Control Board (SWRCB) on July 15, 1999. The Statewide Permit incorporates the provisions of the *Water Quality Control Plan for the Lahontan Region* (Basin Plan) (Lahontan Regional Water Quality Control Board 2005), which contains additional requirements that historically have applied to Caltrans permits. The Basin Plan includes numerical effluent limitations for stormwater discharges within the Lake Tahoe Hydrologic Unit (California Department of Transportation 2007a).

The Statewide Permit requires that stormwater and urban runoff collection, treatment, and infiltration disposal facilities be designed, installed, and maintained for the discharge of stormwater runoff from all impervious surfaces generated by the 20-year, 1-hour design storm within the Lake Tahoe Hydrologic Unit. According to the permit, all Caltrans facilities within the hydrologic unit must be retrofitted to comply with this requirement by 2008. If site conditions do not allow for adequate on-site disposal, all site runoff must be treated to meet applicable effluent limits and receiving water limitations specified in the Basin Plan. The Regional Water Quality Control Board (RWQCB) executive officer may approve alternative mitigation measures (California Department of Transportation 2007a).

Caltrans developed, and the SWRCB approved, a statewide stormwater management plan (California Department of Transportation 2007c) that identifies appropriate best management practices (BMPs) to be implemented on projects as site conditions allow. The *Caltrans Storm Water Quality Handbook: Project Planning and Design Guide* (California Department of Transportation 2007b) was developed to give additional guidance to designers in considering and implementing these BMPs on all projects. This Project would improve stormwater quality by implementing source control and treatment BMPs as approved in the handbook to the maximum extent practicable (California Department of Transportation 2007a).

## 1.4 Proposed Project

This Project proposes only one build (action) alternative, with multiple elements that would provide an opportunity to improve water quality through the use of various treatment BMPs (as identified in the *Caltrans Storm Water Quality Handbook: Project Planning and Design Guide*) and to conform to the TRPA Code of Ordinances. This Project proposes to improve the quality of stormwater runoff by collecting and treating the stormwater runoff from SR 89 by implementing the following improvements where feasible and warranted.

- Rehabilitate existing drainage systems and install new drainage systems, including infiltration basins and water conveyance systems.
- Deploy treatment BMPs.
- Provide rock slope protection.
- Flatten and protect erodible slopes for erosion control.
- Revegetate bare or erodible areas.
- Where permitted by the RWQCB and TRPA, allow sheet flow off of roadways where longitudinal basins are proposed and allow the spreading of runoff water where feasible in stream environment zone (SEZ) areas.
- Pave all existing driveway connections within state right-of-way.
- Pave some existing unsurfaced pullouts and construct new pullouts.
- Place asphalt-concrete overlay (1.8 inches).
- Dig out failed pavement sections before overlay.
- Line or replace culverts in poor condition.

Potential locations for infiltration devices, such as basins, swales, or trenches or other conveyance systems were identified during the development of the project study report for SR 89 (California Department of Transportation 2003a). The Project improvements were developed with input from and through coordination with Caltrans multifunctional units specializing in design, materials, traffic, constructability, safety, and environmental review. Preliminary design review and input were provided by staff from the Lahontan RWQCB; TRPA; El Dorado County; the Caltrans TRPA coordinator; and Caltrans District 3 landscape and design units, which conducted field reviews of the Project area.

The basin and related facility locations and configurations were developed based on whether a site was undeveloped, had flat or gently sloping topography, was downgradient from an existing or potential discharge point, was not in an obvious SEZ or floodplain, and was accessible to maintenance equipment.

To accommodate flexibility in the planning and design of the proposed facilities, a broad Environmental Study Limit (ESL) was defined that encompasses the anticipated improvements. This ESL boundary is shown in the Project layout sheets in Appendix A.

No work would occur outside of the ESL. Also, no structures would be affected by the Project and no work would occur within the bed or bank of Taylor Creek or Tallac Creek.

### 1.4.1 Construction Phasing, Access, Staging Areas, and Methods

To allow for construction, temporary access to, or use of, lands outside the Caltrans right-of-way would be required. This access or use is typical of most major roadway projects and would allow for temporary staging of equipment and construction, and access to and from the construction

areas. To minimize disruptions in use and for safety of recreational users in the area during construction, temporary detours would be provided for the South Lake Tahoe City Bike Path, for trails that cross SR 89 near the Taylor Creek Visitor Center, and for other recreational areas, as appropriate. Construction easements would be defined during the preparation of plans, specifications, and estimates for the Project. The study area for the Project extends along both sides of SR 89 as shown in the Project layout sheets in Appendix A and was defined to allow room for construction access and activities where easements would ultimately be obtained (California Department of Transportation 2007a).

Construction activities will require the clearing of vegetation where facilities will be installed. Tree removal will be necessary in some locations but will be minimized through further refinement of basin and facility design. State, regional, and local vegetation and tree removal requirements and permitting will be followed. During construction, the contractor will be required to develop and implement erosion control measures and plans, and to follow seasonal restrictions applicable to projects in the Lake Tahoe Basin (California Department of Transportation 2007a).

New vehicle pullouts might require earthwork and disturbance of existing slopes. New cut slopes will be stabilized with rock-slope protection or vegetation. TRPA scenic threshold criteria will be considered in the design of slope protection systems. Excavation and earthwork will be necessary for the installation of pavement, infiltration basins, water collection and control devices, and similar facilities. Excavated earth and materials not reused at the Project site or elsewhere will be disposed of by the contractors at appropriate disposal facilities. Permanent, long-term BMPs, including asphalt dikes and new drainage systems, will be implemented for controlling potential impacts on existing waterways or storm drainage facilities (California Department of Transportation 2007a).

### 1.4.2 Traffic Management and Public Involvement Plans

The draft *Lake Tahoe Basin Regional Traffic Management Plan* (Regional TMP) that has been developed for the EIP requires a traffic management plan (TMP) to be developed as part of the final design phase of each of Caltrans' eight El Dorado County water quality improvement projects. Therefore, Caltrans will develop a Project-level TMP before construction of the Project. The Project-level TMP will be consistent with the draft Regional TMP. The Project-level TMP will include construction restrictions, requirements, and definitions that would apply to the contractor(s) based on the type of work.

In general, the Project-level TMP will develop strategies for public and motorist information, incident management, construction, demand management, and alternate routes. It may require, restrict, or define elements of the following:

- construction requirements and restrictions to minimize traffic delays and maximize safety;
- lane closure timing and charts;
- master construction schedule;
- traffic operation systems;

- emergency vehicle access;
- bicycle and pedestrian access;
- temporary detours through the construction zone for pedestrian and recreational areas, as necessary;
- limiting construction hours with traffic control;
- standard contract specification for access to a property, driveway, or access road;
- notification before construction affecting property access; and
- coordination with local and state agencies, staging of various worksites, and size of construction efforts.

Based on the draft *Tahoe Basin Public Communications and Outreach Guidelines*, Caltrans would also create a public involvement plan to minimize disruption to local communities and maximize awareness of Project-related activities. The plan would include protocols for coordination with members of the public, other agencies, and all applicable stakeholders; specific outreach activities, such as ongoing information dissemination, public workshops, and media announcements; and coordination with the TMP to disseminate immediate information about road conditions. The goal of the public involvement planning would be to ensure active participation and involvement by community and agency members and minimize effects on stakeholders resulting from the Project.

### 1.4.3 Additional Project Design Features and Best Management Practices

The following design features and BMPs have been incorporated into the Project.

**VIS-01: General Scenic Measures**

The following general measures meet TRPA scenic threshold requirements and will be implemented as part of Project design and construction.

- All disturbed areas will use temporary erosion control measures during construction to minimize permanent impacts on visual quality from erosion.
- All areas disturbed during construction will receive permanent erosion control measures to minimize permanent impacts on scenic quality.
- All disturbed areas will be planted with a permanent seed mix composed of native plant species indigenous to the area. In addition, if required, a follow-up revegetation project will install containerized plants to supplement seeding. All removed non-native landscape planting will be replaced in kind. All native vegetation removed will be replaced in ratios determined by Caltrans' Landscape Architecture Branch. The requirements of this revegetation will be incorporated into a restoration and monitoring plan prepared by the Landscape Architecture Branch and will be submitted for approval by the appropriate agencies prior to Project permitting.

- All small trees, tree limbs, shrubs and other woody debris generated during clearing and grubbing operations will be chipped and stockpiled for future use as erosion control and in areas designated for revegetation.
- During clearing and grubbing operations, duff will be stripped and stockpiled as part of earthwork. The duff will be replaced in areas where revegetation work will occur.
- Any water quality improvement ditches required will be earthen or rock lined whenever possible.

**VIS-02: Site-Specific Design Measures for Infiltration Basins**
The following measures specific to the design and construction of infiltration basins will be implemented and meet TRPA scenic threshold requirements.

- Each basin shape will have a site-specific design to maximize infiltration and minimize tree removal. Where feasible, and where the long-term health of trees can be maintained, the basin will be irregularly shaped around existing trees. Infiltration basins will be designed to eliminate harsh angles that appear human-made, with features integrated into the surroundings through the use of curvilinear forms and contour grading.
- All disturbed areas associated with basin construction will be revegetated using seeding, container planting, pine needle mulch, and temporary irrigation where required. In addition, logs and boulders will be integrated into the basin design where appropriate. This integration will help to blend the newly constructed basins into the surrounding environment.
- Infiltration basins will avoid the use of concrete or rock slope protection lining. By avoiding these two items, the newly constructed basins will better blend into the surrounding environment.

**VIS-03: Site Specific Design Measures for Sand Traps and Sand Vaults**
The following measures specific to the design and construction of sand traps and sand vaults will be implemented and meet TRPA scenic threshold requirements.

- Sand traps and sand vaults will be installed in the least visible locations possible while still accomplishing their designed function. Their structures will be painted or powder-coated with approved Standard Federal Color Brown #30045 or Green #34108. The specific color will be selected to match the color of any existing elements in the immediate area.
- All disturbed areas associated with sand trap or sand vault installation will be revegetated using seeding, container planting, or pine needle mulch.

**VIS-04: Site-Specific Design Measures for End Treatment of Culverts and Pretreatment of Existing Swales**
The following measures specific to the design and construction of culvert end treatments and the pretreatment improvements of existing swales will be implemented and meet TRPA scenic threshold requirements.

- The character of the rock of the treatments will have an indigenous feel as to size, shape, material, and color. Edges will have an irregular shape to facilitate a more natural feel to aesthetic composition.
- Environmentally benign stains will be used on treatments to induce a weathered appearance that blends elements into the existing landscape.
- For highly visible treatment areas, containerized native plantings will be used to strategically blend culvert end treatments into the landscape or screen them from view.

**SC-01: Purchase of Land Coverage Credits**
If needed, Caltrans will transfer land coverage credits pursuant to Chapter 20 of the TRPA Code of Ordinances. Caltrans is not on the TRPA individual parcel system and is creating coverage within state right-of-way or within land on which highway agreements exist. Any land transfer will be performed under the guidance of the California Tahoe Conservancy, a State of California land bank administration agency. Caltrans has existing coverage credits at the conservancy's land bank via a memorandum of understanding dated October 18, 2000.

**AV-01: Establish Environmentally Sensitive Areas**
Additional direct and indirect impacts on sensitive biological resources, including wetland and SEZ resources, throughout the Project area will be avoided or minimized by designating these features outside the construction impact area as *environmentally sensitive areas* (ESAs) on Project plans and in Project specifications. ESA information will be shown on contract plans and discussed in the Special Provisions. ESA provisions may include the use of temporary orange fencing to delineate the proposed limit of work in areas adjacent sensitive resources or to delineate and exclude sensitive resources from potential construction impacts. Contractor encroachment into ESAs will be restricted (including staging/operation of heavy equipment or casting of excavation materials). ESA provisions will be implemented as a first order of work and remain in place until all construction activities are complete.

**WC-01: Weed-Free Construction Equipment**
All off-road construction equipment will be cleaned of potential noxious weed sources (e.g., mud and vegetation) before entry into the Project area (preferably before entry into the Lake Tahoe Basin), and after entering a potentially infested area before moving on to another area, to help ensure that noxious weeds are not introduced into the Project area. The contractor will employ whatever cleaning methods (typically with the use of a high-pressure water hose) are necessary to ensure that equipment is free of noxious weeds. Equipment will be considered free of soil, seeds, and other such debris when a visual inspection does not disclose such material. Disassembly of equipment components or specialized inspection tools is not required. Equipment washing stations will be placed in areas that afford easy containment and monitoring (preferably outside the Lake Tahoe Basin) and that do not drain into the forest or sensitive areas (riparian, SEZs, wetlands, etc.).

**WC-02: Equipment Staging in Weed-Free Areas**
Staging of equipment should only be done in weed-free areas. Landings should be placed in forested areas rather than open flats to help prevent the establishment of noxious invaders, such as yellow star thistle, that utilize open sunny areas.

**WC-03: Weed-Free Erosion Control Treatments**
To further minimize the risk of introducing additional non-native species into the area, only TRPA-approved plant species appropriate for the Project area will be used in any erosion control or revegetation seed mix or stock. No dry-farmed straw will be used, and certified weed-free straw will be required where erosion control straw is to be used. In addition, any hydroseed mulch used for revegetation activities must also be certified weed-free.

**WL-03: Restrict Timing of Woody Vegetation Removal**
It is recommended that the removal of any woody vegetation (trees and shrubs) required for the Project is completed between August 16 and February 28 prior to Project construction, outside the predicted nesting season for raptors and migratory birds in this area. Vegetation removal outside this time period may not proceed until a survey by a qualified biologist determines that no nests are present or in use (see WL-04 below).

**WL-04: Nesting Bird Survey**
If woody vegetation removal, construction, grading, or other Project-related improvements are scheduled during the nesting season of protected raptors and migratory birds (March 1 to August 15), a focused survey for active nests of such birds will be conducted by a qualified biologist within 30 days prior to the beginning of Project-related activities. If active nests are found, Caltrans will consult with USFWS regarding appropriate action to comply with the Migratory Bird Treaty Act (MBTA) and consult with the California Department of Fish and Game (CDFG) to comply with provisions of the California Fish and Game Code (CFGC). If a lapse in Project-related work of 30 days or longer occurs, another survey and, if necessary, consultation with USFWS and CDFG will be required before work can be reinitiated. Caltrans will consult USFWS and Forest Service annual survey data for any new occurrences within the study area.

**WL-05: Limit Vegetation Removal**
Vegetation removal will be limited to the absolute minimum amount required for construction.

**WQ-02: Minimize Disturbance to Creek Channels and Adjacent Areas**
Disruption of the streambed and adjacent riparian corridor will be minimized. All stream and riparian habitat areas outside the construction limits will be designated as ESAs, as detailed in AV-01.

Disturbed areas within the construction limits, including temporary or permanent access routes, will be graded to minimize surface erosion and siltation into streambeds. Any access routes will be removed after each construction season, and the streambed and bank will be recontoured to the general angle of repose that existed before construction. Streambanks and adjacent areas that are disturbed by construction activities will be stabilized to avoid increased erosion during subsequent storms and runoff. Bare areas will be covered with mulch and revegetated to pre-Project conditions. Construction site BMPs will be used to prevent contamination of streambanks and watercourses from construction material and debris, as detailed in WQ-03.

**WQ-03: Containment Measures/Construction Site Best Management Practices**
Measures will be employed to prevent any construction material or debris from entering surface waters or their channels. BMPs for erosion control will be implemented and in place prior to, during, and after construction to ensure that no silt or sediment enters surface waters.

Caltrans' Standard Specifications require the contractor to submit a water pollution control plan (WPCP). This plan must meet the standards and objectives to minimize water pollution impacts set forth in section 7-1.01G of Caltrans' Standard Specifications. The WPCP must also be in compliance with the goals and restrictions identified in the Lahontan RWQCB's Basin Plan. Any additional measures included in the CWA Section 401 certification, CDFG Section 1601 agreement, CWA Section 404 permit, or TRPA permit will be complied with. These standards/objectives, at times referred to as BMPs, include the following:

- Where working areas encroach on live or dry streams, lakes, or wetlands, TRPA- and Lahontan RWQCB–approved physical barriers adequate to prevent the flow or discharge of sediment into these systems will be constructed and maintained between working areas and streams, lakes, and wetlands. During construction of the barriers, discharge of sediment into streams will be held to a minimum. Discharge will be contained through the use of TRPA and Lahontan RWQCB–approved measures that will keep sediment from entering protected waters.
- Oily or greasy substances originating from the contractor's operations will not be allowed to enter or be placed where they will later enter a live or dry stream, pond, or wetland.
- Asphalt concrete will not be allowed to enter a live or dry stream, pond, or wetland.

**WQ-05: Restore Riparian and Stream Habitat Disturbed by Construction**
Prior to vegetation removal, the area will be surveyed by a qualified biologist for a complete accounting of species and their quantities present within the construction limits. Upon completion of construction for the Project, streambanks will be permanently stabilized and the riparian areas will be replanted with appropriate native species. Tree and shrub species that will be used for the restoration will include willow, alder, and cottonwood. Stream channels will be regraded to preconstruction conditions.

A restoration and monitoring plan will be prepared by Caltrans' Landscape Architecture Branch and submitted for approval by the appropriate agencies prior to Project permitting. The restoration plan will outline and detail all planting and erosion control activities, as well as all associated proposed monitoring activities (including length and timing of monitoring, success criteria, remedial actions, and documentation).

## 1.5 No-Build Alternative (No Action)

Under the No-Build Alternative (No Action), Caltrans would construct none of the improvements listed in Section 1.4. Caltrans is required to comply with the Statewide Permit issued by the SWRCB; therefore, it would be in violation of the requirements of this permit if the Project were not constructed. Further, because this alternative would not address the environmental problems facing the Lake Tahoe Basin, it is not considered a viable alternative

with respect to the Project purpose and need. This alternative would not directly affect the resources discussed in this report.

## 1.6 Permits and Approvals Needed

The permits, reviews, and approvals in Table 1-1 may be required for Project construction.

**Table 1-1. Required Permits and Approvals**

| Agency | Permit/Approval | Status |
|---|---|---|
| U.S. Fish and Wildlife Service | Section 7 consultation for threatened and endangered species | Not yet initiated |
| U.S. Army Corps of Engineers | Section 404 authorization for fill of waters of the United States | Not yet initiated |
| USDA Forest Service | Encroachment permit; threatened and endangered species consultation; Section 4(f) concurrence; tree removal permit | Not yet initiated |
| California Department of Fish and Game | Section 1602 streambed alteration agreement | Not yet initiated |
| Lahontan Regional Water Quality Control Board | Section 401 Water Quality Certification | Preliminary coordination and consultation |
| Tahoe Regional Planning Agency | Concurrence; construction-related permits | Preliminary coordination and consultation, land capability verification ongoing |
| State Historic Preservation Officer | Concurrence | Not yet initiated |
| El Dorado County | Encroachment permit | Preliminary coordination and consultation |
| City of South Lake Tahoe | Encroachment permit | Preliminary coordination and consultation |

# Chapter 2 Affected Environment and Environmental Consequences

This chapter explains the impacts that the Project would have on the human, physical, and biological environments in the Project area. It describes the existing environment that could be affected by the Project and potential impacts from the Project. Any indirect impacts are included in the general impact analysis and discussions that follow.

As part of the environmental analysis conducted for the Project, the following environmental issues were considered, but no impacts were identified. Consequently, there is no further discussion regarding these issues in this document:

- **Farmlands/Timberlands:** The land within the ESL is not currently in farmland or timberland production and is not proposed for production.
- **Airports:** The nature of the Project—water quality improvements and roadway repaving—does not involve hazards related to proximity to a public airport, public use airport, or private airstrip. The Project would have no effect on air traffic patterns, would not change the roadway design to create roadway design feature hazards, and would have no permanent effect or variance in alternative transportation policies, plans, or programs. Short-term impacts during construction are examined in the traffic and transportation section.
- **Utilities:** Continuous utility service during construction will be required of the contractors, and no substantial disruption of service is anticipated. Therefore, the Project would have no impact on utility service.
- **Paleontology:** The soils and underlying rock layers within the ESL are volcanic and do not have the potential to contain paleontological resources.
- **Seismicity, Unstable Geologic Units, and Fault Rupture:** The Project does not involve the construction of habitable structures or other facilities that would result in substantial adverse effects to people, property, or the environment if damaged by ground shaking. It also does not involve any construction activities that would destabilize existing geologic units or increase existing landslide hazards.

# 2.1 Human Environment

## 2.1.1 Land Use and Community Impacts

### 2.1.1.1 Existing and Future Land Use

*Regulatory Setting*

*Tahoe Regional Planning Agency*

The TRPA Regional Plan establishes the overall approach to meeting the threshold standards. Various elements of the plan address specific environmental and planning topics, and TRPA's PASs and community plans identify goals for specific land use areas throughout the Lake Tahoe Basin. Each PAS was amended in 2002 to include a provision that supports the implementation of capital improvement and other improvement projects required by the TRPA Regional Plan and EIP. This includes the PASs that encompass the study area (PAS maps E17, E18, F18, and G18). The plans and policies ultimately are implemented through TRPA's Code of Ordinances, which regulates all proposed projects and activities (California Department of Transportation 2007a).

*Affected Environment*

*Study Area*

The Project is located in El Dorado County on SR 89, beginning at the intersection of SR 89 and U.S. 50 and continuing east to the Cascade Road intersection. Situated at the southwestern rim of Lake Tahoe, the study area is made up of residential developments, commercial development, open space, forestland, and recreational areas. No cultivated farmlands are located within the ESL or study area.

*Major Land Uses*

The western portion of the Project corridor is located within the outermost edge of the City of South Lake Tahoe, and the eastern portion lies in the unincorporated El Dorado County lands of southwest Lake Tahoe.

*City of South Lake Tahoe*

South Lake Tahoe, California, is the only incorporated city in the ESL; it is situated at the southeast shore of Lake Tahoe, between the Nevada state line to the east and Eldorado National Forest and Desolation Wilderness to the west, north of Meyers, California. The city contains a mix of residential, commercial, and recreational uses, including schools, beaches, and marinas. Commercial sites typically appear as a strip of development situated immediately adjacent to U.S. 50 and SR 89. These include motels; restaurants; and various service, recreational, and tourism-oriented developments. Commercial and tourism-oriented development is particularly intense along U.S. 50 at the California/Nevada border approaching the town of Stateline, Nevada, which hosts several large hotel casinos. South Lake Tahoe also includes completed planned communities, such as Tahoe Keys, which is a constructed canal development located just north of the ESL that includes residences, recreational facilities, and limited commercial activity (URS 2006a).

The Lake Tahoe Airport lies at the south end of South Lake Tahoe, alongside U.S. 50/SR 89 to the north of Meyers. The immediate area is characterized by sparse mixed commercial use and

industrial activity. There is single-family residential development east of the airport along Pioneer Trail between Meyers and South Lake Tahoe (URS 2006a).

#### *Southwest Lake Tahoe*

Land uses in southwest Lake Tahoe are predominantly recreational and public lands, with limited residential and commercial development. Between U.S. 50 and West Road, the ESL along SR 89 consists of a mix of commercial uses, residential uses, and interspersed undeveloped areas. SR 89 is the primary location for local businesses in the study area community, which include motels, restaurants, retail shops, and gas stations. Residential development includes single-family homes, apartments, multifamily housing, and mobile home parks. Although developed, several parcels feature closed businesses, demolished buildings, and empty buildings for rent.

The portion of the ESL that runs between West Street and Cascade Road consists of large areas of U.S. Department of Agriculture Forest Service (Forest Service) land and is characterized by mostly recreation-oriented development. This area includes Camp Richardson, a historic campground and marina operated by the Forest Service. Camp Richardson contains more than 300 campsites, a hotel, cabins, RV areas, restaurants, a horse stable, sports equipment rental stores, shops, and outdoor recreation facilities. Vacation homes and Forest Service campgrounds at or near Fallen Leaf Lake and Cascade Lake are seasonally accessible from this segment of SR 89.

### *Land Suitable for Development and Development Trends*

In order to protect the environmental health of Lake Tahoe and its basin, TRPA has implemented strict growth and development guidelines that limit the amount of new development in the area. Since 1987, residential construction has been limited to the addition of 300 units per year in the region. As a result, the region is expected to stay relatively stable in terms of growth and development.

Between 1990 and 2000, the greater Lake Tahoe region, which includes those areas surrounding Lake Tahoe in California and Nevada, averaged a growth rate of 1.8% a year. This compares with a growth rate of 3.7% per year for Placer County and 2.4% per year for El Dorado County overall. Within the South Lake Tahoe census county subdivision (CCD), the population increased by 15% between 1990 and 2000, from 29,653 to 34,042. During the same 10-year period, 1,018 additional housing units were built in the study area (URS 2006a).

## *Environmental Consequences*

### *Approach and Methodology*

The environmental consequences were assessed using a qualitative approach, which included a site visit and a review of the Draft PEIR and program community impact assessment (CIA) documents prepared for Caltrans' eight El Dorado County water quality improvement projects, the Project-specific CIA, as well as applicable TRPA guidelines.

### *Environmental Consequences Discussion*

**Impact LU-1: Conflicts with Future or Existing Land Uses (Less than Significant)**

Based on the preliminary design, the Project proposes the temporary use or partial acquisition of up to 142 parcels. Of these, the Project would require nine full acquisitions and six partial acquisitions of undeveloped parcels for the proposed infiltration basins. Table 2.1.1-1 (in

Appendix B) lists parcels and existing land uses within, or adjacent to, the ESL boundaries. These temporary construction easements and permanent right-of-way acquisitions would be used for equipment staging and Project implementation, including stormwater basin installation and utility relocation.

In general, the study area contains large parcels that support multiple land uses, including undeveloped areas. As depicted in the Project layout sheets in Appendix A, areas considered for large permanent Project infrastructure (i.e., infiltration basins) are currently undeveloped.

TRPA PASs provide guidance for future growth and development for specific areas located within the Lake Tahoe Basin (PAS maps that encompass the study area are E17, E18, F18, and G18). These PAS maps and documents can be found on the TRPA website (http://www.trpa.org/default.aspx). PASs provide area descriptions, planning statements and considerations, special policies, permissible uses, and other development policies. In 2002, each PAS was amended to include the section below.

- **Environmental Improvement Programs:** The capital improvement and other improvement programs required by the Regional Goals and Policies Plan and Environmental Improvement Plan (EIP) for this area shall be implemented (Tahoe Regional Planning Agency n.d.).

Overall, the Project would not significantly affect existing land uses because no permanent acquisitions or displacements of structures are planned. Although some permanent facilities would be installed on undeveloped parcels, the nature of these facilities would not result in a more intensive land use. Furthermore, because these improvements are specifically allowed under TRPA, the Project would not constitute a nonconforming or nonpermissible use of land.

This impact would be less than significant. No mitigation is necessary.

#### 2.1.1.2 Community Impacts

*Regulatory Setting*

Under CEQA, an economic or social change by itself is not considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then that social or economic change may be considered in determining whether the physical change is significant. Because the Project would result in a physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the Project's effects.

*Tahoe Regional Planning Agency*

See Section 2.1.1.1 for the TRPA regulatory setting.

*City of South Lake Tahoe General Plan*

The *1999 City of South Lake Tahoe General Plan* (South Lake Tahoe General Plan) also refers to its consistency with the TRPA Regional Plan and its goal of directing development in accordance with the environmental carrying capacities of the region. A major focus of the plan is to improve the character of the U.S. 50 corridor by transitioning the current commercial strip development of the roadway into a more traditional village character. As new development and population growth is severely limited, various incentives are provided to redirect and relocate commercial

development to centralized locations. The plan includes a goal and discusses actions to conserve and improve the water quality of Lake Tahoe (City of South Lake Tahoe 2003).

## Affected Environment

### Study Area

The study area is a larger component of the ESL, which includes the adjacent lands surrounding the ESL. The study area is depicted in the Project layout sheets in Appendix A.

### Community Access and Circulation

Within the study area, SR 89 serves as the primary major arterial to access secondary roads and residential areas, as well as various commercial and business activities, including the Lake Tahoe Airport. SR 89 also provides the only major route to access popular recreational areas in the Project vicinity, including Camp Richardson and Falling Leaf and Cascade Lakes.

The vast majority of commercial and business operations located in the study area are found directly adjacent to SR 89. Although parking areas may vary in size and location, these activities often have off-street parking options for patrons. Beyond city limits, vehicles use roadside shoulders and pullouts to park for access to scenic vistas and recreational activities.

Lake Tahoe's recreational destinations constitute the majority of travel and activity within the study area community and the Lake Tahoe Basin overall. The most popular visitor locations within the ESL include the Historic Camp Richardson Resort and the Fallen Leaf Lake Campground, as well as numerous beach access points and trailheads. All of these recreation areas are accessed either directly off of or at an intersection with SR 89, which is a two-lane highway in this vicinity.

## Environmental Consequences

### Approach and Methodology

The environmental consequences were assessed using a qualitative approach, which included a site visit and a review of the Draft PEIR and program CIA documents for Caltrans' eight El Dorado County water quality improvement projects, the Project-specific CIA, as well as applicable TRPA guidelines.

### Environmental Consequences Discussion

**Impact CI-1: Temporary Community Impacts (Less than Significant)**

During the construction period, roadways would remain open with unrestricted travel during hours of nonconstruction activities (e.g., weekends during the summer and daily from late afternoons to early mornings). Although the segment of SR 89 that lies within the City of South Lake Tahoe boundaries is a four-lane highway, the remaining portion of the highway is a two-lane facility and may experience delays in travel during periods of active construction that require temporary lane closures.

Along the portion of SR 89 located within city limits, the local circulation system is developed with internal roadways. These local roadways could potentially provide non-highway routes through neighborhoods during active construction activities (this is also known as "cut-through" traffic). Because at least one lane in each direction, on the four-lane segment of this roadway, would remain open during construction activities, unofficial detours through residential

neighborhoods would be less efficient than travel on SR 89. Therefore, the potential for cut-through traffic to disrupt existing neighborhoods or community areas would be less than significant.

The Project could cause intermittent traffic delays along SR 89 during active construction periods, which may have an impact on community access. Although these delays and lane closures are temporary and are not expected to be significant, they could discourage some travelers from using this portion of SR 89. To ensure that access would be maintained during the construction period, a TMP will be implemented as part of the Project. This impact would be less than significant. No mitigation is required.

#### 2.1.1.3 Consistency with State, Regional, and Local Plans

*Regulatory Setting*

*El Dorado County General Plan*

The 2004 *El Dorado County General Plan: A Plan for Managed Growth and Open Roads; a Plan for Quality Neighborhoods and Traffic Relief* (El Dorado County General Plan) comprises nine elements, which include goals, standards, policies, implementation systems, and objectives that guide growth and development in areas under El Dorado County's jurisdiction. The Land Use Element, containing land use designations and policies guiding development in the study area, was updated and revised in 2004. Lands in the ESL are included in the Adopted Plan (AP) land use category, which indicates that a specific land use plan has been developed and adopted for the area. The adopted plan for the Lake Tahoe Basin is the TRPA Regional Plan and the PASs.

*Tahoe Regional Planning Agency*

See Section 2.1.1.1 for the TRPA regulatory setting. As discussed in that section, each PAS was amended in 2002 to include a provision that supports the implementation of capital improvement and other improvement projects required by the TRPA Regional Plan and EIP. This includes the PASs that encompass the study area.

*City of South Lake Tahoe General Plan*

See Section 2.1.1.2 for the City of South Lake Tahoe regulatory setting. County and community general plan policies relevant to the Project are described and evaluated below, under "Environmental Consequences."

Regional transportation planning for the area is conducted by TRPA. TRPA also assists in planning for land use, housing, noise, natural hazards, air quality, water quality, community design, and bicycle networks. The TRPA requirements for land uses are contained in PASs. The PASs describe the allowable land uses and densities of development within the Lake Tahoe Basin.

*Adopted Goals and Policies*

There has long been a struggle in the Lake Tahoe region between conservation of the area's pristine beauty and resources and an expansion of residential, recreational, and tourism-oriented development. In the late 1960s, after two decades of rapid growth, the governors and lawmakers of California and Nevada approved a bi-state compact that created TRPA to oversee orderly

growth and development consistent with the preservation and enhancement of the region's unique natural and human environment (California Department of Transportation 2007a).

*Affected Environment*

The land uses within the study area have been described in Section 2.1.1.1 above.

*Study Area*

As stated, the Project is located in El Dorado County on SR 89, beginning at the "Y" intersection of SR 89 and U.S. 50 and continuing east to the Cascade Road intersection.

*Environmental Consequences*

*Approach and Methodology*

The environmental consequences were assessed using a qualitative approach, which included a site visit and a review of the Draft PEIR and CIA documents, as well as applicable TRPA, El Dorado County, and South Lake Tahoe General Plan guidelines.

*Environmental Consequences Discussion*

The Project, one of Caltrans' proposed EIP activities in El Dorado County, is consistent with plans developed by TRPA, the City of South Lake Tahoe, and El Dorado County. These plans stress improving water quality in the Lake Tahoe area, which is the purpose of the Project. The Project is consistent with all applicable plans, including long-range TRPA land use plans (URS 2006a). Therefore, the Project would not result in impacts on planning, land use, or long-term plans or polices applicable to the ESL. No mitigation is required.

### 2.1.1.4 Parks and Recreation

*Regulatory Setting*

*Tahoe Regional Planning Agency*

TRPA threshold standards applicable to recreation resources include those listed below.

- **R1—**It shall be the policy of the TRPA governing body in development of the regional plan to preserve and enhance the high-quality recreational experience, including preservation of high-quality undeveloped shore zone and other natural areas. In developing the regional plan, the staff and governing body shall consider provisions for additional access, where lawful and feasible, to the shore zone and high-quality undeveloped areas for low-density recreational uses.
- **R2—**It shall be the policy of the TRPA governing body in development of the regional plan to establish and ensure that a fair share of the total basin capacity for outdoor recreation is available to the general public (California Department of Transportation 2007a).

*Affected Environment*

*Study Area*

Recreation facilities within 0.5 mile of the Project were evaluated for potential impacts. The Project is adjoined by Forest Service lands from West Street in South Lake Tahoe to Cascade Road. SR 89 is the main access to a number of recreation areas in the vicinity of the Project, including several beaches/picnic areas on the shores of Lake Tahoe, Historic Camp Richardson Resort, the Tallac Historic Site, the Forest Service's Taylor Creek Visitor Center, and Fallen

Leaf and Cascade Lakes. The national forest lands are managed by the Lake Tahoe Basin Management Unit (LTBMU) of the Forest Service. The South Lake Tahoe City Bike Path is the only recreational facility located on SR 89 between the U.S. 50 “Y" and West Road.

Recreational facilities within the vicinity of the Project, including the South Lake Tahoe City Bike Path, are described below.

The South Lake Tahoe City Bike Path is an 11-mile-long, paved Class I pathway. The bike path begins at the intersection of U.S. 50 and Park Avenue in South Lake Tahoe on the east and extends to Spring Creek Road and SR 89 on the west. In the Project area, the bike path parallels SR 89 on the north, from the intersection of U.S. 50 and SR 89, and terminates at Spring Creek Road on SR 89, a distance of approximately 3 miles (South Lake Tahoe City of Commerce 2007). East of Valhalla Road, a fork in the bike path heads north to the Tallac Historic Site. The bike path is extensively used in the summer months to travel between the recreation areas along South Lake Tahoe and Fallen Leaf Lake Campground (URS 2006a).

There are three public beach areas with picnic facilities in the vicinity of the Project: Pope Beach, Kiva Beach, and Baldwin Beach. Each picnic area has restrooms, tables, and barbecue facilities.

There are four developed campgrounds including the three associated with the Historic Camp Richardson Resort (RV Village, Badger’s Den, and Eagle’s Nest) and the Fallen Leaf Lake Campground. The Badger’s Den campground is located north of SR 89 and has 122 campsites. The Eagle’s Nest campground has 98 campsites, and RV Village has108 RV sites; both are located south of SR 89. Badger’s Den and Eagle’s Nest are tent-only campgrounds. The campgrounds are open seasonally (Historic Camp Richardson Resort 2007). Fallen Leaf Campground offers 206 campsites located approximately 0.25 mile north of Fallen Leaf Lake. Recreation activities at Fallen Leaf Lake include boating, swimming and easy hiking around the lake. Cascade Lake and Emerald Bay State Park offer additional recreation opportunities northwest of the Project on SR 89.

The Historic Camp Richardson Resort is located at 1900 Jameson Beach Road on SR 89. In addition to the three campgrounds, there are cabins, a hotel, restaurants, rental and retail shops, a marina, and a beach area with picnic facilities (Historic Camp Richardson Resort 2007). The Camp Richardson Corral offers horseback riding lessons, guided trail rides, and wagon and hay rides (USDA Forest Service 2007). The resort is open on a year-round basis, but the campgrounds and corral are open only seasonally.

The Forest Service operates the Taylor Creek Visitor Center, offering information for visitors to the Lake Tahoe area. Recreation opportunities include six self-guided nature trails, naturalist activities, an amphitheater, and a stream profile chamber on Taylor Creek. The trails that originate at the visitor center lead to the stream profile chamber, Kiva Beach, and the Tallac Historic Site. There is also a trail that crosses to the south side of SR 89 that is used to access Fallen Leaf Lake Campground, the Trail of the Washoe, and a Forest Service administrative site. Parking areas for Kiva Beach and the Tallac Historic Site are off Heritage Way. The Tallac Historic Site is a historic resort area where visitors can walk through the historic buildings. A museum offers additional information on the area and offers guided tours, interpretative

programs and activities, and special events. The Tallac Historic Site is open during the summer months only, although it is a popular location for snowshoeing and cross-country skiing in winter (USDA Forest Service 2007).

The Mount Tallac Trailhead is accessed from Tallac Trailhead Road, which is directly across from Baldwin Beach Road. Day hikers can reach Floating Island Lake, Cathedral Lake, and Mount Tallac in the Desolation Wilderness from this trailhead (USDA Forest Service 2007).

### *Environmental Consequences*

#### *Approach and Methodology*

Environmental consequences were assessed qualitatively based on information provided in the Draft PEIR, the program CIA, TRPA guidelines, and technical reports and layout sheets prepared for the Project.

#### *Environmental Consequences Discussion*

Construction of the Project would not increase the capacity of SR 89 or increase the surrounding population to result in an increase in the use of recreation facilities in the vicinity of the Project. There would be no impact. No mitigation is required.

The Project does not include the construction of new recreation facilities, nor would it require an expansion of existing recreational facilities that would have adverse environmental impacts. There would be no impact. No mitigation is required.

**Impact REC-1: Construction-Related Noise Impacts on Recreation Resources (Less than Significant)**

Noise generated during construction of the Project would be regulated as described in Section 2.2.6. This noise could affect campers in campsites located in close proximity to SR 89. The three campgrounds located at Camp Richardson are adjacent to SR 89, and there are campsites within approximately 50 feet of SR 89. Construction of the Project would result in a temporary increase in noise levels that could be disruptive to campers in an otherwise quiet and serene environment but would be temporary in nature and would not result in a significant impact. No mitigation is required.

**Impact REC-2: Temporary Trail Detours (Less than Significant)**

Construction of infiltration basins and other proposed water quality improvements may require temporary detours for the South Lake Tahoe City Bike Path and the trails that cross SR 89 near the Taylor Creek Visitor Center. Detours would occur only during the period of construction in the location of the basin or other improvements under construction. It is not anticipated that temporary detours would require modifications to the bike path or other trails. Once construction in the area has been completed, the detours would be removed. Detours are not expected to significantly impact access for trail users. This impact would be less than significant. No mitigation is required.

**Impact REC-3: Access to Recreation Resources (Less than Significant)**

Access to the recreation areas in the vicinity of the Project described above is from SR 89 or from roads that intersect SR 89. Construction-related activities may include traffic delays getting to and from the recreation facilities along SR 89. All existing accesses to the beaches and

recreation areas and trails would be maintained during the construction periods or, at most, intermittently delayed. These impacts would only occur during periods of active construction and access would be restored as soon as possible. Therefore, this impact would be less than significant. No mitigation is required.

### 2.1.2 Emergency Services

#### 2.1.2.1 Affected Environment

*Police Protection*

Within the Project area, police protection is provided by three organizations: the South Lake Tahoe Police Department, the California Highway Patrol, and the El Dorado County Sheriff's Department. The South Lake Tahoe Police Department provides services within the City of South Lake Tahoe and is headquartered at 1352 Johnson Boulevard. The California Highway Patrol and the El Dorado County Sheriff's Department provide police and sheriff's protection along SR 89 and in the unincorporated areas of El Dorado County within the study area (URS 2006a).

*Fire Protection*

Four organizations provide fire protection within the Project area: the Lake Valley Fire Protection District, the Fallen Leaf Lake Volunteer Fire Department, the South Lake Tahoe Fire Department, and the Forest Service.

The Lake Valley Fire Protection District, based in Meyers, has jurisdiction over the unincorporated areas of El Dorado County within the ESL. The district runs from the Alpine and El Dorado Border along SR 89 to Echo Summit along U.S. 50, to Stateline outside the City of South Lake Tahoe, and west into the Cascade Lake area (URS 2006a). The Lake Valley Fire Protection District has 22 employees and operates out of three fire stations, the closest of which is located at 1009 Boulder Mountain Court (Lake Valley Fire Protection District 2007).

The Fallen Leaf Lake Volunteer Fire Department provides service to the community surrounding Fallen Leaf Lake but only operates during the summer months. It operates out of a single fire station at the southernmost area of the lakeshore and has an immediate response area of approximately 6 square miles (C.G. Ceilo and Sons Co. et al. 2004).

The South Lake Tahoe Fire Department provides fire protection within the portion of the study area that is within city limits, from three fire stations. The closest fire station to the ESL is located at 2101 Lake Tahoe Boulevard and is staffed with four employees, including a paramedic (South Lake Tahoe Fire Department 2007). Finally, the Forest Service provides fire protection for the Eldorado National Forest and Desolation Wilderness areas surrounding the ESL.

#### 2.1.2.2 Environmental Consequences

*Environmental Consequences Discussion*

Once completed, the Project would have no effect on police and fire protection or on emergency response or evacuation plans. During Project construction, there is a potential for temporary traffic congestion and delays to result where active construction work is under way. However, emergency vehicles are exempt from road lane closures, and every effort would be made to allow police and fire vehicles to pass through construction zones without delay (URS 2006a). If implementation of an emergency response plan or emergency evacuation plan were necessary during Project construction, response or evacuation delays could also occur. Emergency vehicle access would not be restricted and any necessary actions to support safe movement of vehicles along evacuation routes would be taken. With implementation of the TMP, there would be no impact. No mitigation is required.

### 2.1.3 Traffic and Transportation/Pedestrian and Bicycle Facilities

#### 2.1.3.1 Regulatory Setting

*California Department of Transportation*

Caltrans, as assigned by the Federal Highway Administration, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (23 Code of Federal Regulations [CFR] 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

Caltrans is committed to carrying out the 1990 Americans with Disabilities Act by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

*Tahoe Regional Planning Agency*

Pursuant to TRPA's Code of Ordinances, potential impacts on traffic and transportation include the generation of additional vehicle trips; changes to parking facilities or the demand for these facilities; changes to existing transportation systems; alterations to circulation patterns; alterations of waterborne, rail, or air traffic; or the increase in traffic hazards to motor vehicles, bicyclists or pedestrians (California Department of Transportation 2007a).

#### 2.1.3.2 Affected Environment

*Traffic*

SR 89 provides access to and from the South Lake Tahoe community and adjacent recreational beaches and parklands. The highway is generally flat through the developed City of South Lake Tahoe, along the recreational and historic facilities at Camp Richardson, and through the meadows and forestlands west of South Lake Tahoe. In addition, the highway provides connections to the Fallen Leaf Lake and transitions to steeper slopes where it approaches Cascade Road (south of Cascade Lake). This segment of SR 89 has relatively higher traffic volumes and probably the greatest recreational uses (Jones & Stokes 2007a). In 2001, average daily traffic rates along SR 89 ranged from 3,800 to 18,000. By 2008, these counts are expected to increase to 4,600 to 19,800 (URS 2006a).

SR 89 also is used as a primary route by law enforcement, fire protection, and emergency service providers to reach calls within the Project area (Jones & Stokes 2007a).

*Public Transit*

BlueGO is a coordinated public-private transportation system that provides a variety of scheduled and on-demand transportation services throughout the southern shore of Lake Tahoe. Five public bus routes run throughout South Lake Tahoe, along with shuttles for the Heavenly Ski Resort and Nevada casinos. Additional on-demand shuttle service is available throughout South Lake Tahoe and Meyers. Of the fixed bus routes, lines A and H provide direct service within the Project area, with several designated transit stops located along SR 89.

The BlueGO system also operates the Nifty Fifty Trolley, which provides service between Emerald Bay and Zephyr Cove in Nevada. Within the ESL, the Nifty Fifty Trolley makes stops at the Historic Camp Richardson Resort (Jones & Stokes 2007a).

*Circulation and Parking*

Within the Project area, the vast majority of commercial and business operations located in the study area are found directly adjacent to SR 89. Although parking areas may vary in size and location, these operations often have off-street parking options for patrons. Beyond city limits, vehicles use roadside shoulders and pullouts to park for access to scenic vistas and recreational activities.

Lake Tahoe's recreational destinations constitute the majority of travel and activity within the study area and the Lake Tahoe Basin overall. The most popular visitor locations within the ESL include the Historic Camp Richardson Resort and the Fallen Leaf Lake Campground, as well as numerous beach access points and trailheads. All of these recreation areas are accessed either directly off or via SR 89.

Some off-highway parking is available for the recreational facilities, but these areas can overflow during the peak season, causing drivers to use available shoulder space on the highway. Public parking is allowed beyond the city boundary at designated pullout areas or stretches of SR 89 where vehicles can safely park off the roadway. Parking in these pullout areas can be in high demand during the summer season. Slow-moving vehicles seeking parking in these limited areas can also increase congestion or a risk of conflicts with traffic.

*Pedestrians and Bicycles*

The City of South Lake Tahoe and the Forest Service have bike lane facilities within the Project area. The South Lake Tahoe City Bike Path is a Class I path that parallels SR 89 within the Project area and connects to trails within the LTBMU and other recreational areas adjacent to SR 89. Bicyclists also use the roadway shoulder, though it is not designated or striped as a bike lane. Hikers and other pedestrians use the Class I bike path and cross the roadway on trails in the LTBMU. Additional information about recreational uses in the Project area can be found in Section 2.1.1.4.

#### 2.1.3.3 Environmental Consequences

*Approach and Methodology*

The Project impact analysis focused on construction activities. On a long-term basis, the Project would neither change the capacity of SR 89 nor substantially change or provide new access to any lands that are not currently served by the existing road. Following the completion of construction, SR 89 would have improvements along the road, such as enhanced control and treatment of runoff and improved surfacing of roadway shoulders and pullouts. Therefore, traffic flows and circulation would be the same as they were prior to construction.

*Environmental Consequences Discussion*

After construction, the Project would not result in a change in the alignment or number of travel lanes on SR 89, cause a permanent increase in traffic, or change the availability of stops or routes for alternative transportation. The Project would not conflict with any adopted policies, plans, or programs supporting alternative transportation. There would be no impact.

**Impact TRA-1: Contribution to a Temporary Increase in Traffic Delays (Less than Significant)**
SR 89 provides the main transportation route for the Project area and is one of two integral routes for the entire South Lake Tahoe region. Thousands of vehicles use this highway daily to access residential, commercial, and recreational areas throughout the study area. No alternate routes are available for traffic and SR 89 is locally important for economic and social purposes. The Project would not change the capacity of SR 89 or provide new access to any lands that are not currently served by the existing highways; thus, it would have no long-term impact.

Temporarily, the Project would require lane closures along work areas close to traffic lanes, resulting in delays. In addition, slowly moving construction vehicles could impede through traffic flow on SR 89. At least one lane in each direction would be maintained wherever possible via lane-width reductions or the use of paved shoulder areas. Traffic flow may be restricted to alternating, one-way movement where road shoulders are narrow or work takes place within the traffic lane. Delays in any one area are expected to be temporary as construction areas would progress along the length of the Project area. These effects on traffic are temporary and every effort will be made to ensure the flow of traffic through the Project area. Implementation of the TMP would further reduce this impact by limiting the amount of time cars can spend waiting in construction, providing public information through multiple media outlets, and keeping locals and visitors abreast of changes in construction or unexpected delays. This impact is considered less than significant. No mitigation is required.

**Impact TRA-2: Revision of BlueGO Schedules or Stops because of Partial Roadway Closures during Construction Activities (Less than Significant)**
BlueGO provides hourly round-trip service along five bus routes in South Lake Tahoe. In particular, bus lines A and H, as well as the Nifty Fifty Trolley, provide service within the ESL along SR 89. The Project would not affect these routes once completed; however, construction activities may result in temporary delays in service or the temporary relocation of bus stops for BlueGO along SR 89. Implementation of the TMP would reduce these delays and effects. This impact is considered less than significant. No mitigation is necessary.

**Impact TRA-3: Construction Effects on Local Circulation and Parking (Less than Significant)**
During construction of the Project, shoulder and pullout parking areas may be temporarily reduced or unavailable. Access to businesses, residences, and parking areas will be maintained but may be modified or temporarily inconvenient. To minimize disruptions in use, and for the safety of recreational users in the area during construction, temporary detours would be provided for the South Lake Tahoe City Bike Path, for trails that cross SR 89 near the Taylor Creek Visitor Center and for other recreational areas, as necessary.

The Project would have a temporary effect on traffic, bicycle, and pedestrian circulation and parking access during construction. Access to parking areas would be maintained, and bicycle path and trail detours would be provided as part of the Project. Although construction-related impacts and detours may disrupt local circulation, the impacts would be temporary and access would be maintained. Implementation of the TMP, included as part of the Project would further reduce disruption. This impact is considered less than significant. No mitigation is required.

### 2.1.4 Visual/Aesthetics

#### 2.1.4.1 Regulatory Setting

CEQA establishes that it is the policy of the state to take all actions necessary to provide the people of the state with the "enjoyment of *aesthetic*, natural, scenic and historic environmental qualities" (Public Resources Code [PRC] 21001[b]).

*State Scenic Highway Program*

The state Scenic Highway Program, created by the California Legislature in 1963, was established to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. A highway is officially designated under this program when a local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives notification from Caltrans that the highway has been designated a scenic highway. SR 89 through the Project limits is an officially designated state scenic highway (California Department of Transportation 2007a).

*Tahoe Regional Planning Agency*

TRPA is charged with protecting Lake Tahoe and the basin for the benefit of current and future generations. The 1980 revised Compact, between state and federal agencies, gives TRPA the authority to adopt and enforce environmental quality standards. These standards were designed to achieve desired thresholds and adopted in 1982.

One of the primary objectives embodied in the TRPA Compact is the preservation of the scenic values of the Lake Tahoe Basin, which are closely linked to the social and economic health of the region (TRPA Compact; Public Law 96-551, December 19, 1980; Article I). TRPA has inventoried and rated roadway segments and travel routes in the region, including segments within the study area, to determine scenic resource values from roadway vantage points. Based on TRPA's 1982 inventory of resources in the Lake Tahoe Basin, TRPA established threshold standards for the protection and enhancement of scenic quality, and it evaluates performance in achieving those levels on a regional basis (Tahoe Regional Planning Agency 2002). TRPA requires that the numerical threshold assigned to each rated roadway segment, or travel route, be maintained or improved (California Department of Transportation 2007a).

From the final 2006 Threshold Evaluation Report (Tahoe Regional Planning Agency 2007), the following TRPA thresholds apply to scenic resources.

- **SR-1—Travel Route Rating:** The travel route rating threshold [known as composite threshold score] tracks long-term, cumulative changes to views seen from major roadways in urban and natural landscapes in the region and to views seen from Lake Tahoe looking toward the shore. To secure threshold attainment, all travel routes with a 1982 rating of 15.5 (roadway) or 7.5 (shoreline) or greater must maintain their scores, and all travel routes with a 1982 score of 15 (roadway) or 7 (shoreline) or less must improve their scores until the score is reached (Tahoe Regional Planning Agency 2007).
- **SR-2—Scenic Quality Rating:** The scenic quality rating threshold protects specific views of scenic features of Tahoe's natural landscape that can be seen from major roadways and from

the lake. To secure threshold attainment, all 1982 scenic quality scores must be maintained (Tahoe Regional Planning Agency 2007).

This threshold assesses visual features for a composite score, which averages unity, vividness, variety, and intactness. Scoring ranges from a 1 to 3, with 1 being the lowest (California Department of Transportation 2007b).

- **SR-3—Public Recreation Areas and Bike Trails:** The public recreation area threshold protects the viewshed from public recreation areas and certain bicycle trails. To secure threshold attainment, all 1993 scenic quality scores must be maintained (Tahoe Regional Planning Agency 2007).

  This threshold is quantified using the composite threshold score (California Department of Transportation 2007b).

- **SR-4—Community Design:** The community design threshold is a policy statement that applies to the built environment and is not restricted to roadways or shoreline units. Design standards and guidelines found in the Code of Ordinances, the Scenic Quality Improvement Program, and in the adopted Community Plans provide specific implementation direction. To secure threshold attainment, design standards and guidelines must be widely implemented to improve travel route ratings and produce built environments compatible with the natural, scenic, and recreational values of the region (Tahoe Regional Planning Agency 2007).

### *TRPA Tree Removal Ordinances*

Cutting, moving, removing, killing, or materially damaging live trees; removing disease-infested and hazardous trees; and attaching appurtenances to trees (6 inches diameter at breast height and larger) require TRPA permit approval. Trees of “limited occurrence” (such as aspen, black cottonwood, ponderosa pine, Douglas fir, incense cedar, sugar pine, western white pine, mountain hemlock, whitebark pine, and western juniper) should be managed for protection and enhancement and for promotion of late stage or old growth characteristics (TRPA Code of Ordinances, Chapter 71). Replacement ratios and planting requirements generally are determined by TRPA on a case-by-case basis (California Department of Transportation 2007a).

### *El Dorado County General Plan*

Policy TC-1w of the Transportation and Circulation Element of the El Dorado County General Plan (El Dorado County 2004) states, “New streets and improvements to existing rural roads necessitated by new development shall be designed to minimize visual impacts, preserve rural character, and ensure neighborhood quality to the maximum extent possible consistent with the needs of emergency access, on-street parking, and vehicular and pedestrian safety” (California Department of Transportation 2007a).

### *South Lake Tahoe General Plan*

The South Lake Tahoe General Plan (City of South Lake Tahoe 2003) includes measures to conserve and enhance the scenic and other natural resources within the city boundaries. These include goals to implement and construct storm drainage and erosion control projects that complement and improve the transportation system. Conservation Element goals include conserving and enhancing the scenic and other natural resources within the city boundaries and managing open space to promote the conservation of vegetation and the protection of watersheds (California Department of Transportation 2007a).

#### 2.1.4.2 Affected Environment

The visual environment is defined as the area along SR 89 from which the Project facilities could be seen by the public.

*Site and Vicinity*

The Project is located in the very scenic Lake Tahoe Basin. The region is known for its picturesque natural setting and year-round recreation attractions. Millions of visitors from North America and around the world visit the basin annually. The area also is known for its sensitive ecological balance. In recent years, Tahoe area forest health and water quality have gained national attention from government and private interests. Clarity of the lake has been diminishing rapidly over the past several decades, sparking major efforts to identify and reverse causes of clarity problems. Concerns for scenic resource protection are gaining momentum in the basin also. As the local population increases and continues to consume developable land, local and state agencies are concerned that unmanaged growth could impair the very resource that attracts visitors to the region. As a result, strict planning, land use, and design guidelines have been adopted to direct development in the basin (California Department of Transportation 2007d).

As mentioned above, SR 89 through the Project limits is an officially designated state scenic highway. The highway facility is a major corridor for traffic between the north and south shores of Lake Tahoe. SR 89 is used heavily at times by both recreational and local traffic.

The Project is split into two distinctly different segments. The first segment is from the "Y" in South Lake Tahoe to north of West Way (Sta. 455 to Sta. 530; see Appendix A). This segment is located within the City of South Lake Tahoe. The existing roadway is a four-lane facility (two lanes in each direction) with a center turn lane. The land use along this portion of SR 89 is predominantly tourism-oriented retail, mixed commercial with scattered residential. The mixed commercial consists of motels, gas stations, restaurants, and boutique shops. The second segment is from north of West Way to Cascade Road (Sta. 530 to Sta. 730; see Appendix A). The land use along this segment is almost entirely recreational, with the exception of the Camp Richardson General Store. Recreational opportunities along this segment include campgrounds, stables, beach access points, hiking trails, and a continuous bike path (California Department of Transportation 2007d).

*Native Vegetation*

The Project is located in an area characterized by "Sierra Nevada Montane" vegetative communities. Upland overstory vegetation is composed primarily of lodgepole pine (*Pinus contorta*), Jeffrey pine (*Pinus jeffreyi*), and red fir (*Abies magnifica*). Understory plant species are primarily bush chinquapin (*Chrysolepis sempervirens*), white leaf manzanita (*Arctostaphylos manzanita*), and mountain snowberry (*Symphoricarpos laevigatus*). Common riparian vegetation is primarily white alder (*Alnus rhombifolia*), black cottonwood (*Populus trichocarpa*), and various willow (*Salix* spp.) species. Many large trees exist along the roadside throughout the Project limits. Native vegetation provides a critical component that ties the roadside to the surrounding landscape pattern. It also provides an important buffer that benefits the landowner, recreational user, and motorist by screening undesirable views (California Department of Transportation 2007d).

### *Vistas and Views*

A variety of views exist within the Project limits. From the "Y" heading north through the City of South Lake Tahoe, motorists are exposed to views of urban development with a thick forest backdrop. Glimpses of Mount Tallac as well as surrounding mountains, framed by forest vegetation, can be seen from the roadway. As motorists travel out of South Lake Tahoe, the forest quickly closes in around the roadway. This limits motorists' views to those of the immediate roadside, except where the pines occasionally give way to lightly forested meadows. These meadows again offer motorists views of the now closer Mount Tallac. Through the Camp Richardson area, motorists experience a heavily used recreational area. A handful of buildings within sight of the roadway are surrounded by parked cars and bicycles. A number of smaller outbuildings and fences give the area a slightly cluttered, busy look. Once past Camp Richardson, motorists again have closed-in views of the forest, interrupted occasionally by meadows and stream crossings. There are no views of Lake Tahoe along the length of the Project (California Department of Transportation 2007d).

### *TRPA Scenic Resources*

Roadway projects in the Lake Tahoe Basin must consider TRPA's Lake Tahoe Basin Scenic Resource Inventory.

### *Roadway Units and Ratings*

TRPA has inventoried and rated roadway segments throughout the basin to determine scenic resource values from roadway vantage points. The TRPA roadway units below fall within the limits of the Project. The roadway unit ratings are broken into two categories: composite threshold score and scenic quality rating. Stationing (Sta.) matches locations on the Project layout sheets (Appendix A). Additional details about each of these roadway units are provided in the visual impact assessment prepared for the Project (California Department of Transportation 2007d).

- **Roadway Unit 1, Tahoe Valley; Sta. 455 to 530. 2001 Composite Threshold Score = 12, Scenic Quality Rating = 2.** This roadway unit includes Segment 1 of the Project, discussed above. It does not meet the TRPA minimum attainment threshold. Though this unit has increased from its original 1982 Composite Threshold Score of 11, it still has not reached its attainment score of 15.5. The low Composite Threshold Score is due to a high number of manmade features (California Department of Transportation 2007d).
- **Roadway Unit 2, Camp Richardson; Sta. 530 to 697. 2001 Composite Threshold Score = 18, Scenic Quality Rating = 3.** This roadway unit includes the southern portion of Segment 2 of the Project, discussed above. It does not meet the TRPA minimum attainment threshold because the overall Composite Threshold Score has decreased since its original rating in 1982. Nonattainment was caused by the quality of "Both man-made features and roadway distractions drop due to the increase in congestion and impacts from temporary and seasonal used. This includes temporary sign and banner clutter, increased on and off street parking visible from the roadway, and outdoor storage of recreational equipment. This has occurred at Camp Richardson and at the entrance to Valhalla. This unit is not in threshold attainment and is at risk" (Tahoe Regional Planning Agency 1982 in California Department of Transportation 2007d).

- **Roadway Unit 3, Emerald Bay; Sta. 697 to 730. 2001 Composite Threshold Score = 26.5, Scenic Quality Rating = 3+.** This roadway unit comprises the northern portion of Segment 2 of the Project, discussed above. It meets the TRPA minimum attainment threshold (California Department of Transportation 2007d).

*Public Recreation Areas, Bike Trails, and Ratings*

Because of the Project's close and continuous proximity to public recreation areas and bike trails, the impact assessment also must take the TRPA public recreation area and bike trail inventory into consideration. TRPA has inventoried and rated public recreation areas and bike trails throughout the basin to determine scenic resource values visible from these areas. Each bike trail unit is given a numerical threshold based on a scoring system. Generally, TRPA requires that the numerical threshold for each public recreation area and bike trail unit be maintained or improved based on 1993 values.

The following TRPA public recreation area and bike trail units fall within the limits of the Project. Stationing represents locations where the Project is within the visually sensitive area of that public recreation area (Appendix A). Additional detail on each of these units is provided in the visual impact assessment prepared for the Project (California Department of Transportation 2007d). The public recreation area and bike trail units listed below are presented by Composite Threshold Score only (California Department of Transportation 2007d).

- **Bike Trail Unit 10, Bicycle Lane: Tahoe Valley to City of South Lake Tahoe City Limits; Sta. 455 to 515. 2001 Composite Threshold Score = 8.** This bike trail unit meets TRPA minimum threshold attainment (California Department of Transportation 2007d).
- **Public Recreation Area Unit 33, Camp Richardson; Sta. 589 to 595. 2001 Composite Threshold Score = 13.** This public recreation area unit meets TRPA minimum threshold attainment (California Department of Transportation 2007d). SR 89 is visible from the store, some camping, and cabins. It is not visible from the beach.
- **Bike Trail Unit 11, Bicycle Path: City of South Lake Tahoe to Tallac Creek; Sta. 515 to 697. 2001 Composite Threshold Score = 13.5.** This unit meets the TRPA minimum threshold attainment (California Department of Transportation 2007d).
- **Public Recreation Area Unit 30, Baldwin Beach; Sta. 704 to 710. 2001 Composite Threshold Score = 15.** This public recreation area unit meets the TRPA minimum attainment threshold (California Department of Transportation 2007d). SR 89 is not visible from Baldwin Beach.
- **Public Recreation Area Unit 31, Taylor Creek; Sta. 715 to 730. 2001 Composite Threshold Score = 17.5.** This public recreation area unit meets the TRPA minimum threshold attainment (California Department of Transportation 2007d).

### 2.1.4.3 Environmental Consequences

*Approach and Methodology*

This analysis is summarized from the visual impact assessment technical memorandum prepared for the Project (California Department of Transportation 2007d), as well as applicable portions of the *Visual Resources Impact Report: Lake Tahoe Basin Environmental Improvement Program*

(Haygood & Associates 2006) and the Draft PEIR (California Department of Transportation 2007a) prepared for the program of water quality improvements Caltrans is proposing in El Dorado County. This visual assessment deals primarily with new manmade components being introduced into the Project site. Views from SR 89, surrounding residences and off-roadway recreational areas, campgrounds, and trails were considered. This assessment assumes that replacement of an existing drainage facility as well as curb and gutter in kind would not change the environment and does not warrant discussion. Where the exact dimensions of Project components are unknown, the impact was analyzed in general terms (California Department of Transportation 2007d).

### *Environmental Consequences Discussion*

**Impact VIS-1: Temporary Change in Views during Construction (Less than Significant)**
Construction is estimated to take two to three seasons. During these activities, viewers temporarily will see materials, equipment, workers, and the operations of construction, including trenches, excavations, and structures in the process of being built. Motorists and pedestrians will be exposed to construction activities while passing through the construction zones. In addition, Project components temporarily would be visible from hiking trails that cross SR 89 as well as the South Lake Tahoe City Bike Path. Residents of adjacent homes and business owners and employees will be exposed to construction activities on a more continuous basis (Haygood & Associates 2006). Impacts of construction operations are unavoidable but would be transient within the approximately 5-mile-long Project area as each element of the Project is constructed. Because the impacts of construction of each Project component would be temporary, and would transition along the roadway segments as work is completed, they are considered less than significant (California Department of Transportation 2007a). Therefore, no mitigation is necessary.

**Impact VIS-2: Change in Views and Scenic Quality after Installation of Water Quality Improvements (Less than Significant)**
Specific construction components that could potentially impact scenic resources adversely within the Project area include infiltration basins, sand traps, end treatment of culverts, pretreatment of existing swales, and maintenance vehicle pullouts (MVPs) and proposed paved pullouts. The construction and operation of these components would create additional roadside distractions and manmade features along SR 89 and would change views within the specific roadway units identified by TRPA. Views from surrounding residences, as well as off-roadway recreational areas, campgrounds, and trails, would be affected also. The impacts of these Project components are discussed further below.

#### *Infiltration Basins*

The Project proposes the construction of up to 14 infiltration basins ranging in size (as currently proposed) from 0.17 acre to up to 2.43 acres (California Department of Transportation 2007b). Construction of these basins would require removal of vegetation (including up to 40 trees), grading and excavation. However, this disturbance would only occur during construction. Following construction, the basins would be stabilized and revegetated. The basins would be designed with irregular shapes to minimize tree removal and blend in with the existing surroundings. Tree removal may occur within areas visible from SR 89, visible from trails that cross SR 89, and visible from the South Lake Tahoe City Bike Path. Based on context-sensitive

design, the limited potential for tree removal, and the temporary nature of the disturbance, visual impacts due to basin construction are less than significant.

*Sand Traps and Sand Vaults*

Sand traps and sand vaults are primarily underground, with only a small percentage of the structure visible. Though obviously manmade and foreign objects to the surrounding environment, they are not readily visible to the traveling public. They are located "below" the traveled way and tend to be visible only if people are traveling at extremely low speeds or walking/bicycling along the highway shoulder. The sand traps' "lids" usually collect debris such as soil and rocks, making for a natural disguise (California Department of Transportation 2007d). In the more vegetated locations, such as at Tallac Creek (Appendix A, sheet L-19), the installation of sand traps or sand vaults could require the removal of trees and understory shrubs within the immediate construction area. Sand vaults are similar to sand traps, but are larger and contain two chambers to capture sand and sediment. They have similar maintenance requirements and require access for cleanout.

*End Treatment of Culverts*

The end treatments would be located throughout the Project limits. The four types of treatments vary in their level of visibility, as discussed below.

The rock "riprap" would have the highest level of visibility. Similar to existing rock slope protection in the Lake Tahoe Basin, the rock riprap would consist of a number of rocks arranged on grade, in a tight cluster. The riprap would be visible because of the color variation between the rocks and the surrounding forest floor, the lack of similar natural rock outcroppings in the vicinity, and the hard unnatural lines created at the boundary of the treatments.

Rock check dams would have the next highest level of visibility. The series of check dams would create small pools where the water momentarily collects as it flows downhill. This momentary collection slows the water, allowing for fines and other particulates to settle out of the flow. Like riprap, the check dams would create color variations between the rocks and the surrounding forest floor, as well as hard unnatural lines created by the series of dams. Unlike riprap, though, the check dams would not be of a size that would create the appearance of rock outcroppings.

Sand traps would have the next level of visibility. See the "Sand Traps and Sand Vaults" section above for the treatment description and visual impacts.

The lowest level of visibility would be the drywell/infiltration trench. This treatment is a gravel-filled trench constructed along the bottom of a swale. The low visibility level of this treatment is due to the location of the structure. The trench is underground, with the top of the gravel flush with the grade of the swale. Like all rock structures in this area, the color of the gravel within the trench would vary from the surrounding forest floor, as well as create hard, unnatural lines at the boundary of the gravel.

A minimal amount of ground-level vegetation may require removal for the placement of the treatments. The end treatments would be located "below" the level of the roadway, which tends to make them less visible from the traveled way. Initially, these treatments will be visible from existing trails that cross SR 89 as well as the South Lake Tahoe City Bike Path. However, over

time, the end treatments would collect silt, debris, and vegetation, blending it into the surrounding environment. The type, length, width, and number of the end treatments vary depending on the size and predicted flow of the culvert as well as the topography of the land on which the treatment would be placed. Where possible, the most visually appropriate treatment type would be selected (California Department of Transportation 2007d).

*Pretreatment of Existing Swales*

Pretreatment improvements would be constructed where feasible at locations where existing swales currently drain into SEZ areas. This adds another method of treatment to stormwater just before it drains off site. The proposed methods for pretreatment of existing swales would be similar to those of the proposed end treatment for culverts. See the "End Treatment of Culverts" section above for treatment descriptions and corresponding visual impacts (California Department of Transportation 2007d).

*Maintenance Vehicle Pullouts and Proposed Paved Pullouts*

The proposed MVPs would be located as much as possible in a manner that would blend with the existing environment and have the least amount of site disturbance. Placement, as much as possible, would be selected were there is an already existing level area large enough to accommodate the MVP. No retaining walls or cuts are anticipated for construction.

The proposed paved pullouts, like MVPs, are located throughout the Project limits. They are placed to take advantage of the existing site planning because selected locations currently are being used as such. There would be no vegetation removal, and there would be no visual enhancements to make them unduly visible. Because no vegetation would be removed, and the dimensions of the pullout would not change, the proposed paved pullouts would look similar to how they looked prior to paving (California Department of Transportation 2007d).

Construction of these components has the potential to change scenic views. However, Project features would be designed using TRPA thresholds and criteria requirements. Proposed improvements are not expected to degrade current TRPA scenic threshold scores for roadway units, recreation areas, and bike trails within the Project area. The Project also includes four specific design features that would also reduce the visual effects of the Project (VIS-01, -02, -03, and -04, in Section 1.4.3). This impact is considered less than significant. No mitigation is necessary. Further discussion of impacts on recreational users is included in Section 2.1.1.4.

### 2.1.5 Cultural Resources

#### 2.1.5.1 Regulatory Setting

*Cultural resources*, in this document, refer to all historical and archaeological resources, regardless of significance. Laws and regulations dealing with cultural resources include the Archaeological Resources Protection Act (ARPA), which applies when a project may involve archaeological resources located on federal or tribal land. ARPA requires that a permit be obtained before excavation of an archaeological resource on such land can take place.

Historical resources are considered under CEQA, as well as PRC 5024.1, which established the California Register of Historical Resources (CRHR). PRC 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places (NRHP) listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way. PRC 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks.

#### 2.1.5.2 Affected Environment

A comprehensive cultural resources study was conducted for the Project, consisting of archaeological and historic built-environment research and field surveys. The research and field surveys for the Project are described in detail in a historic property survey report, archaeological survey report, and historical resources evaluation report (Jones & Stokes 2007b, 2007c, 2007d). The methods and results reported in these three documents are summarized below.

*Methods*

The effort to identify cultural resources in the study area consisted of a records search of the California Historical Resources Information System (CHRIS) and the LTBMU, Native American and other interested-party consultation, and a pedestrian survey of the study area. The results of the research and consultation are included below.

*Records Searches*

Records searches were conducted in 1999 and 2007 at the North Central Information Center (NCIC) of the CHRIS and the LTBMU. The records searches included a review of all recorded archaeological sites, historic structures, and other known cultural resources within the Project's area of potential effects (APE) and a 0.5-mile radius around it, as well as a review of reports for all known cultural resources studies conducted within close proximity to the APE. Sources consulted included base maps marked with the locations of previous cultural resource studies and known cultural resources. In addition, bibliographic sources were consulted and are outlined in the technical reports (Jones & Stokes 2007b, 2007c, 2007d). The records searches indicate that 22 previous cultural resources studies have been conducted in the present APE. Little survey coverage of the APE has occurred within the last 10 years, necessitating the reexamination of much of the APE during the present survey.

In addition to the studies identified, the records searches indicate that 13 cultural resources have been previously recorded in the APE: CA-ELD-180/H (USFS 05-19-67), CA-ELD-188-H

(USFS 05-19-45, Pope or Tevis Estate), USFS 05-19-007 (Permanent Washoe Campsite), USFS 05-19-43 (Camp Richardson), USFS 05-19-44 (Valhalla Estate), USFS 05-19-47 (Tallac Historic Site), USFS 05-19-111 (Tallac Ditch), USFS 05-19-417 (Fallen Leaf Dam, Water and Electrical Transmission), USFS 05-19-456 (Rich Ditch), USFS 05-19-481 (Lake Valley Utility Line), USFS 05-19-892 (Cathedral Road), Site 73X, and Bridge 25C0016 (Taylor Creek Bridge).

Property-specific research for built environment resources was conducted at the California State Library, Sacramento, the El Dorado County Assessor's office, and the El Dorado County Museum, Placerville.

### *Native American Contacts*

Based on the correspondence list and discussion contained in Dexter 2006, individuals and organizations were contacted as part of Caltrans' efforts to consult with Native Americans:

- Bridget Zelner, Chairperson, Todd Valley Miwok-Maidu Cultural Foundation;
- Christopher Suehead, Cultural Representative, Todd Valley Miwok-Maidu Cultural Foundation;
- the El Dorado County Indian Council;
- Lynda Shashone, Washoe Archive & Cultural Center, Washoe Tribe of Nevada and California (Washoe Tribe); and
- Waldo W. Walker, Chairperson, Washoe Tribe.

Caltrans sent letters to those representatives listed on August 14, 2007. The letters included a brief Project description and a map of the Project area and requested that the recipient respond with any information or concerns.

Caltrans archaeologist Julia K. Green met individually with Ms. Shashone on November 19, 2007, and with five other members of the Washoe Tribe on November 26, 2007. The Washoe Tribe indicated concern for Project activities in two portions of the archaeological APE: the flat near Camp Richardson and the vicinity of the Visitor Center. The Washoe Tribe has requested tribal monitors in these two sensitive areas.

### *Historical Society Contacts*

On August 14, 2007, Caltrans sent letters requesting any information on potential cultural resources in the APE to the El Dorado County Historical Society and Museum, Heritage Association of El Dorado County, Lake Tahoe Historical Society and Museum, Tahoe Heritage Foundation, North Lake Tahoe Historical Society, and Tahoe Maritime Museum. These letters provided a brief description of the Project and included a map of the Project Area. On September 18, 2007, the El Dorado County Historical Society sent a response letter suggesting that research regarding the Project Area be conducted at the El Dorado County Historical Museum. As of October 16, 2007, Jones & Stokes has received no other responses.

### *Archaeological Survey*

Two professionally qualified archaeologists surveyed the APE for the presence of cultural resources on August 6 and 7, 2007. The survey strategy was determined based on the width of

the APE and sensitivity for archaeological resources. Some of the APE is very steep and covered in heavy vegetation. These areas were not sensitive for cultural resources, and in some cases they offered virtually no visibility. Some of the APE is a built environment that includes paved surfaces and landscaping. These areas were subjected to cursory survey. All other areas within the APE were subjected to intensive pedestrian survey using transects that range from 15 feet to 60 feet, depending on the width of the APE. On average, ground visibility in unpaved and non-landscaped areas was 50% to 60%. In areas where excessive amounts of duff obscured the ground surface, boot scrapes were used every 30 feet to better inspect the ground for potential resources.

### *Architectural Survey*

Two professionally qualified architectural historians surveyed the APE for the presence of built-environment resources on August 2, 2007 and October 4, 2007. The survey included all built-environment resources that could be affected by Project features. Resources were photographed digitally, and current characteristics were noted. Previously evaluated resources were field-checked to determine whether the previous evaluation remained valid. Research was conducted at local repositories to facilitate evaluations when needed.

### *Identified Cultural Resources*

A total of 16 cultural resources have been identified in the APE. The records searches indicated that 13 previously recorded cultural resources are present within the APE: CA-ELD-180/H (USFS 05-19-67), CA-ELD-188-H (USFS 05-19-45, Pope or Tevis Estate), USFS 05-19-007 (Permanent Washoe Campsite), USFS 05-19-43 (Camp Richardson), USFS 05-19-44 (Valhalla Estate), USFS 05-19-47 (Tallac Historic Site), USFS 05-19-111 (Tallac Ditch), USFS 05-19-417 (Fallen Leaf Dam), USFS 05-19-456 (Rich Ditch), USFS 05-19-481 (Lake Valley Utility Line), USFS 05-19-892 (Cathedral Road), Site 73X, and Bridge 25C0016 (Taylor Creek Bridge). An attempt was made to relocate these resources during the archaeological and architectural surveys. In addition to these resources, three historic-era built-environment resources were identified in the APE: a residence at APN 023-151-201, a former motel at APN 023-141-081, and a residence at 2011 13th Street.

Of the identified cultural resources, CA-ELD-180/H (USFS 05-19-67), CA-ELD-188-H (USFS 05-19-0045, Pope or Tevis Estate), USFS 05-19-0043 (Camp Richardson), USFS 05-19-0044 (Valhalla Estate), and USFS 05-19-0047 (Tallac Historic Site), have either been listed or previously determined elgible for listing in the NRHP. CA-ELD-180/H (USFS 05-19-67) will be protected using a standard protection measure, namely the establishment of an environmentally sensitive area during construction. The remaining four NRHP-listed or eligible properties would not be affectec by the Project, as no improvements are proposed within their boundaries.

USFS 05-19-892 (Cathedral Road) and Bridge 25C0016 (Taylor Creek Bridge) were previously determined inelibible for NRHP listing, and Caltrans has determined as a result of this study that the residence at 696 James Avenue, the former motel at 661 Emerald Bay Road, and the residence at 2011 13th Street are ineligible for listing. Further, the 2007 cultural resource surveys found no evidence of six previously recorded resources in the APE: USFS 05-19-111 (Tallac Ditch), USFS 05-19-417 (Fallen Leaf Dam), USFS 05-19-456 (Rich Ditch), USFS 05-19-481 (Lake Valley Utility Line), USFS 05-19-007 (Permanent Washoe Campsite), and Site 73X. Each resource and its management status are described below.

### *CA-ELD-180/H (USFS 05-19-67)*

CA-ELD-180/H (USFS 05-19-67) was first recorded by Jensen and Townsend (1973). The site is described as a prehistoric base camp (inferred to be primarily a fishing camp) with several historic refuse dumps spread throughout. The site was re-recorded by Bloomer and Blom (1998) and excavated by Burke et al. (1991) and Offermann (1988) to determine eligibility for listing in the NRHP. The site map indicates that the site boundaries extend into the present APE and identifies a scatter of stone artifacts (lithic scatter) within the APE. An attempt to relocate the lithic scatter was unsuccessful because of heavy manzanita and whitethorn brush in the vicinity. It is highly probable that, at a minimum, surface artifacts are present beneath the dense vegetative cover in the APE.

CA-ELD-180/H (USFS 05-19-67) was determined to be eligible for listing in the NRHP on August 24, 1998, under the NRHP's criterion D, for its potential to contribute significant data regarding Native American lifeways in the Lake Tahoe Basin. Similarly, CA-ELD-180/H appears to meet the CEQA criteria for a historical resource. The archaeological site's contribution to the public's understanding of Lake Tahoe Basin prehistory qualifies CA-ELD-180/H for listing in the CRHR (the fourth significance criterion).

### *CA-ELD-188-H (USFS 05-19-0045, Pope or Tevis Estate)*

This historic estate, consisting of 20 buildings located adjacent to Camp Richardson, is listed on the NRHP. CA-ELD-188-H also includes a historic polo field, estate entry road, and historic refuse scatter. The boundaries of this resource are based on property lines, which accounts for its extension into the archaeological APE (Davis 1996:1; Hardy 1986a:1). As currently designed, the Project does not include any improvements within the boundaries of this resource; therefore, the Project will not affect CA-ELD-188-H.

### *USFS 05-19-007 (Permanent Washoe Campsite)*

USFS 05-19-007 (Permanent Washoe Campsite) was recorded at an unknown date and the primary record for this resource is brief, incomplete, and illegible in places. Base maps at the NCIC indicate that it encompasses approximately 10 acres. No archaeological materials were noted within the APE during the 2007 archaeological survey of the site vicinity.

### *USFS 05-19-0043 (Camp Richardson)*

This is an historic automobile-oriented tourist camp located on the shore of Lake Tahoe. The camp consists of historic commercial buildings on both sides of SR 89 and rental cabins north of the highway. The Camp has been determined eligible for listing in the NRHP (Craigo 1993). The boundaries of Camp Richardson are based on property lines, which accounts for its extension into the archaeological APE. As currently designed, the Project does not include any improvements within the boundaries of this resource; therefore, the Project will not affect USFS 05-19-0043.

### *USFS 05-19-0044 (Valhalla Estate)*

This NRHP-listed historic estate is located adjacent to Camp Richardson (Dexter 2006:39). The boundaries of the Valhalla Estate are based on property lines, which accounts for its extension into the archaeological APE. As currently designed, the Project does not include any improvements within the boundaries of this resource; therefore, the Project will not affect USFS 05-19-0044.

### *USFS 05-19-0047 (Tallac Historic Site)*

This NRHP-listed historic estate is located adjacent to Camp Richardson (Dexter 2006:39). The Tallac Historic Site consists of 55 historic features, including infrastructure, buildings, and historic refuse scatters (Hardy 1986b:1). Site boundaries are based upon property lines, which accounts for its extension into the archaeological APE. As currently designed, the Project does not include any improvements within the boundaries of this resource; therefore, the Project will not affect USFS 05-19-0047.

### *USFS 05-19-111 (Tallac Ditch)*

USFS 05-19-111 (Tallac Ditch) is a historic ditch that was recorded by Berrien, O'Brien, and Griswold (1992). This resource is approximately 0.9 mile long, and its purpose and age are unknown. The recorded segment of the ditch spans from Fallen Leaf Campground in the south to Tallac Estate in the north. An attempt to relocate the ditch within the archaeological APE was unsuccessful, likely because of highway construction on SR 89. The segment of ditch within the archaeological APE appears to have been destroyed by construction along SR 89.

### *USFS 05-19-417 (Fallen Leaf Dam, Water and Electrical Transmission)*

This linear historic water conveyance feature, associated with the Tallac Estate, is located adjacent to Camp Richardson (Dexter 2006:40). No portion of USFS 05-19-417 was identified in the APE.

### *USFS 05-19-456 (Rich Ditch)*

USFS 05-19-456 (Rich Ditch) is identified as a historic ditch recorded in 1992 by Berrien, O'Brien, and James (1992). This resource is approximately 0.33 mile long and possibly affiliated with the abandoned Tahoe Mountain Group Campground. The primary record indicates that the ditch segment adjacent to SR 89 was obliterated by highway construction. An attempt to relocate the resource verified this conclusion; no indication of the ditch was found in the APE.

### *USFS 05-19-481 (Lake Valley Utility [or Telephone] Line)*

This linear historic utility line has been mapped between Meyers and Camp Richardson, and appears to have been dismantled in the late 1940s (Dexter 2006:40). No evidence of USFS 05-19-481 was identified in the APE.

### *USFS 05-19-0892 (Cathedral Road)*

This is a modern paved road (historic road alignment) used to access private and recreation residences on the west side of Fallen Leaf Lake from SR 89. The site has been determined by the USFS as not eligible to the NRHP (Dexter 2006:40).

### *Site 73X*

No information is available for this site, other than a plot on the NCIC site atlas. In summer 2006, Caltrans archaeologist Julia Green and Erin Dwyer looked for this resource extensively. No evidence of Site 73X was identified in the APE.

### *Bridge 25C0016 (Taylor Creek Bridge)*

Bridge 25C0016 was built in 1995 and is listed as a Category 5 bridge, ineligible for listing in the NRHP, in Caltrans' historic bridge survey.

*APN 023-151-201, APN 023-141-081, and 2011 13th Street*

Three built-environment resources are located within the APE: a residence at 696 James Avenue, a former motel at 661 Emerald Bay Road, and a residence at 2011 13th Street. All of the buildings were evaluated as a result of this study and are not historical resources for the purposes of CEQA.

### 2.1.5.3 Environmental Consequences

One cultural resource would be affected by the Project: archaeological site CA-ELD-180/H (see Impact CUL-1 below); the remaining identified resources do not have character-defining features or archaeological features in the APE, or have been determined non-significant according to the NRHP and CEQA resource-significance criteria. Construction activities, including equipment staging and traffic, have the potential to damage or destroy archaeological resources obscured by dense vegetation or buried under recently deposited sediments. If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. If human remains are discovered, California Health and Safety Code Section 7050.5 requires that further disturbances and activities cease in any area or nearby area suspected to overlie remains and that the El Dorado County Coroner be contacted. Pursuant to PRC 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission, which then will notify the most likely descendent. At this time, the person who discovered the remains will contact Caltrans District 3 Team Tahoe so that it may work with the most likely descendent on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

**Impact CUL-1: Damage to Archaeological Site CA-ELD-180/H from Construction Activities (Less than Significant)**

Potential impacts on CA-ELD-180/H will be avoided by establishing an environmentally sensitive area around the site that prevents access by construction equipment and crew members during construction. The Project engineer and a Caltrans Professionally Qualified Staff (PQS) Prehistoric Archaeologist will ensure that the environmentally sensitive area is clearly described and identified on Project plans and in any specific actions outlining ground disturbing or any other construction activities. The Project engineer or construction contractor will install temporary plastic fencing along the boundaries of the environmentally sensitive area prior to initiating any work or staging materials or equipment. The Project engineer or construction contractor will coordinate fence installation with a Caltrans PQS Prehistoric Archaeologist. To ensure the effectiveness of the environmentally sensitive area, fencing or other demarcation of the area will be placed at the limits of the manzanita and whitethorn present in the APE. The maps and data contained in Burke et al. 1991 and Offermann 1988 shall be consulted for necessary information related to establishing the environmentally sensitive area. Therefore this impact is considered less than significant. No mitigation is required.

## 2.2 Physical Environment

### 2.2.1 Hydrology and Floodplains

This section summarizes information presented in the hydrology and water quality study prepared for the Project (Jones & Stokes 2007e).

#### 2.2.1.1 Regulatory Setting

*National Flood Insurance Program*

Congress passed the National Flood Insurance Act of 1968 and Flood Disaster Protection Act of 1973 to address the increasing costs of disaster relief at the time. The intent of these acts was to reduce the need for large, publicly funded flood control structures and disaster relief by restricting development on floodplains. The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA issues Flood Insurance Rate Maps (FIRMs) for communities participating in the National Flood Insurance Program. These maps delineate flood hazard zones in the community.

*Stream Environment Zones*

Local surface water features are defined by TRPA as SEZs, which include "natural marsh and meadowlands, watercourses and drainageways, and floodplains which provide surface water conveyance from upland areas into Lake Tahoe and its tributaries" (Tahoe Regional Planning Agency 1988). Riparian vegetation is often associated with SEZs and provides habitat for many wildlife species. SEZs also promote higher water quality by slowing overland water flow to the lake and allowing the percolation of water. These functions help limit sediment and nutrient transport to the lake.

#### 2.2.1.2 Affected Environment

*Surface Water*

The Project crosses two named creeks between the "Y" and Cascade Road. These are, from south to north along SR 89, Taylor and Tallac Creeks. Taylor Creek originates at Fallen Leaf Lake and meanders north, passing SR 89, until it drains in Lake Tahoe. Tallac Creek originates at Mount Tallac just southwest of SR 89 and drains into Lake Tahoe. These two drainages are in a natural state supplemented with proper drainage features for dissipation of flow when needed.

*Groundwater*

The Project is located in the Tahoe Valley Groundwater Basin, Tahoe South Subbasin. The basin consists of three alluvial areas surrounding the California side of the lake on the south, west, and north. The subbasin occupies a triangular area bounded on the southwest and southeast by the Sierra Nevada, on the north by the southern shore of Lake Tahoe, and on the northeast by the California/Nevada state line. The southern boundary of the subbasin extends about three miles south of Meyers and forms the triangular apex. Subbasin elevations range from 6,225 feet at lake level to about 6,500 feet in the south (California Department of Water Resources 2004).

Published calculations indicate that the subbasin has a groundwater storage capacity of approximately 936,760 acre-feet. However, it is important to note that the study used to calculate

this storage capacity used a surface area of 25,310 acres, which is considerably larger than the current delineated groundwater basin. Based on the groundwater levels obtained in 1978, the estimated storage capacity is approximately 827,625 acre-feet, with about 341,000 acre-feet of groundwater storage above lake level surface elevation (California Department of Water Resources 2004).

The Project would not use groundwater or prevent infiltration of groundwater to the local groundwater basin. Construction associated with the Project will not be in close proximity to any municipal or local wells. The proposed basins and swales would collect water to percolate to groundwater through infiltration.

*Flooding*

The Project limits encompass PM 8.6 through PM 13.80. The FIRM Index Map was referenced to select the appropriate map for review of any floodplains. The Project is included within the limits of FIRM panels 060040 0367B and 0366B. However, the index states, "FIRM PANEL NOT PRINTED El Dorado National Forest and Desolation Wilderness in Zone D, Rest of Panel in Zone C." Zone D is defined as "Areas of Undetermined, but Possible Flood Hazards." Zone C is defined as "Areas of Minimal Flooding." In the absence of FEMA studies/FIRMs, U.S. Geological Survey (USGS) topographic maps were studied and field visits were conducted to ascertain if any areas within Project limits could be areas of concern for any possible floodplains. As-Built drawings were referenced to determine the elevations of the roadway profile, as well as locations and sizes of drainage facilities. As-Built plan sets 03-097104, 03-205304, and 03-300459 were referenced to determine the roadway and associated elevations. Tucker Avenue on the As-Builts is shown to be located at PM 8.70 ,and a drainage inlet located at Tucker Avenue in D-3 Postmile Log is indicated to be PM 8.615. Sag locations on the roadway within the Project limits were reviewed to determine whether raising the profile could have an adverse impact upstream or downstream of the roadway. Only one area of concern for any possible floodplains was identified.

*PM 8.78 between Tucker Avenue and Fifth Street*

This area is designated as Zone C, "Areas of Minimal Flooding." However, in the absence of hydrologic/hydraulic studies by FEMA, if the roadway profile at this location is raised, there is potential to create higher water surface elevations upstream of the roadway. Based on As-Builts, it is recommended that the profile of the roadway at PM 8.78 should not be raised for a 200-foot-long segment (between Tucker Avenue and Fifth Street). If it is imperative to raise the profile of the roadway at this location, then hydrologic and hydraulic studies would be completed to ensure that in the event of a 100-year rainfall event, runoff would not overtop the existing roadway.

### 2.2.1.3 Environmental Consequences

*Environmental Consequences Discussion*

The purpose of the Project is to improve the quality, control, and flow of stormwater runoff into existing or upgraded facilities. When complete, the Project would only slightly increase the amount of impervious surface, resulting in concentrating and possibly redirecting flows to specified water quality treatment facilities. This small increase in impervious surface would not alter the existing drainage patterns of any creeks or exceed the capacity of existing or planned stormwater drainage facilities. The Project would be beneficial to the drainage patterns in the

area and would not expose people or structures to significant flooding risks. No mitigation is necessary.

### 2.2.2 Water Quality and Stormwater Runoff

#### 2.2.2.1 Regulatory Setting

*Federal and State Regulations*

CWA Section 401 requires water quality certification from the SWRCB or an RWQCB when the project requires a CWA Section 404 permit. Section 404 requires a permit from the U.S. Army Corps of Engineers (USACE) to discharge dredged or fill material into waters of the United States.

Along with CWA Section 401, CWA Section 402 establishes the NPDES permit for the discharge of any pollutant into waters of the United States. The U.S. Environmental Protection Agency (EPA) has delegated administration of the NPDES program to SWRCB and nine RWQCBs. The Project falls under the jurisdiction of the Lahontan RWQCB. SWRCB and the RWQCB also regulate other waste discharges to land in California through the issuance of waste discharge requirements (WDRs) under authority of the Porter-Cologne Water Quality Control Act (PCWQCA).

SWRCB has developed and issued a statewide NPDES permit to regulate stormwater discharges from all of Caltrans activities on its highways and facilities. Caltrans' construction projects are regulated under this permit, and projects performed by other entities on Caltrans right-of-way (encroachments) are regulated by SWRCB's Statewide General Construction Permit. The Lahontan RWQCB enforces the General Construction Permit, and established a WDR (Board Order R6T-2005-0007) for construction activities within the Lake Tahoe Hydrologic Unit. As a result, Lahontan RWQCB General Permit CAG616002 applies and supersedes Caltrans' General Construction Permit (CAS 000002) within the Lake Tahoe Hydrologic Unit. All construction projects covering more than 1 acre require a storm water pollution prevention plan (SWPPP) to be prepared and implemented during construction. Caltrans activities covering less than 1 acre require a water pollution control program.

*Municipal Separate Storm Sewer System Program*

EPA defines the Municipal Separate Storm Sewer System (MS4) Program to include a stormwater conveyance or system of conveyances (i.e., roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over the disposal of stormwater and designed or used for collecting or conveying stormwater. EPA's Phase II Final Rule includes permit requirements for designated small municipalities that maintain control of a separate storm sewer system. The objectives of the Phase II regulations are to reduce the discharge of pollutants to the maximum extent practicable and to protect water quality. Caltrans holds an MS4 permit that includes stormwater conveyances along the Project alignment and meets or exceeds the requirements of the small municipalities within the area.

*Clean Water Act Section 303(d) Total Maximum Daily Load*

The State of California adopts water quality standards to protect beneficial uses of state waters as required by CWA Section 303(d) and, separately, by the PCWQCA. Section 303(d) established the total maximum daily load (TMDL) process to guide the application of state water quality standards (see the discussion of state water quality standards below under Lahontan RWQCB). To identify candidate water bodies for TMDL analysis, a list of water-quality-limited streams

was generated. These streams are impaired by the presence of pollutants such as sediment and are more sensitive to disturbance because of this impairment. TMDL regulations are adopted as part of the Lahontan RWQCB's Basin Plan.

### *Lahontan Regional Water Quality Control Board*

The PCWQCA provides for the development and periodic review of basin plans that designate the beneficial uses of California's major rivers and groundwater basins, and that establish narrative and numerical water quality objectives for those waters. Beneficial uses represent the services and qualities of a water body (i.e., the reasons the water body is considered valuable), while water quality objectives represent the standards necessary to protect and support those beneficial uses. Basin plans are primarily implemented by using the NPDES permitting system to regulate waste discharges so that water quality objectives are met (see the discussion of the NPDES system in the "Clean Water Act" section above). Basin plans are updated every 3 years and provide the technical basis for determining WDRs and taking enforcement actions.

The Lahontan RWQCB has set water quality objectives for surface waters in its region (Region 6) for the following substances and parameters: ammonia, bacteria, biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity. Specific objectives for concentrations of chemical constituents are applied to water bodies based on the surface water's designated beneficial uses. Water quality objectives applicable to all groundwater have been set for bacteria, chemical constituents, radioactivity, tastes and odors, and toxicity (Lahontan Regional Water Quality Control Board 2005).

One method the Lahontan RWQCB uses to implement basin plan criteria is the issuance of WDRs, which are issued to any entity that discharges point-source effluent to a surface water body. The WDR permit also serves as a federally required NPDES permit (under the CWA) and incorporates the requirements of other applicable regulations.

### *Tahoe Regional Planning Agency*

TRPA is designated by California, Nevada, and EPA as the areawide water quality planning agency under CWA Section 208. It adopted a bistate plan, currently titled *Water Quality Management Plan for the Lake Tahoe Region* (208 Plan) (Tahoe Regional Planning Agency 1981). Most appropriate provisions of the 208 Plan, however, are incorporated into the Basin Plan. TRPA established some regional goals and policies that are key elements to the region. In 1982, it adopted Resolution 82-11, which includes environmental thresholds for the Lake Tahoe Basin. Among those thresholds is WQ-4—Tributaries, which establishes standards for total nitrogen, soluble inorganic nitrogen, total phosphorus, soluble phosphorus, total iron, and suspended sediment in tributary streams.

### *TRPA Thresholds*

The TRPA Threshold Evaluation Report numeric water quality thresholds are as follows.

- **WQ1—**Decrease sediment load as required to attain turbidity values not to exceed 3 Nephelometric Turbidity Units (NTU) in littoral Lake Tahoe. In addition, turbidity shall not exceed 1 NTU in shallow waters of Lake Tahoe not directly influenced by stream discharges.

- **WQ2—**Average Secchi depth, December–March, shall not be less than 33.4 meters.
- **WQ3—**Annual mean phytoplankton primary productivity shall not exceed 52 grams of carbon per meter squared per year ($gC/m^2/yr$). California: algal productivity shall not be increased beyond levels recorded in 1967–1971, based on a statistical comparison of seasonal and annual mean values.
- **WQ4—**attain a 90th percentile value for suspended sediment of 60 mg/L, total nitrogen range of 0.15 to 0.23 mg/L, total phosphorus range of 0.005 to 0.030 mg/L, and total iron range of 0.01 to 0.07 mg/L (annual average).
- **WQ5—**Dissolved inorganic nitrogen, 0.5 mg/L; dissolved phosphorus, 0.1 mg/L; dissolved iron, 0.5 mg/L; suspended sediment, 250 mg/L, grease and oil 2.0 mg/L, total phosphate as P, 0.1 mg/L, and turbidity, 20 NTU.
- **WQ6—**Surface water infiltration into the groundwater shall comply with the Uniform Regional Run Off guidelines. For total nitrogen, 5 mg/L; total phosphorus, 1 mg/L; total iron, 4 mg/L; turbidity, 200 NTU; and grease and oil, 40 mg/L.
- **WQ7—**Attain existing water quality standards.

*TRPA Code of Ordinances*

Chapter 81 of TRPA's Code of Ordinances has additional water quality control objectives. It states that pollutants in surface runoff and waters infiltrated into soils shall not exceed specific concentrations at the 90th percentile. Please refer to the water quality study (Jones & Stokes 2007e) for additional discussion of TRPA regulations.

For Caltrans projects, a memorandum of understanding between TRPA and the Lahontan RWQCB acknowledges that the Lahontan RWQCB is the lead regulatory agency for water quality in the region. Lahontan RWQCB water quality thresholds can be found in the Basin Plan. The Lahontan RWQCB numeric effluent limits for runoff discharged to infiltration systems are different from TRPA threshold WQ6. The Lahontan RWQCB has total phosphorus and nitrogen objectives that are more conservative than the TRPA objectives. The Lahontan RWQCB numeric effluent limits for surface discharges are similar to TRPA threshold WQ5, but this would be an inaccurate comparison of total to dissolved constituent (although WQ5 is the same as Lahontan RWQCB for turbidity, grease, and oil).

### 2.2.2.2 Affected Environment

*Stormwater*

Highway stormwater runoff contains a variety of characteristic contaminants. During storm events, rainwater first collects atmospheric pollutants and, upon impact, gathers roadway deposits. This runoff can negatively affect the receiving waters in various ways, including sedimentation, eutrophication (i.e., proliferation of microscopic organisms and vegetation), accumulation of pollutants in sediments and benthic organisms (i.e., organisms residing on the bottom of an area covered by water), and destruction of native species. The Caltrans Stormwater Monitoring Program collected water quality data for three consecutive water years (2000–2003) from six highway runoff–monitoring sites in the Lake Tahoe Basin. Descriptions of these sites and summaries of the monitoring data can be found in the Annual Data Summary (CTSW-RT-030-054.36.02) that is submitted to the SWRCB by the Caltrans Stormwater Monitoring

Program. The Caltrans highway runoff value is the average concentration calculated from the highway water quality monitoring data.

Based on the highway stormwater runoff data collected by the Caltrans Stormwater Monitoring Program, pollutants that are expected to be found in runoff from the Project include conventional constituents (e.g., biochemical oxygen demand, calcium carbonate, chemical oxygen demand, total dissolved solids [TDS], total organic carbon, total suspended solids, and total volatile suspended solids), hydrocarbons, metals, microbial agents, nutrients, volatile and semivolatile organics, pesticides, and herbicides. Pollutants are usually deposited on the roadway as a result of fuel combustion processes, lubrication system losses, tire and brake wear, transportation load losses, paint from infrastructure, and atmospheric fallout.

*Section 303(d)–Listed Impaired Waterways*

The CWA Section 303(d) list has Lake Tahoe as being impaired for nitrogen, phosphorus, and sediment (State Water Resources Control Board 2006). Potential sources of the lake's nitrogen, phosphorus, and sediment impairments include construction, forestry, pasture grazing, urban runoff, highway and bridge runoff, hydromodification, habitat modification, drainage filling of wetlands, groundwater loadings, and natural sources (State Water Resources Control Board 2006). In addition, Tallac Creek is listed as impaired for pathogens. This impairment is believed to be caused by pasture grazing upstream.

*Groundwater*

Groundwater quality in the Tahoe South Subbasin is characterized as a mixed-cation bicarbonate type. TDS values range from 59 to 260 mg/L based on nine wells sampled from 1990 to 1992. Electrical conductivity values range from 94 to 542 micromoles per centimeter based on eight wells sampled in 1996. Groundwater quality impairments indicate that nitrate-nitrogen and phosphorus quantities entering Lake Tahoe from the groundwater basin, while in small quantities, are a significant percentage of the total nutrient budget for the lake. The South Tahoe Public Utilities District reports that methyl tertiary-butyl ether (MTBE) has a major impact on the groundwater supply within the area. Low concentrations of MTBE have rendered 12 of the district's 34 production wells useless and have forced a reduction in pumping in one well (California Department of Water Resources 2004).

#### 2.2.2.3 Environmental Consequences

*Approach and Methodology*

This analysis is summarized from information presented in the hydrology and water quality study prepared for the Project (Jones & Stokes 2007e). Water quality and stormwater runoff were analyzed at a qualitative level. Chapter 1 and the preliminary engineering plans provided a detailed description of the anticipated construction practices. This information was used to assess impacts related to water quality and changes in runoff. Several other factors were also considered in evaluating the Project and its potential water quality effects: duration and extent of construction; existing conditions and physical characteristics of Taylor, Tallac, and Cascade Creeks; regulatory criteria and guidelines that pertain to the area; and typical mechanisms by which water quality impacts occur.

The Lahonton RWQCB is the primary agency responsible for regulating water quality in the Lake Tahoe Basin. TRPA and the Lahonton RWQCB both have water quality criteria that

remain relatively homogenous, except for a few contaminants (phosphorous and nitrogen) for which Lahonton RWQCB has more strict criteria.

The evaluation of effects on water quality and stormwater runoff is based on professional standards and the conclusions of technical reports prepared for the Project. The key effects were identified and evaluated based on the physical characteristics of the study area and the magnitude, intensity, and duration of activities.

### *Environmental Consequences Discussion*

**Impact WQ-1: Substantial Alteration in the Quantity or Quality of Surface Runoff, Including Violation of Water Quality Standards or Waste Discharge Requirements (Less than Significant)**

Construction-related earth-disturbing activities related to all Project components could cause soil erosion and sedimentation to local waterways. Construction of sand traps and other water quality improvement facilities would require the use of heavy equipment such as earth-moving devices. Contractors will be required to use standard containment and handling protocols to ensure that these vehicles do not leak any material that might harm the quality of local surface or groundwater. Construction would be governed by the Statewide Stormwater Management Plan (CTSW-RT-07-182-1.1), which includes measures to prevent, minimize, and reduce impacts from any spill or discharge. These measures ensure that the impact on surface runoff would be less than significant.

Additionally, contractors would implement measures required under the NPDES General Permit for Construction Activities (General Construction Permit). Before the onset of any construction activities, the contractor will be required to obtain a General Construction Permit. Caltrans will be responsible for ensuring that construction activities comply with the conditions of the permit, which will require development of a SWPPP, implementation of BMPs identified in the SWPPP, and monitoring to ensure that effects on water quality are minimized. In addition, an erosion and sedimentation control plan (ESCP) is also required for construction and is discussed in more detail in Section 2.2.3.

The following erosion and sediment control BMPs are examples of BMPs that could be included in the SWPPP:

- Cover or apply nontoxic soil stabilizers to inactive construction areas (i.e., previously graded areas inactive for 10 days or more) that could contribute sediment to waterways.
- Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways.
- Control and contain soil and filter runoff from disturbed areas by using berms, silt fencing, straw bales or wattles, plastic sheeting or geofabric, silt/sediment traps and catch basins, silt fencing, sandbag dikes, temporary vegetation or other groundcover, or other means necessary to prevent the escape of sediment from the disturbed area.
- No earth or organic material shall be deposited or placed where it may be directly carried into a stream, marsh, slough, lagoon, or body of standing water.

- Prohibit the following types of materials from being rinsed or washed into the streets, shoulder areas, or gutters: concrete, solvents and adhesives, thinners, paints, fuels, sawdust, dirt, gasoline, asphalt and concrete saw slurry, and heavily chlorinated water.
- Dewatering activities shall be conducted according to the provisions of the SWPPP. No dewatered materials shall be placed in local water bodies or storm drains leading to such bodies without implementation of proper construction water quality control measures.
- Drainage facilities in downstream offsite areas will be protected from sediment using BMPs acceptable to El Dorado County and the Lahontan RWQCB.
- Grass or other vegetative cover will be established on the construction site as soon as possible after disturbance.

Final selection of BMPs will be subject to review by Caltrans. Caltrans will submit a notice of construction filed before allowing construction to begin. Caltrans or its agent will perform routine inspections of the construction area to verify that the BMPs specified in the SWPPP are properly implemented and maintained. Caltrans will notify its contractors immediately if there is a noncompliance issue and will require compliance. This impact is considered less than significant. No mitigation is necessary.

**Impact WQ-2: Change in Existing Drainage Pattern and Erosion and Siltation Potential (Beneficial)**

The purpose of the Project is to improve control and flow of stormwater runoff into existing or upgraded facilities. When complete, the Project will only slightly increase the amount of impervious surface, resulting in concentrating and possibly redirecting flows to specified water quality treatment facilities. By design, this small increase in impervious surface would not increase the amount of erosion or sedimentation to any of the local waterways. The Project would be beneficial to the drainage patterns in the area, and the sediment traps will be beneficial in filtering out sediments and other related contaminants such as phosphorus and nitrates whose runoff would otherwise lead to eutrophication in Lake Tahoe. This impact is considered beneficial. No mitigation is necessary.

### 2.2.3 Soils, Soil Conservation, and Geology

#### 2.2.3.1 Regulatory Setting

*California Environmental Quality Act*

The CEQA checklist (Appendix B) identifies potential issues that could lead to a significant impact pursuant to CEQA, including soil erosion and location on unstable or expansive soils. Topographic and geologic features area also protected under CEQA.

*Tahoe Regional Planning Agency*

*TRPA Thresholds*

The following TRPA thresholds apply to soil conservation:

- **SC1—**The TRPA threshold for soil conservation requires that impervious coverage comply with the coverage coefficients defined in the *Land-Capability Classification of the Lake Tahoe Basin, California-Nevada: A Guide to Planning* (Bailey 1974). Additional land coverage is monitored on a project basis and recorded in square feet. Coverage may be utilized directly or by coverage transfers within a related project area. An excess coverage mitigation program is in place to gradually reduce existing land coverage.
- **SC2—**TRPA policy requires the preservation of existing naturally functioning SEZ lands in their natural hydrologic condition; the restoration of all disturbed SEZ lands in undeveloped, unsubdivided lands; and the restoration of SEZ lands that have been identified as disturbed, developed or subdivided to obtain a 5% total increase in the area of naturally functioning SEZ lands.

*TRPA and El Dorado County Grading Regulations*

TRPA and El Dorado County have enacted grading ordinances intended to protect the public, property, and the environment against adverse effects resulting from excavation, filling, and vegetation removal, and to ensure that proposed grading activities are consistent with the El Dorado County General Plan and TRPA Regional Plan. TRPA's grading regulations are contained in Chapter 64 of TRPA's Code of Ordinances (Tahoe Regional Planning Agency 2004b), while El Dorado County's grading regulations are contained in Chapter 15.14 of the El Dorado County Code (Ordinance 4719) (El Dorado County 2007). Both ordinances describe specific grading limitations and prohibitions, and require preparation of a detailed ESCP that describes the measures that will be used to control accelerated runoff, erosion, and sedimentation during and after completion of Project construction. Caltrans projects in the Lake Tahoe Basin are required to comply with the requirements of both grading ordinances.

#### 2.2.3.2 Affected Environment

The Project area is situated on a complex of lacustrine, glacial, and alluvial landforms at the southeastern end of the Lake Tahoe Basin. Slope gradients in the Project area generally range from level to moderately steep (0% to 30%), and elevations range from 6,240 to 6,800 feet above mean sea level. The relatively small-scale geologic map of the Lake Tahoe Basin compiled by Saucedo (2005) indicates that the Project area is underlain by Quaternary lacustrine, glacial, and alluvial deposits (Figure 2.2.3-1, Geologic Map of the Project Area and Vicinity ), which typically consist of unconsolidated sand, silt, and clay with varying amounts of coarse fragments (gravels, cobbles, stones, and boulders). Overlying soils are mapped primarily as loamy alluvial

## MAP LEGEND

af Artificial fill
Qb Beach deposits
Qfp Flood-plain deposits
Qyg Younger glacial deposits (Holocene)
Qc Colluvium (Holocene)
Qls Landslide deposits (Holocene and Pleistocene)
Q Alluvium (Holocene and Pleistocene)
Qf Alluvial Fan Deposits (Holocene and Pleistocene)
Qlt Lacustrine terrace deposits

**Tioga glacial deposits**
Qti Till
Qtio Outwash deposits

**Tahoe glacial deposits (Pleistocene)**
Qta Till

**Older glacial deposits – pre-Tahoe deposits (Pleistocene)**
Qog Till
Qogo Outwash deposits
QPot Older talus deposits (Pliocene and (or) Pleistocene)

**GRANITIC ROCKS**
ap Aplite and pegmatite dikes (Cretaceous)
Kelg Granodiorite of Caples Lake (Cretaceous)
Kppg Phipps Pass granodiorite (Cretaceous)
Kbmg Bryan Meadow granodiorite (Cretaceous)
Kgag Glen Alpine granodiorite (Cretaceous)
Kdlg Dicks Lake granodiorite (Cretaceous)
Krpa Alaskite at Rubicon Point (Cretaceous)
Kkgg Granodiorite of Kingsbury Grade (Cretaceous)
Keg Granodiorite of East Peak (Cretaceous)
Kdpg Granodiorite of Daggett Pass (Cretaceous
bd Basalt dikes (Cretaceous)
Kdvg Desolation Valley granodiorite (Cretaceous or Jurassic)
Kkqm Keiths Dome quartz monzonite (Cretaceous or Jurassic

**JURASSIC INTRUSIVE ROCKS**
Jaqd Quart diorite at Azure Lake (Late? And Middle Jurassic)
Jdg Diorite and gabbro (Late? And Middle Jurassic)
Jmib Mafic intrusive breccia (Late? And Middle Jurassic)
Ja Anorthosite (Late? And Middle Jurassic)

**METAMORPHIC ROCKS**
**Tuttle Lake Formation (Late and Middle Jurassic)**
Jtlf lava flows
Jtlb Volcanic breccia
Jtls Tuffaceous sandstone and conglomerate
Jtld Diamicite
Jsc Sailor Canyon Formation (Middle and Early Jurassic)
JTrm Metamorphic rocks undivided (Jurassic and Triassic)

**Fault** - solid where well located; dashed where approximately located; short dash where inferred; dotted where concealed; quired where continuation or existence is uncertain. Ball and bar on downthrown side

**Vertical beds**

**Foliation or cleavage**

**Vertical foliation or cleavage**

**Joint**

**Anticlinal fold – arrow indicates plunge direction**

**Synclinal fold – arrow indicates plunge direction**

**Arrows on landslides indicate direction of movement**

N

0 0.5 1.0
Miles

Project Area

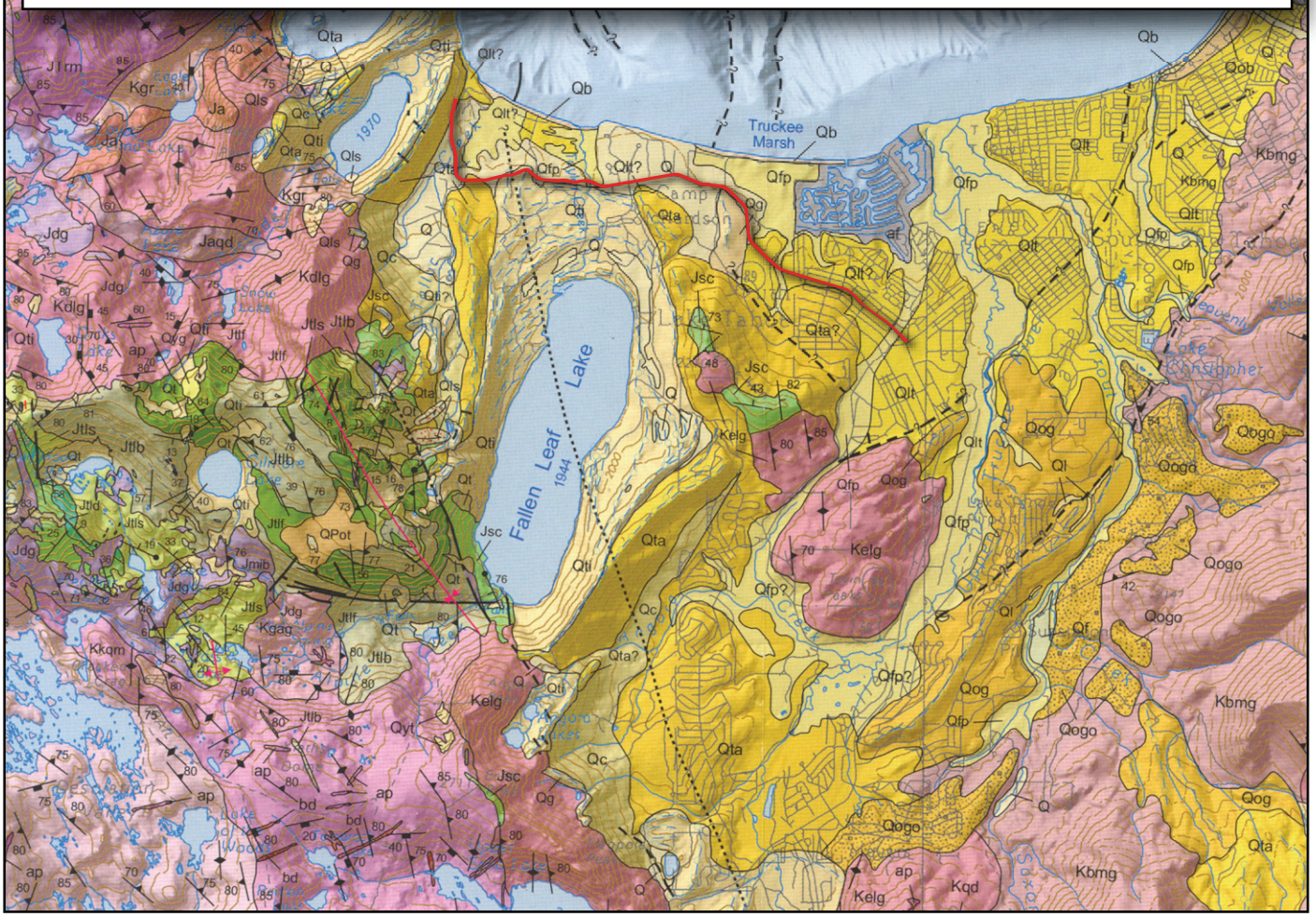


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**Fig 2.2.3-1**
**Geologic Map of the Project Area and Vicinity**

soils and soils of the Elmira, Gefo, Inville, Jabu, Meeks, and Tallac series (Rodgers 1974). Soil depth typically ranges from shallow to very deep, soil texture typically ranges from coarse to moderately coarse, and soil drainage class ranges from poorly drained to somewhat excessively drained.

*Unstable Geologic Units and Landslide Hazards*

USGS, the California Geological Survey, and El Dorado County have not identified any unstable geologic units in the Project area, and have not produced any landslide inventory or landslide hazard maps for the Project area or the SR 89 corridor (EDAW 2003; California Geological Survey 2007a, 2007b). Several landslides have occurred recently on the steep slopes west of Emerald Bay (Figure 2.2.3-1, Geologic Map of the Project Area and Vicinity) (EDAW 2003; California Department of Transportation 2007a), suggesting that those portions of the Project area located adjacent to this steep and potentially unstable terrain may be affected by landslides in the future.

*Erosion Hazard*

The soil map unit descriptions provided by Rodgers (1974) indicate that the hazard of erosion in the Project area ranges from slight to high, and varies depending on factors such as slope gradient, soil infiltration rates, and soil erodibility.

*Expansive Soils*

The soil map unit descriptions provided by Rodgers (1974) indicate that soils in the Project area are primarily coarse-textured and nonexpansive.

*Bailey Land Capability Districts*

All land areas in the Lake Tahoe Basin have been classified into one of seven land capability classes based on their sensitivity to disturbance and development. Five of these districts occur in the Project area (Table 2.2.3-1).

**Table 2.2.3-1. Land Capability Districts in the Project Area**

| Land Capability Class | Area within ESL (Acres) | Percent of Project Area |
|---|---|---|
| 1A | 0.51 | 1 |
| 1B (SEZs) | 18.94 | 17 |
| 4 | 9.76 | 9 |
| 5 | 49.11 | 44 |
| 7 | 32.59 | 29 |
| **Total** | **110.89** | **100** |

### 2.2.3.3 Environmental Consequences

The soil map unit descriptions provided by Rodgers (1974) indicate that soils in the Project area are primarily coarse-textured and nonexpansive. Additionally, the Project does not involve the construction of habitable structures or other facilities that would result in substantial adverse effects on people, property, or the environment if damaged by unanticipated, expansive soils and sediments encountered during Project construction.

The excavation of slopes would be necessary at some locations. Other slope stability measures are part of the Project. In addition, soil conservation measures would be employed as necessary. The Project would not result in the modification of a channel of a river or stream, sandy beach, or lake bed, and it would not increase exposure of people or structures to geologic hazards.

**Impact SC-1: Change in Hard Coverage Area (Less than Significant)**
New drainage features would create additional hard coverage and changes to the existing landscape. However, these changes are not expected to result in substantial impacts pursuant to CEQA or TRPA. The existing geology has been considered during the Project design process. Areas that are not suitable for water quality treatment features, due to either incompatible terrain or existence of wetlands, marshes, or SEZs, were eliminated from consideration.

TRPA's primary concern regarding soils is potential creation of additional coverage. In accordance with Chapter 20.3.B(8) of TRPA's Code of Ordinances, the proposed infiltration basins would create impervious coverage that is exempt from the Bailey land coverage limits. Coordination with TRPA on similar stormwater quality projects determined that maintenance access areas adjacent to these structures are not exempt. If needed, Caltrans will transfer land coverage credits pursuant to Chapter 20 of the TRPA Code of Ordinances.

The addition of asphalt-concrete and the placement of structures during the installation of drainage improvements, and construction of maintenance pullouts are expected to increase impervious land coverage within the Project area. Revegetation of these areas may be infeasible because these areas would be converted to "hard" impervious surfaces. In addition, areas of SEZ land, LCD 1b, would be disturbed by additional coverage (fills and structures).

Construction of infiltration basins, basin access routes, and culvert outfall areas would require vegetation removal but would be revegetated with native plants and grasses upon completion. Vegetation removal and subsequent revegetation by applying appropriate (non-impervious) erosion control materials would be determined by the Caltrans Landscape Architecture Branch in conjunction with TRPA.

Additionally, existing soft coverage areas (typically compact unvegetated soils) within the Project area are proposed to be restored by applying appropriate (pervious) erosion control materials, as determined by the Caltrans Landscape Architecture Branch in conjunction with TRPA.

TRPA is concerned about how to prevent new coverage from being created as a result of the Project, because there is a potential for soft coverage to increase. Automobiles may continue to park off pavement and create new areas of compacted dirt and disturbance to adjacent lands. To help prevent autos from creating new areas of coverage, rock-embedded berms may be incorporated, to the extent feasible, just outside of the clear recovery zone. Other methods that would be installed closer to the edge of pavement to prevent parking would include bollards and landscaping.

The TRPA Parcel Evaluation System does not apply to this water quality improvement project. The Project would require minor grading to develop drainage basins, and install sand traps.

This impact is considered less than significant. No mitigation is necessary.

**Impact SC-2: Construction-Related Soil Erosion and Sedimentation (Less than Significant)**
The grading, trenching, and other earthwork that would be conducted during construction of the Project would result in ground disturbance that would increase the hazard of erosion or increase erosion and sedimentation rates above preconstruction levels. Accelerated erosion and sedimentation resulting from construction-related ground disturbance could potentially affect water quality in nearby surface waters including Lake Tahoe. To reduce or eliminate construction-related erosion, sedimentation, and associated water quality effects, contractors acting on behalf of Caltrans will prepare and implement a SWPPP to gain coverage under and comply with the requirements of the Lahontan General Storm Water Permit, as well as an ESCP to comply with the requirements of the TRPA and El Dorado County grading ordinances. The SWPPP and ESCP will specify BMPs that will be implemented to control runoff, accelerated wind and water erosion, and sedimentation during construction, as well as measures to stabilize the Project area once construction is complete. Therefore, this impact is considered less than significant. No mitigation is required. Additional discussion of erosion and sediment control BMPs is included under Impact WQ-1.

### 2.2.4 Hazardous Waste/Materials

#### 2.2.4.1 Regulatory Setting

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976 and the California Health and Safety Code of 1976. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during Project construction.

*Tahoe Regional Planning Agency*

TRPA does not have any specific thresholds or codes for the management of hazardous materials. The 208 Plan provides that TRPA will cooperate with other agencies with jurisdiction in the Tahoe region in the preparation, evaluation, and implementation of toxic and hazardous substance spill control plans covering Lake Tahoe, its tributaries, and the groundwater and lands of the Tahoe region. TRPA cooperates with the Forest Service, EPA, U.S. Coast Guard, state water quality and health agencies, and local units of government to develop programs to prevent toxic and hazardous spills and to formulate plans for responding to spills that may occur. (California Department of Transportation 2007a).

*Lahontan Regional Water Quality Control Board*

The Lahontan RWQCB regionwide control measures for hazardous waste leaks, spills, and illegal discharges apply to the Lake Tahoe Basin, as do statewide requirements for the preparation and implementation of local government hazardous waste management plans (California Department of Transportation 2007a).

#### 2.2.4.2 Affected Environment

The ESL includes the outermost edge of South Lake Tahoe. This area comprises residential development, commercial development, open space, forestland, and recreational areas. Tahoe Montessori School is located approximately 500 feet from SR 89 within the Project area, and Lake Tahoe Airport is located approximately 1 mile from the “Y”, the eastern terminus of the Project. Outside the developed areas of South Lake Tahoe, the ESL is in primarily forested lands.

Because of historical use of leaded gasoline, leaded airline fuels, waste incineration, and other factors, lead-contaminated soils may exist within and near the SR 89 right-of-way (California Department of Transportation 2007e). A preliminary site investigation (PSI) for aerially deposited lead (ADL) was conducted in the Project area in October 2003. Although ADL was deposited prior to 1986 because of vehicle emissions, when nearly all lead was removed from gasoline in California, it was found to exist only at nonhazardous levels within the Project area (California Department of Transportation 2007e).

The yellow traffic stripe in the existing roadway may contain heavy metals such as lead and chromium (Attachment G, California Department of Transportation 2003a).

In addition, four sites located in the Project area (just north of the "Y") were identified as having potential contamination (Table 2.2.4-1); however, no Project activities are currently proposed at these locations.

**Table 2.2.4-1. Potentially Contaminated Sites in Project Area**

| Site Name | Address | Issue |
|---|---|---|
| Unknown Source at "Y" | Unknown Source at "Y" | Trichloroethylene/perchloroethylene plume in GW |
| Runnels Automotive | 986 Emerald Bay Road | Fuel contamination |
| Swiss Mart Gas Station | 913 Emerald Bay Road | Fuel contamination |
| McNamara Property | 787 Emerald Bay Road | Fuel contamination |

*Source:* California Department of Transportation 2007e.

The locations of potential infiltration basins were reviewed in 2006 for potential hazards and hazardous materials. No issues were identified, and the Caltrans Geotechnical Unit was given approval to drill for each location from the Caltrans North Region Hazardous Waste Office (California Department of Transportation 2007e).

### 2.2.4.3 Environmental Consequences

*Approach and Methodology*

This impact analysis is based on information derived from the initial site assessment (ISA) prepared for the Project (California Department of Transportation 2007e), the program ISA (Attachment G, California Department of Transportation 2003a), and research on land uses conducted for the Project.

The Project ISA evaluated whether hazardous waste issues affect the Project area and whether follow-up investigations would be necessary before construction of the Project. The ISA evaluation included:

- a review of the Project plans and aerial mapping;
- discussions with the Project engineer and environmental coordinator on the Project work scope;
- a site field review;
- an Environmental Data Resources (EDR) (an environmental information database) records search; and
- discussions with regulatory agencies.

*Environmental Consequences Discussion*

**Impact HAZ-1: Potential Public Hazard from Routine Use, Transport, and Disposal of or Accident Conditions Involving Release of Hazardous Materials (Less than Significant)**

Gasoline, diesel fuel, oil and lubricants for operation of construction equipment are anticipated to be used on-site during Project construction. These materials are typically used, handled, and stored by contractors on all roadway construction projects. Furthermore, contractors are required to handle these materials in accordance with applicable laws, including health and safety requirements. No acutely hazardous materials will be used or stored on-site during construction.

However, construction of the Project could potentially result in small fuel spills from construction equipment or vehicles (California Department of Transportation 2007e).

Equipment to clean up fuel leaks and spills will be available on-site during all construction activities. The contractors will be required to safely store materials and immediately clean up spills if they occur. Caltrans' *Construction Manual* (California Department of Transportation 2006a) and *Safety Manual* (California Department of Transportation 2007f) provisions will be followed at all times.

Construction would also include removal of roadbed as preparation for repaving and may include removal of the yellow pavement striping. This striping may contain lead and chromium. If yellow stripe is to be removed, the roadway will be ground in its entirety instead of removing just the yellow paint stripe. If it is not feasible to grind the roadway in its entirety, the removed paint material will be disposed of at a Class 1 disposal facility. If any yellow traffic markings are going to be removed separate from the adjacent pavement, the levels of lead and chromium need to be determined. Common practice has been to determine the levels during construction. Otherwise, a PSI to determine the concentration of lead chromate should be performed prior to construction. This impact is considered less than significant. No mitigation is necessary.

In the event suspected contaminated materials are encountered, the contractor will stop work in the affected area, as noted above, and notify the Caltrans project engineer immediately and the suspected contamination will be managed appropriately.

## 2.2.5 Air Quality

### 2.2.5.1 Regulatory Setting

*Lake Tahoe Air Basin*

The Project is located in the El Dorado County portion of the Lake Tahoe Air Basin (LTAB). Located in El Dorado and Placer Counties, the Lake Tahoe Basin was designated as its own air basin in 1969. The LTAB encompasses the surface of Lake Tahoe and the land up to the surrounding rim of mountain ridges, covering approximately 193 square miles. Its average elevation is 6,200 feet. Deep valleys that have been carved by streams that drain into the lake break the precipitous mountain slopes surrounding the lake.

*Federal and State Standards*

Air quality in the LTAB is regulated by several agencies, including EPA, the California Air Resources Board (ARB), and TRPA. Each agency has developed rules and regulations to attain various air quality goals. Although EPA regulations may not be superseded, state and local regulations may be more stringent than federal air quality regulations. In general, EPA and ARB are responsible for regulating emissions from on- and off-road vehicles and establishing air quality standards.

The federal and state governments have established ambient air quality standards for seven criteria pollutants: ozone, carbon monoxide (CO), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), ozone, particulate matter 10 microns in diameter or less (PM10), particulate matter 2.5 microns in diameter or less (PM2.5), and lead. Most standards are set to protect public health, but some are based on other values (e.g., protection of crops, protection of materials, or avoidance of nuisance conditions). The state has also established standards for hydrogen sulfide, vinyl chloride, and sulfates. The national and California ambient air quality standards (NAAQS and CAAQS, respectively) for these pollutants are shown in Table 2.2.5-1 (in Appendix C), and the pollutants are described in more detail under “Affected Environment.”

Ozone and $NO_2$ (an ozone precursor) are considered regional pollutants because they affect air quality on a regional scale. Oxides of nitrogen ($NO_x$), including $NO_2$, react photochemically with reactive organic gases (ROGs) to form ozone some distance downwind of the source of pollutants. Pollutants such as CO, PM10, and PM2.5 are considered local pollutants because they tend to disperse rapidly with distance from the source. PM2.5 is also considered a regional pollutant that travels and affects downwind areas.

*Attainment Status*

EPA has classified the basin as being in attainment for all NAAQS. ARB has classified the basin as being in attainment for all CAAQS, except the 24-hour PM10 standard. The TRPA standard for PM10 is the same as the California standard; therefore, the TRPA threshold for this pollutant is exceeded within the air basin.

*State Air Quality Plans*

The California Clean Air Act (California CAA) requires local and regional air pollution control districts that are not attaining one or more of the CAAQS for ozone, CO, $SO_2$, or $NO_2$ to expeditiously adopt district-level air quality management plans, called clean air plans (CAPs), specifically designed to attain these standards. Each CAP must be designed to achieve an annual

5% reduction in districtwide emissions of each nonattainment pollutant or its precursors, and they must be updated every 3 years. ARB is responsible for developing plans and projects that achieve compliance with the state PM10 standards. Although there are CAAQS for lead, sulfates, vinyl chloride, and hydrogen sulfide, the California CAA does not require that CAPs be developed for them.

*Tahoe Regional Planning Agency*

TRPA has regional jurisdiction over air quality in the LTAB. TRPA is responsible for implementing federal and state regulations, issuing permits for stationary sources of air pollution, and developing plans for attaining ambient air quality standards. TRPA regulates most air pollutant sources, except motor vehicles, locomotives, aircraft, forestry equipment, and marine vessels. State and local government projects, as well as those funded by the private sector, are subject to TRPA requirements. Emissions from projects associated with changes in automobile traffic are addressed through TRPA air quality plans.

As part of its regional transportation plan/air quality plan, TRPA has established a set of air quality thresholds that tend to be equivalent to or more stringent than the federal and state air quality standards. Of particular interest to the Project: CO concentrations will be maintained at or below 6 parts per million (ppm), averaged over 8 hours; ozone concentrations will be maintained below 0.08 ppm, averaged over 1 hour; and the PM10 threshold (equivalent to the CAAQS) is 20 micrograms per cubic meter ($\mu g/m^3$) averaged over a year and 50 $\mu g/m^3$ averaged over 24 hours. TRPA has also established thresholds for visibility, traffic volume, vehicle miles traveled, and wood smoke. Projects that exceed these thresholds are considered to have a significant impact on the air quality of the Lake Tahoe Basin (URS 2006b).

In addition, for Project construction, TRPA's Code of Ordinances (Chapter 64) has established BMPs that apply to construction activities. Temporary BMPs are required during all construction in the Lake Tahoe Basin until permanent BMPs have been installed on the disturbed site. Temporary BMPs differ from permanent BMPs in that they are designed to remain effective for a relatively short time, usually only until construction is completed and permanent BMPs can be applied. Depending on the nature of the activity and site characteristics, a variety of different BMPs may be employed to keep sediment from leaving a construction area (Tahoe Regional Planning Agency 2005a).

### 2.2.5.2 Affected Environment

*Regional Climate and Meteorology*

In winter, the meteorology of the LTAB is typified by large amounts of precipitation from Pacific storms that falls mainly as snow. Temperatures are often below freezing, accompanied by winds, cloudiness, and lake and valley fog. Winter days can be cool and brilliantly clear between storms. Thermal inversions are a dominant feature of winter weather. In summer, days are often mild and sunny, with daytime peaks in the upper 70s and low 80s (°F), with southern flows of moisture bringing an occasional thunderstorm.

The principal impact on air quality from these conditions is excess winter concentrations of CO in the more congested and populated areas of the basin. This is seen primarily at South Lake Tahoe from the operation of vehicles, residential wood stoves, and fireplaces. Further, the thermal inversions "trap" pollutants near the surface of the land and Lake Tahoe, resulting in

higher concentrations. This has a detrimental impact on winter CO levels. Some transport of ozone from the west in summer is known to occur, but ARB has not yet officially recognized this as a transport route.

*Pollutants of Concern in Lake Tahoe Region*

The following discussion focuses on ozone, CO, and particulate matter (PM10, PM2.5). These are the pollutants of most concern in the LTAB.

*Monitoring Data*

The existing air quality conditions in the Project area can be characterized by monitoring data collected in the region. Table 2.2.5-2 (in Appendix C) summarizes air quality data from these monitoring stations from 2004 to 2006. Within the LTAB, the South Lake Tahoe station monitors ozone, CO, PM10, and PM2.5, and the Tahoe City station monitors ozone and CO. The Tahoe City station was installed as part of a short-term air quality study led by ARB. However, because of ongoing technical problems that resulted in an inability to collect accurate CO data, the CO measurements from this site will not be used for this analysis. Ozone, CO, PM10, and PM2.5 are also monitored at the Echo Summit station. However, this station is not within the LTAB, and local topography and activities in the immediate vicinity of the site have a significant influence on these data. Therefore, the Echo Summit data provided in Table 2.2.5-2 (in Appendix C) are for reference only, not to assess conditions in the LTAB.

As shown, during the 3-year monitoring period, the stations in the vicinity of the Project area have experienced occasional violations of several standards. Because of the various problems associated with the Tahoe City and Echo Summit stations, this analysis relies primarily on data from the South Lake Tahoe station. However, it is expected that the use of South Lake Tahoe data to evaluate pollutants that can be very localized (such as CO) will include some uncertainty.

*Sensitive Receptors*

Sensitive receptors are locations where human populations, especially children, seniors, and the ill, are located where there is reasonable expectation of continuous human exposure according to the averaging time for an air quality standard (e.g., 24 hours, 8 hours, 1 hour). These locations typically include residences, hospitals, and schools. Sensitive land uses in the Project area that could be affected by the Project include several single-family residences, as well as a campground and lodges. The residences would be located within 50 feet of Project-related construction.

### 2.2.5.3 Environmental Consequences

*Approach and Methodology*

This analysis uses TRPA guidance and CEQA criteria for the determination of significant impacts. TRPA guidelines do not provide numerical thresholds of significance for construction emissions. Instead, the emissions are considered to have a temporary impact that must be mitigated through the use of BMPs and revegetation as determined by TRPA (URS 2006b).

*Environmental Consequences Discussion*

Diesel emissions from construction equipment and volatile organic compounds from paving activities may create off-site odors during construction. These odors would be temporary and localized, and would cease once construction activities have been completed. Operation of the

Project would result in improved drainage that would meet NPDES requirements. This is not anticipated to generate any objectionable odors that affect a substantial number of people. There would be no impact. No mitigation is necessary.

**Impact AQ-1: Generation of Ozone Precursors, Carbon Monoxide, and Particulate Matter during Construction (Less than Significant)**

The Project is expected to generate suspended particulate matter from construction activities. Construction is a source of dust emissions that have the potential to result in temporary local impacts on air quality (i.e., to exceed the CAAQS for PM10). Construction emissions would result from earth-moving and heavy equipment use, in particular for land clearing, ground excavation, cut and fill operations, and pavement activities. Dust emissions would vary daily, depending on the level of activity, specific operations, and prevailing weather. In addition to particulate matter emissions from earth-moving, combustion emissions from fuel-powered construction equipment may create a temporary impact on local air quality. Such equipment is typically diesel-fueled. The construction contractor may implement additional measures to further reduce pollutant emissions from construction equipment exhaust. The contractor will keep engines properly tuned, limit engine idling, and avoid unnecessary usage of equipment.

TRPA regulates particulate matter emissions from construction activities by requiring that projects involving the creation or relocation of land coverage obtain a construction permit that details the dust control measures that would be applied during construction. The construction contractor will be required to apply for and to obtain any necessary TRPA permits. Guidance regarding applicable TRPA permits and controls is available from TRPA's Best Management Practices Retrofit Program web page (2005a), Erosion Control Team general information web page (2005b), and BMP Contractors Notes web page (2005c). Typical dust control practices that may be required to reduce the amount of dust from construction emissions may include the following:

- Cover open-bodied trucks when used for transporting materials likely to give rise to airborne dust.
- Water disturbed (graded or excavated) surfaces as necessary to minimize dust production, increasing frequency when weather conditions require.
- Water disturbed areas to form a compact surface after grading and earth-working.
- Use chemical dust suppressants when watering is not sufficient.
- Limit the areas to be cleared to those facilities required for the Project, as well as necessary equipment and materials stockpile areas.
- Limit the speed of construction equipment and vehicles on unpaved roads to minimize dust protection, when conditions require.
- Conduct erosion control planting of exposed slopes after construction.
- Incorporate standard erosion control measures as part of the construction contract.

The dust control activities would comply with Caltrans Standard Construction Specifications Section 10 and would be reviewed and approved by TRPA. In addition, Caltrans would follow

Standard Specification 7-1.01F, which addresses following the local air pollution control district's rules. Construction emissions and this impact are anticipated to be less than significant. No mitigation is necessary.

**Impact AQ-2: Exposure of Sensitive Receptors to Elevated Levels of Diesel Exhaust and Increased Health Risk (Less than Significant)**
Construction activities are anticipated to occur over a 2-year period, in varying locations. Assessment of cancer risk is typically based on a 70-year exposure period. Construction activities are sporadic, transitory, and short-term in nature; once construction activities cease, so do their emissions. Recent data show that, given Lake Tahoe's inversions, diesel emissions may remain in the local area after a source has left (Cahill et al. 2005), but not for long periods. Because exposure to diesel exhaust will be much less than 70 years, construction of the Project is not anticipated to result in an elevated cancer risk to exposed persons. Therefore, the diesel risks associated with construction activities are considered less than significant. No mitigation is necessary.

**Impact AQ-3: Atmospheric Deposition of Phosphorus from Re-Entrained Roadway Fugitive Dust into Lake Tahoe (Less than Significant)**
Several factors have been identified as contributors to poor water quality in Lake Tahoe. This is a primary concern for Lake Tahoe because its clarity and visual quality are unique and renowned. Among these factors, it has been demonstrated that concentrations of phosphorus in the lake are closely related to its capacity to support algal populations—as concentrations of phosphorus in the lake increase, algal growth may increase if all other factors remain equal.

Atmospheric deposition of phosphorus and particulate matter from re-entrained fugitive dust into Lake Tahoe is a particular concern. Because of heavy winter sanding operations for snow control in the area, roadway surfaces in the area contain higher levels of sand and gravel than other areas. This can result in higher levels of localized re-entrained fugitive dust as vehicles travel over the roadways and break the sand and gravel into ever smaller dust that is sufficient for aerial transport. This dust can be re-entrained into the air from wind blowing over the roadways and vehicles traveling over the roadways.

The Project is not anticipated to result in any change to the atmospheric deposition of phosphorus in Lake Tahoe from re-entrained fugitive dust. Implementation of the required BMPs limits fugitive dust, including phosphorus. Overall, the Project would not increase the amount of re-entrained fugitive dust and would not contribute to the atmospheric deposition of phosphorus and particulate matter in the lake. This impact is considered less than significant. No mitigation is necessary.

## 2.2.6 Noise and Vibration

### 2.2.6.1 Regulatory Setting

*State*

CEQA requires a strictly baseline-versus-build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless such measures are not feasible. Noise from construction activities is addressed in Caltrans Standard Specifications Section 7-1.01I, which states that noise levels generated during construction must comply with applicable local, state, and federal regulations, and that all equipment must be fitted with adequate mufflers according to the manufacturers' specifications.

*Tahoe Regional Planning Agency*

TRPA establishes noise limitations in its Code of Ordinances, Chapter 23. These limitations apply to single-event noises from aircraft, marine crafts, motor vehicles, motorcycles, off-road vehicles, and snowmobiles, as well as community noise levels in the Tahoe region. TRPA-approved construction is exempt from these provisions, provided construction activities are limited to the hours of 8:00 a.m. to 6:30 p.m.

TRPA's thresholds for noise consist of numerical community noise equivalent level (CNEL) values for various land use categories and transportation corridors, as well as single-event ($L_{max}$) standards for specific sources, including motor vehicles, off-road vehicles, boats, snowmobiles, and aircraft. Applicable TRPA noise threshold indicators are listed below:

- **N-2—Single-Event Noise Standards for Other Than Aircraft:** This indicator is any single-event noise measurement made with a Type I sound level meter using the A-weighting and "slow" response pursuant to applicable manufacturer's instructions (except for sounds lasting 2 seconds or less, for which the "fast" response will be used). Chapter 23 of TRPA's Code of Ordinances contains additional information.
- **N-3—Community Noise Equivalent Levels:** This indicator is CNELs calculated pursuant to Section 23.4 of TRPA's Code of Ordinances. TRPA will review proposed activities in the region and account for site-specific analyses, estimated impacts on affected land uses, consistency with other provisions of the TRPA Regional Plan, and reasonable tests of significance of change in noise levels.

*El Dorado County General Plan*

Maximum allowable noise levels resulting from construction are outlined in the El Dorado County General Plan (El Dorado County 2004). As stated in Policy 6.5.1.11:

> The standards outlined in Tables 6-3, 6-4, and 6-5 [of the El Dorado County Construction Noise Standards] will apply to those activities associated with actual construction of a project as long as such construction occurs between the hours of 7 a.m. and 7 p.m., Monday through Friday, and 8 a.m. and 5 p.m. on weekends, and on federally recognized holidays. Exemptions are allowed if it can be shown that construction beyond these times is necessary to alleviate traffic congestion and safety hazards.

The noise level standards outlined in Table 6-4 do not apply to the Project because construction activities will not occur in rural centers. The standards presented in Tables 6-3 and 6-5 apply to the Project because construction activities would occur within South Lake Tahoe and in rural regions along existing state highways. Tables 6-3 and 6-5 are represented in this document by Tables 2.2.6-1 and 2.2.6-2, respectively.

**Table 2.2.6-1. Maximum Allowable Noise Exposure for Nontransportation Noise Sources in Community Regions and Adopted Plan Areas**

| Land Use Designation[a] | Time Period | Noise Level (Decibels [dB]) | |
|---|---|---|---|
| | | $L_{eq}$[b] | $L_{max}$ |
| Higher-Density Residential (MFR, HDR, MDR) | 7 a.m.–7 p.m. | 55 | 75 |
| | 7 p.m.–10 p.m. | 50 | 65 |
| | 10 p.m.–7 a.m. | 45 | 60 |
| Commercial and Public Facilities (C, R&D, PF) | 7 a.m.–7 p.m. | 70 | 90 |
| | 7 p.m.–7 a.m. | 65 | 75 |
| Industrial (I) | Any Time | 80 | 90 |

*Source:* Illingworth & Rodkin 2006.

[a] Adopted plan areas should refer to those land use designations that most closely correspond to the similar general plan land use designations for similar development.

[b] $L_{eq}$ refers to Equivalent Noise Level, which is the average A-weighted noise level during the period of time the noise level is measured or estimated.

**Table 2.2.6-2. Maximum Allowable Noise Exposure for Nontransportation Noise Sources in Rural Regions**

| Land Use Designation | Time Period | Noise Level (dB) | |
|---|---|---|---|
| | | $L_{eq}$ | $L_{max}$ |
| All Residential (LDR) | 7 a.m.–7 p.m. | 50 | 60 |
| | 7 p.m.–10 p.m. | 45 | 55 |
| | 10 p.m.–7 a.m. | 40 | 50 |
| Commercial, Recreation, and Public Facilities (C, TR, PF) | 7 a.m.–7 p.m. | 65 | 75 |
| | 7 p.m.–7 a.m. | 60 | 70 |
| Rural Land, Natural Resources, Open Space, and Agricultural Lands (RR, NR, OS, AL) | 7 a.m.–7 p.m. | 65 | 75 |
| | 7 p.m.–7 a.m. | 60 | 70 |

*Source:* Illingworth & Rodkin 2006.

### 2.2.6.2 Affected Environment

The existing noise environment along the Project alignment results primarily from vehicular traffic along SR 89. The typical daytime noise level from average daily traffic in the Project area is estimated to be 64 dBA (A-weighted decibels) at 50 feet from roadway center. This noise level is calculated from noise levels found in the noise report prepared for the EIP (Illingworth & Rodkin 2006).

Noise-sensitive land uses—locations where people reside or where the presence of unwanted sound could affect the use of the land adversely—generally include residences, hospitals, schools, libraries, and certain types of recreational uses. Noise-sensitive land uses in the Project area that could be affected include a campground and lodges (Camp Richardson), as well as

several single-family residences. The residences would be located within 50 feet of Project-related construction activities.

### 2.2.6.3 Environmental Consequences

*Approach and Methodology*

This analysis is summarized from the noise report prepared for the EIP (Illingworth & Rodkin 2006) and the noise analysis memorandum prepared for the Project (Jones & Stokes 2007g). To evaluate construction noise impacts, land uses or activities that could be affected by construction noise were identified. Construction noise at these uses or activities was then evaluated using methods consistent with Caltrans' *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction Projects, and Retrofit Barrier Projects* (California Department of Transportation 2006c) and recommended in the *FHWA Highway Construction Noise Handbook* (Federal Highway Administration 2006).

Implementation of the Project would involve site preparation, storm drain installations, paving, and other noise-generating construction activities. Table 2.2.6-3 summarizes noise levels typically produced by noise-generating equipment anticipated to be used on the Project.

**Table 2.2.6-3. Construction Equipment Noise Levels**

| Equipment | Maximum Noise Levels at 50 Feet (dBA) |
|---|---|
| Backhoe | 84 |
| Compactor | 82 |
| Crane | 86 |
| Dozer | 88 |
| Drill rig | 88 |
| Elevating scraper | 89 |
| Excavator | 85 |
| Front end loader | 87 |
| Generator | 84 |
| Paver | 85 |
| Tractor trailer (20 cubic yards) | 80 |
| Water truck | 87 |
| Welding machine | 74 |

*Source:* Illingworth & Rodkin 2006.

Maximum noise levels from this equipment are in the range of 74 to 89 dBA. Construction activity is a point source from which noise attenuates (i.e., becomes quieter) at a rate of about 6 dB per doubling of distance. Additional attenuation of 1 to 2 dB per doubling of distance occurs as a result of ground absorption (Federal Highway Administration 2006).

*Environmental Consequences Discussion*

**Impact N-1: Construction Noise Exceeding TRPA and El Dorado County Noise Standards (Less than Significant)**

During construction, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Scattered residents may be as close as 50 feet from active construction areas. However, Project construction noise would be temporary and

occur over a short period of time. In compliance with TRPA's Code of Ordinances, noise-generating activities outside the state right-of-way would occur within the hours of 8:30 a.m. to 6:30 p.m. Noise-generating activities could exceed El Dorado County noise standards for rural areas.

During construction of the Project, Caltrans or its construction contractor will employ noise-reducing construction practices such that noise from construction activities that occur outside the state right-of-way does not exceed El Dorado County noise standards. These measures may include, but are not limited to, the following:

- Noise-generating activities at the construction site or adjacent areas associated with the Project in any way will be restricted to the hours of 8:00 a.m. to 6:30 p.m.
- All internal combustion engine–driven equipment will be equipped with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Unnecessary idling of internal combustion engines will be strictly prohibited. This includes idling of unattended vehicles and idling of more than 2 minutes for waiting trucks.
- Staging of construction equipment within 200 feet of residences will be avoided, and all stationary noise-generating construction equipment, such as air compressors and portable power generators, will be located as far as practical from existing noise-sensitive receptors.
- Temporary barriers will be constructed to screen stationary noise-generating equipment when located immediately adjacent to noise-sensitive land uses. The barriers will be sufficient to reduce the noise level by a minimum 5 dBA.
- "Quiet" air compressors and other stationary noise sources will be used where such technology exists and is feasible. Quiet technology may include the use of rotary screw air compressors (as opposed to noisier air-cooled reciprocating compressors) and equipment provided with factory-installed sound-attenuating enclosures.
- Before construction begins, residences within 500 feet of construction areas will be notified of the construction schedule in writing. A noise disturbance coordinator, who would be responsible for responding to any local complaints about construction noise, will be designated by Caltrans or its contractor. The coordinator will determine the cause of any noise complaint and ensure that reasonable measures to correct the problem are implemented. A telephone number for the coordinator will be posted conspicuously at the construction site and included in the notice sent to neighbors about the construction schedule.

This impact is considered less than significant. No mitigation is necessary.

**Impact N-2: Exposure to Groundborne Vibration from Construction (Less than Significant)**

Construction activities associated with the Project may result in a minor amount of ground vibration. Vibration from construction typically falls below the threshold of perception when the activity is more than about 50 feet from the receiver. In addition, vibration from these activities will be short-term and end when construction is completed. Construction for the Project is not expected to involve high-impact activities (i.e., pile driving). Because of the short-term and

minor nature of the activities from which vibrations could be generated, this impact is considered less than significant. No mitigation is necessary.

# 2.3 Biological Environment

## 2.3.1 Natural Communities

This section discusses natural communities of concern. It focuses on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential division of sensitive habitat and thereby reduction of its biological value. Habitat areas that have been designated as critical habitat under the FESA are discussed in Section 2.3.5. Wetlands and other waters are discussed in Section 2.3.2.

### 2.3.1.1 Regulatory Setting

*Tahoe Regional Planning Agency Code of Ordinances*

Under Section IX, Chapter 78 of TRPA's Code of Ordinances, several ordinances are intended to "protect and enhance the existing diverse wildlife habitats, with special emphasis on protecting or increasing habitats of special significance, such as deciduous trees, wetlands, meadows, and riparian areas." Ordinances relevant to natural communities include:

- **78.2.B – Movement and Migration Corridors:** Movement and migration corridors shall be protected as follows:
  - (1) Stream environment zones adjoining creeks and major drainages link islands of habitat and shall be managed, in part, for use by wildlife as movement corridors. Structures, such as bridges, proposed within these movement corridors shall be designed so as not to impede the movement of wildlife.
  - (2) Projects and activities in the vicinity of deer migration areas shall be required to mitigate or avoid significant adverse impacts. The location of deer migration areas shall be verified by the appropriate state wildlife or fish and game agencies.
- **78.2.C – Critical Habitat:** Any element of the overall habitat for any species of concern, which, if diminished, could reduce the existing population or impair the stability or viability of the population, shall be considered critical habitat. This shall apply also to habitat for special interest species indigenous to the Region whose breeding populations have been extirpated but could return or be reintroduced.
  - (1) No project or activity shall cause, or threaten to cause, the loss of any habitat component considered critical to the survival of a particular wildlife species.
  - (2) No project or activity shall threaten, damage, or destroy nesting habitat of raptors and waterfowl or fawning habitat of deer.
  - (3) Wetlands shall be preserved and managed for their ecological significance, including their value as nursery habitat to fishes, nesting and resting sites for waterfowl, and as a source of stream recharge, except as permitted pursuant to Chapter 20.
  - (4) Projects or activities within wetlands may include the creation of artificial nesting sites for waterfowl.

### 2.3.1.2 Affected Environment

This section summarizes the results of the Natural Environmental Study (NES) prepared for the Project (Jones & Stokes 2007h). Please see the front-matter page titled "General Information About This Document" for locations where the NES can be viewed.

#### *Biological Conditions in the Biological Study Area*

Natural communities in the study area were identified and mapped as five distinct vegetation community types: Sierran mixed conifer, aspen, montane chaparral, montane riparian, and wet meadow. The study area also contains urban areas, including the City of South Lake Tahoe and Camp Richardson, and a creek channel**.** Community types are based on *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). The total area of each community type is listed in Table 2.3.1-1.

**Table 2.3.1-1. Total Area of Natural Communities in the Study Area**

| Community Type | Area (Acres) |
|---|---|
| Sierran mixed conifer | 59.900 |
| Aspen | 2.091 |
| Montane chaparral | 0.513 |
| Montane riparian | 1.558 |
| Wet meadow | 0.455 |
| Creek channel | 0.261 |
| Urban | 43.480 |
| **Total*** | **108.258** |

Three of the community types in the study area (aspen, montane riparian, and wet meadow) are natural communities of special concern—habitats considered sensitive because of their high species diversity, high productivity, unusual nature, limited distribution, or declining status. Local, state, and federal agencies consider these habitats important. CDFG maintains a list of California terrestrial natural communities that are recognized by the California Natural Diversity Database (CNDDB), although the classification system has been updated from the one used in the CNDDB (California Department of Fish and Game 2007). The CNDDB contains a current list of rare natural communities throughout the state. USFWS considers certain habitats (e.g., wetlands) important to wildlife, and USACE and EPA consider wetland habitats important for water quality and wildlife.

Locations, dominant plant species, and typical wildlife species found in each natural community area within the study area are described below.

#### *Sierran Mixed Conifer*

Sierran mixed conifer is a forest with almost 100% overlapping tree cover and a low cover of shrubs and herbs (Mayer and Laudenslayer 1988). Conifer species include Jeffrey pine (*Pinus jefferyi*), incense cedar (*Calocedrus deccurens*), white fir (*Abies concolor*), and lodgepole pine (*Pinus contorta*). Common shrubs include antelope bitterbrush (*Purshia tridentata*), common sagebrush (*Artemesia tridentata*), whitethorn (*Ceanothus cordulatus*), Mahala mat (*Ceanothus prostratus*), and green-leaf manzanita (*Arctostaphylos patula*). In the study area, this community type is often dominated by Jeffrey pine. Sierran mixed conifer habitat is found in dry upland

areas, often intermixed with wet meadow and montane riparian communities (Mayer and Laudenslayer 1988). This habitat type occurs throughout the study area.

Mixed conifer forest provides habitat for a large number of wildlife species. Wildlife species that are common in this habitat type include Steller's jay (*Cyanocitta stelleri*), hairy woodpecker (*Picoides villosus*), mountain chickadee (*Parus gambeli*), western gray squirrel (*Sciurus griseus*), porcupine (*Erethizon dorsatum*), gray fox (*Urocyon cinereoargenteus*), and mule deer (*Odocoileus hemionus*) (Zeiner et al. 1990a, 1990b).

### *Aspen*

Stands of quaking aspen (*Populus tremuloides*) occur throughout the study area. Aspen habitats are dominated by aspen trees, but often co-occur with conifers and riparian trees, including lodgepole pine, mountain alder (*Alnus incana* ssp. *tremuloides*), Scouler's willow (*Salix scouleriana*), red willow (*Salix laevigata*) and arroyo willow (*Salix lasiolepis*). The relatively open canopies of aspen stands allow light to penetrate and support a diverse understory of herbaceous and woody plants, including corn lily (*Veratrum californicum*), cow parsnip (*Heracleum lanatum*), ranger's buttons (*Sphenosciadium capitellatum*), common horsetail (*Equisetum arvense*), and western serviceberry (*Amelanchier alnifolia* var. *pumila*). Aspen stands occur at high elevations near seeps, springs, streams, and meadows, and they require a high water table during the early part of the growing season (Mayer and Laudenslayer 1988). This community is considered a natural community of special concern by CDFG.

No wildlife species is completely dependent on aspen stands, but where this habitat type is present, wildlife species richness increases considerably, especially bird species. Aspen stands provide habitat for a variety of cavity-nesting birds, including mountain bluebird (*Sialia currucoides*), red-breasted sapsucker (*Sphyrapicus ruber*), downy woodpecker (*Picoides pubescens*), and mountain chickadee. Northern goshawks may nest in stands of aspens when they are adjacent to shrub habitats (Mayer and Laudenslayer 1988).

Aspen stands occur along SR 89 near Taylor and Tallac Creeks and in proposed infiltration basin area 59. A total of 2.091 acres of aspen forest occur within the study area. Quaking aspen usually occurs in pure stands, but mountain alder, lodgepole pine, and willows tend to line the edges of this habitat. Herbaceous groundcover consists primarily of grasses with some forbs such as corn lily, cow parsnip, ranger's buttons, common horsetail, western thimbleberry, and western serviceberry. This community is considered a natural community of special concern by CDFG because of its habitat value and decline in extent.

### *Montane Chaparral*

This habitat type is dominated by evergreen shrubs that include greenleaf manzanita (*Arctostaphylos patula*), mountain whitethorn, antelope bitterbrush, and common sagebrush. This shrub-dominated habitat sometimes includes conifers such as Jeffrey pine and white fir. Montane chaparral is often low-growing and impenetrable without an herbaceous understory. It typically occurs on steep south-facing slopes and ridges, usually on rocky, granitic soils (Graf 1999). Montane chaparral is found scattered throughout the study area.

Montane chaparral provides habitat for a variety of birds and mammals. Numerous rodents, deer, and other herbivores are common in chaparral communities. Chaparral provides singing,

roosting, and nesting sites for many species of birds (Mayer and Laudenslayer 1988). Sagebrush lizard (*Sceloporus graciosus*), mountain quail (*Oreortyx pictus*), Nashville warbler (*Vermivora ruficapilla*), spotted towhee (*Pipilo maculates*), brush mouse (*Peromyscus boylii*), and mule deer are common in chaparral habitats (Zeiner et al. 1988, 1990a, 1990b).

### *Montane Riparian*

The vegetation of montane riparian habitats is composed of relatively small-stature broad-leaved deciduous trees with a sparse understory. Dominant canopy trees include mountain alder, red willow, Scouler's willow, and arroyo willow. Montane riparian habitats are associated with montane lakes, bogs, meadows, rivers, streams, and springs. Montane riparian stands dominated by willows (red, Scouler's, and arroyo) or mountain alders are considered natural communities of special concern by CDFG. Montane riparian communities are considered sensitive statewide because of their habitat value and decline in extent. Montane riparian habitat provides high-quality habitat for many wildlife species. This habitat provides water, cover, migration corridors, and diverse breeding and feeding opportunities for amphibians, reptiles, birds, and mammals. Wildlife species associated with montane riparian habitat include Pacific treefrog (*Hyla regilla*), rubber boa (*Charina bottae*), red-breasted sapsucker, Pacific slope flycatcher (*Empidonax difficilis*), northern pygmy owl (*Glaucidium gnoma*), and gray fox (Mayer and Laudenslayer 1988; Zeiner et al. 1988, 1990a, 1990b).

Montane riparian habitats occur along Taylor and Tallac Creeks, small segments along SR 89 near the creeks, and on the northern edge of proposed infiltration basin area 59 in the study area. A total of 1.558 acres of montane riparian forest occur within the study area. Common tree species that characterize this forest type in the study area include mountain alder, red willow, Scouler's willow, and arroyo willow. Herbaceous groundcover near the edges of the montane riparian habitat consists primarily of perennial grasses, field horsetail, and white squaw current (*Ribes cereum*).

### *Wet Meadow*

In the study area, wet meadow habitat occurs on the west edge of the City of South Lake Tahoe on the north and south sides of SR 89, and on the east edge of Taylor Creek on the north side of SR 89. This habitat type is characterized by essentially permanently moist soils and a dense cover of sedges (*Carex* sp.), rushes (*Juncus* sp.), wetland grasses, and perennial herb species such as slender cinquefoil (*Potentilla gracilis* ssp. *nuttallii*). This community is considered a natural community of special concern by CDFG. Wet meadow communities are considered sensitive statewide because of their habitat value and decline in extent (Jones & Stokes 2007h).

Wet meadows in the study area provide sources of drinking water for deer and other mammals and various species of birds. These areas also provide edible grasses and forbs for deer and small mammals (Mayer and Laudenslayer 1988). Perennial wet meadows may provide suitable habitat for amphibians such as Pacific treefrog and long-toed salamander (*Ambystoma macrodactylum*) (Mayer and Laudenslayer 1988). The meadow in South Lake Tahoe is small and isolated; therefore, its value as wildlife habitat is somewhat limited. The meadow near Taylor Creek is much larger, and the adjacent aspen stands and creek increase its value for wildlife in terms of the number and diversity of species that would likely occupy it.

A total of 0.455 acre of wet meadow habitat occurs within the study area. The wet meadow near Taylor Creek is adjacent to the aspen stands.

### *Creek Channel*

Two named streams (Taylor and Tallac Creeks) are present in the study area. Taylor Creek is a perennial stream with a sand, gravel, and cobble substrate. The estimated width of the creek is between 40 and 60 feet, and maximum depth was estimated to be 3 to 4 feet. The banks of the creek are moderately sloped. Near the SR 89 crossing, the creek has riffle, run, and a small amount of shallow pool habitat. Juvenile and adult bullfrogs and salmonids were observed in the creek. Tallac Creek is a perennial stream with a silt, sand, gravel, and cobble substrate with a few boulders. The estimated width of the creek is between 25 and 40 feet, with a maximum depth of several feet. Tallac Creek also has run, riffle, and shallow pool areas near the SR 89 crossing. On the east side of SR 89, Tallac Creek has extensive riparian vegetation, dominated by mountain alder, within the channel. The banks of the creek are steep. Both streams exhibit bed, bank, and an ordinary high water mark (OHWM). Because they are tributaries to navigable waters, they are subject to regulation by USACE and CDFG. Two unnamed drainages that flow intermittently or ephemerally during the wet season are located near the east end of the study area.

Creek channels with well-vegetated areas provide food, water, migration and dispersal corridors, and escape, nesting, and thermal cover for many wildlife species (Mayer and Laudenslayer 1988). Wildlife species associated with montane stream and riparian habitats include mountain yellow-legged frog (*Rana muscosa*), Calliope hummingbird (*Stellula calliope*), American dipper (*Cinclus mexicanus*), raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*) (Zeiner et al. 1988, 1990a, 1990b).

Taylor and Tallac Creeks provide habitat for numerous native and introduced fish species. Introduced species include brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), kokanee salmon (*O. nerka*), and sunfish (*Lepomis* spp.). Native fish species known or with the potential to occur in these streams include mountain whitefish (*Prosopium williamsoni*), Tahoe sucker (*Catostomus tahoensis*), Paiute sculpin (*Cottus beldingi*), Lahontan creek tui chub (*Siphateles bicolor obesa*), Lahontan redside (*Richardsonius egregius*), and Lahontan speckled dace (*Rhinichthys osculus robustus*). Lahontan cutthroat trout (*O. clarki*), the only salmonid (trout and salmon) species native to the Lake Tahoe Basin, has the potential to occur in the study area because the species is stocked in Fallen Leaf Lake, which drains to Taylor Creek (Lehr pers. comm.; Shemai pers. comm.). Recovery efforts are underway to restore Lahontan cutthroat trout populations within the basin (e.g., the Meiss Lakes Basin in the Upper Truckee River watershed) (Sierra Nevada Ecosystem Project 1996). With the exception of Lahontan cutthroat trout, Taylor and Tallac Creeks presently support populations of all of the native fish species that were originally present in the Lake Tahoe Basin before European settlement.

### *Urban*

The study area passes through two major urbanized areas: the City of South Lake Tahoe and Camp Richardson. Urban habitat in the study area occurs as a mix of native trees from the mixed conifer forest with grass lawn and ornamental plantings. Urban areas generally have marginal value for wildlife because of human disturbance and a lack of vegetation. Wildlife species that use these areas are typically adapted to human disturbance. Wildlife species associated with

urban residential and suburban areas include western scrub jay (*Aphelocoma californica*), northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), rock dove (*Columba livia*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk, western fence lizard (*Sceloporus occidentalis*), and gopher snake (*Pituophis melanoleucus*) (Mayer and Laudenslayer 1988).

#### 2.3.1.3 Environmental Consequences

*Approach and Methodology*

Biologists reviewed existing resource information related to the Project to evaluate the natural communities that could occur in the study area. The sources listed below were reviewed :

- California Native Plant Society's (CNPS's) *Inventory of Rare and Endangered Plants of California* (2007);
- CNDDB records search of the Emerald Bay, Meeks Bay, Glenbrook, South Lake Tahoe, Freel Peak, Echo Lake, Homewood, Rockbound Valley, and Pyramid Peak U.S. Geological Survey (USGS) 7.5-minute quadrangles (2007);
- Natural Environment Study for the El Dorado 50 and 89 Environmental Improvement Program/Stormwater Treatment Projects (URS 2007).

Biological surveys were conducted in the study area by a botanist, wildlife biologist, and fish biologist. Vegetation communities in the study area were identified and mapped during the botanical field surveys. An assessment of habitat suitability for sensitive wildlife species in the study area was also conducted.

*Environmental Consequences Discussion*

**Impact NAT-1: Loss or Disturbance of Aspen Forest (Less than Significant)**

The loss or disturbance of aspen forest vegetation is considered adverse because the habitat provides a variety of important ecological functions and values. Drainage improvement activities would result in the permanent loss of, or direct construction-related disturbances within, no more than approximately 0.058 acre of aspen forest as water quality treatments are installed. The permanent impact area would include understory plants such as western serviceberry.

Indirect impacts on aspen forest vegetation could occur from adjacent construction activity. Aspen forest vegetation adjacent to the construction area would not be removed for construction, but it could sustain damage from equipment (Jones & Stokes 2007h). The Project includes several design features and BMPs (AV-01, WL-03, and WL-05) that would reduce impacts on aspen forest. Overall, implementation of the Project would have a less-than-significant impact on aspen forest. No mitigation is required.

**Impact NAT-2: Loss or Disturbance of Montane Riparian Forest (Less than Significant)**

The loss or disturbance of montane riparian forest vegetation is considered adverse because the habitat provides a variety of important ecological functions and values. Drainage improvement activities would result in the permanent loss of, or direct construction-related disturbances within, no more than approximately 0.027 acre of montane riparian forest in the Project footprint, including understory plants such as white squaw current.

Indirect impacts on montane riparian forest vegetation could occur from adjacent construction activity. Montane riparian forest vegetation is adjacent to the construction area and would not be removed for construction, but it could sustain damage from equipment (Jones & Stokes 2007h). The Project includes several design features and BMPs (AV-01, WL-03, and WL-05) that would reduce impacts on montane riparian forest. Overall, implementation of the Project would have a less-than-significant impact on montane riparian forest. No mitigation is required.

**Impact NAT-3: Loss or Disturbance of Wet Meadow (Less than Significant)**
The loss or disturbance of wet meadow vegetation is considered adverse because the habitat provides a variety of important ecological functions and values. Drainage improvement activities would result in the permanent loss of, or direct construction-related disturbances within, no more than approximately 0.041 acre of wet meadow habitat in the Project footprint.

Indirect impacts on wet meadow vegetation could occur from adjacent construction activity. Wet meadow vegetation is adjacent to the construction area and would not be removed for construction, but it could sustain damage from equipment (Jones & Stokes 2007h). The Project includes several design features and BMPs (AV-01 and WL-05) that would reduce impacts on wet meadow. Overall, implementation of the Project would have a less-than-significant impact on wet meadow. No mitigation is required.

### 2.3.2 Wetlands and Other Waters

This section of the document discusses wetlands and other waters identified in the NES for the Project.

#### 2.3.2.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the CWA (33 United States Code [USC] 1344) is the primary law regulating wetlands and waters. The CWA regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present under normal circumstances for an area to be designated as a jurisdictional wetland under the CWA.

CWA Section 404 establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by USACE with oversight by EPA.

Executive Order 11990 (Protection of Wetlands) also regulates the activities of federal agencies with regard to wetlands. Essentially, this order states that a federal agency, such as the Federal Highway Administration (FHWA), cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds that: 1) there is no practicable alternative to the construction, and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by CDFG and the RWQCBs. CFGC Sections 1600–1607 require any agency that proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a lake or streambed alteration agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under USACE jurisdiction may or may not be included in the area covered by a lake or streambed alteration agreement obtained from CDFG.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications in compliance with Section 401 of the CWA. Please see Section 2.1, Physical Environment, of this chapter for additional details.

*Tahoe Regional Planning Agency*

TRPA has established SEZs in the Lake Tahoe Basin. These zones are identified by the presence of key indicators, such as evidence of surface water flow, riparian vegetation, near-surface

groundwater, designated floodplains, and alluvial soils. In 1987, TRPA required protection of SEZs in its Regional Plan.

The SEZs are protected to maintain their functions and values, including flood attenuation, water quality enhancement, and wildlife habitat. Strict regulations control use or disturbance of SEZs on public and private property throughout the watershed. Under Section IX, Chapter 74 of TRPA's Code of Ordinances, ordinances that apply to SEZs include:

- **74.2 – Protection of Stream Environment Zones:** No project or activity shall be undertaken in an SEZ (land capability 1b) which converts SEZ vegetation to a non-native or artificial state, or which negatively impacts SEZ vegetation through action including, but not limited to, reducing biomass, removing vegetation, or altering vegetation composition.
  - **74.2.A – Exceptions:** The following are exceptions:
    (1) Manipulation or management of SEZ vegetation may be permitted in accordance with the Code of Ordinances for purposes of SEZ vegetation health or wildlife or fish habitat improvements, and after approval of a vegetation management plan pursuant to Subsection 74.4.B, or as provided in Subsections 20.4, 20.5.C, or 79.2, or Chapters 71 or 72.
    (2) Maintenance of landscaping that was installed prior to the creation of TRPA, or installed for the purpose of scenic quality pursuant to Chapter 30, Design Standards, or pursuant to a TRPA permit, or under a TRPA exemption prior to August 1, 1997, provided that fertilizer use is restricted in accordance with the BMP Handbook and described in Subsection 81.7.A, unless a remedial action pursuant to Section 74.3 has been taken by TRPA.
    (3) Removal of vegetation may be permitted pursuant to Subsections 4.2.A(5), 4.3.A(6), or 65.2, or 55.4, Chapter 73, or under defensible-space guidelines approved by TRPA.

### *Lahontan RWQCB*

The Lahontan RWQCB, through implementation of its Basin Plan and authority under CWA Section 401, regulates activities within the SEZs. The Basin Plan prohibits new disturbance/coverage within SEZs in the Lake Tahoe Basin. To approve the Project, the Lahontan RWQCB would need to make all of the following findings for public service facilities:

- The Project is necessary for public health, safety, or environmental protection.
- There is no reasonable alternative, including spans, that avoids or reduces the extent of encroachment in the SEZs.
- Impacts are fully mitigated.
- SEZ lands are restored in an amount 1.5 times the area of the SEZ area developed or disturbed by the Project.

Because fill material will be placed into the SEZs for the Project, an application for water quality certification from the Lahontan RWQCB will be needed.

#### 2.3.2.2 Affected Environment

The study area supports SEZs and areas of jurisdictional waters of the United States, including wetlands and other waters.

*Stream Environment Zones*

The Bailey land capability classification system was developed by the Forest Service and TRPA in the early 1970s based primarily on the official U.S. Department of Agriculture (USDA) soil maps for the Tahoe region (Tahoe Integrated Information Management System 2003). Each soil type was assigned to a land capability class ranging from 1 to 7, with capability 1 being the most environmentally fragile and sensitive to development. Wherever land was found to be influenced by a stream or high groundwater, it was assigned to capability 1b, also known as an SEZ.

The SEZs identified in this report are calculated from a TRPA-approved delineation of SEZs in the Project area provided by Caltrans. A total of 22.840 acres of SEZs occur in the study area. SEZs include jurisdictional waters of the United States and communities of special concern such as aspen, montane riparian, and wet meadows. SEZs in the study area are illustrated in the Wetland Delineation Report for the Project appended to the NES for the Project (Jones & Stokes 2007h).

*Wetlands*

A total of 2.483 acres of wetlands and 0.387 acre of other waters of the United States occur throughout the study area. Jurisdictional waters of the United States include SEZs and communities of special concern such as aspen, montane riparian, and wet meadows. Additional discussion of jurisdictional waters of the United States in the study area is found in the Wetland Delineation Report appended to the NES for the Project (Jones & Stokes 2007h).

#### 2.3.2.3 Environmental Consequences

*Approach and Methodology*

*Stream Environment Zones*

The calculations for the SEZs are based on a land capability study approved by TRPA on September 24, 2007, for mapping submitted on August 6, 2007 (Gaytan pers. comm.).

*Wetlands*

Jurisdictional boundaries for wetlands and other waters were identified within the study area using on-site determination procedures described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). Other waters were based on the presence of an OHWM, as defined in 33 CFR 328.3(e).

Field work for the wetland delineation was conducted in October 2005 and September and November 2006 in accordance with the routine on-site determination method described in the *Corps of Engineers Wetlands Delineation Manual* and was field-verified in July and August 2007. Plant, soil, and hydrology data collected during the delineation were recorded on wetland determination data sheets, which are provided in the NES for the Project (Jones & Stokes 2007h). An upland and a wetland data point were established at each potential jurisdictional wetland. From each data point, vegetation, soils, and hydrology data were documented and analyzed. A description of the methodology for determining the presence of the three criteria of hydrophytic vegetation, hydric soils, and wetland hydrology is described in the technical report.

### *Environmental Consequences Discussion*

**Impact WAT-1: Potential Permanent Loss of Stream Environment Zones (Less than Significant)**

Drainage improvement activities proposed for the Project would result in the permanent loss of, or direct construction-related disturbances within, no more than approximately 1.645 acres of SEZs in the Project footprint. Indirect impacts on SEZs could occur from adjacent construction activity and equipment. The Project includes several project design features and BMPs (AV-01, WL-05, and WQ-05) that would reduce impacts on SEZs. Overall, implementation of the Project would have a less-than-significant impact on SEZs. No mitigation is required.

**Impact WAT-2: Potential Permanent Loss of Wetlands (Less than Significant)**

Drainage improvement activities proposed for the Project would result in the permanent loss of, or direct construction-related disturbances within, no more than approximately 0.074 acre of wetlands in the Project footprint. USACE requires protection of waters of the United States, including the wetlands identified in the study area, and requires mitigation for the loss of these waters. The loss or disturbance of these waters of the United States is considered adverse because they provide a variety of important ecological functions and values. The Project includes several project design features and BMPs (AV-01, WQ-02, and WQ-03) that would avoid or reduce impacts on wetlands identified in the study area. Overall, implementation of the Project would have a less-than-significant impact on wetlands. No mitigation is required.

### 2.3.3 Plant Species

#### 2.3.3.1 Regulatory Setting

USFWS and CDFG share regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare or subject to population and habitat declines. Special-status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species—species formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act or the California Endangered Species Act (CESA). Please see Section 2.3.5 for detailed information regarding threatened and endangered species. This section discusses all other special-status plant species, including CDFG fully protected species and species of special concern, USFWS candidate species, and non-listed CNPS rare and endangered plants.

The regulatory requirements for the FESA can be found at 16 USC 1531 et seq. (also see 50 CFR 402). The regulatory requirements for the CESA can be found at CFGC 2050 et seq. Caltrans projects are also subject to the California Native Plant Protection Act (CFGC 1900–1913) and CEQA (PRC 2100–21177).

#### 2.3.3.2 Affected Environment

Sensitive plant species with potential to occur in the Project region were identified based on a review of existing information, and a blooming-period botanical survey of the study area was conducted in late July and early August 2007 to determine whether any of these species were present. Table 2.3.3-1 (in Appendix D) lists all sensitive plant species with the potential to occur in the Project region. No sensitive plants have been previously recorded in the study area (California Natural Diversity Database 2007), and no sensitive plants were found during the survey (Table 2.3.3-1).

#### 2.3.3.3 Environmental Consequences

*Approach and Methodology*

Sensitive plant and botanical surveys were conducted during the appropriate identification periods for sensitive plants with potential to occur in the study area. Plant species encountered during the field visit were documented. Vegetation communities in the study area were also identified and mapped during the botanical and delineation field surveys. Results of these surveys are presented in the NES prepared for the Project (Jones & Stokes 2007h).

In addition, for the NES, botanists reviewed existing resource information related to the Project to evaluate whether sensitive plant species could occur in the study area. This information was used to develop lists of sensitive plant species that could be present in the Project region. Species from the lists were considered if they were known to occur in the region (i.e., within a 10-mile radius of the study area) or if suitable habitat for the species was known to be present in the study area.

*Environmental Consequences Discussion*

The study area is unlikely to support sensitive plant species based on the lack of previously recorded occurrences, disturbance from human and road maintenance activities, and negative

results of blooming-period botanical field surveys conducted in the study area. Therefore, the Project would not result in impacts on sensitive plant species. No mitigation is necessary.

## 2.3.4 Animal Species

### 2.3.4.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. USFWS, the National Marine Fisheries Service (NMFS), and CDFG are responsible for implementing these laws. The Forest Service protects and manages natural resources in the National Forest System, including management of vegetation and wildlife habitat. Because the Project occurs on Forest Service land, coordination with the Forest Service on impacts is required. TRPA also has special interest species in the Lake Tahoe Basin, which are addressed in this report. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the FESA or CESA. Species listed as threatened or endangered are discussed in Section 2.3.5. All other special-status animal species are discussed in this section, including CDFG fully protected species and species of special concern, and Forest Service sensitive species and species of management concern.

Federal laws and regulations pertaining to wildlife include the National Environmental Policy Act (NEPA), MBTA, and Fish and Wildlife Coordination Act. State laws and regulations pertaining to wildlife include CEQA and CFGC 1600–1603, 4150, and 4152.

#### *California Fish and Game Code*

Several CFGC sections apply to the Project: 1602, 3503, 3503.5, 3511, and 3513.

#### *Section 1602: Lake or Streambed Alteration Agreements*

Under CFGC 1602, public agencies are required to notify CDFG before undertaking any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFG is required to propose reasonable project changes to protect the resources. These modifications are formalized in a lake or streambed alteration agreement that becomes part of the plans, specifications, and bid documents for the project.

#### *Sections 3503 and 3503.5: Birds and Raptors*

CFGC 3503 prohibits the destruction of bird nests. CFGC 3503.5 prohibits the killing of raptor species and destruction of raptor nests. Trees and shrubs may be present in and adjacent to the study area and could provide potential nesting habitat for birds and raptors.

#### *Section 3511: Fully Protected Birds*

The CFGC provides protection from take for a variety of species, referred to as fully protected species. CFGC 3511 lists fully protected birds and prohibits take of these species. The CFGC defines *take* as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Except for take related to scientific research, all take of fully protected species is prohibited.

#### *Section 3513: Migratory Birds*

CFGC 3513 prohibits the take or possession of any migratory non-game bird as designated in the MBTA, or any part of such migratory non-game bird, except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

### *Tahoe Regional Planning Agency*

#### *Thresholds*

The TRPA established threshold for wildlife is provided below (Tahoe Regional Planning Agency 2007):

- **W-1 – Special Interest Species:** Provide a minimum number of population sites and disturbance zones for the following species or species groups: (1) northern goshawk (*Accipiter gentilis*); (2) osprey (*Pandion haliaetus*); (3) bald eagle (*Haliaeetus leucocephalus*); (4) golden eagle (*Aquila chrysaetos*); (5) peregrine falcon (*Falco peregrinus anatum*); (6) waterfowl (all open-water associated species); and (7) deer (*Odocoileus hemionus*). Nest sites and perch sites shown on TRPA Regional Plan Overlay Maps or in TRPA Geographic Information System shall not be physically disturbed, nor shall the habitat in the disturbance zone be manipulated in any manner, unless necessary to enhance the quality of the habitat (TRPA Code, Chapter 78, Subsection 78.3.A).

#### *Code of Ordinances*

Section IX, Chapter 78 of TRPA's Code of Ordinances includes several ordinances related to the protection of animal species:

- **78.2 – Protection of Wildlife Habitat:** Wildlife habitat shall be protected as follows:
  - **78.2.C – Critical Habitat:** Any element of the overall habitat for any species of concern, which, if diminished, could reduce the existing population or impair the stability or viability of the population, shall be considered critical habitat. This shall apply also to habitat for special interest species indigenous to the Region whose breeding populations have been extirpated but could return or be reintroduced.
    (1) No project or activity shall cause, or threaten to cause, the loss of any habitat component considered critical to the survival of a particular wildlife species.
    (2) No project or activity shall threaten, damage, or destroy nesting habitat of raptors and waterfowl or fawning habitat of deer.
    (3) Wetlands shall be preserved and managed for their ecological significance, including their value as nursery habitat to fishes, nesting and resting sites for waterfowl, and as a source of stream recharge, except as permitted pursuant to Chapter 20.
    (4) Projects or activities within wetlands may include the creation of artificial nesting sites for waterfowl.
- **78.3 – Special Interest, Threatened, Endangered, and Rare Species:** Special interest species which are locally important because of rarity or other public interest, and threatened, endangered or rare species as designated under state and federal endangered species acts, shall be protected from habitat disturbance from conflicting land uses. These special interest species are: goshawk, osprey, bald eagle, golden eagle, peregrine, waterfowl, and deer. The habitat locations of these species are depicted on TRPA maps. At a minimum, the following standards shall apply for the protection of special interest, threatened, endangered and rare species and associated habitat:

- **78.3.A – Disturbance Zones:** Perching sites and nesting trees of goshawks, peregrines, eagles, and osprey as shown on the TRPA Regional Plan Overlay Maps shall not be physically disturbed in any manner nor shall the habitat in the disturbance zone be manipulated in any manner unless such manipulation is necessary to enhance the quality of the habitat. The threshold applies not only to the number of known population sites, but will also apply to the disturbance and influence zone buffers to sites found in the future.

  (1) The disturbance zones for goshawks are 0.5 mile radius around each nest site.

  (2) The disturbance zones for osprey and peregrines are 0.25 mile radius around each nest site.

  (3) The disturbance zones for wintering bald eagles are as shown on the TRPA maps.

  (4) The disturbance zones for nesting bald eagles are 0.5 mile radius around each nest.

  (5) The disturbance zones for golden eagles are 0.25 mile radius around each nest site.

- **78.3.B – Adverse Impacts:** Uses, projects or activities, outside existing urban areas and within the disturbance zone of special interest, threatened, endangered or rare species, shall not, directly or indirectly, significantly adversely affect the habitat or cause the displacement or extirpation of the population.

### 2.3.4.2 Affected Environment

*California Natural Diversity Database Search Results*

The CNDDB (2007) search indicated that 15 sensitive species (14 wildlife species and one fish species) have been recorded within 5 miles of the study area. One sensitive species (American marten) has been recorded in or immediately adjacent to the study area (Jones & Stokes 2007h).

*Sensitive Fish Species*

Based on a review of existing information, four sensitive fish species and species of management concern were identified as having potential to occur within the Project region (Table 2.3.4-1, in Appendix D). One fish species—Central Valley steelhead (*Oncorhynchus mykiss*)—was eliminated from further consideration because the study area is outside the species' known range. The remaining three species—Lahontan cutthroat trout, rainbow trout, and brook trout—have high potential to occur in or adjacent to the study area (Jones & Stokes 2007h). These species are discussed below and in Section 2.3.5.

*Sensitive Wildlife Species*

Based on a review of existing information and input from the Forest Service and TRPA, 21 sensitive wildlife species and species of management concern were identified as having potential to occur within the Project region (Table 2.3.4-1). After completion of the field survey and review of species distribution and habitat requirements data, the biologist determined that 10 of the 21 species have a low chance of occurrence in the study area and therefore are unlikely to be affected by the Project. An explanation for the low chance of occurrence of each of these species in the study area is provided in Table 2.3.4-1 (Jones & Stokes 2007h).

The remaining 11 wildlife species—mountain yellow-legged frog, osprey, bald eagle, northern goshawk, California spotted owl (*Strix occidentalis occidentalis*), bank swallow (*Riparia*

*riparia*), willow flycatcher (*Empidonax traillii*), waterfowl, Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*), Sierra marten (*Martes americana sierrae*), and mule deer—have moderate to high potential to occur in or adjacent to the study area (Jones & Stokes 2007h). These species are discussed below and in Section 2.3.5.

### *Species Discussion*

The following sensitive animal species or groups of species occur or could potentially occur in the study area and are discussed below: rainbow trout, brook trout, mountain yellow-legged frog, osprey, northern goshawk, California spotted owl, waterfowl, Sierra Nevada snowshoe hare, American marten, mule deer, and nesting migratory birds.

#### *Rainbow Trout*

Rainbow trout are an LTBMU fish management indicator species, according to the 1988 LTBMU Forest Plan. Rainbow trout are native to Pacific coast streams from Alaska south to Baja California. They also ranged as far east as Idaho below major falls on the Snake River. In California, their native range included streams draining the western slope of the Sierra Nevada as far upstream as the first natural impassable barrier (e.g., waterfalls and cascades). Except for the population in Eagle Lake, rainbow trout are not native to streams and lakes east of the Sierra Nevada crest. Their ability to adapt to a wide variety of habitats and the ease with which they can be raised in hatcheries have led to the introduction of rainbow trout into cold-water streams throughout most of the world. They were first introduced into the Lake Tahoe Basin in the 1860s (Moyle 2002:271–282).

Rainbow trout are likely to occur within the Project area. Suitable habitat for this species exists in Taylor and Tallac Creeks, the two major drainages in the study area with perennial flow (URS 2007). Jones & Stokes fish biologists observed salmonids in both Taylor and Tallac Creeks during the reconnaissance field survey. Rainbow trout were observed in Taylor Creek during electrofishing surveys conducted by LTBMU in June and July 2007 (Shemai pers. comm.). Focused surveys have not been completed for this species within the study area.

#### *Brook Trout*

Brook trout are an LTBMU fish management indicator species, according to the 1988 LTBMU Forest Plan. Brook trout are native to the northern half of the eastern United States and eastern Canada. They were first introduced into California in 1871. They occur from the San Bernardino Mountains in southern California north to the Oregon border; however, they are most abundant in the Sierra Nevada and occur in more than 1,000 lakes in California (Moyle 2002:300–303).

Brook trout are the most adapted of the trout species to cold water; therefore, they are common in alpine lakes and small, spring-fed springs. Relative to other trout species, brook trout are short-lived; it is rare for brook trout to live more than 4 or 5 years. As a consequence of this short lifespan, brook trout mature at an earlier age than other trout. For example, male brook trout may spawn at the end of their first summer, when they are less than 4 inches long, and female brook trout may mature at the end of their second summer, when they are 4 to 5 inches long (Moyle 2002:300–303).

Brook trout are fall spawners. In California, brook trout typically spawn from mid-September to early January, when water temperatures are between 39°F and 52°F. In addition to spawning in

streams, brook trout are capable of spawning in springs on lake bottoms. Their ability to spawn in lakes makes them well-suited for maintaining populations in high alpine lakes that have no permanent tributary streams. During spawning, the female digs a redd (gravel nest), into which the eggs are deposited and then fertilized by the male. Brook trout prefer pea- to walnut-size gravel for spawning. Because embryo development is inversely related to water temperature, and eggs are laid in fall, when water temperatures are declining, the egg incubation period can be 3 to 4 months. Alevins, the larval stage following hatching and before the yolk-sac is absorbed, remain the gravel for an additional 3 to 4 weeks before emerging from the substrate and taking up residence along the stream margins (Moyle 2002:300–303).

Brook trout are believed to have contributed to the elimination of some native trout populations in California, including the Lahontan cutthroat trout population in the Lake Tahoe Basin. Brook trout also are implicated, along with other trout species, in the decline of native amphibian (e.g., mountain yellow-legged frog, Yosemite toad) and large invertebrate populations in formerly fishless lakes in the Sierra Nevada through predation (Moyle 2002:300–303).

Focused fish surveys were not conducted as part of the July 2007 field survey. Brook trout are likely to use the drainages within the Project area during their seasonal flows. One brook trout was observed in a small stream in the vicinity of Grass Lake (URS 2007). Potential habitat for eastern brook trout occurs in most of the perennial/intermittent streams in the study area (Muskopf pers. comm.). No brook trout were observed in Taylor Creek during electrofishing surveys conducted by LTBMU in June and July 2007 (Shemai pers. comm.).

### *Mountain Yellow-Legged Frog*

Mountain yellow-legged frog is a candidate species for federal threatened status and a state species of special concern. The Forest Service also considers it a sensitive species. Mountain yellow-legged frogs occur in the Sierra Nevada from 3,525 to over 12,000 feet and the mountains of southern California from 984 to 7,500 feet (Stebbins 2003). The species' range extends from Butte and Plumas Counties south to Tulare County in the Sierra Nevada. Mountain yellow-legged frogs inhabit riverbanks, meadow streams, isolated pools, and lake borders in the Sierra Nevada and rocky streams in mountains in southern California (Stebbins 2003). The species occurs along a variety of shorelines, but appears to prefer open stream and lake margins that gently slope to a depth of 2 to 3 inches (Jennings and Hayes 1994). Mountain yellow-legged frogs are diurnal, highly aquatic frogs. The coldest winter months are spent in hibernation (Zweifel 1955). Timing of emergence from winter retreats is dependent on the local climate of the region (Zweifel 1955). In the high Sierra Nevada, mountain yellow-legged frogs breed as soon as the ice melts from lakes, from May to August (Zweifel 1955; Stebbins 2003).

No mountain yellow-legged frogs were observed during the July and August 2007 field surveys. There are 25 records for mountain yellow-legged frog within a 10-mile radius of the study area (California Natural Diversity Database 2007). The closest CNDDB record is from 1913 for an individual that was collected at Fallen Leaf Lake, approximately 1 mile from the study area. The remaining records are 5 to 15 miles from the study area. The closest documented or confirmed occurrence to the study area is located at the headwaters of Trout Creek in the Lake Tahoe Basin (URS 2007), approximately 7 miles from the southern terminus of the study area. In the study area, Taylor and Tallac Creeks provide suitable dispersal habitat for mountain yellow-legged frog, but have a limited amount of suitable breeding habitat for this species because of the lack of

pooled areas. Drainages and wetlands within meadows in the study area lack sufficient aquatic habitat to support breeding in these areas. Because of the lack of nearby records and limited amount of breeding habitat in the study area, it is unlikely that mountain yellow-legged frogs would breed in the study area.

### *Osprey*

Osprey is designated as a state species of special concern. In California, ospreys breed in the north from the Cascade Range south to Lake Tahoe and along the coast to Marin County. Regular breeding areas include inland lakes such as Shasta Lake, Lake Almanor, and Eagle Lake; reservoirs; and river systems. Ospreys use large trees, snags, and dead-topped trees in open forest for nesting and cover. An osprey's primary prey is fish, but it will also eat mammals, birds, reptiles, amphibians, and invertebrates (Zeiner et al. 1990a).

No ospreys were observed during the July and August 2007 field surveys. There are 16 records for osprey nests within 5 miles of the study area (California Natural Diversity Database 2007). TRPA maintains a 0.25-mile buffer around nest sites. It appears that there are no buffer areas located within the study area (Tahoe Regional Planning Agency 2002). Ospreys could perch in the study area, but are unlikely to nest there because of its proximity of the study area to SR 89 and exposure to continuous human disturbance throughout most of the study area. There is a high level of human activity within the City of South Lake Tahoe, Camp Richardson, and along the bike trail that extends just west of the City of South Lake Tahoe west to Spring Creek Road. The portion of the study area with the least amount of human activity is between Tallac Creek and the northern terminus of the study area at Cascade Road.

### *Northern Goshawk*

Northern goshawk is a state species of special concern and a Forest Service sensitive species. Northern goshawks breed in the North Coast Ranges through the Sierra Nevada, Klamath Mountains, Cascade Range, and Warner Mountains (Zeiner et al. 1990a). Northern goshawks typically nest on north slopes in red fir (*Abies magnifica*), lodgepole pine, Jeffrey pine, or aspens in mature and old growth forests (California Natural Diversity Database 2007). The breeding season for northern goshawks is February 15 through September 15, and eggs are typically laid from mid-April to mid-May (USDA Forest Service 2001).

No northern goshawks were observed during the July and August 2007 field surveys. There are three records for goshawk nests within 5 miles of the study area (California Natural Diversity Database 2007). TRPA and the Forest Service have mapped goshawk territories and potential areas of concern (PACs) within the LTBMU. One northern goshawk PAC—the Cascade PAC—occurs within the study area, in the vicinity of Tallac Creek. Northern goshawks have been observed near the study area at Taylor Creek, Camp Richardson, Lonely Creek, Big Meadow, Grass Lake Creek, Paradise Flat, Benwood Meadow, and Osgood Swamp. No known nest sites are located within the study area. TRPA maintains a 0.5-mile no-disturbance zone surrounding northern goshawk nest sites. Northern goshawks could forage or perch in the study area, but are unlikely to nest there because of the proximity of the study area to SR 89 and exposure to continuous human disturbance throughout most of the study area.

### California Spotted Owl

California spotted owl is designated as a state species of special concern. California spotted owls occur in the southern Cascade Range and northern Sierra Nevada from Shasta County to Kern County (Gutierrez et al. 1995). California spotted owls nest in old growth or mature forests composed of multilayered, mixed conifer, redwood, and Douglas fir. California spotted owls nest in tree or snag cavities or in the broken top of a large tree (Zeiner et al. 1990a). The breeding season for California spotted owls is February 15 through September 15, with peak egg laying occurring in mid-April (USDA Forest Service 2001).

No California spotted owls were observed during the July and August 2007 field surveys. There are no records for spotted owl nests within 10 miles of the study area (California Natural Diversity Database 2007). TRPA and the Forest Service have conducted surveys for the California spotted owl in the vicinity of the study area and have designated Protected Activity Centers (PACs) and Home Range Core Areas (HRCAs) for this species within the Lake Tahoe Basin. HRCAs consist of large habitat blocks that have: 1) at least two tree canopy layers; 2) at least 24 inches diameter at breast height (dbh) in dominant and co-dominant trees; 3) a number of very large (more than 45 inches dbh) old trees; 4) at least 50% to 70% canopy cover; and 5) higher-than-average levels of snags and downed woody material (URS 2007). There are no HRCAs in the Project area; however, the Tahoe Mountain HRCA is located southwest of the southern terminus of the Project. TRPA has also identified several PAC s for California spotted owl in the basin. None of the PACs is located within the study area—the closest is located several miles south of the Project area in the vicinity of Echo Lake. California spotted owls have been observed near the study area at Cookhouse (Grass Lake Creek), and there have been two sightings at Hawley Grade and one sighting each at Meeks Bay and Spring Creek (URS 2007). California spotted owls could forage or perch in the study area, but are unlikely to nest there because of the proximity of the study area to SR 89 and exposure to continuous human disturbance throughout most of the study area.

### Waterfowl

Waterfowl species are protected under the MBTA and are designated as LTBMU management indicator species and TRPA special interest species. TRPA has designated “threshold sites” for waterfowl species in the Lake Tahoe Basin. Generally, the threshold sites represent lacustrine, freshwater emergent wetland and wet meadow habitats. Threshold sites were subjectively identified based on the highest-quality sites ranked by a combination of factors consisting of species diversity index, species richness, potential to support rare or unique species, observed reproductive activity, and human disturbance. A nondegradation standard applies to each of the delineated waterfowl threshold sites; therefore, the human disturbance ranking weighed highest in TRPA’s evaluation. Although threshold sites have been delineated, TRPA has yet to develop a standard to measure the performance of the threshold (URS 2007).

There is no marsh habitat within the study area that would support nesting waterfowl. However, marsh areas near the study area are known to support breeding pairs of many species (Thayer pers. comm.). LTBMU has mapped mallard and waterfowl threshold sites within the Lake Tahoe Basin. The Pope Marsh threshold site is less than 0.25 mile from the study area. Waterfowl may occasionally occur in Tallac and Taylor Creeks in or near the study area, but would not nest in the study area because of the lack of suitable marsh habitat for nesting.

### *Sierra Nevada Snowshoe Hare*

Sierra Nevada snowshoe hare is designated a state species of special concern. This subspecies is found at upper elevations in the Sierra Nevada from Siskiyou and Del Norte Counties south to Mariposa, Mono, and Madera Counties. Sierra Nevada snowshoe hare inhabits montane riparian habitats containing thickets of alders and willows and stands of young conifers interspersed with chaparral. Edges of mixed conifer, subalpine conifer, red fir, Jeffrey pine, lodgepole pine, and aspen also provide suitable habitat, especially near meadows. Breeding occurs from mid-February to July, with young born from mid-March to August (Zeiner et al. 1990b).

No Sierra Nevada snowshoe hares were observed during the July and August 2007 field surveys; however, suitable habitat is present in the study area. There is one record from 1959 of snowshoe hares collected within 5 miles of the study area; a second record for collection of a snowshoe hare within 10 miles of the study area also exists (California Natural Diversity Database 2007). There are no recent records for occurrences of Sierra Nevada snowshoe hare within the study area, which may be because of a lack of survey effort rather than an absence from the Lake Tahoe Basin (URS 2007). Given the presence of suitable habitat, the study area is considered potentially occupied by this species.

### *American Marten*

American marten is a Forest Service sensitive species. In California, martens occur in the Sierra Nevada, Klamath Mountains, and Cascade Range, and a small portion of the North Coast Ranges. They occupy red fir, lodgepole pine, subalpine conifer, mixed conifer, Jeffrey pine, and eastside pine habitats. Optimal habitats consist of these forest types with more than 40% crown closure, with large trees and snags. Martens mainly eat small mammals such as tree squirrels, chipmunks, mice, shrews, hares, and pikas, but will also eat birds, fish, insects, and fruit. Breeding occurs in summer, with young born in March through June of the following year. Martens will seek cover and den in cavities in large trees, snags, stumps, logs, burrows, caves, and crevices in rocky areas. Martens forage in riparian areas, meadows, and small clearings and travel along ridgetops (Zeiner et al. 1990b).

No American martens were observed during the July and August 2007 field surveys; however, suitable habitat is present in the study area. There are two records from 1993 for occurrences within or immediately adjacent to the study area near Tallac Creek and Camp Richardson (California Natural Diversity Database 2007). There are a total of eight records for martens within 5 miles of the study area and an additional three records for occurrences within 5 to 10 miles of the study area (California Natural Diversity Database 2007). TRPA and LTBMU have recorded occurrences of American marten throughout the Lake Tahoe Basin (URS 2007). Because of the close proximity of the study area to SR 89 and continuous human disturbance throughout much of the study area, it is unlikely that martens would den in the study area. However, martens may forage in the study area in meadow and riparian areas or forest with high canopy closure.

### *Mule Deer*

Mule deer is an LTBMU management indicator species and a TRPA special interest species. It occurs throughout most of California, except in deserts and intensively farmed areas without cover. In the mountains of California, mule deer migrate downslope in winter to areas with less than 18 inches of snow. As the snow melts, they migrate to higher elevations. No mule deer were

observed during the July and August 2007 field surveys; however, suitable habitat is present in the study area. Mule deer are common seasonal residents of the Lake Tahoe Basin. Deer habitat within the Lake Tahoe Basin consists of summer range only, mostly in the form of meadows and early to mid-successional forest with appropriate brush cover. Two deer herds are known to seasonally use the Lake Tahoe Basin: the Carson River herd (primarily in the south basin) and the Loyalton-Truckee herd (primarily in the north basin). Deer that visit the Lake Tahoe Basin during snow-free months migrate to lower elevations outside the basin in winter. Movements to wintering grounds can be extensive, sometimes more than 60 miles in one direction (URS 2007).

#### *Nesting Migratory Birds*

Several migratory birds (including raptors) could nest in and adjacent to the study area. The breeding season for most birds is generally from March 1 to August 15. The occupied nests and eggs of these birds are protected by federal and state laws, including the MBTA and CFGC 3503 and 3503.5. Suitable nesting habitat for migratory birds is present within the shrubs and trees in the study area and in trees and shrubs adjacent to the study area. No nests were noticed in or adjacent to the study area during field surveys, but a focused nest survey was not conducted.

### 2.3.4.3 Environmental Consequences

#### *Approach and Methodology*

Biologists reviewed existing resource information related to the Project to evaluate whether sensitive animal species could occur in the study area. The sources listed below were reviewed:

- CNDDB records search of the Emerald Bay, Meeks Bay, Glenbrook, South Lake Tahoe, Freel Peak, Echo Lake, Homewood, Rockbound Valley, and Pyramid Peak USGS 7.5-minute quadrangles (2007);
- USFWS website's list of endangered and threatened species that may occur in or be affected by projects in the aforementioned USGS 7.5-minute quadrangles; and
- Natural Environment Study for the El Dorado 50 and 89 Environmental Improvement Program/Stormwater Treatment Projects (URS 2007).

This information was used to develop lists of sensitive species and other sensitive biological resources that could be present in the Project region. Species from the lists were considered if they were known to occur in the region (i.e., within a 5-mile radius of the study area) or if suitable habitat for the species was known to be present in the study area.

#### *Field Surveys*

A wildlife biologist conducted a survey to assess habitat suitability for sensitive wildlife species in the study area. Fish biologists conducted a survey to qualitatively evaluate fish habitat within the study area. They also conducted a visual survey of stream crossings to determine whether existing fish passage conditions were adequate and to quantify existing coverage of shaded riverine aquatic (SRA) cover associated with overhanging riparian vegetation within the ESL.

#### *Agency Coordination and Professional Contacts*

To compile additional information regarding animal species that could occur within or in the vicinity of the Project area, biologists coordinated with the federal agencies. Specifically, LTBMU was contacted to request location information on sensitive wildlife species in the

vicinity of the Project. Biologists from LTBMU were also contacted to discuss fish population and habitat survey data for Taylor and Tallac Creeks. In addition, Caltrans and the TRPA wildlife biologist provided information on sensitive wildlife species that may be present within the Project area (Jones & Stokes 2007h). Information from the agencies was used to refine the list of species addressed in this document (Table 2.3.4-1).

### *Environmental Consequences Discussion*

No work within the bed or banks of Taylor Creek, habitat for rainbow trout, or Tallac Creek, habitat for rainbow trout, brook trout, and mountain yellow-legged frog, is proposed as part of the Project. Project-related treatment facilities will be installed beyond the limits of the banks of these creeks to treat water before it is discharged into the creeks. Therefore, the Project would not result in an impact on habitat for rainbow trout, brook trout, or mountain yellow-legged frog. No mitigation is necessary.

**Impact ANM-1: Operation-Related Impacts on Fish Species (Beneficial)**

The collection, treatment, and transport of runoff from SR 89 is expected to reduce the transport and delivery of sediment and pollutants originating on highway surfaces to streams. Regular highway operation and maintenance activities can result in the accumulation of heavy metals, inorganic salts, aromatic hydrocarbons, and suspended solids on road surfaces. Operation of vehicles also can result in the accumulation of oil, grease, rust, rubber particles, and other solid material on highway surfaces. These materials are then transported from the highway into streams during rain or snow storms, which may result in the contamination of these water bodies and potentially affect fish and other aquatic organisms. Effects on fish from contamination of water bodies can range from avoidance of affected stream reaches to mortality, which could occur through exposure to lethal concentrations of contaminants or exposure to non-lethal levels that cause physiological stress and increased susceptibility to other sources of mortality (e.g., predation and disease).

The potential magnitude of biological effects resulting from these accidental or unintentional actions depends on a number of factors, including proximity to the stream; type, amount, concentration, and solubility of the contaminant; and timing and duration of its discharge to the stream relative to the life stage and needs of fish. Contaminants can affect survival, growth rates, and reproductive success of fish and other aquatic organisms. The level of effect depends on species and life stage sensitivity, duration and frequency of exposure, condition or health of individuals (e.g., nutrient status), and physical and chemical properties of the water (e.g., temperature and dissolved oxygen).

The proposed collection, treatment, and transport of runoff from SR 89 would reduce the potential for these contaminants from entering water bodies in the Project area, potentially improving water quality and restoring channel dynamics (i.e., natural processes of channel scour and deposition), compared to existing conditions. This is a beneficial effect. No mitigation is necessary.

**Impact ANM-2: Temporary Effects on Osprey (Less than Significant)**

Approximately 59.900 acres of mixed conifer forest and 1.558 acres of montane riparian habitats containing suitable nest trees for osprey are located within the study area. The Project would cause construction-related disturbances within 16.350 acres of mixed conifer forest and 0.027

acre of montane riparian habitats as infiltration basins and other water quality treatments are installed. Tree removal would mainly be necessary for construction of infiltration basins, but minor tree removal may occur for installation of traction sand traps, erosion control measures, new vehicle pullouts, or rehabilitating or installing new drainage systems. In addition, construction activities could result in the disturbance of nesting ospreys if construction occurs during the breeding season (generally between March 1 and September 30) and nests are present. As stated, it is unlikely that ospreys would nest in the study area because of the proximity to SR 89 and proximity to continuous human disturbance. However, ospreys are known to nest within 0.5 mile of the study area. Construction noise and activities within the study area have the potential to disrupt normal behavior associated with foraging, nesting, breeding, rearing, and movement patterns of ospreys. Construction activity that is visible to nesting ospreys could result in nest abandonment and subsequent nest failure. These impacts would be considered significant. Impacts on ospreys would also be considered significant if the subsequent population decline due to these disturbances was large and affected the viability of the local population. Disturbances such as these would also violate CFGC 3503 (active bird nests) and 3503.5 (active raptor nests) and the MBTA. The Project includes several design features and BMPs (WL-03, WL-04, and WL-05) that would reduce this impact. Overall, implementation of the Project would have a less-than-significant impact on osprey. No mitigation is necessary.

**Impact ANM-3: Temporary Effects on Northern Goshawk (Less than Significant)**
Approximately 59.900 acres of forest and 2.091 acres of aspen forest containing suitable nest trees for northern goshawks are located within the study area. The Project would cause construction-related disturbances within 16.350 acres of mixed conifer forest and 0.058 acre of aspen forest habitats as infiltration basins and other water quality treatments are installed. Tree removal would be mainly be necessary for construction of infiltration basins, but minor tree removal may occur for installation of traction sand traps, erosion control measures, new vehicle pullouts, or rehabilitating or installing new drainage systems. In addition, construction activities could result in the disturbance of nesting northern goshawks if construction occurs during the breeding season (generally between February 15 and September 15) and nests are present. As stated, it is unlikely that northern goshawks would nest in the study area because of the proximity to SR 89 and proximity to continuous human disturbance. However, northern goshawks may nest in areas adjacent to the study area. Construction noise and activities within the study area have the potential to disrupt normal behavior associated with foraging, nesting, breeding, rearing, and movement patterns of northern goshawks. Construction activity that is visible to nesting northern goshawks could result in nest abandonment and subsequent nest failure. This would be considered a significant impact. Such disturbance would also violate CFGC 3503 (active bird nests) and 3503.5 (active raptor nests) and the MBTA. The Project includes several project design features and BMPs (WL-03, WL-04, and WL-05) that would reduce this impact. Overall, implementation of the Project would have a less-than-significant impact on northern goshawks. No mitigation is necessary.

**Impact ANM-4: Temporary Effects on California Spotted Owl (Less than Significant)**
Approximately 59.900 acres of mixed conifer forest containing suitable nest trees for California spotted owls are located within the study area. The Project would cause construction-related disturbances within 16.350 acres of this habitat as infiltration basins and other water quality treatments are installed. Tree removal would be mainly be necessary for construction of infiltration basins, but minor tree removal may occur for installation of traction sand traps,

erosion control measures, new vehicle pullouts, or rehabilitating or installing new drainage systems. In addition, construction activities could result in the disturbance of nesting California spotted owls if construction occurs during the breeding season (generally between February 15 and September 15) and nests are present. As stated, it is unlikely that spotted owls would nest in the study area because of the proximity to SR 89 and proximity to continuous human disturbance. However, California spotted owls may nest in areas adjacent to the study area. Construction noise and activities within the study area have the potential to disrupt normal behavior associated with foraging, nesting, breeding, rearing, and movement patterns of California spotted owls. Construction activity that is visible to nesting spotted owls could result in nest abandonment and subsequent nest failure, which would be considered a significant impact. Such disturbance would also violate CFGC 3503 (active bird nests) and 3503.5 (active raptor nests) and the MBTA. The Project includes several design features and BMPs (WL-03, WL-04, and WL-05) that would reduce this impact. Overall, implementation of the Project would have a less-than-significant impact on California spotted owl. No mitigation is necessary.

**Impact ANM-5: Temporary Disturbance to Nesting Waterfowl (Less than Significant)**
Because there is no suitable nesting habitat for waterfowl in the study area, removal or disturbance of nesting substrate would not occur. However, waterfowl may nest in marsh areas adjacent to the study area (e.g., Pope Marsh and marsh associated with Tallac Creek). Construction noise and activities within the study area have the potential to disrupt normal behavior associated with foraging, nesting, breeding, rearing, and movement patterns of waterfowl. Construction activity that disturbs waterfowl could result in nest abandonment and subsequent nest failure. This would be considered a significant impact. Such disturbance would also violate CFGC 3503 (active bird nests) and 3503.5 (active raptor nests) and the MBTA. The Project includes a design feature/BMP (WL-04) that would reduce this impact. Overall, implementation of the Project would have a less-than-significant impact on nesting waterfowl. No mitigation is necessary.

**Impact ANM-6: Temporary Effects on Sierra Nevada Snowshoe Hare and American Marten (Less than Significant)**
Approximately 59.900 acres of mixed conifer forest, 2.091 acres of aspen, 0.513 acre of montane chaparral, 1.558 acres of montane riparian, and 0.455 acre of meadow are located in the study area. Portions of these areas provide suitable habitat for Sierra Nevada snowshoe hare and American marten. The Project would cause construction-related disturbances within 16.350 acres of mixed conifer, 0.058 acre of aspen, 0.010 acre of montane chaparral, 0.027 acre of montane riparian, and 0.041 acre of meadow habitats as infiltration basins and other water quality treatments are installed. Because the habitat removed will be small areas adjacent to SR 89 and most is currently exposed to continuous human disturbance, this impact is not considered significant. Vegetation that provides food for the species could also be removed, although the amount of vegetation removed would not adversely affect the quantity of food available to the species. No mitigation is required for these impacts.

Noise and activity associated with construction could temporarily disturb Sierra Nevada snowshoe hare and American marten. This temporary impact may disrupt normal behavioral patterns associated with foraging or breeding activities, depending on the season when work is performed and the use of the habitat. However, because snowshoe hares and martens are most

active at dawn, dusk, and night, construction activities are unlikely to affect their feeding and breeding activities.

The temporary placement of small areas of fencing designating ESAs within the study area may disrupt normal foraging and movement patterns. These areas would be limited in scale and should not adversely affect movement through the study area. The Project would not increase roadway capacity or introduce features that will increase the level of service or operating speed of the facilities or provide additional highway access. Therefore, increased mortality of snowshoe hare and marten due to these types of changes in the roadway would not occur. This impact is considered less than significant. No mitigation is necessary.

**Impact ANM-7: Removal of Habitat for Mule Deer (Less than Significant)**
Approximately 59.900 acres of mixed conifer forest, 2.091 acres of aspen, 0.513 acre of montane chaparral, and 0.455 acre of meadow are located within the study area. Portions of these areas provide suitable habitat for mule deer. The Project would cause construction-related disturbances within 16.350 acres of mixed conifer forest, 0.058 acre of aspen, 0.010 acre of montane chaparral, and 0.041 acre of meadow habitats as infiltration basins and other water quality treatments are installed. Implementation of design features and BMPs WL-03 and WL-04 would limit the amount of vegetation removed and restrict vegetation removal to outside the fawning season. Because the habitat removed will be small areas adjacent to SR 89, most is currently exposed to continuous human disturbance, and deer are unlikely to fawn in these areas, this impact is considered less than significant. No mitigation is necessary for this impact.

Noise and activity associated with construction could temporarily disturb mule deer. This temporary impact may disrupt normal behavioral patterns associated with foraging or breeding activities, depending on the season when work is performed and the use of the habitat. The temporary placement of small areas of fencing designating ESAs within the study area may disrupt normal foraging and movement patterns. These areas would be limited in scale and should not adversely affect movement through the study area. The Project would not increase roadway capacity or introduce features that will increase the level of service or operating speed of the facilities or provide additional highway access. Therefore, increased mortality of deer due to these types of changes in the roadway would not occur. This impact is considered less than significant. No mitigation is necessary.

**Impact ANM-8: Temporary Disturbance of Nesting Migratory Birds (Less than Significant)**
Implementation of the Project could affect nesting birds, including raptors, if construction activities remove or otherwise disturb occupied nests during the breeding season. Construction activities during the breeding season that result in death of young or loss of reproductive potential would violate CFGC 3503 and 3503.5 and the MBTA. The Project includes several design features and BMPs (WL-03, WL-04, WL-05, WQ-02, and WQ-05) that would reduce this impact. Overall, implementation of the Project would have a less-than-significant impact on nesting migratory birds. No mitigation is necessary.

## 2.3.5 Threatened and Endangered Species

### 2.3.5.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the FESA (16 USC 1531, et seq.) (see also 50 CFR 402). This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems on which they depend. Under FESA Section 7, federal agencies, such as FHWA, are required to consult with the USFWS and NMFS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a biological opinion or an incidental take permit. FESA Section 3 defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the CESA (CFGC 2050 et seq.). The CESA emphasizes early consultation to avoid potential impacts on rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. CDFG is the agency responsible for implementing the CESA. CFGC 2081 prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in CFGC 86 as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CESA allows for take incidental to otherwise lawful development projects; for these actions, an incidental take permit is issued by CDFG. For projects requiring a biological opinion under FESA Section 7, CDFG may also authorize impacts on CESA species by issuing a consistency determination under CFGC 2080.1.

### 2.3.5.2 Affected Environment

One state-listed plant species (Tahoe yellow cress [*Rorippa subumbellata*]), one federally listed fish species (Lahontan cutthroat trout), and three state-listed wildlife species (bald eagle, bank swallow, and willow flycatcher) were identified as having the potential to occur in the Project vicinity. Each species is discussed below.

#### *Tahoe Yellow Cress*

Tahoe yellow cress occurs within 0.5 mile north of the study area in scattered locations from Baldwin Beach to Camp Richardson. Tahoe yellow cress generally blooms in July, but would be recognizable to at least a genus level within 1 or 2 weeks of the blooming period. No evidence of Tahoe yellow cress was found in the study area.

#### *Lahontan Cutthroat Trout*

Lahontan cutthroat trout is an inland subspecies of cutthroat trout endemic to the Lahontan Basin of northern Nevada, eastern California, and southern Oregon. USFWS listed Lahontan cutthroat trout as endangered in 1970 (35 Federal Register [FR] 13520). Lahontan cutthroat trout was reclassified as a federally threatened species in 1975 to allow for management and recreational fishing (40 FR 29864). The USFWS *Recovery Plan for Lahontan Cutthroat Trout* (1995) establishes goals and objectives to recover and protect Lahontan cutthroat trout. Critical habitat has not been designated for Lahontan cutthroat trout (U.S. Fish and Wildlife Service 1995).

Lahontan cutthroat trout also are an LTBMU management indicator species and a TRPA special interest species.

Lahontan cutthroat trout is thought to have been extirpated from Lake Tahoe proper by 1939. Although commercial Lahontan cutthroat trout fishing was banned on Lake Tahoe in 1917, by 1938 the last spawning Lahontan cutthroat trout from the lake were observed in the tributaries. The State of California conducted an egg-taking and propagation program for Lake Tahoe Lahontan cutthroat trout from 1882 to 1938, but it was not successful in sustaining the population (Truckee River Basin Recovery Implementation Team and Ecosystems Management International 2002). Recent attempts have been made to reintroduce the species into the mainstem Truckee River (stocked with 30,000 trout between Tahoe City and Truckee in 2002) and Fallen Leaf Lake (stocked with 36,000 trout in 2002). There is one CNDDB historical occurrence of Lahontan cutthroat trout from Taylor Creek. The spawn from Taylor Creek were raised in Sisson hatchery. The last Lahontan cutthroat trout observed in Taylor Creek was in 1939. Lahontan cutthroat trout has not been collected and is not known to spawn within the drainages available in the study area. Focused surveys have not been completed for this species in the study area (URS 2007).

No Lahontan cutthroat trout were observed in Taylor and Tallac Creeks during the July 2007 field survey. However, focused fish surveys were not conducted as part of this field survey. Fish species observed in Taylor Creek included brown trout, rainbow trout, sucker (*Catostomus* spp.), Lahontan redside, and sunfish. Salmonids also were observed in Tallac Creek in a pool immediately downstream of the SR 89 crossing, but conditions prevented identifying these fish to the species level.

Lahontan cutthroat trout are currently stocked in Fallen Leaf Lake as part of an experimental program to determine the interaction between Lahontan cutthroat trout and lake trout (Shemai pers. comm.). Although intensive electrofishing surveys in 2007 did not detect the presence of Lahontan cutthroat trout in Taylor Creek downstream of Fallen Leaf Lake, the species has the potential to occur in Taylor Creek because individuals have been documented leaving the lake through the outlet culvert (Shemai pers. comm.).

### *Bald Eagle*

Bald eagle was recently delisted under the FESA, but will be monitored for a period of 5 years. This species is also state-listed as endangered and is fully protected by the CFGC. Bald eagle is a permanent resident and uncommon winter migrant in California (Zeiner et al. 1990a). The species breeds at coastal areas, rivers, lakes, and reservoirs with forested shorelines or cliffs in northern California. Wintering bald eagles are associated with aquatic areas containing some open water for foraging. Bald eagles nest in trees in mature and old growth forests that have some habitat edge and are somewhat close to water (within 1.25 miles) with suitable foraging opportunities. Bald eagles tend to select nest trees that are more than 1,640 feet from human development and disturbance (Buehler 2000). The species' breeding season is between February 1 and August 1. Bald eagles use snags or other hunting perches adjacent to large bodies of water or rivers to hunt for fish (Zeiner et al. 1990a).

No bald eagles were observed during the July and August 2007 field surveys. There is one record for nesting bald eagles at Emerald Point within 1 mile of the study area (California Natural

Diversity Database 2007). TRPA maintains a 0.5-mile no-disturbance zone surrounding bald eagle nest sites. LTBMU and TRPA have designated certain areas as Bald Eagle Management Zones (BEMZ) and Bald Eagle Wintering Habitat (BEWH). A BEMZ exists in the vicinity of Tallac and Taylor Creeks near the shore of Lake Tahoe, approximately 400 feet from the study area. The Lake Tahoe Basin is a significant wintering area for bald eagles, and areas that have been designated as BEWH are located around Emerald Bay, Cascade Lake, and Truckee Marsh. A portion of the study area is within the Emerald Bay BEWH (Tahoe Regional Planning Agency 2002), and the Truckee Marsh BEWH is located approximately 4,000 feet from the study area. Both the BEMZ and BEWH are intended to be disturbance-free during bald eagle wintering. Bald eagles could winter within the study area, but are unlikely to nest there because of the proximity of the study area to SR 89 and exposure to continuous human disturbance throughout most of the study area. There is a high level of human activity within the City of South Lake Tahoe, and Camp Richardson, and along the bike trail that extends just west of the City of South Lake Tahoe west to Spring Creek Road. Because construction is expected to occur between April and October, disturbance of bald eagles during the wintering period would not be an impact from the Project.

### *Bank Swallow*

Bank swallow is a state threatened species. Bank swallows occur in the Sacramento Valley, along the central coast north to San Francisco Bay, and in the Honey Lake and Lower Klamath Lake areas. The species requires vertical banks and cliffs with fine-textured sandy soils near streams, rivers, ponds, lakes, and the ocean for nesting. The breeding season for bank swallows is early May through July, with peak activity from May 15 to June 15 (Zeiner et al. 1990a).

No bank swallows were observed during the July and August 2007 field surveys. There is one record for bank swallows at the Tahoe Keys, approximately 1 mile from the study area (California Natural Diversity Database 2007). TRPA and the Forest Service do not have any additional information on bank swallows in the Project vicinity (Thayer pers. comm.; Lyon pers. comm.). Bank swallows could forage or perch in the study area. There may be a limited amount of suitable nesting habitat along Taylor and Tallac Creeks, but none was observed within the study area boundaries, and it is unlikely that swallows would nest along these creeks.

### *Willow Flycatcher*

Willow flycatcher is a state endangered species. In California, willow flycatchers occur in the Sierra Nevada and Cascade Range from southeastern Shasta County to northern Kern County, including Alpine, Inyo, and Mono Counties (Sedgwick 2000). This species nests in broad, open river valleys or large montane meadows in dense stands of willows near standing or running water (Zeiner et al. 1990a; Sedgwick 2000). Additionally, willow flycatcher forages, roosts, and sings from perches in dense willow thickets. Willow flycatchers arrive on the breeding grounds in California in May and June and begin nesting shortly thereafter (Zeiner et al. 1990a). Most young fledge by August, and individuals depart for the wintering grounds in Central and South America in August and September (Sedgwick 2000).

No willow flycatchers were observed during the July and August 2007 field surveys. There are two records for nesting willow flycatchers within 5 miles of the study area (California Natural Diversity Database 2007). The closest record is less than 1 mile from the study area in Taylor Creek Marsh. Willow flycatchers have also been observed at Baldwin Marsh and Rabe Meadow

in the Project vicinity (Tahoe Regional Planning Agency 2002). Suitable habitat for willow flycatchers is present along Taylor and Tallac Creeks in and adjacent to the study area. Willow flycatchers could forage or perch in the study area, but are unlikely to nest there because of the proximity of the study area to SR 89 and exposure to continuous human disturbance throughout most of the study area.

#### 2.3.5.3 Environmental Consequences

*Approach and Methodology*

The background research and field studies conducted for natural communities and animal species included threatened and endangered species (see Sections 2.3.2.3 and 2.3.4.3).

Fish biologists conducted a survey to qualitatively evaluate fish habitat for Lahontan cutthroat trout within the study area. They also conducted a visual survey of the stream crossing to determine whether existing fish passage conditions were adequate and to quantify existing SRA coverage associated with overhanging riparian vegetation within the ESL.

Potential effects of the Project on Lahontan cutthroat trout are primarily related to changes in water quality from Project construction and operation. The magnitude of potential effects was assessed based on the extent to which the Project is expected to affect habitat conditions necessary to sustain viable, self-sustaining populations of Lahontan cutthroat trout and meet the recovery goals for the species. Important considerations included the:

- current status of the species and habitat conditions in the Project area;
- seasonal occurrence and habitat requirements of life stages potentially occurring in the Project area in the future;
- timing, magnitude, frequency, and duration of Project-related changes in environmental conditions associated with the habitat requirements of these life stages; and
- degree to which the Project contributes to baseline conditions that currently adversely affect or impair recovery of the species or its habitat.

Sensitive plant species with potential to occur in the Project region were identified based on a review of existing information, and a blooming-period botanical survey of the study area was conducted in late July and early August 2007 to determine whether any of these species were present. Table 2.3.3-1 lists all sensitive plant species with the potential to occur in the Project region.

*Environmental Consequences Discussion*

No work within the bed or banks of Taylor Creek, habitat for Lahontan cutthroat trout, is proposed as part of the Project. Project-related treatment facilities will be installed beyond the limits of the banks of the creek to treat water before it is discharged into the creek. Therefore, the Project would not result in an impact on Lahontan cutthroat trout. No mitigation is necessary.

The study area is considered unlikely to support sensitive plant species, including Tahoe yellow cress, based on the lack of previously recorded occurrences, disturbance from human and road maintenance activities, and negative results of blooming-period botanical field surveys

conducted in the study area. Therefore, the Project would not result in an impact on Tahoe yellow cress. No mitigation is necessary.

**Impact T&E-1: Operation-Related Impacts on Lahontan Cutthroat Trout (Beneficial)**
The collection, treatment, and transport of runoff from SR 89 is expected to reduce the transport and delivery of sediment and pollutants originating on highway surfaces to streams. Regular highway operation and maintenance activities can result in the accumulation of heavy metals, inorganic salts, aromatic hydrocarbons, and suspended solids on road surfaces. Operation of vehicles also can result in the accumulation of oil, grease, rust, rubber particles, and other solid material on highway surfaces. These materials are then transported off the highway and into streams during rain or snow storm events, and may result in the contamination of these water bodies and potentially affect fish and other aquatic organisms. Effects on fish from contamination of water bodies can range from avoidance of affected stream reaches to mortality, which could occur through exposure to lethal concentrations of contaminants or exposure to non-lethal levels that cause physiological stress and increased susceptibility to other sources of mortality (e.g., predation and disease).

The potential magnitude of biological effects resulting from these accidental or unintentional actions depends on a number of factors, including proximity to the stream; type, amount, concentration, and solubility of the contaminant; and timing and duration of the discharge to the stream relative to the life stage and needs of fish. Contaminants can affect survival, growth rates, and reproductive success of fish and other aquatic organisms. The level of effect also depends on species and life stage sensitivity, duration and frequency of exposure, condition or health of individuals (e.g., nutrient status), and physical and chemical properties of the water (e.g., temperature and dissolved oxygen).

The proposed collection, treatment, and transport of runoff from SR 89 would reduce the potential for these contaminants from entering water bodies in the Project area, potentially improving water quality and restoring channel dynamics (i.e., natural processes of channel scour and deposition), compared to existing conditions. This could benefit the future recovery of Lahontan cutthroat trout in these streams. No mitigation is necessary.

**Impact T&E-2: Temporary Effects on Bald Eagle (Less than Significant)**
Approximately 59.900 acres of mixed conifer forest and 1.558 acres of montane riparian habitats containing suitable nest trees for bald eagles are located within the study area. The Project would cause construction-related disturbances within 16.350 acres of mixed conifer forest and 0.027 acre of montane riparian habitats as infiltration basins and other water quality treatments are installed. Tree removal would be mainly be necessary for construction of infiltration basins, but minor tree removal may occur for installation of traction sand traps, erosion control measures, new vehicle pullouts, or rehabilitating or installing new drainage systems. In addition, construction activities could result in the disturbance of nesting bald eagles if construction occurs during the breeding season (generally between March 1 and September 30) and nests are present.

As stated, it is unlikely that bald eagles would nest in the study area because of the proximity to SR 89 and proximity to continuous human disturbance. However, bald eagles are known to nest within 0.6 mile of the study area. Construction noise and activities within the study area have the potential to disrupt normal behavior associated with foraging, nesting, breeding, rearing, and

movement patterns of bald eagles. Construction activity that is visible to nesting bald eagles could result in nest abandonment and subsequent nest failure. Impacts on bald eagles would also be considered adverse if the subsequent population decline due to these disturbances was large and affected the viability of the local population. These impacts would be considered significant. Such disturbances would also violate CFGC 3503 (active bird nests) and 3503.5 (active raptor nests) and the MBTA. The Project includes several design features and BMPs (WL-03, WL-04, and WL-05) that would reduce this impact. Overall, implementation of the Project would have a less-than-significant impact on bald eagle. No mitigation is necessary.

**Impact T&E-3: Temporary Effects on Bank Swallow (Less than Significant)**
Relining or replacing the culvert carrying Tallac Creek under SR 89 would disturb the creek channel and banks from July 1 to September 15, the approved work window for streams in the Lake Tahoe Basin. Vegetation near the road crossing could be disturbed or removed during culvert relining or replacement and riprap placement. Because these activities would occur at the end of or after the breeding season for bank swallows, these activities are not expected to disturb nesting swallows if they are nesting near the construction area. Because no in-stream work will occur at Taylor Creek, there will be no impacts on bank swallows potentially nesting in this creek. The Project will not have a significant impact on bank swallows because potential breeding habitat will not be affected and disturbances near potential breeding habitat will occur late in or after the breeding season. No mitigation is necessary.

**Impact T&E-4: Temporary Disturbance of Willow Flycatcher (Less than Significant)**
Approximately 1.558 acres of montane riparian containing suitable foraging habitat and perching vegetation for willow flycatchers are located within the study area. The Project would cause construction-related disturbances within 0.027 acre of this habitat as infiltration basins and other water quality treatments are installed. Vegetation removal adjacent to creeks may be required for erosion control measures and rehabilitating or installing new drainage systems. In addition, construction activities could result in the disturbance of nesting willow flycatchers if construction occurs during the breeding season (generally between May 1 and August 15) and nests are present near the Project area.

As stated, it is unlikely that willow flycatchers would nest in the study area because of the proximity to SR 89 and proximity to continuous human disturbance. However, willow flycatchers may nest in areas adjacent to the study area. Construction noise and activities within the study area have the potential to disrupt normal behavior associated with foraging, nesting, breeding, rearing, and movement patterns of willow flycatchers. Construction activity that disturbs willow flycatchers could result in nest abandonment and subsequent nest failure. This impact would be considered significant. Such disturbance would also violate CFGC 3503 (active bird nests) and 3503.5 (active raptor nests) and the MBTA. The Project includes several design features and BMPs (WL-03, WL-04, WL-05, WQ-02, and WQ-05) that would reduce this impact. Overall, implementation of the Project would have a less-than-significant impact on willow flycatcher. No mitigation is necessary.

## 2.3.6 Invasive Species

### 2.3.6.1 Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112, requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." FHWA guidance issued August 10, 1999 directs the use of the state's noxious weed list to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project. Invasive plant species include species designated as federal noxious weeds by USDA, species listed by the California Department of Food and Agriculture (CDFA), and other invasive plants designated by California Invasive Plant Council (Cal-IPC).

*El Dorado County*

The following policy within the El Dorado County General Plan Conservation and Open Space Element (El Dorado County 2004) relates to noxious weeds.

- **Policy 7.4.1.7:** The County shall continue to support the Noxious Weed Management Group in its efforts to reduce and eliminate noxious weed infestations to protect native habitats and to reduce fire hazards.

A memorandum of understanding (El Dorado County 1998) entered into by El Dorado County and various organizations and agencies, including Caltrans, established the El Dorado County Noxious Weeds Management Group. The prevention and control of noxious weeds is focused on the exclusion, detection, eradication, and suppression of noxious weeds. Species listed by CDFA and other species of local significance as they are identified have priority in the control and eradication efforts. The memorandum of understanding specifically directed Caltrans to:

- provide no fee encroachment permits to allow for control of noxious weeds along state highway rights-of-way;
- coordinate with El Dorado County Department of Agriculture on noxious weed control projects within the state highway right-of-way boundaries; and
- educate the public and Caltrans employees about noxious weeds, their identification, and methods of prevention.

### 2.3.6.2 Affected Environment

Roads, highways, and related construction projects are some of the principal dispersal pathways for invasive plant species. Table 2.3.6-1 identifies the invasive plant species located in the study area. Individuals of these species occur within the study area in areas of frequent disturbance, but no major infestations of invasive plants were observed in the study area.

**Table 2.3.6-1. Invasive Plant Species Located in the Study Area**

| Species | CDFA | Cal-IPC |
|---|---|---|
| *Bromus tectorum* (downy brome) | – | High |
| *Cirsium vulgare* (bull thistle) | C | Moderate |
| *Dactylis glomerata* (orchard-grass) | – | Limited |
| *Hypericum perforatum* (Klamath weed) | C | Moderate |
| *Lepidium latifolium* (broad-leaf pepper-grass) | B | High |
| *Poa pratensis* (Kentucky bluegrass) | – | Limited |
| *Rumex acetosella* (sheep sorrel) | – | Moderate |
| *Rumex crispis* (curly dock) | – | Limited |
| *Verbascum thapsus* (common mullein) | – | Limited |

*Notes:* The CDFA and Cal-IPC lists assign ratings that reflect the CDFA and Cal-IPC views of the statewide importance of the pest, chance that eradication or control efforts would be successful, and present distribution of the pest in the state. These ratings are guidelines that indicate the most appropriate action to take against a pest under general circumstances.

The CDFA categories indicated in the table are defined as follows:

- **B:** Eradication, containment, control, or other holding action at the discretion of the commissioner.
- **C:** State-endorsed holding action and eradication only when found in a nursery; action to retard spread outside nurseries at the discretion of the commissioner.

The Cal-IPC categories indicated in the table are defined as follows:

- **High:** Species with severe ecological impacts, high rates of dispersal and establishment, and usually widely distributed.
- **Moderate:** Species with substantial and apparent ecological impacts, moderate to high rates of dispersal, establishment dependent on disturbance, and limited to widespread distribution.
- **Limited:** Species with minor ecological impacts, low to moderate rates of invasion, limited distribution, and locally persistent and problematic.

### 2.3.6.3 Environmental Consequences

*Approach and Methodology*

The California list of noxious weed species (California Department of Food and Agriculture 2007) and invasive plant inventory (California Invasive Plant Council 2007) were reviewed to determine which invasive species occur in the study area.

*Significance Criteria*

CEQA does not have a specific criteria for the spread of invasive species. However, spread of species on the CDFA and Cal-IPC lists would cause a significant impact by adversely affecting natural plant communities by displacing native plant species that provide shelter and forage for wildlife species.

*Environmental Consequences Discussion*

**Impact INV-1: Spread of Invasive Plants during Construction and Ground-Disturbing Activities (Less than Significant)**

Disturbance due to drainage improvement activities could result in the spread of invasive plants into CDFG natural communities of special concern and SEZs. The federal and local agencies are to prevent the introduction and control the spread of invasive species and eliminate or minimize their associated economic, ecological, and human health impacts. The Project includes several design features and BMPs (WC-01, WC-02, and WC-03) that would reduce this impact. Overall, implementation of the Project would not significantly increase the spread of invasive plants. No mitigation is necessary.

## 2.4 Cumulative Impacts

### 2.4.1 Introduction

A Draft PEIR was prepared by Caltrans in June 2007 that examines a broad range of proposed improvements to eight segments of the state highway system in El Dorado County. The Project is located within one of the study segments. The Draft PEIR has not been certified, but the supporting analyses of cumulative effects are pertinent to and comprehensive enough to serve as the basis for considering cumulative effects of the Project.

### 2.4.2 Cumulative Analysis Projects

Section 15130 of the State CEQA Guidelines addresses the evaluation of cumulative effects. Cumulative analysis is based on the evaluation of the project action in the context of other "past, present or probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency." The Draft PEIR provided descriptions of such cumulatively considerable projects for evaluating the potential cumulative effects of the overall program of projects. Section 3.12, "Cumulative Impacts," of the Draft PEIR (California Department of Transportation 2007a) contains a complete discussion of those projects. The cumulative impact analysis contained in the Draft PEIR is incorporated by reference and is summarized in the discussions under Section 2.4.2. Although all projects discussed in the Draft PEIR can be considered cumulatively relevant, only the projects that are in the closest geographic proximity to the Project vicinity are summarized below for consideration of cumulative effects.

#### 2.4.2.1 El Dorado County Projects

Several projects, including those listed below, are scheduled for completion in the vicinity of the Project.

- **Sawmill Bicycle Path Project:** The TRPA *Lake Tahoe Regional Bicycle and Pedestrian Master Plan* includes a project for El Dorado County to construct and maintain the Sawmill bicycle path and bridge over the Upper Truckee River adjacent to U.S. 50.
- **Dead Tree Removal in Washoe Meadows State Park:** El Dorado County would remove dead trees and other vegetation in the area of U.S. 50 and Sawmill Road to reduce the potential for wildfires and allow reforestation of native species.
- **Angora 3 Erosion Control Project/Angora Creek Fisheries Enhancement Project:** This project would construct and maintain conveyance and stormwater treatment facilities that would affect water quality and erosion beneficially in the project area. It also would improve culverts under Lake Tahoe Boulevard to enhance fish habitat within Angora Creek.

#### 2.4.2.2 South Lake Tahoe Projects

Eight timeshare/condominium/hotel, retail, and other projects pending in South Lake Tahoe would be constructed in the 2005–2009 timeframe; information about seven of these projects is included in the Draft PEIR. These seven projects would total approximately 353 units (328

lockouts), a 93,500-square-foot convention center, and 100,000 square feet of retail/commercial space.

#### 2.4.2.3 TRPA EIP Projects

More than 50 projects are programmed under TRPA's EIP Update (2001) under the categories of air quality/transportation, fisheries, recreation, scenic resources, soil conservation/SEZ, vegetation, water quality and wildlife. Projects listed include bikeway, trail, and trolley enhancements; creek and stream restoration; campground facility improvements; scenic unit improvements; bank stabilization measures; habitat restoration and protection; and BMP retrofits. TRPA-designated EIP projects must contribute to the attainment of a given threshold for the affected resource and typically would be expected to result in an overall environmental benefit.

#### 2.4.2.4 Caltrans EIP Projects

In addition to TRPA's planned EIP projects, as well as the highway improvements proposed for the eight segments of the program, Caltrans has several planned highway-related EIP projects scheduled between 2005 and 2012 in El Dorado County. These include:

- Echo Summit to 1.1 mile east of Echo Summit,
- 0.2 mile east of Echo Summit to Meyers Road,
- SR 89 North "Y" to Trout Creek, and
- Trout Creek to Ski Run Boulevard.

Furthermore, within Placer County, Caltrans has nine highway-related EIP projects scheduled during this period along SR 267 and SR 28, as well as other safety and operational projects (e.g., retaining walls and erosion control) on both U.S. 50 and SR 89 (California Department of Transportation 2007a).

### 2.4.3 Assessment of Cumulative Impacts

As identified in the cumulative analysis in the Draft PEIR, the text below discusses the potential long-term cumulative effects resulting from the Project and other projects described in Section 2.4.1, which would be considered less than significant.

#### 2.4.3.1 Vegetation

The Draft PEIR found that activities within the Lake Tahoe Basin will result in some level of vegetation removal for site preparation. However, the removal of woody vegetation (trees and shrubs), in conjunction with proposed improvements, would be the minimum required for construction and would occur only where trees or vegetation alongside the roadway or basin location cannot be avoided. Any proposed loss of trees would be in conformance with TRPA goals and policies (e.g., large trees may be removed for large public utility projects if TRPA finds there is no reasonable alternative). As such, the planned transportation improvements would not be expected to substantially alter the species richness, relative abundance, and pattern of vegetation along SR 89 or within the context of the larger South Lake Tahoe area.

The Project would be consistent with these requirements as well and was considered in the cumulative impact analysis in the Draft PEIR. Therefore, the Project would not make a considerable contribution to a cumulative effect (California Department of Transportation 2007a).

#### 2.4.3.2 Wildlife

As identified in the Draft PEIR, the proposed improvements would not cause an increase in urban growth, result in additional habitat fragmentation, alter existing connectivity between wildlife habitats along the highways, or cumulatively contribute to these types of impacts from other developments. Because the highways within the area already exist and act as a barrier to wildlife movement, the improvements do not propose additional permanent structures that may adversely affect wildlife movement along or across the highways (e.g., new roadways or highway access, right-of-way fencing, guardrails, and median barriers). Infrequent noises will occur because of construction activities. However, noise-reducing construction practices will be implemented as part of the proposed project (Impact N-1, Section 2.2.6.3). Therefore, noise from construction is not expected to result in noise impacts that would disturb nesting birds or other wildlife species.

The proposed improvements' contribution to the cumulative loss of woody vegetation, in combination with the losses incurred from other past, present, and potential future projects, is unlikely to result in the nonattainment of TRPA environmental threshold carrying capacities for managed wildlife species in the south Lake Tahoe area. Furthermore, these activities are not expected to permanently affect the movement of fish and other aquatic organisms adversely along or across the highways, and no new barriers to aquatic migration are expected to occur. Therefore, based on these conclusions about the natural environment and the analysis of the Project in the Draft PEIR, the Project is not expected to contribute to a significant adverse cumulative impact on wildlife (California Department of Transportation 2007a).

### 2.4.4 Resources Cumulatively Affected

Two resources were identified as having cumulative impacts: traffic, which has a temporary effect, and water quality, which has a beneficial effect. Furthermore, two types of potential cumulative effects were reviewed: beneficial effects and temporary effects that were considered less than significant. The following discussion explains the disposition of these impacts. In both cases, the Project will not make a considerable contribution.

**Cumulative Impact: Contribution to Cumulative Construction Traffic–Related Impacts (Less than Cumulatively Considerable)**

Construction of the Project will take place during the period of construction of other Caltrans, TRPA, Placer County, El Dorado County, and City of South Lake Tahoe projects. Cumulative community impacts related to the projects could include temporary road closures and traffic delays. These impacts may impair access to local businesses, commercial and tourist destinations, public recreation areas, and private residences. The cumulative effects of the various construction activities are not considered significant, and implementation of the Regional TMP, the Project-specific TMP, and a public involvement plan are components of managing temporary effects of the Project. These plans will help ensure the safe and orderly passage of

traffic through the construction zone and advise adjoining residents and business owners of the construction schedule so that can they plan accordingly. No mitigation is necessary.

**Cumulative Benefit: Contribution to Cumulative Water Quality Improvements**
The Project is intended to result in an environmental benefit to water quality. The water quality control facilities that would be installed under the Project would reduce soil erosion rates and improve the quality of stormwater runoff in the Project vicinity. As a result, they would have a beneficial cumulative effect on soil conservation and water quality in the Lake Tahoe Basin. Temporary contributions to water quality impacts as a result of construction of the Project would be offset by the BMPs required during construction to control the release of contaminants from the work site and by the beneficial permanent cumulative impacts on water quality from the Project.

In addition, by implementing the Project design features and BMPs, the Project would result in a net gain in restored or improved naturally functioning SEZ coverage. The quality of waters entering SEZ and jurisdictional water systems in the south Lake Tahoe area would be improved as a result of the Project.

The Project would offset its minor contribution to less-than-significant adverse impacts on biological resources with beneficial cumulative impacts on biological resources from its water quality improvements (California Department of Transportation 2007a).

## 2.5 Climate Change

This section briefly discusses greenhouse gases and climate change, and the State of California's goals and actions to address potentially contributing emissions. As noted in previous sections of this chapter and the conclusion to this section, the Project would not increase or change long-term traffic capacity, and should have no or minimal effects related to this issue.

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas[1] (GHG) emission reduction and climate change research and policy have increased dramatically in recent years. In 2002, with the passage of Assembly Bill (AB) 1493, California launched an innovative, proactive approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires ARB to develop and implement regulations to reduce GHG emissions from automobiles and light trucks; these regulations will apply to automobiles and light trucks beginning with the 2009 model year.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by 2020, and 3) 80% below 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of AB 32, the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emission reduction goals while further mandating that ARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06, issued October 17, 2006, further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emission reductions and climate change.

According to a recent white paper by the Association of Environmental Professionals (2007), "an individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases."

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98% of California's GHG emissions are from the burning of fossil fuels and 40% of all human-made GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans (California Department of Transportation 2006b).

[1] Greenhouse gases related to human activity include: carbon dioxide, methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23, HFC-134a, and HFC-152a.

One of the main strategies in the Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide ($CO_2$) from mobile sources, such as automobiles, occur at stop-and-go speeds (0 to 25 miles per hour [mph]) and speeds more than 55 mph. Relieving congestion by enhancing operations and improving travel times in high-congestion travel corridors will lead to an overall reduction in GHG emissions.

Caltrans recognizes the concern that $CO_2$ emissions raise for climate change. However, modeling and gauging the impacts associated with an increase in GHG emission levels, including $CO_2$, at the project level is not currently possible. No federal, state, or regional regulatory agency has provided methodology or criteria for GHG emission and climate change impact analysis. Therefore, Caltrans is unable to provide a scientific or regulatory-based conclusion regarding whether the Project's contribution to climate change is cumulatively considerable.

Caltrans continues to be actively involved on the Climate Action Team as ARB works to implement AB 1493 and AB 32. As part of the Climate Action Program at Caltrans, the department is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high-density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing fuel economy in new cars and light- and heavy-duty trucks. However, it is important to note that the control of the fuel economy standards is held by EPA and ARB. Lastly, the use of alternative fuels is also being considered; Caltrans is participating in funding for alternative fuel research at the University of California, Davis.

# Chapter 3 Comments and Coordination

Coordination with the general public and appropriate public agencies is essential for determining the scope of environmental documentation, level of analysis, required permits, and potential impacts and mitigation measures. Agency consultation and public participation for the Project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings and public meetings. This chapter summarizes the results of Caltrans' efforts to fully identify, address, and resolve issues through early and continuing coordination.

## 3.1 Early Coordination

Because the Project is one of a program of eight water quality improvement projects proposed by Caltrans in El Dorado County, early coordination occurred at a program level. An initial planning review and development phase for the program was completed in 2003, resulting in the approval of project study reports (PSRs) for U.S. 50 and SR 89 (California Department of Transportation 2003c, 2003d). The steps in that phase included the following coordination with TRPA and the Lahontan RWQCB.

### 3.1.1 Field Reviews

In 2005 and 2006, following initial scoping, field reviews of the stormwater collection and treatment elements of the program were performed with TRPA and Lahontan RWQCB representatives. Input from these agencies was considered, and potential basins were added, eliminated, or relocated to better fit the existing field conditions.

### 3.1.2 Other Coordination

The 2003 PSRs were circulated to TRPA and the Lahontan RWQCB for review and comment. The Caltrans *Lake Tahoe Basin Environmental Improvement Program Delivery Plan* (2005) was provided to stakeholders in the Lake Tahoe Basin, including TRPA and the Lahontan RWQCB. In addition, the Caltrans Tahoe Basin Team, which includes Caltrans, TRPA, and Lahontan RWQCB representatives, meets regularly on issues that are common to the planning, design, construction, and maintenance activities related to the Caltrans projects in the Lake Tahoe Basin. Caltrans regularly attends monthly meetings with TRPA to provide input and answer questions on the EIP projects. Additionally, Caltrans conducts field reviews with TRPA and Lahontan RWQCB staff as needed on specific segments to illustrate and discuss proposed treatment options. Caltrans may also establish a focused working group, including key agency staff from TRPA and the Lahontan RWQCB, to address Project-specific issues as the projects progress in the development process and to foster effective communication among stakeholders.

## 3.2 Public Participation and Coordination

The public participation and coordination for the Project included the following activities.

### 3.2.1 Mailing List

A comprehensive mailing list was developed that included the names and addresses of property owners whose property adjoins SR 89 within the Project boundaries. In addition, the mailing list included federal, State of California, State of Nevada, and local agencies; elected and appointed officials and staff; and potentially interested interest groups and organizations. This list was used for notification of the intent to adopt a negative declaration.

### 3.2.2 Availability of the Initial Study

The availability of the IS and proposed negative declaration and notification of the public review period were advertised (see the contact information page following the cover, titled "General Information About This Document"). Comments on the IS may be submitted via email or in writing. Following completion of the public review period, all comments received during the review period will be considered and responded to before a decision is made to finalize this environmental document. Copies of the IS and proposed negative declaration were made available for review and comment at the following locations:

Caltrans North Region Office of Environmental Management
2800 Gateway Oaks Drive
Sacramento, CA 95833

Caltrans District 3 Office
703 B Street
Marysville, CA 95901

El Dorado County Public Library
South Lake Tahoe Branch
1000 Rufus Allen Boulevard
South Lake Tahoe, CA 96150

The IS is also available for review on the Caltrans website:
http://www.dot.ca.gov/dist3/departments/envinternet/envdoc.htm.

# Chapter 4 List of Preparers

This IS and its supporting studies were prepared by a multidisciplinary team of environmental and engineering specialists.

## 4.1 California Department of Transportation

The following individuals were involved in management, oversight, and review of the IS and technical reports, and were also responsible for preparation of the specific technical reports listed below:

- Jody Brown—Project Management
- Christopher Carlton—Project Management
- Ryan Kohagura—Project Engineering
- Gail St. John—Architectural History
- Julia Green—Archaeology
- Michele Lukkarila—Natural Environment and Wetlands
- Rajive Chadha—Initial Site Assessment for Hazardous Waste
- James Williamson—Visual Impact Assessment

## 4.2 Consultant Team: Jones & Stokes

The following consultant team members were involved in compiling this IS and were responsible for preparation of the specific technical reports listed below:

- Chris Brungardt—Project Management
- Claire Bromund—Project Management
- Beth Eggerts—Project Coordination
- Bill Kasson—Community Impact Assessment
- Sandra DeVoto—Community Impact Assessment
- Marina Pelosi—Air Quality Technical Memorandum, Noise Technical Memorandum
- Gabriel Roark—Archaeological Study Report, Historic Property Survey Report
- Kathryn Haley—Historic Resources Evaluation Report, Historic Property Survey Report
- Nate Martin—Water Quality Study
- Jennifer Haire—Natural Environment Study

- Joy Nishida—Natural Environment Study, Wetland Delineation
- Kristin Teddy—Microstation/Impact Calculations
- Lily Douglas—Geographic Information Systems
- John Durnan—Graphic Arts
- Tim Messick—Graphic Arts
- Chris Small—Technical Editing
- Sarah Sol—Technical Editing
- Veronica Olaizola—Word Processing

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## 5.2 Personal Communications

Gaytan, Steve. Tahoe Regional Planning Agency coordinator, California Department of Transportation, Sacramento, CA. September 10, 2007—telephone conversation. October 1, 2007—telephone call with Joy Nishida, Jones & Stokes, Sacramento, CA. November 6, 2007—email with Claire Bromund, Jones & Stokes, regarding September 24, 2007, TRPA approval of a land capability study with SEZs indentified.

Green, Julia K. Associate environmental planner (archaeology), California Department of Transportation, District 3, Sacramento, CA. August 16, 2007—email to Gabriel Roark, Jones & Stokes, Sacramento, CA.

Lehr, Stafford. District fishery biologist, California Department of Fish and Game, Rancho Cordova, CA. August 1, 2007—telephone conversation with Jeff Kozlowski, Jones & Stokes, regarding potential sensitive fish species found in the study area.

Lyon, Victor. Wildlife biologist, Lake Tahoe Basin Management Unit, USDA Forest Service, South Lake Tahoe, CA. August 17, 2007—email with Jennifer Haire, Jones & Stokes, regarding sensitive wildlife species found in the study area.

Muskopf, Sarah. Aquatic biologist, USDA Forest Service. May 12, 2006—personal communication to Justin Whitfield, URS. As cited in URS, 2007, *Natural Environment Study: El Dorado 50 and 89 Environmental Improvement Program/Stormwater Treatment Projects* (EA 03-1A730, EA 03-1A845), May, Oakland, CA, Prepared for California Department of Transportation, Sacramento, CA.

Shemai, Barak. Fish biologist, Lake Tahoe Basin Management Unit, USDA Forest Service. August 10, 2007—telephone conversation with Jeff Kozlowski, Jones & Stokes, regarding fish population and habitat survey data for Taylor and Tallac Creeks and the potential for Lahontan cutthroat trout to be present within the study area.

Thayer, Ted. Fisheries and wildlife program manager, Tahoe Regional Planning Agency, Stateline, NV. August 17, 2007—email with Jennifer Haire, Jones & Stokes, regarding sensitive wildlife species in the study area; a sensitive species table was attached for Mr. Thayer's review, and comments and additional information were provided by Mr. Thayer.

# Appendix A Project Layout Sheets

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 03 | ED | 89 | 8.6/13.8 | | |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

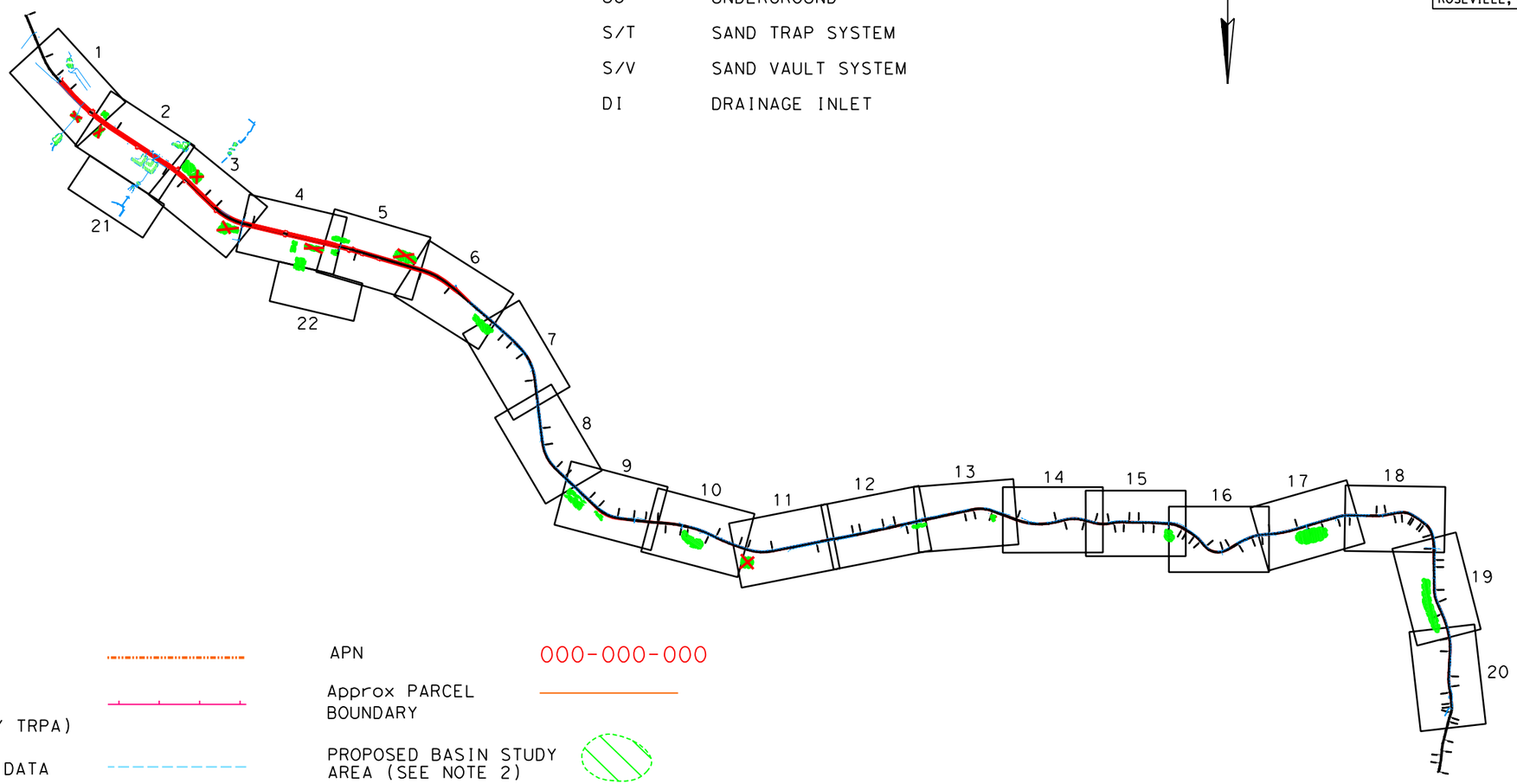
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

*THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.*

URS CORPORATION
1380 LEAD HILL BLVD
SUITE 100
ROSEVILLE, CA 95661

ABBREVIATIONS:

| | |
|---|---|
| DMP | DRAINAGE MAINTENANCE PULLOUT |
| (P) | PROPOSED |
| UG | UNDERGROUND |
| S/T | SAND TRAP SYSTEM |
| S/V | SAND VAULT SYSTEM |
| DI | DRAINAGE INLET |




LEGEND:

| | |
|---|---|
| EXISTING R/W & EASEMENT | |
| SEZ DELINEATION (FIELD VERIFIED BY TRPA) | |
| BAILEY LAND CLASS DATA | |
| ENVIRONMENTAL STUDY LIMITS | |
| APN | 000-000-000 |
| Approx PARCEL BOUNDARY | |
| PROPOSED BASIN STUDY AREA (SEE NOTE 2) | |
| EXISTING BASIN | |
| CULVERTS/DRAINAGE SYSTEMS | |

NOTES:

1. STATE RIGHT OF WAY DELINEATION SHOWN ON ESL LAYOUT SHEETS WAS PROVIDED BY CALTRANS ON 2/21/07. PRIVATE PARCEL AND LOCAL STREET DELINEATION SHOWN ON ESL LAYOUT SHEETS WAS PROVIDED BY CALTRANS ON 8/7/06 AND IS APPROXIMATE ONLY. CALTRANS R/W ENGINEERING WILL NEED TO ESTABLISH ACCURATE R/W MAPPING FOR ANY PARCELS REQUIRING R/W (PARTIAL OR FULL) AND/OR TEMPORARY CONSTRUCTION EASEMENTS (TCE).

2. PROPOSED BASIN STUDY AREA WILL CONSIDER NO PERMANENT IMPACTS TO EXISTING BIKE PATHS AND OTHER ENVIRONMENTALLY SENSITIVE AREAS.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

**KEYMAP**

NO SCALE **K-1**

**TO-U8 ESL LAYOUT SHEETS**
**EA 03-1A8420**
**(REVISION 5 DATED 11-15-07)**

REVISED BY | DATE REVISED
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| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
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| 03 | ED | 89 | 8.6/13.8 | | |

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PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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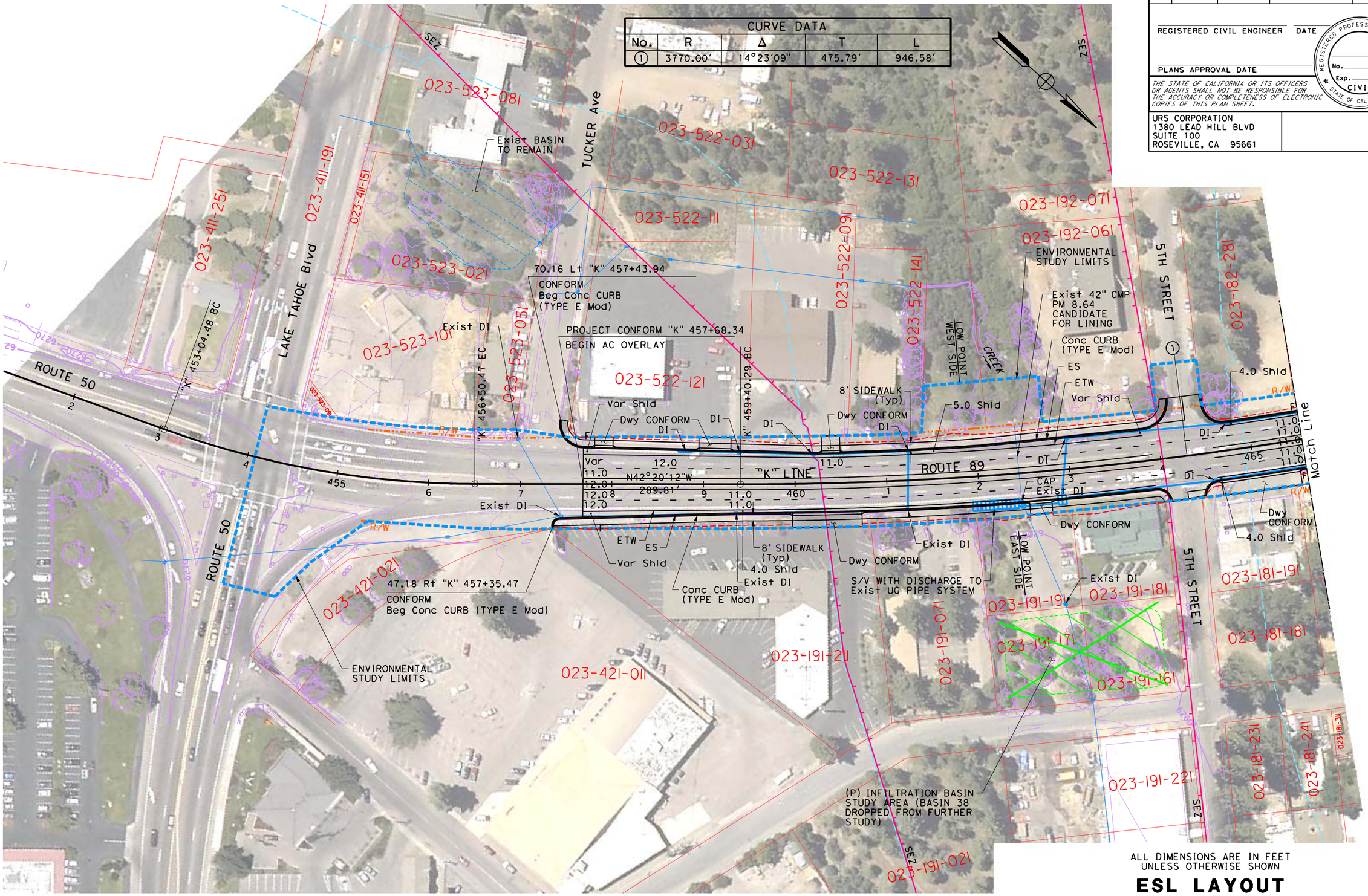
SUITE 100
ROSEVILLE, CA 95661




ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

# ESL LAYOUT

SCALE: 1" = 50'

L-1

| REVISED BY | DATE REVISED |
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EA 1A8420

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
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| 03 | ED | 89 | 8.6/13.8 | | |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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URS CORPORATION
1380 LEAD HILL BLVD
SUITE 100
ROSEVILLE, CA 95661

| CURVE DATA | | | | |
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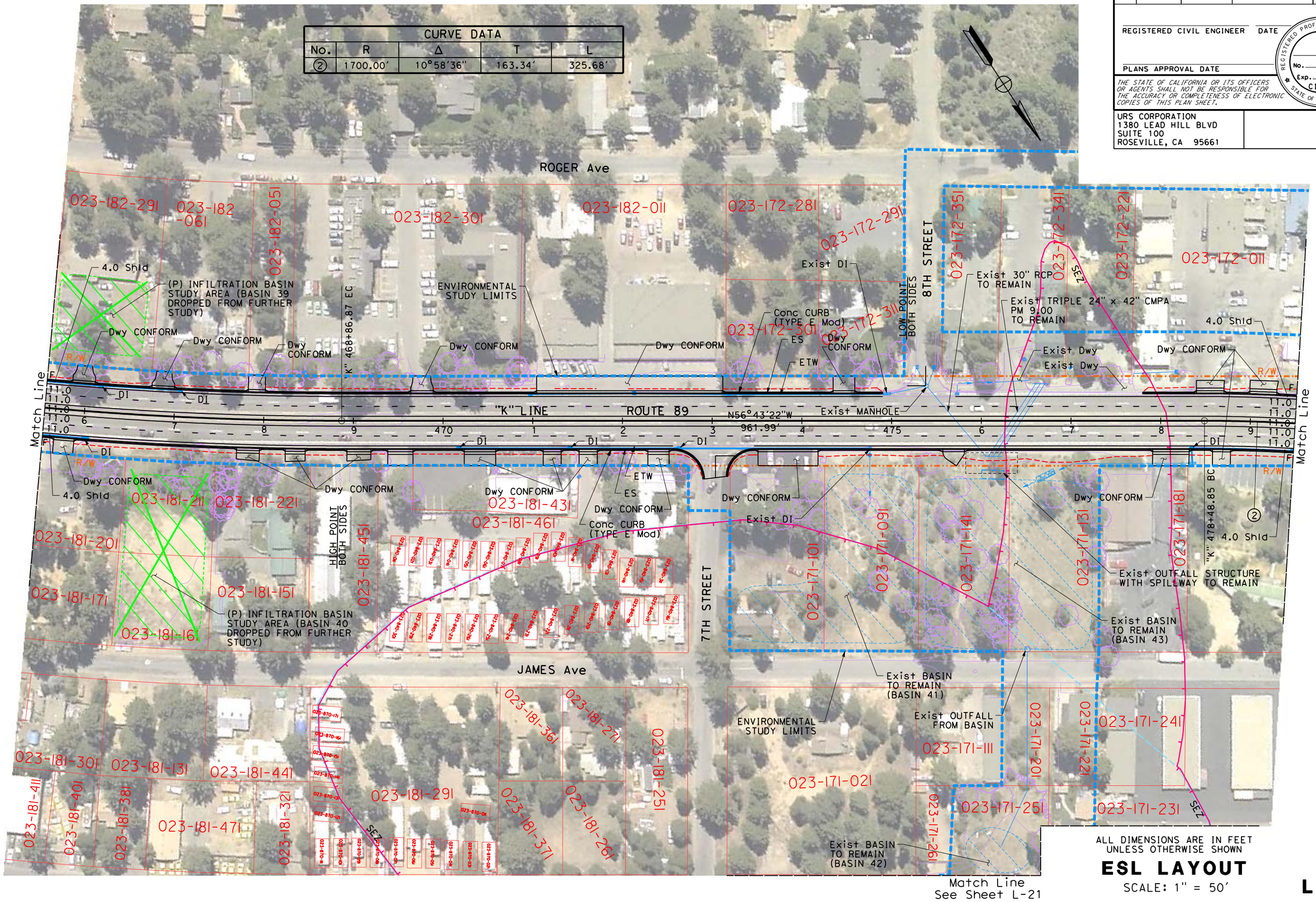
| No. | R | Δ | T | L |
| 2 | 1700.00' | 10°58'36" | 163.34' | 325.68' |




ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

# ESL LAYOUT

SCALE: 1" = 50'

L-2

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
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| 03 | ED | 89 | 8.6/13.8 | | |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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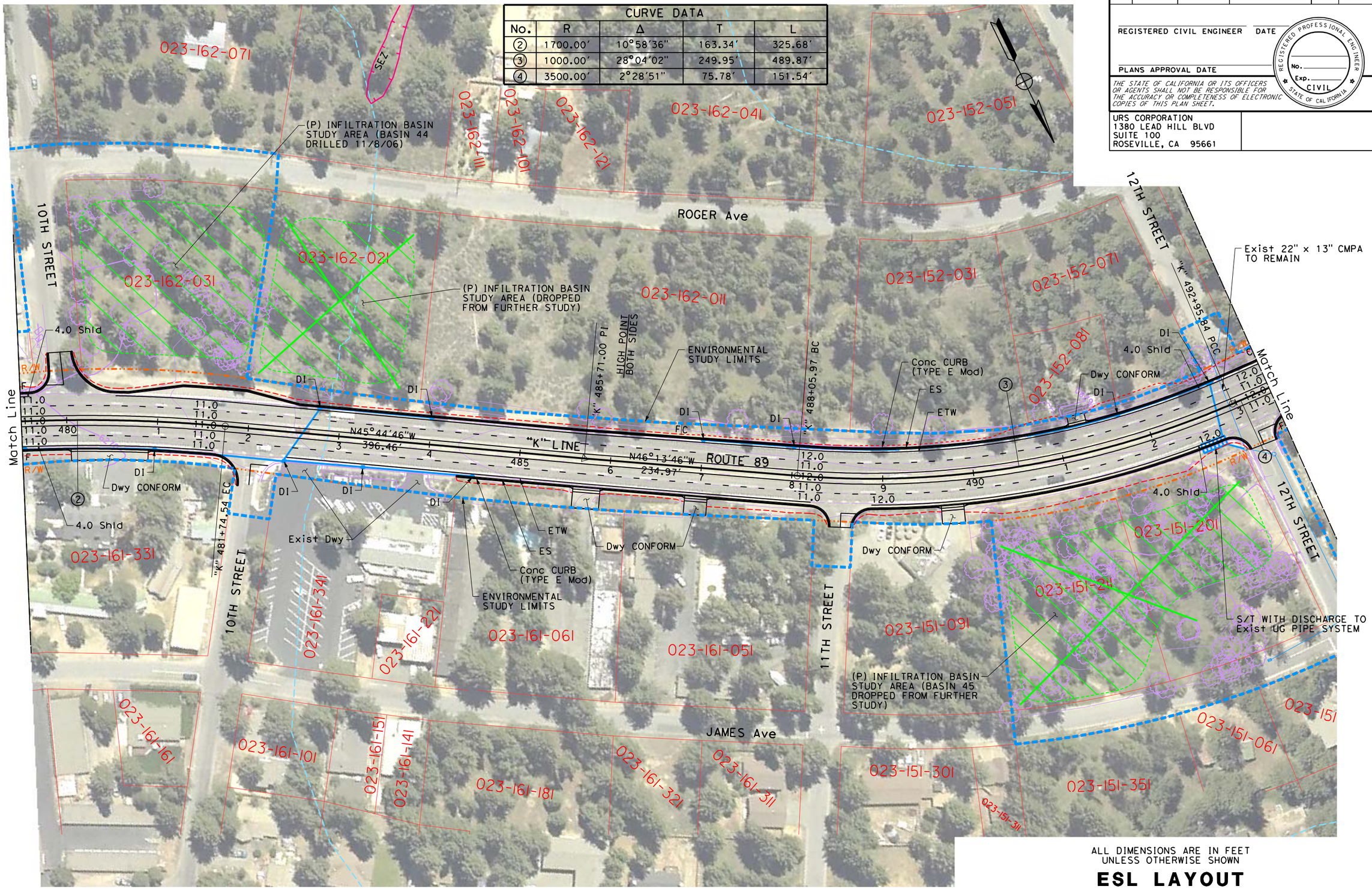
SUITE 100
ROSEVILLE, CA 95661

| CURVE DATA | | | | |
|---|---|---|---|---|
| No. | R | Δ | T | L |
| 2 | 1700.00' | 10°58'36" | 163.34' | 325.68' |
| 3 | 1000.00' | 28°04'02" | 249.95' | 489.87' |
| 4 | 3500.00' | 2°28'51" | 75.78' | 151.54' |




ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

# ESL LAYOUT

SCALE: 1" = 50'

**L-3**

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| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
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URS CORPORATION
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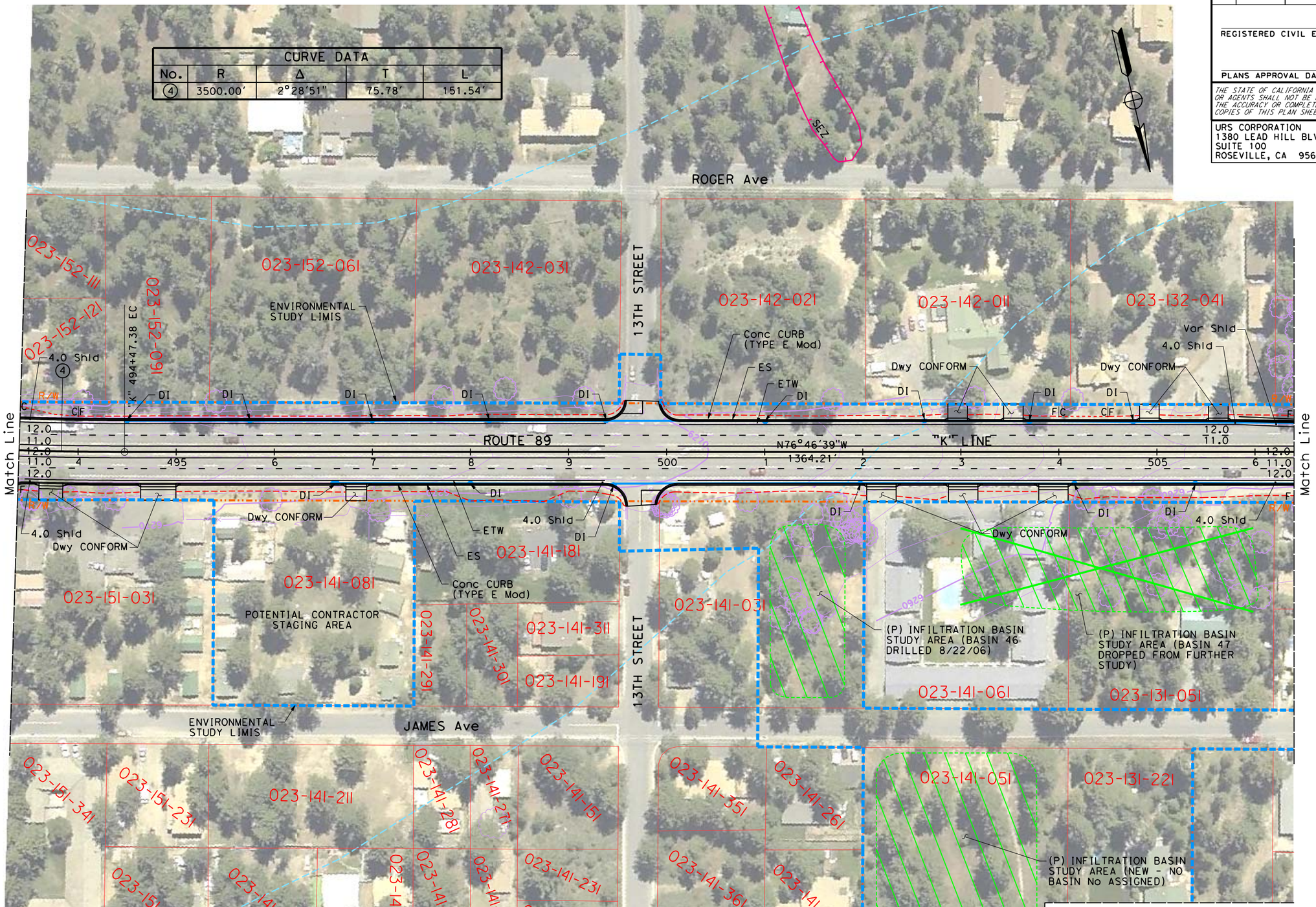
ROSEVILLE, CA 95661




ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

# ESL LAYOUT

SCALE: 1" = 50'

**L-4**

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CU 00000

EA 1A8420

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
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SUITE 100
ROSEVILLE, CA 95661

| CURVE DATA | | | | |
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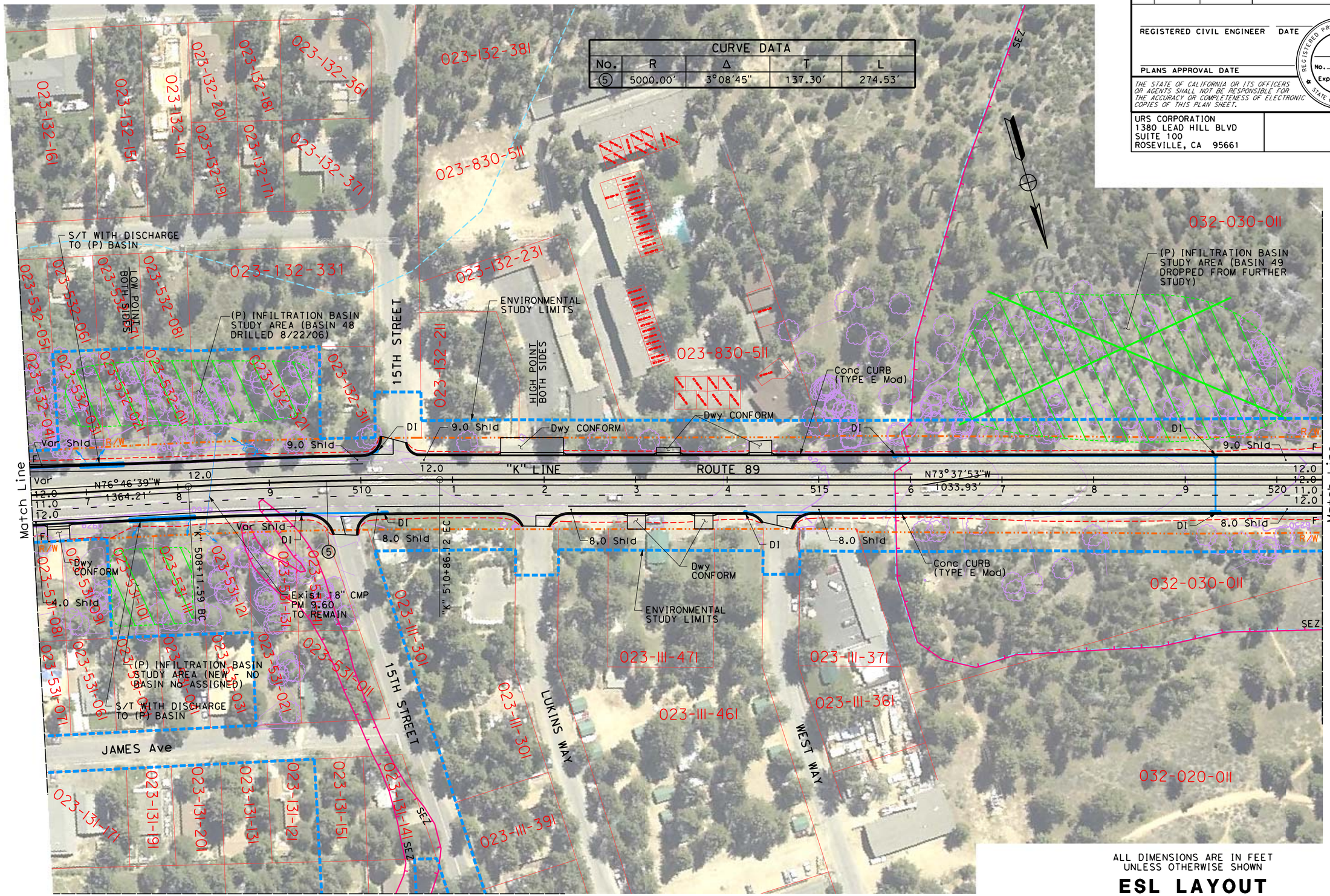


Match Line
See Sheet L-22

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# ESL LAYOUT

SCALE: 1" = 50'

L-5

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CU 00000

EA 1A8420

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
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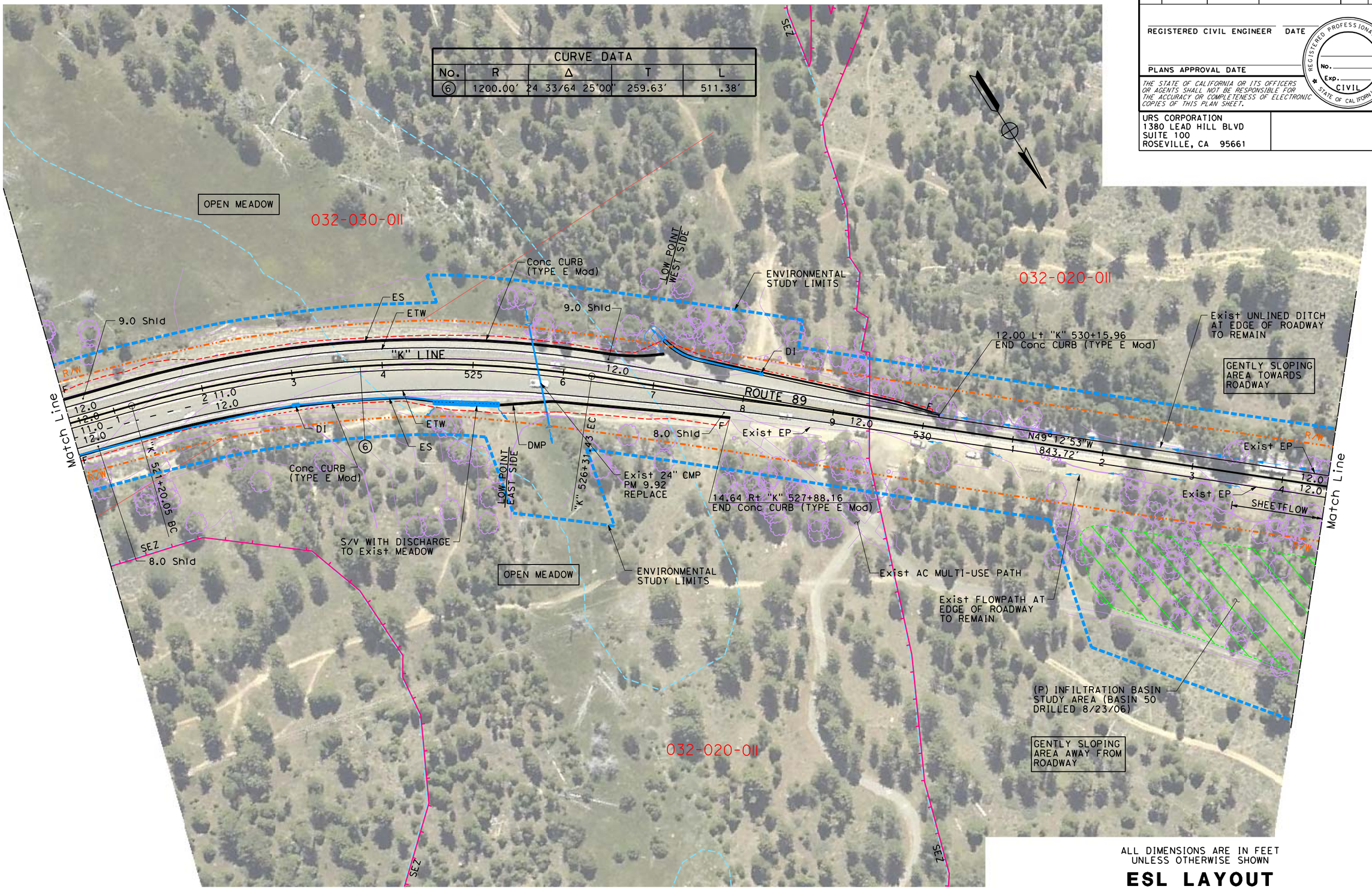


CURVE DATA

| No. | R | Δ | T | L |
|---|---|---|---|---|
| 6 | 1200.00' | 24 33/64 25°00" | 259.63' | 511.38' |

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

# ESL LAYOUT

SCALE: 1" = 50'

L-6

REVISED BY | DATE REVISED

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
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| 03 | ED | 89 | 8.6/13.8 | | |

REGISTERED CIVIL ENGINEER DATE

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URS CORPORATION
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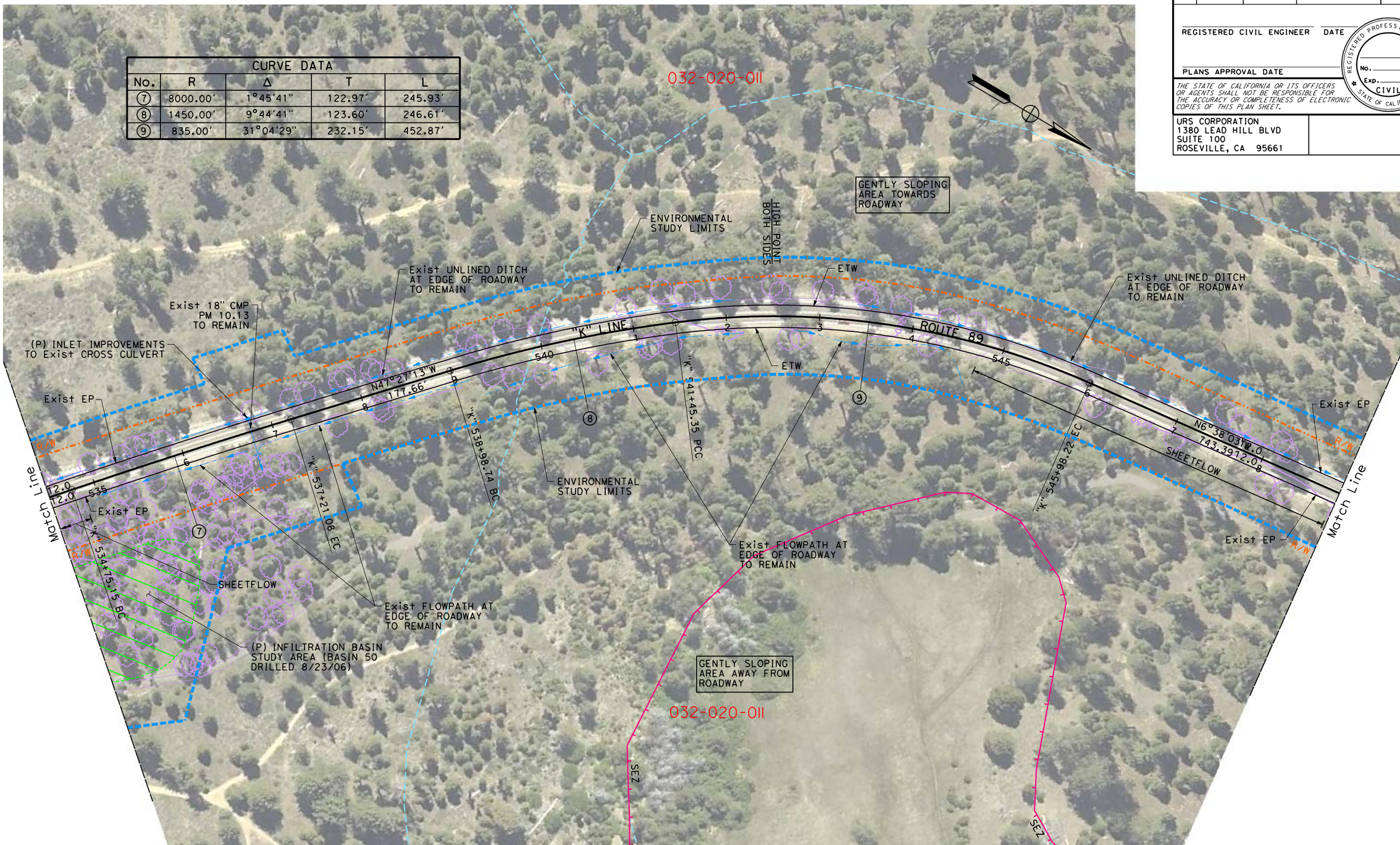
SUITE 100
ROSEVILLE, CA 95661




| CURVE DATA | | | | |
|---|---|---|---|---|
| No. | R | Δ | T | L |
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| 8 | 1450.00' | 9°44'41" | 123.60' | 246.61' |
| 9 | 835.00' | 31°04'29" | 232.15' | 452.87' |

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

# ESL LAYOUT

SCALE: 1" = 50'

L-7

REVISED BY | DATE REVISED

CALCULATED- | DESIGNED BY | CHECKED BY

DESIGN OVERSIGHT

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

FILE NAME: $FILE

LAST REVISION 00-00-00 | DATE PLOTTED => 11/15/2007 | TIME PLOTTED => 12:28:08 PM

BORDER LAST REVISED 11/1/2006 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => DGN FILE => ESL-07.dgn | CU 00000 | EA 1A8420

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 03 | ED | 89 | 8.6/13.8 | | |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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URS CORPORATION
1380 LEAD HILL BLVD
SUITE 100
ROSEVILLE, CA 95661

| REVISED BY | DATE REVISED |
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| CALCULATED-DESIGNED BY | CHECKED BY |
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DESIGN OVERSIGHT

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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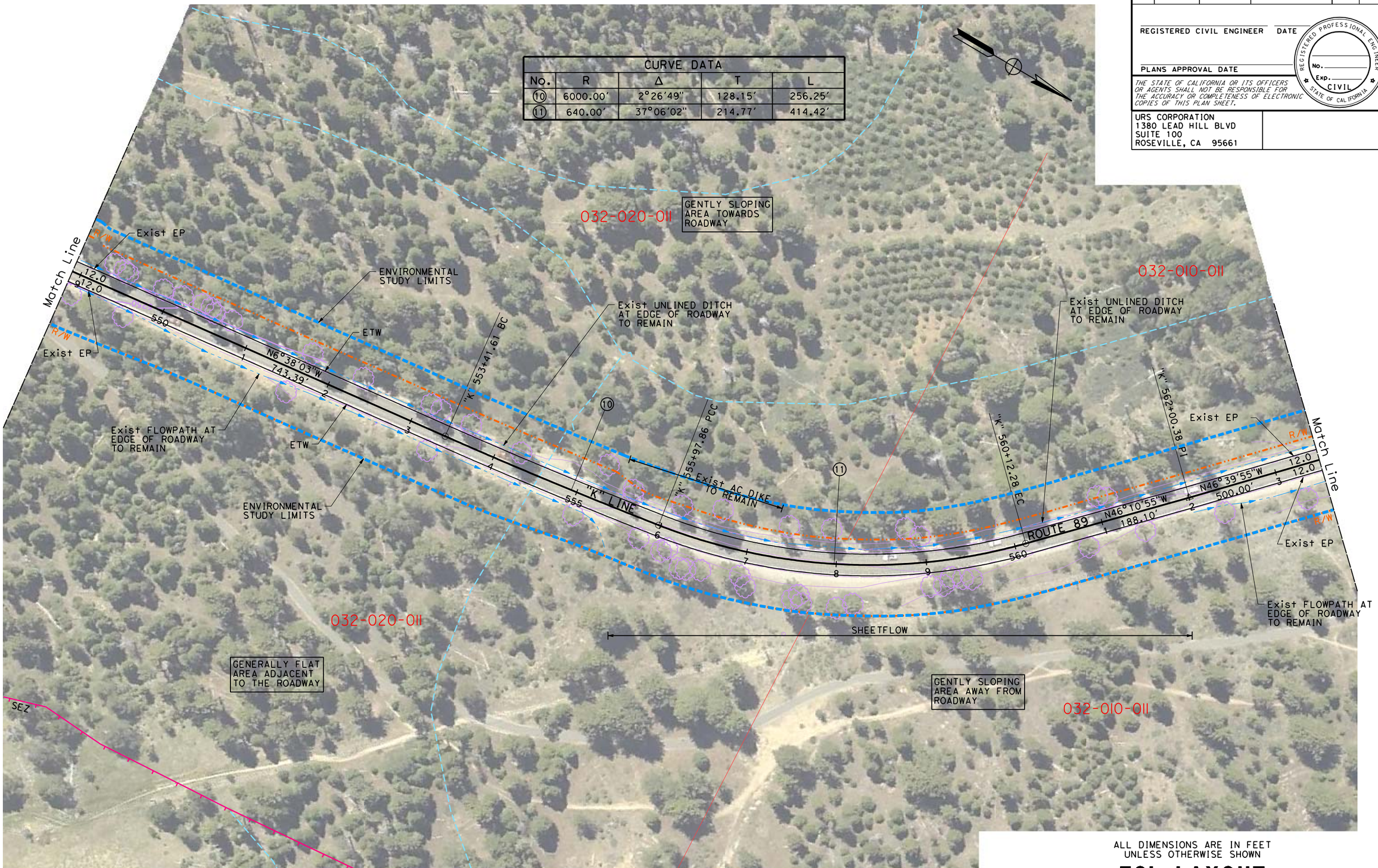
FILE NAME: $FILE

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|---|---|---|---|---|
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| 11 | 640.00' | 37°06'02" | 214.77' | 414.42' |

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

# ESL LAYOUT

SCALE: 1" = 50'

L-8

LAST REVISION 00-00-00 DATE PLOTTED => 11/15/2007 TIME PLOTTED => 12:34:22 PM

BORDER LAST REVISED 11/1/2006

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME =>
DGN FILE => ESL-08.dgn

CU 00000

EA 1A8420

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
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REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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URS CORPORATION
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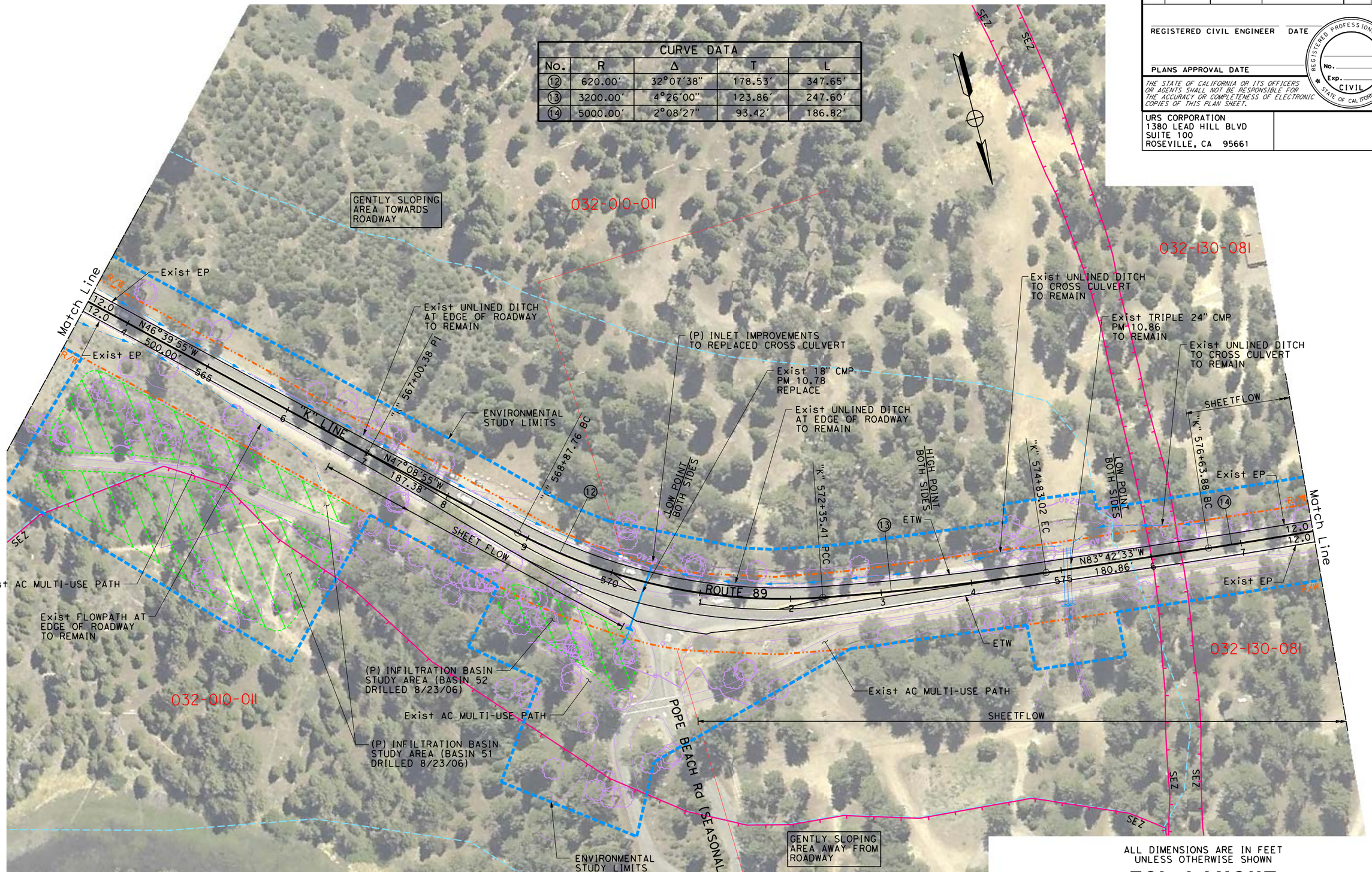
SUITE 100
ROSEVILLE, CA 95661




ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

# ESL LAYOUT

SCALE: 1" = 50'

**L-9**

| REVISED BY | DATE REVISED |
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

FILE NAME: $FILE

LAST REVISION 00-00-00 DATE PLOTTED => 11/15/2007 TIME PLOTTED => 2:45:46 PM

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| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 03 | ED | 89 | 8.6/13.8 | | |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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URS CORPORATION
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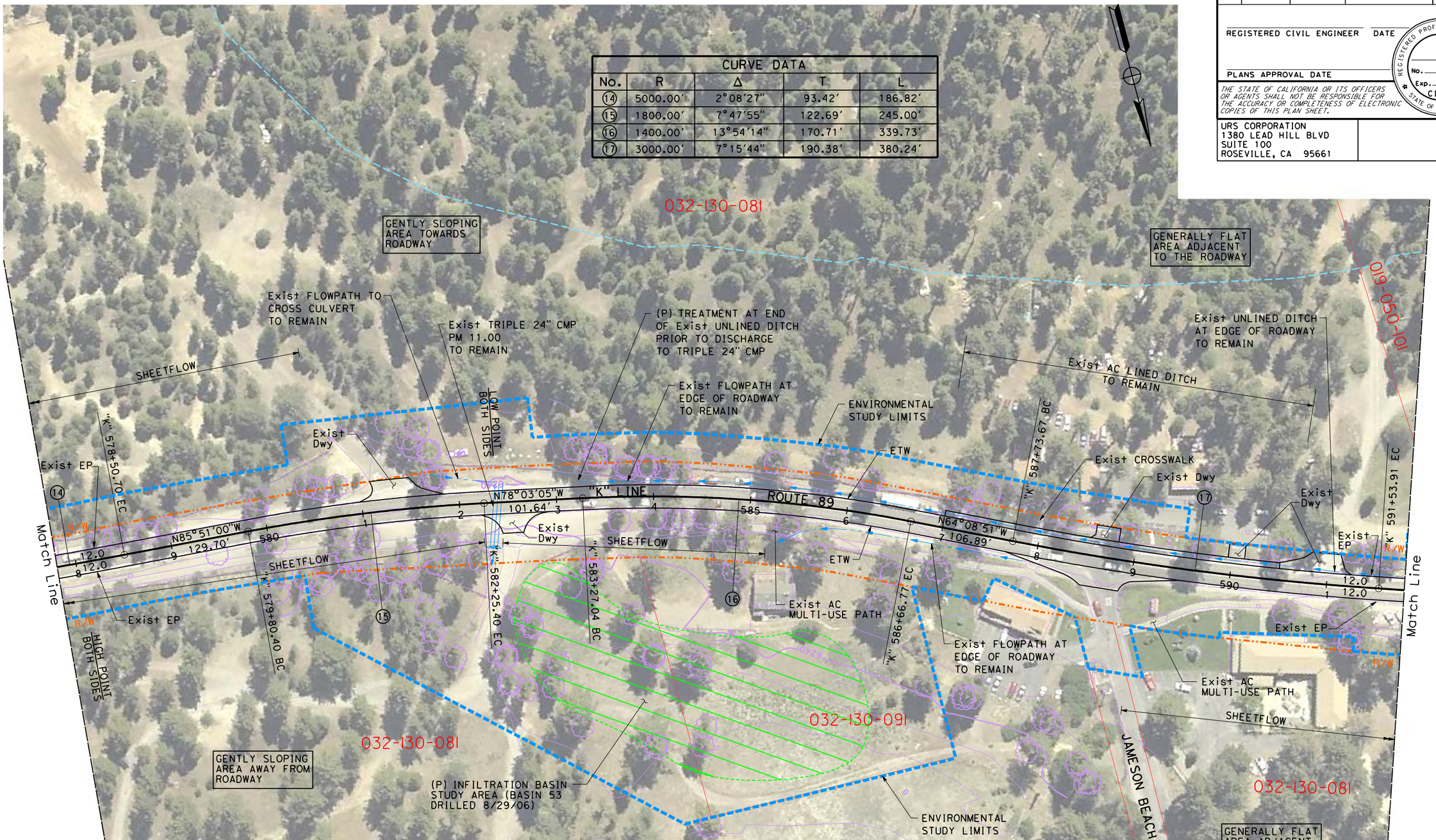
ROSEVILLE, CA 95661




ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

# ESL LAYOUT

SCALE: 1" = 50'

**L-10**

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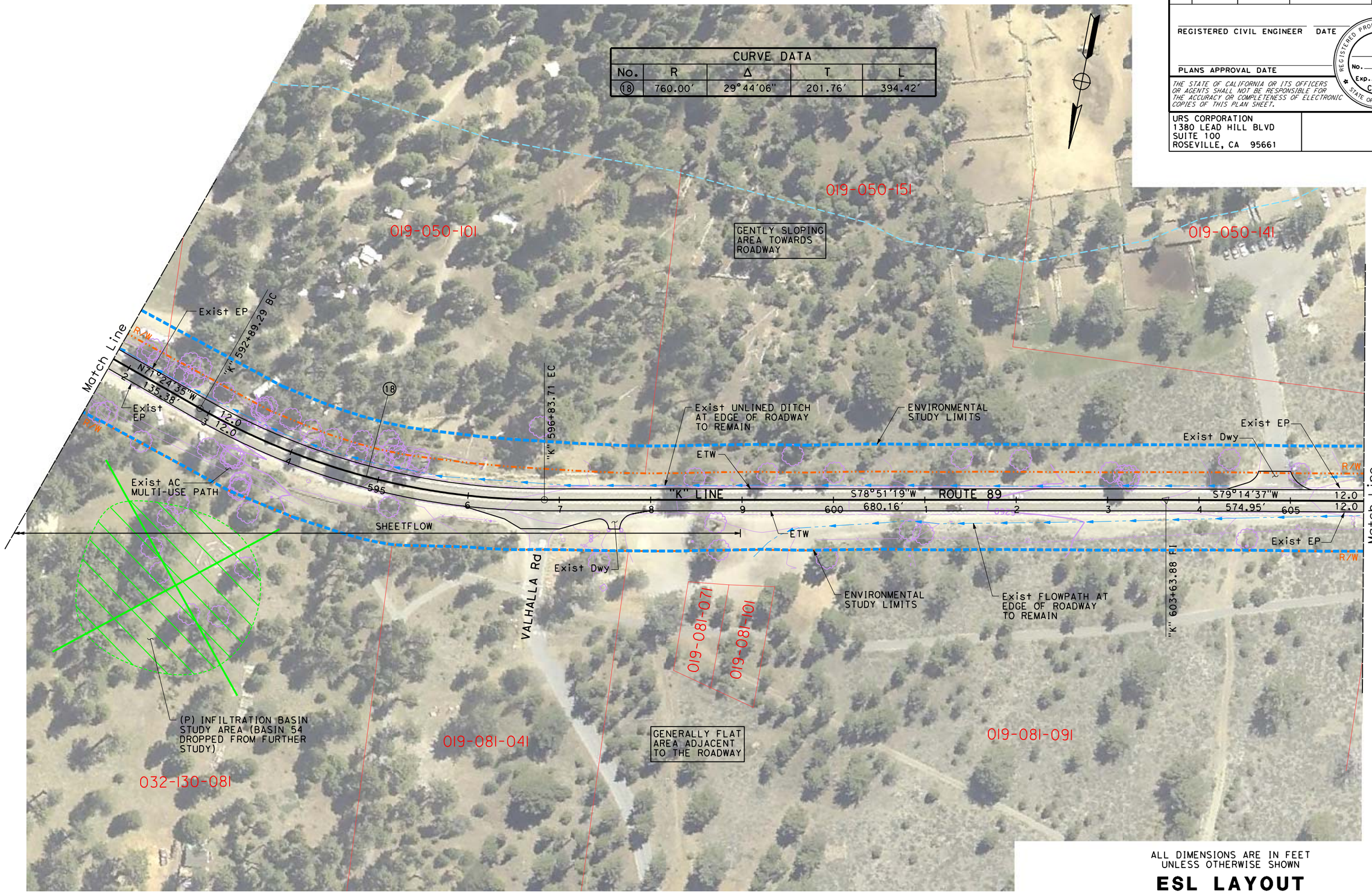


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# ESL LAYOUT

SCALE: 1" = 50′

**L-11**

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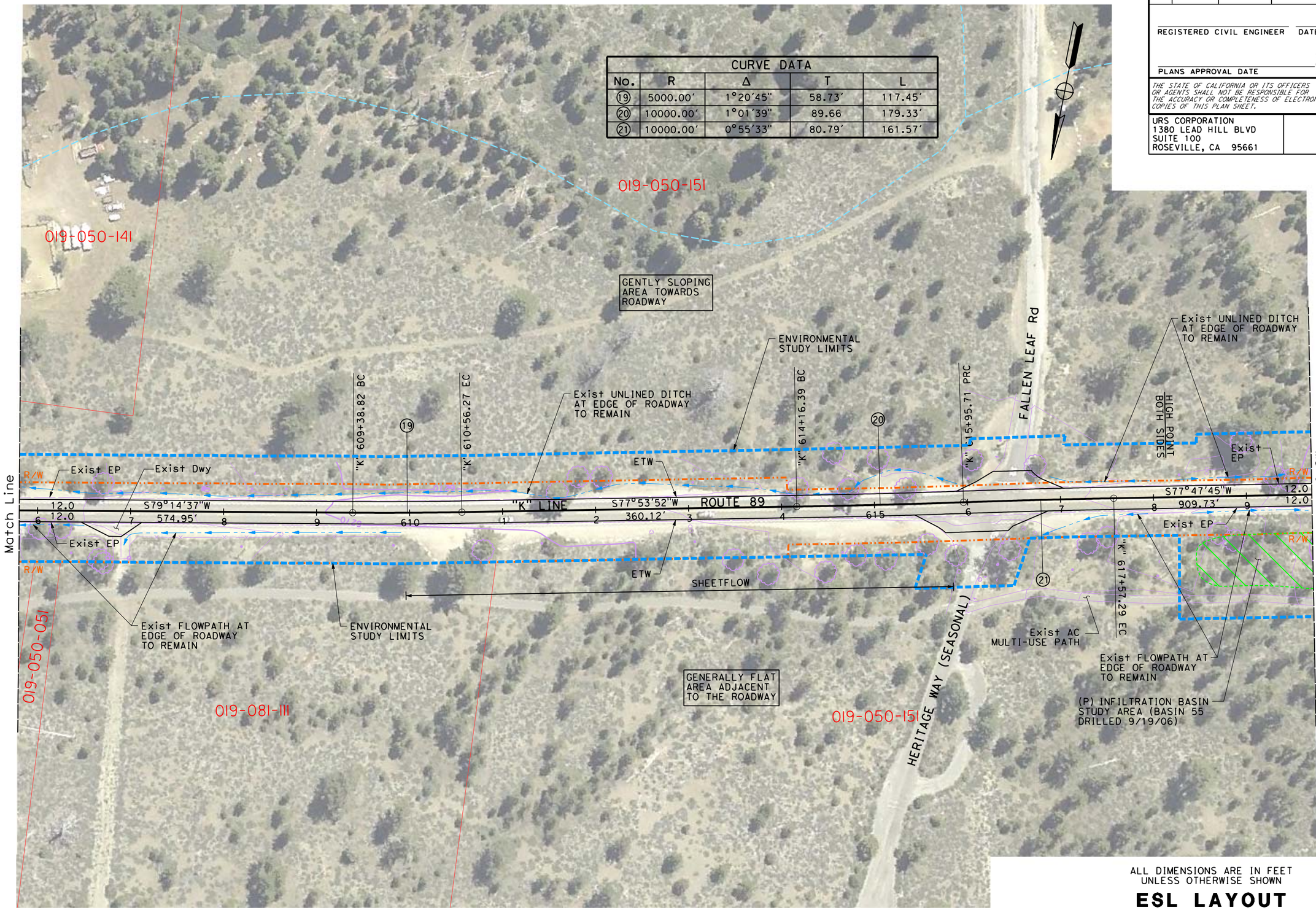


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# ESL LAYOUT

SCALE: 1" = 50'

**L-12**

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|---|---|---|---|---|---|
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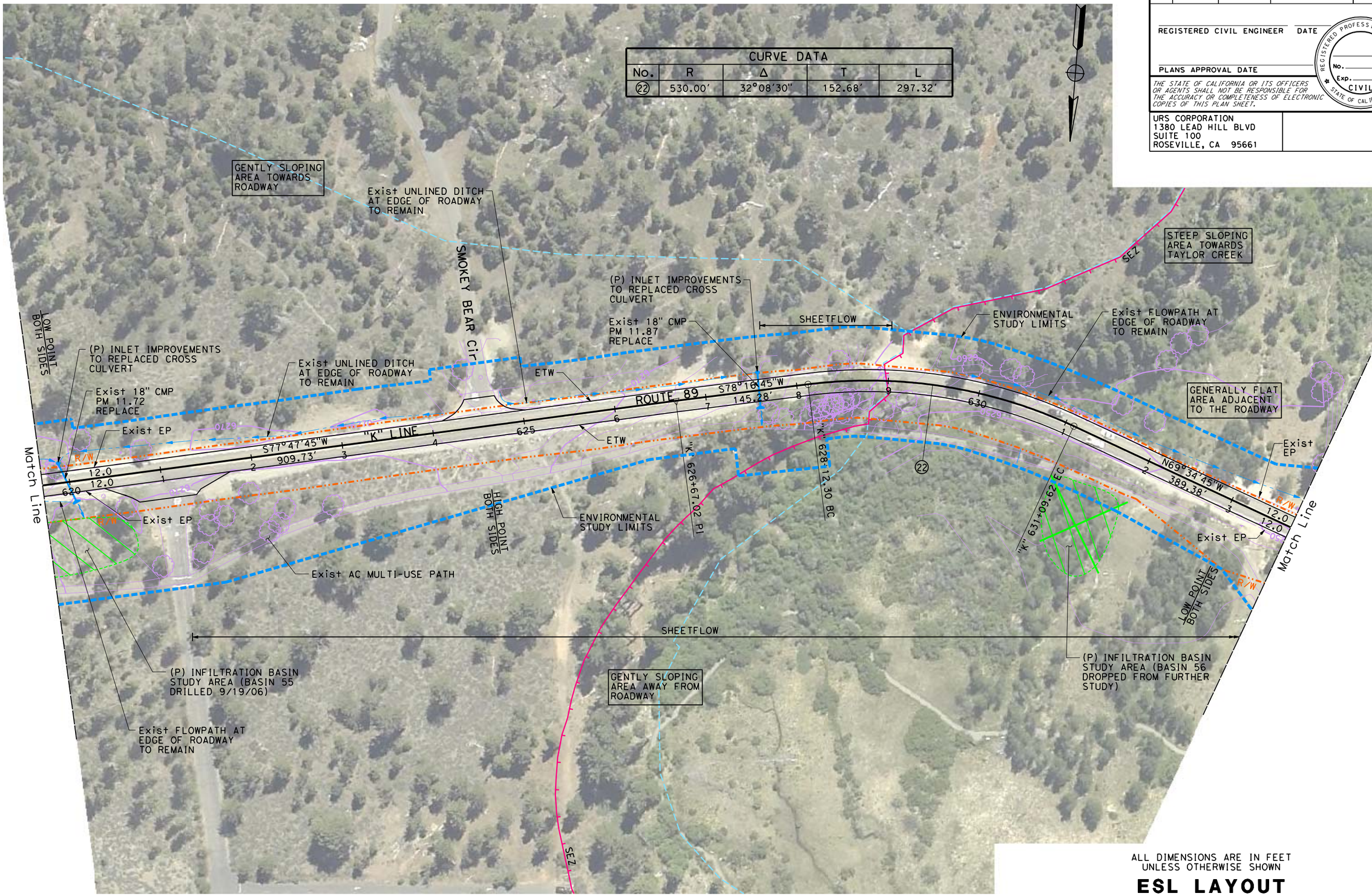
| CURVE DATA | | | | |
|---|---|---|---|---|
| No. | R | Δ | T | L |
| 22 | 530.00′ | 32°08′30″ | 152.68′ | 297.32′ |

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# ESL LAYOUT

SCALE: 1" = 50′

**L-13**

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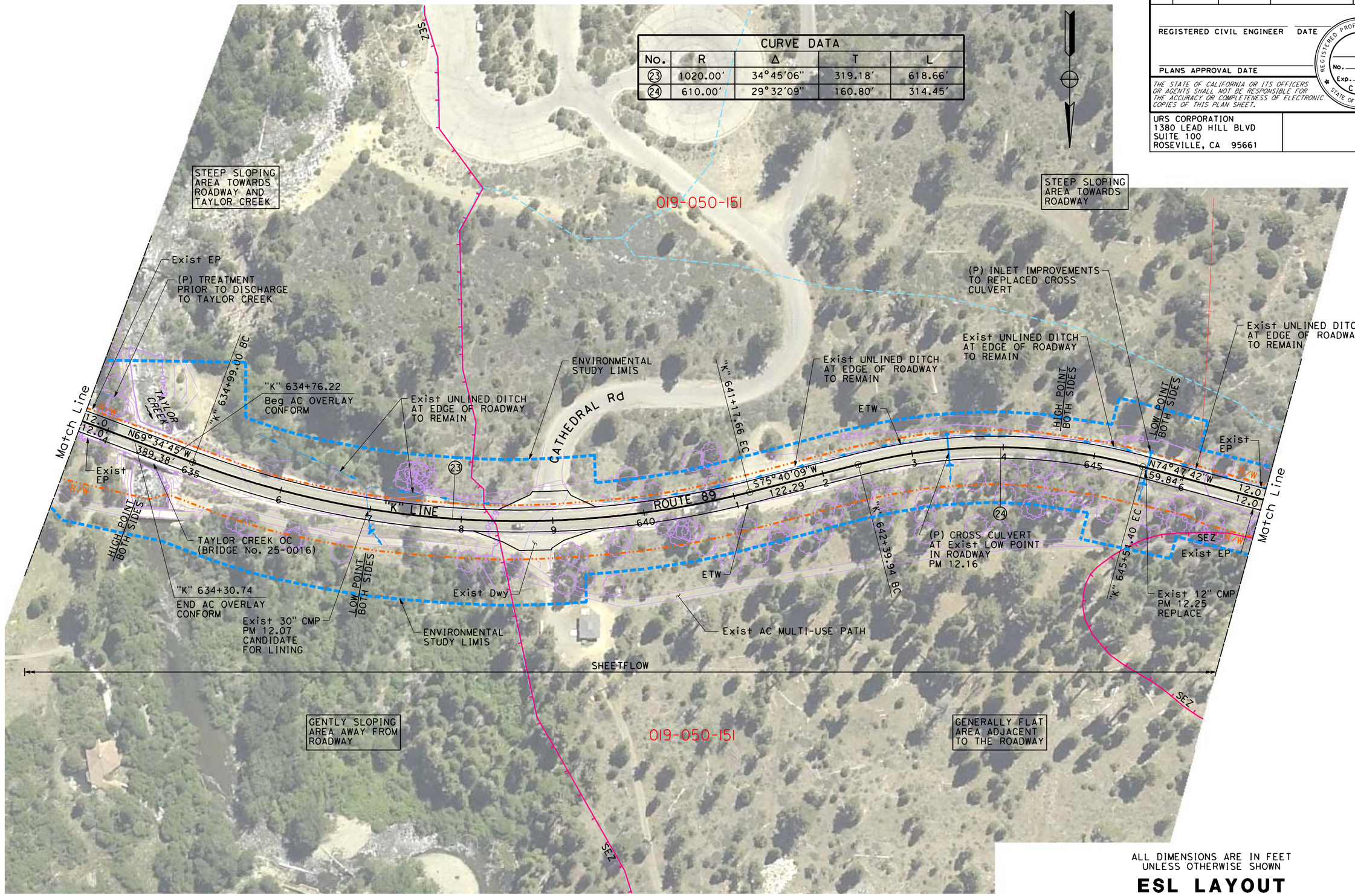
| CURVE DATA | | | | |
|---|---|---|---|---|
| No. | R | Δ | T | L |
| 23 | 1020.00′ | 34°45′06″ | 319.18′ | 618.66′ |
| 24 | 610.00′ | 29°32′09″ | 160.80′ | 314.45′ |

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# ESL LAYOUT

SCALE: 1" = 50′

**L-14**

| REVISED BY | DATE REVISED |
|---|---|
| | |

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TIME PLOTTED => 21:07:29 PM

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME =>
DGN FILE => ESL-14.dgn

CU 00000

EA 1A8420

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 03 | ED | 89 | 8.6/13.8 | | |

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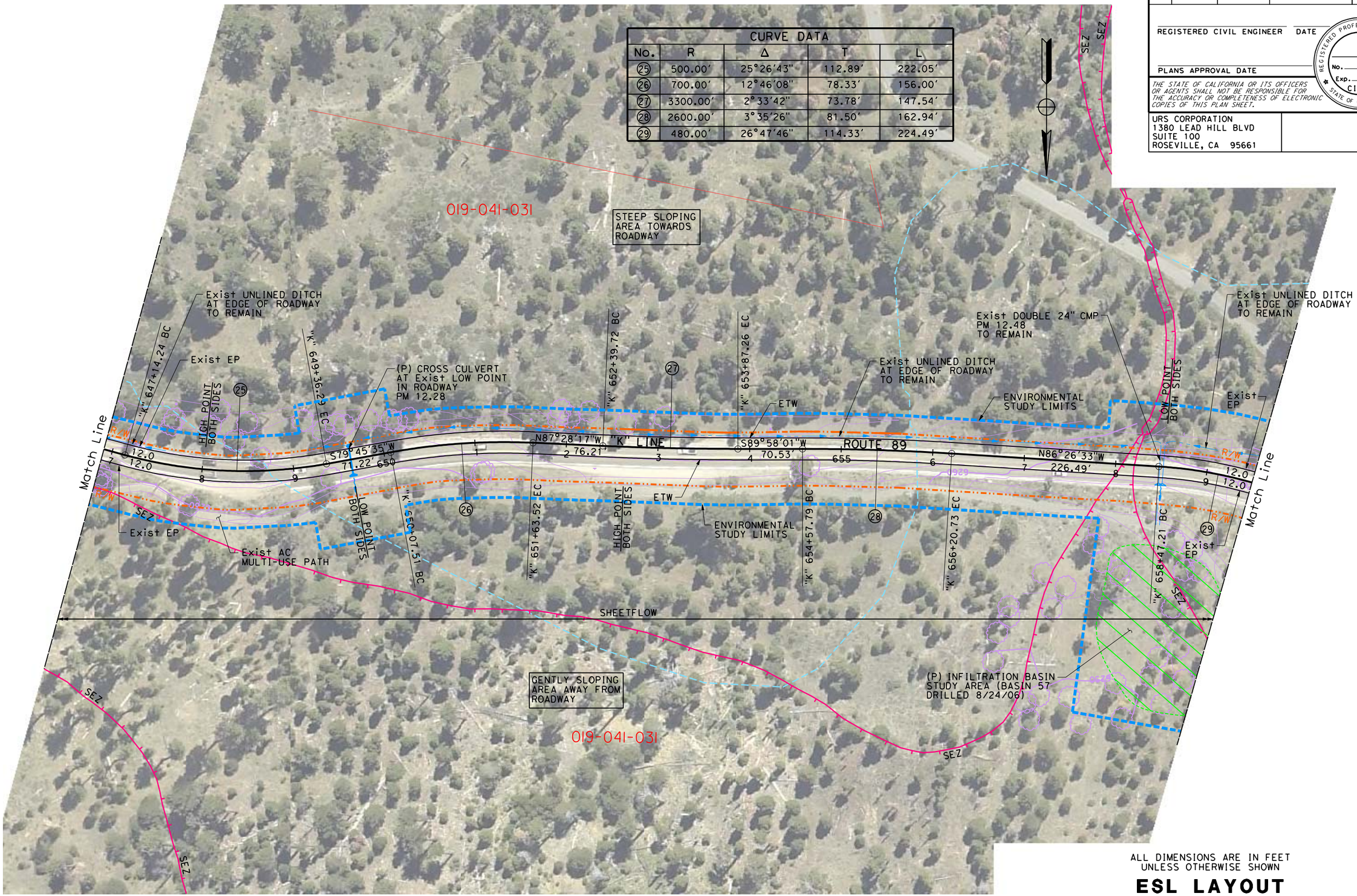


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# ESL LAYOUT

SCALE: 1" = 50'

**L-15**

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| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
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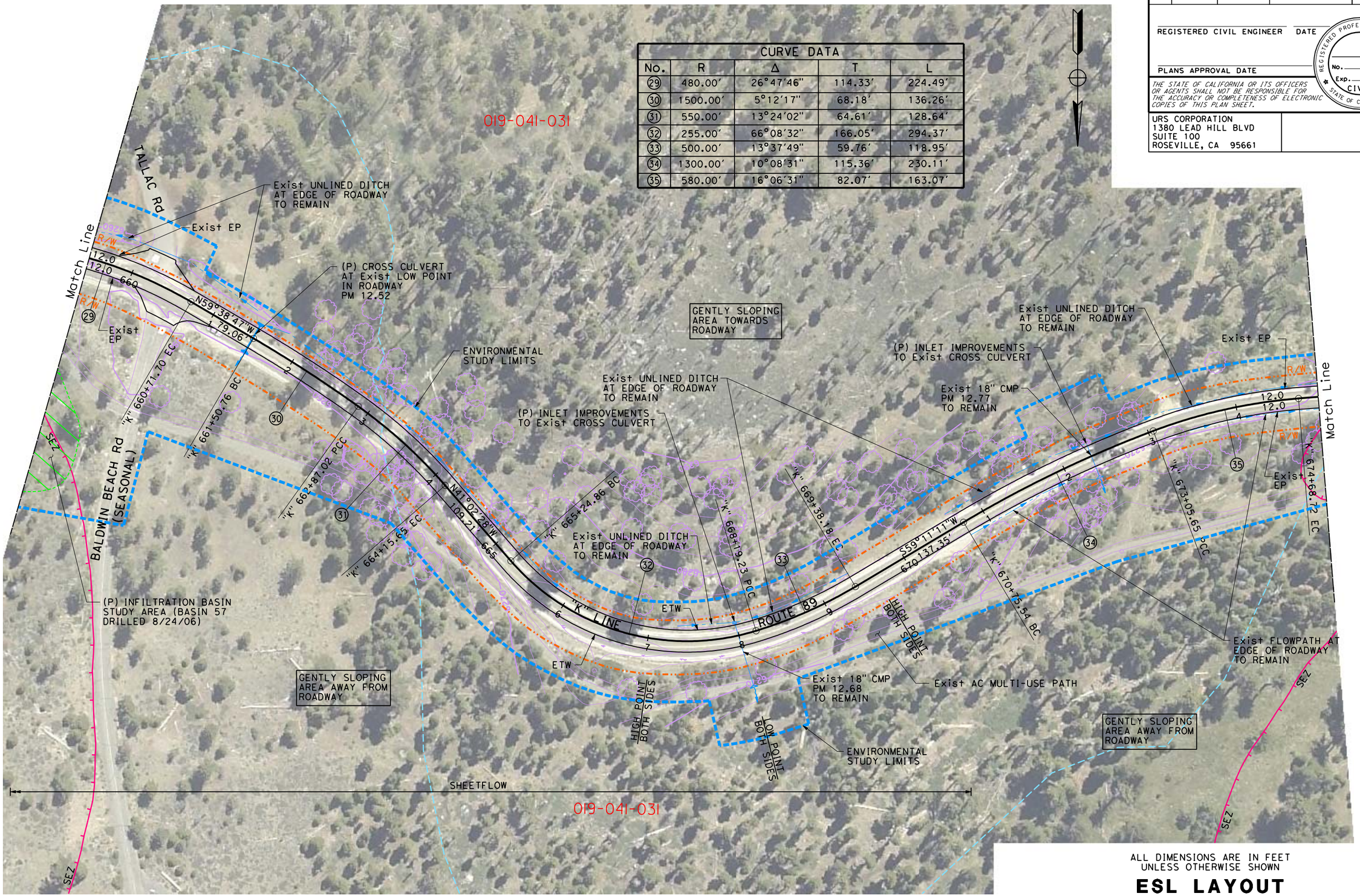
| CURVE DATA | | | | |
|---|---|---|---|---|
| No. | R | Δ | T | L |
| 29 | 480.00′ | 26°47′46" | 114.33′ | 224.49′ |
| 30 | 1500.00′ | 5°12′17" | 68.18′ | 136.26′ |
| 31 | 550.00′ | 13°24′02" | 64.61′ | 128.64′ |
| 32 | 255.00′ | 66°08′32" | 166.05′ | 294.37′ |
| 33 | 500.00′ | 13°37′49" | 59.76′ | 118.95′ |
| 34 | 1300.00′ | 10°08′31" | 115.36′ | 230.11′ |
| 35 | 580.00′ | 16°06′31" | 82.07′ | 163.07′ |

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# ESL LAYOUT

SCALE: 1" = 50′

**L-16**

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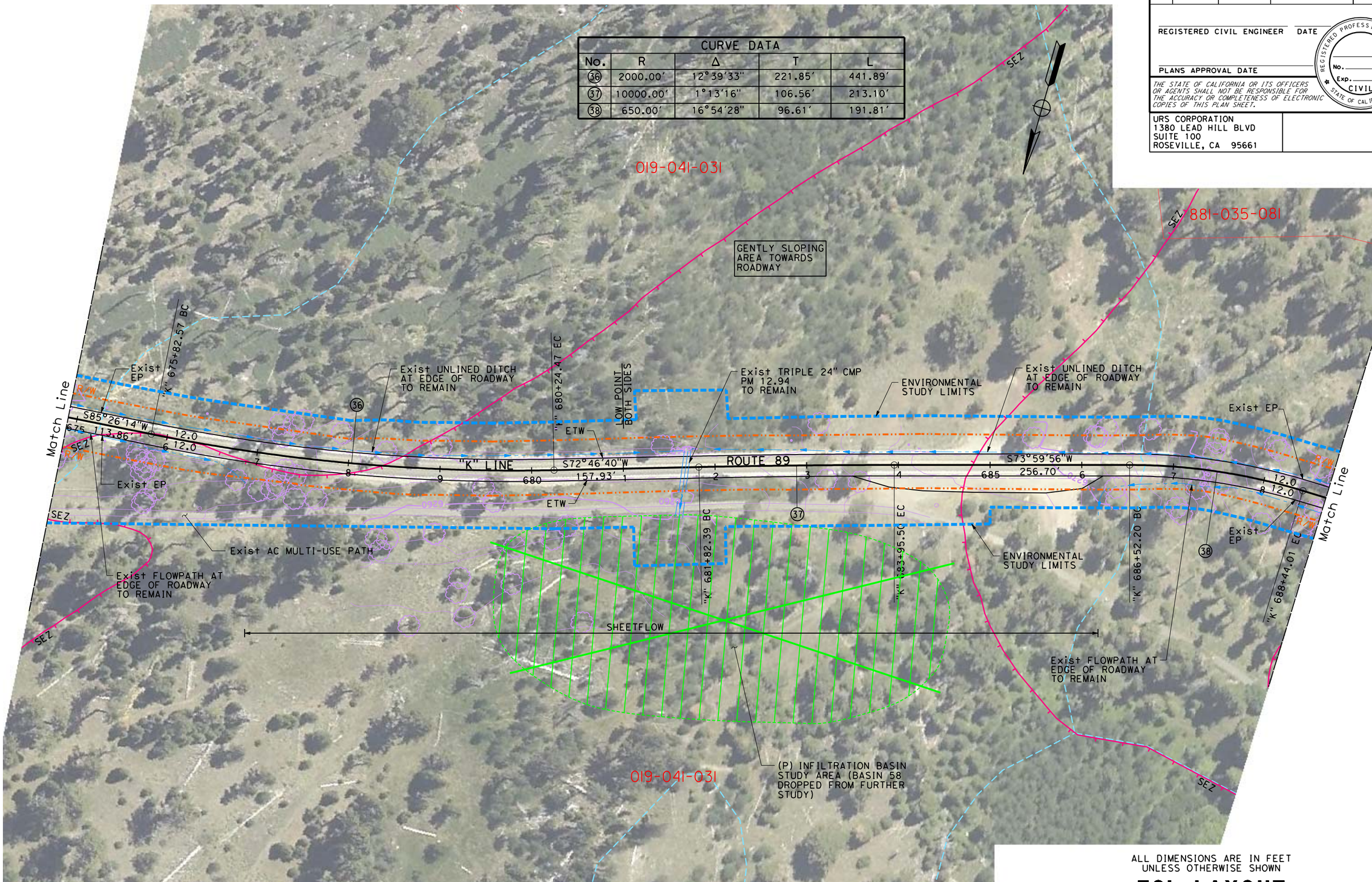


ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

# ESL LAYOUT

SCALE: 1" = 50'

**L-17**

| REVISED BY | DATE REVISED |
|---|---|
| | |

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|---|---|---|---|---|---|
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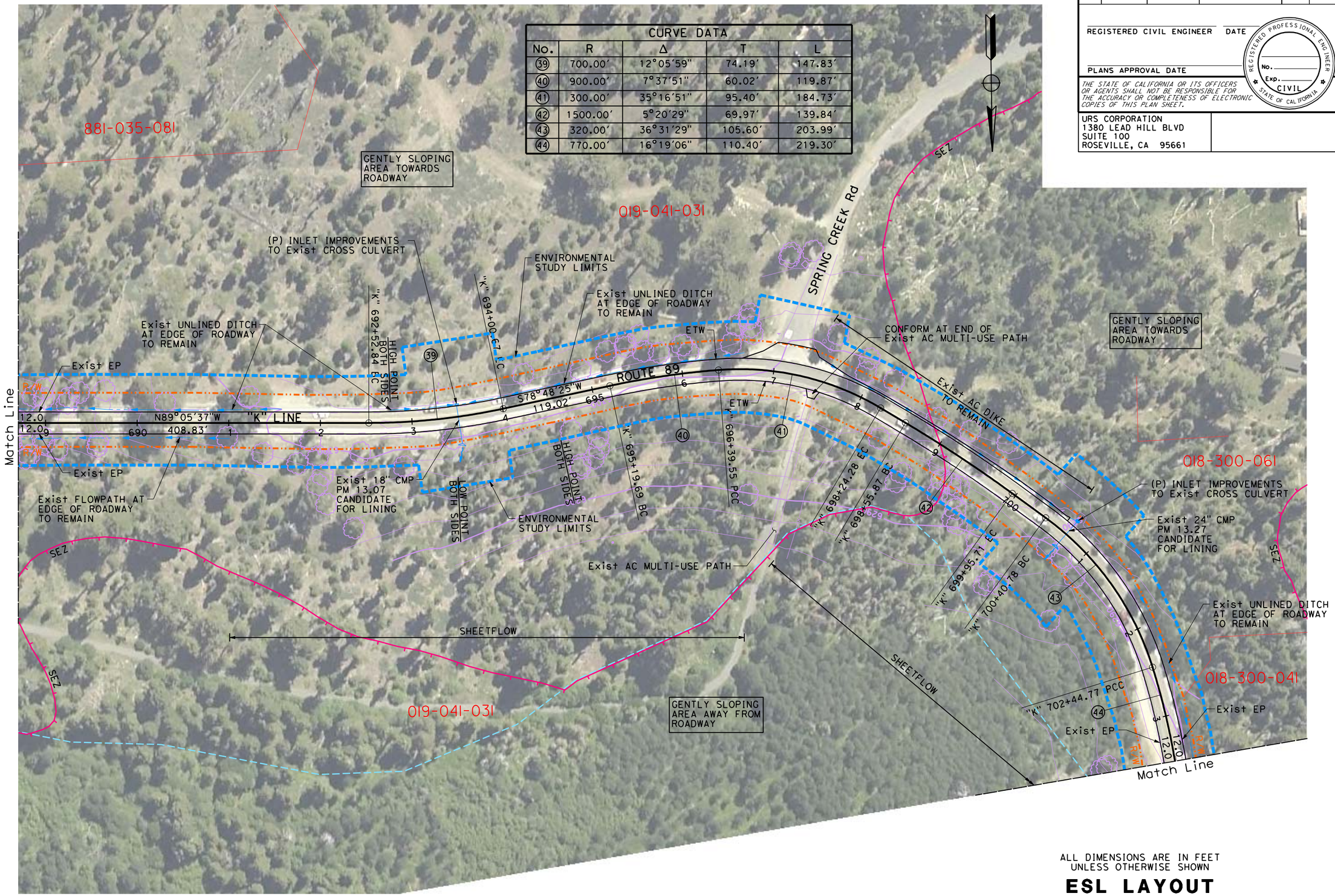


| No. | R | Δ | T | L |
|---|---|---|---|---|
| 39 | 700.00' | 12°05'59" | 74.19' | 147.83' |
| 40 | 900.00' | 7°37'51" | 60.02' | 119.87' |
| 41 | 300.00' | 35°16'51" | 95.40' | 184.73' |
| 42 | 1500.00' | 5°20'29" | 69.97' | 139.84' |
| 43 | 320.00' | 36°31'29" | 105.60' | 203.99' |
| 44 | 770.00' | 16°19'06" | 110.40' | 219.30' |

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

# ESL LAYOUT

SCALE: 1" = 50'

**L-18**

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME =>
DGN FILE => ESL-18.dgn

CU 00000

EA 1A8420

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|---|---|---|---|---|---|
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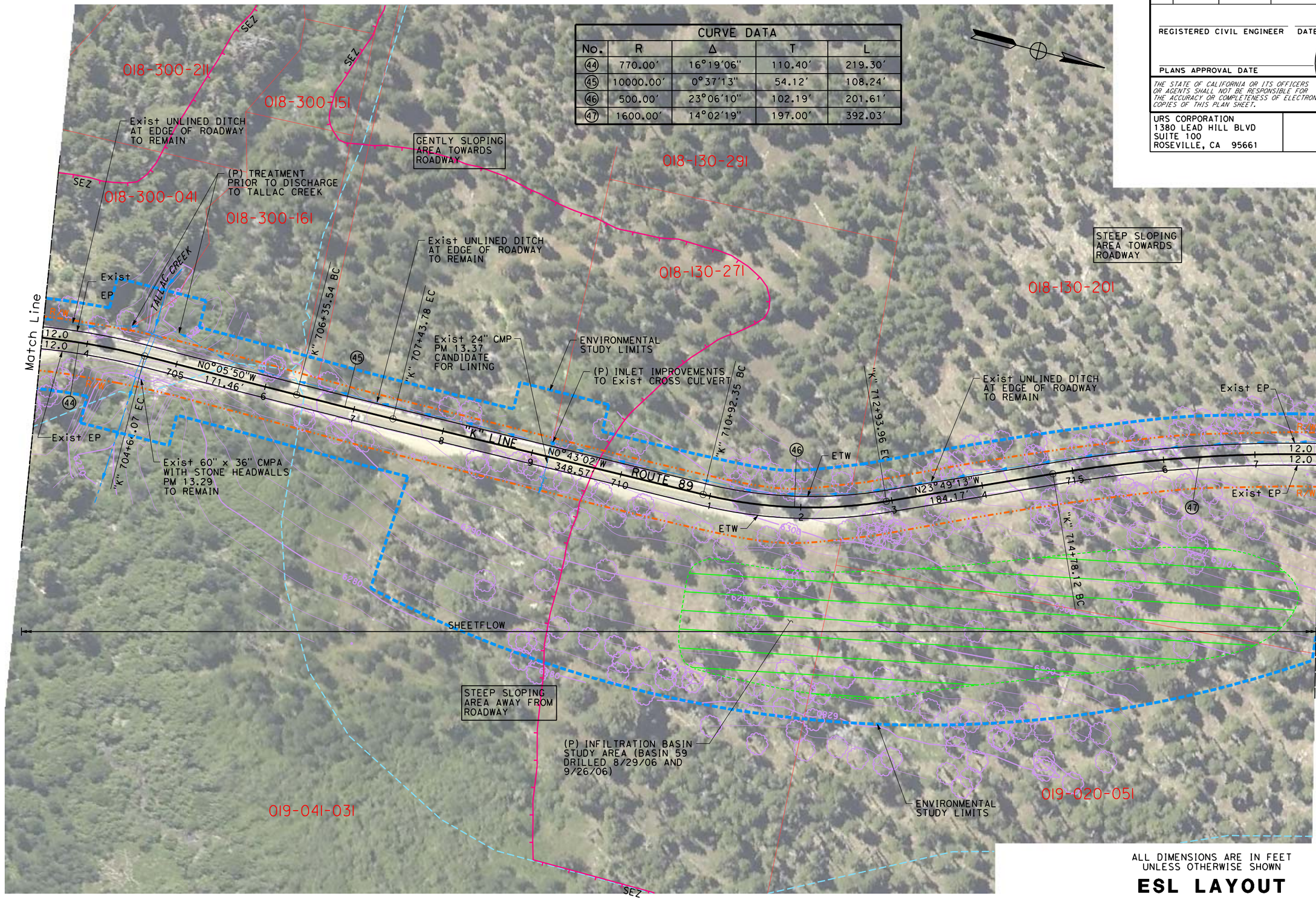


| CURVE DATA | | | | |
|---|---|---|---|---|
| No. | R | Δ | T | L |
| 44 | 770.00' | 16°19'06" | 110.40' | 219.30' |
| 45 | 10000.00' | 0°37'13" | 54.12' | 108.24' |
| 46 | 500.00' | 23°06'10" | 102.19' | 201.61' |
| 47 | 1600.00' | 14°02'19" | 197.00' | 392.03' |

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

# ESL LAYOUT

SCALE: 1" = 50'

**L-19**

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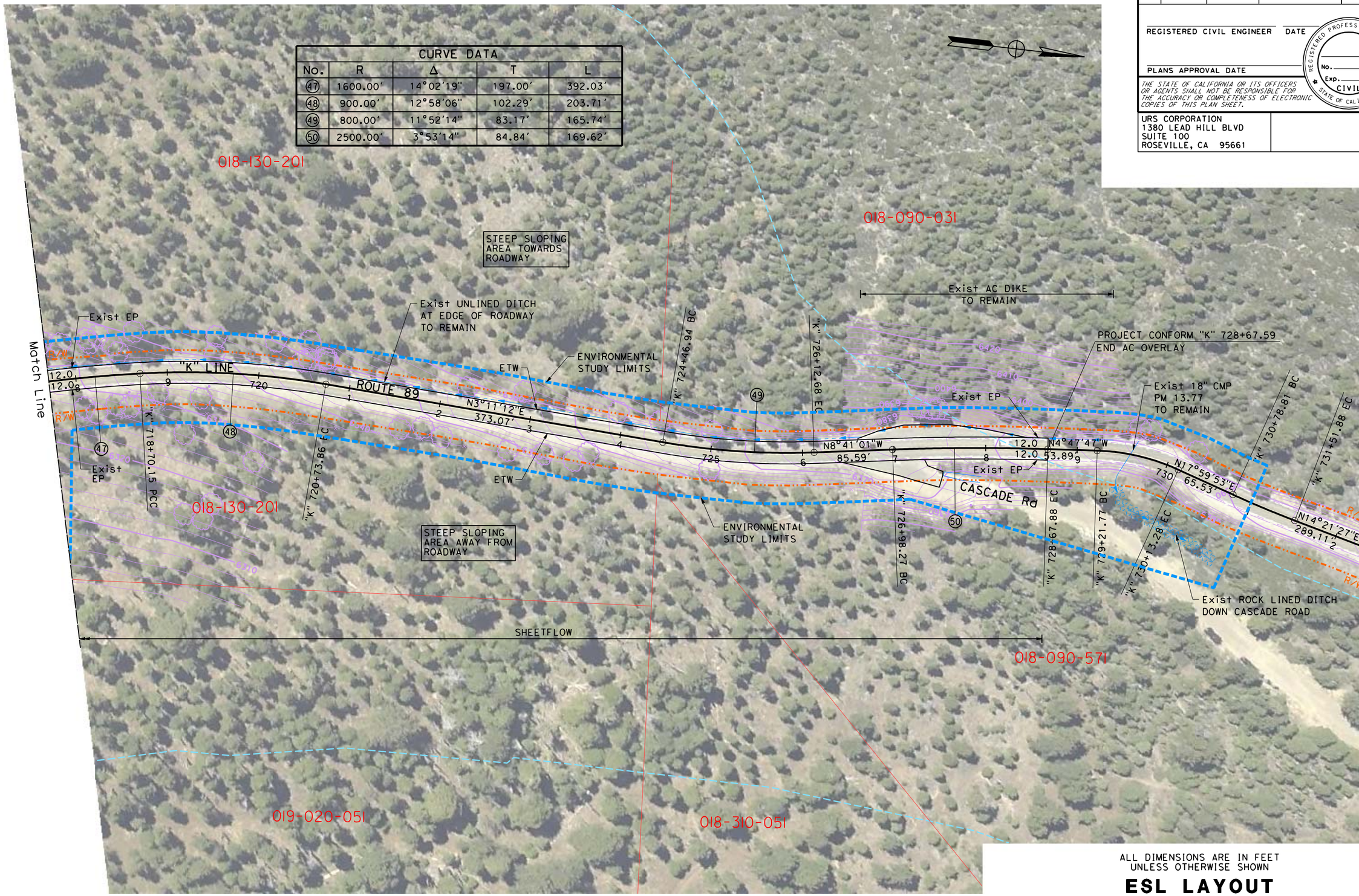


| CURVE DATA | | | | |
|---|---|---|---|---|
| No. | R | Δ | T | L |
| 47 | 1600.00' | 14°02'19" | 197.00' | 392.03' |
| 48 | 900.00' | 12°58'06" | 102.29' | 203.71' |
| 49 | 800.00' | 11°52'14" | 83.17' | 165.74' |
| 50 | 2500.00' | 3°53'14" | 84.84' | 169.62' |

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# ESL LAYOUT

SCALE: 1" = 50'

**L-20**

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|---|---|---|---|---|---|
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# ESL LAYOUT

SCALE: 1" = 50'

**L-21**

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| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
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# ESL LAYOUT

SCALE: 1" = 50'

**L-22**

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# Appendix B Human Environment, Table 2.1.1-1

**Table 2.1.1-1. Existing Land Uses and Impacts**



| Map Page | APN | Address | Existing Use | Impacts | | |
|---|---|---|---|---|---|---|
| | | | | ROW | Access Points | Basin Impact |
| L-1 | 023-181-191 | 905 and 913 Emerald Bay Road | Tahoe Outdoor Living; United Gas/Swiss Mart | TCE | Yes | None |
| L-1 | 023-182-281 | NA | Vacant lot | | NA | None |
| L-1 | 023-191-071 | NA | Vacant lot | TCE | Yes | None |
| L-1 | 023-191-181<br>023-191-191 | 921 Emerald Bay Road | Alpine Animal Hospital | TCE(181)/<br>PRW (191) | Yes | None |
| L-1 | 023-191-211 | 949, 945, 955, and 961 Emerald Bay Road | Tahoe Y Center—Laundromat, SOS Repair, Keep Tahoe Blue Office, Fibromyalgia Relief Center | TCE | Yes | None |
| L-1 | 023-192-061 | 924 Emerald Bay Road | El Dorado County offices—Child Support/DOT Engineering | | No | None |
| L-1 | 023-421-011 | 2016 and 2019 Emerald Bay Road | Miller's Outpost; Levi's Outlet | | Yes | None |
| L-1 | 023-522-091 | 950 Emerald Bay Road | U.S. Post Office | TCE | Yes | None |
| L-1 | 023-522-121 | 960 Emerald Bay Road | Vacant building | TCE | Yes | None |
| L-1 | 023-522-131 | NA | Vacant | TCE | NA | None |
| L-1 | 023-522-141 | 942 Emerald Bay Road | El Dorado Savings Bank | TCE | Yes | None |
| L-1 | 023-523-051<br>023-523-091<br>023-523-101 | 986 Emerald Bay Road | Runnel's Automotive Repair Business | TCE | Yes | None |
| L-2 | 023-182-291 | 906 Emerald Bay Road | Hunan Garden—Restaurant | | Yes | None |
| L-2 | 023-181-211 | NA | Vacant lot | PRW | NA | None |
| L-2 | 023-181-221 | 887 Emerald Bay Road | McFarlane Mortuary | TCE | Yes | None |
| L-2 | 023-182-051 | 884 Emerald Bay Road | Aspen Hollow Retail Store (home/garden) | | Yes | None |
| L-2 | 023-182-061 | 888 Emerald Bay Road | The Brother's Place—Bar and Restaurant | | Yes | None |
| L-2 | 023-171-091 | NA | Vacant | TCE | NA | None |
| L-2 | 023-171-101 | 871 Emerald Bay Road and 2013 Seventh Street | Burgers a Go Go; SFR | TCE | Yes | None |
| L-2 | 023-171-111 | 835 James Avenue | Storage Sheds and SFR | | Yes | None |
| L-2 | 023-171-131 | NA | Vacant | TCE | NA | None |
| L-2 | 023-171-141 | NA | Vacant | TCE | NA | None |
| L-2 | 023-171-181 | 807 Emerald Bay Road | Vacant building for lease | TCE | Yes | None |
| L-2 | 023-171-201 | NA | Vacant | TCE | NA | None |
| L-2 | 023-171-221 | 823 James Avenue | SFR | TCE | Yes | None |
| L-2 | 023-171-251 | NA | Vacant | TCE | NA | None |
| L-2 | 023-171-261 | 828 Eloise | Tahoe Outdoor Living—supply area | | Yes | None |

**Table 2.1.1-1. Continued**



| Map Page | APN | Address | Existing Use | Impacts | | |
|---|---|---|---|---|---|---|
| | | | | ROW | Access Points | Basin Impact |
| L-2 | 023-172-011 | 800 Emerald Bay Road | 7-11 Store; Tahoe Tot Spot; Rudy's Energy Works; Nixon's Heating and Air/Plumbing; Ted's Fix It | TCE | Yes | None |
| L-2 | 023-172-221 | 808 Emerald Bay Road | Fast Print | TCE | Yes | None |
| L-2 | 023-172-311 | 836 Emerald Bay Road | SFR | | Yes | None |
| L-2 | 023-172-341 | 812 Emerald Bay Road | Emerald Bay Physical Therapy | TCE | Yes | None |
| L-2 | 023-172-351 | 822 Emerald Bay Road | Alpina Café and Spray Tan (two buildings) | TCE | Yes | None |
| L-2 | 023-181-431 | 871 Emerald Bay Road | Lake Tahoe Chinese Buffet | | Yes | None |
| L-2 | 023-181-451 | 879 Emerald Bay Road | MFR | | Yes | None |
| L-2 | 023-181-461 | 855 and 861 Emerald Bay Road | Old Stage Trailer Park (mobile homes); Pandora's Trunk Boutique | | Yes | None |
| L-2 | 023-182-011 | 854-868 Emerald Bay Road | Tahoe Business Center (retail/service stores); Redwood Printing | | Yes | None |
| L-2 | 023-182-301 | 870 Emerald Bay Road | Plaza 89—two-building business park | | Yes | None |
| L-3 | 023-161-341 | 765 Emerald Bay Road | Cantina Restaurant | | Yes | None |
| L-3 | 023-161-331 | 787 Emerald Bay Road | Murphy's Irish Pub and Rockwater Restaurant | | Yes | None |
| L-3 | 023-162-031 | NA | Vacant | PRW | NA | Full parcel |
| L-3 | 023-151-061 | 701 James Avenue | SFR | | Yes | None |
| L-3 | 023-151-091 | 717 Emerald Bay Road | Burger Lounge | | Yes | None |
| L-3 | 023-151-111 | 2028 B 12th Street | MFR | | No | None |
| L-3 | 023-151-201 | 846, 847, 864, 865 Emerald Bay Road | MFR (four-unit) | | Yes | Partial parcel |
| L-3 | 023-151-211 | NA | Vacant | PRW | NA | Full parcel |
| L-3 | 023-152-031 | NA | Vacant | | NA | None |
| L-3 | 023-152-081 | 702 Emerald Bay Road | SFR | | Yes | None |
| L-3 | 023-161-051 | 735 Emerald Bay Road | Pine Cone Acre Motel | | Yes | None |
| L-3 | 023-161-061 | 751 Emerald Bay Road | Washoe Motel | | Yes | None |
| L-3 | 023-151-351 | NA | Vacant | | NA | None |
| L-3 | 023-162-011 | 750 Emerald Bay Road | Vacant, but undergoing construction for Senior Housing | | Yes | None |
| L-3 | 023-162-021 | NA | Vacant | | NA | None |
| L-4 | 023-131-051 | 591 Emerald Bay Road | SFR | | Yes | None |
| L-4 | 023-141-081 | NA | Vacant (potential staging area) | TCE | NA | None |
| L-4 | 023-142-031 | NA | Vacant | | NA | None |
| L-4 | 023-151-031 | 675 Emerald Bay Road | Rendezvous Restaurant | | Yes | None |

**Table 2.1.1-1. Continued**



| Map Page | APN | Address | Existing Use | Impacts | | |
|---|---|---|---|---|---|---|
| | | | | ROW | Access Points | Basin Impact |
| L-4 | 023-131-121 | 561 James Avenue | SFR | | Yes | None |
| L-4 | 023-131-131 | 565 James Avenue | SFR | | Yes | None |
| L-4 | 023-131-141 | 553 James Avenue | SFR | PRW | Yes | None |
| L-4 | 023-131-151 | NA | Vacant | PRW | NA | None |
| L-4 | 023-131-171 | 579 James Avenue | MFR (four-unit) | | Yes | None |
| L-4 | 023-131-191 | 575 James Avenue | SFR | | Yes | None |
| L-4 | 023-152-061 | NA | Vacant | | NA | None |
| L-4 | 023-152-091 | NA | Vacant | | NA | None |
| L-4 | 023-152-121 | 1995 A and B, 12th Street | SFR (two) | | No | None |
| L-4 | 023-131-201 | 569 James Avenue | MFR (two-unit) | | Yes | None |
| L-4 | 023-132-041 | 580 Emerald Bay Road | MFR (eight-unit) | | Yes | None |
| L-4 | 023-141-031 | 2011 13th Street | MFR | PRW | Yes | Partial parcel |
| L-4 | 023-141-051 | NA | Vacant | PRW | NA | Full parcel |
| L-4 | 023-141-061 | 609 Emerald Bay Road | Lazy "S" Lodge | | Yes | None |
| L-4 | 023-141-181 | 645 Emerald Bay Road | Anderson Bicycle Rental | | Yes | None |
| L-4 | 023-141-261 | 621, 623 James Avenue | MFR | | Yes | None |
| L-4 | 023-142-011 | 608 Emerald Bay Road | Mountain House Lodge | | Yes | None |
| L-4 | 023-142-021 | NA | Vacant | | NA | None |
| L-5 | 023-531-011 | 554 James Avenue SFR | SFR | PRW | Yes | None |
| L-5 | 023-531-021 | NA | Vacant | PRW | NA | None |
| L-5 | 023-531-031 | 564 James | SFR | | Yes | None |
| L-5 | 023-531-041 | 568 A and B James Avenue | MFR (two-unit) | | Yes | None |
| L-5 | 023-111-301 | 541 Emerald Bay Road | Aspen Hollow Landscape and Nursery | TCE | No | None |
| L-5 | 023-531-051 | 572 A and B James Avenue | MFR (two-unit) | | Yes | None |
| L-5 | 023-531-061 | 576 James Avenue | SFR | | Yes | None |
| L-5 | 023-531-071 | 580 James | SFR | | Yes | None |
| L-5 | 023-531-081 | 581 | MFR (two-unit) | | Yes | None |
| L-5 | 023-531-091 | NA | Vacant | | NA | None |
| L-5 | 023-531-101 | NA | Vacant | PRW | NA | Full parcel |
| L-5 | 023-531-111 | NA | Vacant | PRW | NA | Full parcel |
| L-5 | 023-531-121 | NA | Vacant | PRW | NA | None |

**Table 2.1.1-1. Continued**



| Map Page | APN | Address | Existing Use | Impacts | | |
|---|---|---|---|---|---|---|
| | | | | ROW | Access Points | Basin Impact |
| L-5 | 023-531-131 | NA | Vacant | PRW | NA | None |
| L-5 | 023-531-141 | NA | Vacant | PRW | NA | None |
| L-5 | 023-532-011 | NA | Vacant | PRW | NA | Full parcel |
| L-5 | 023-532-021 | NA | Vacant | PRW | NA | Full parcel |
| L-5 | 023-132-211 | 536 Emerald Bay Road | Evan's Gourmet Café | TCE | Yes | None |
| L-5 | 023-132-311 | 556 Emerald Bay Road | SFR | | Yes | None |
| L-5 | 023-132-321 | NA | Vacant | PRW | NA | None |
| L-5 | 023-532-031 | NA | Vacant | PRW | NA | Full parcel |
| L-5 | 023-532-041 | | Vacant | | NA | None |
| L-5 | 023-111-371 | 515 Emerald Bay Road | Fireside Lodge | TCE | No | None |
| L-5 | 023-111-461 | 2030 West Street | Tahoe Village Campground | TCE | No | None |
| L-5 | 023-111-471 | 531 Emerald Bay Road | SFR | TCE | Yes | None |
| L-5 | 023-132-231 | 532 Emerald Bay Road | Manzanita Group Retreats | TCE | Yes | Full parcel |
| L-5 | 023-830-511 | 516 Emerald Bay Road | St. Francis of the Woods Condominiums | TCE | Yes | None |
| L-5 | 023-111-391 | 2030 Lukins Way | MFR | | Yes | None |
| L-5<br>L-6 | 032-030-011 | NA | Vacant; bike path | PRW | NA | Partial parcel |
| L-5<br>L-6<br>L-7<br>L-8 | 032-020-011 | NA | Vacant; bike path | PRW | NA | |
| L-8<br>L-9 | 032-010-011 | NA | Vacant; seasonal campground; bike path | PRW | Yes | Partial parcel |
| L-9<br>L-10 | 032-130-081 | | Vacant; campgrounds; bike path; Camp Richardson - General Store; Ice Cream Parlor; Business Center; Old Time Portraits. | PRW | Yes | None |
| L-10<br>L-11 | 019-050-101 | | Camp Richardson—seasonal campground, RV area; vacant | TCE | Yes | None |
| L-10 | 032-130-091 | | Camp Richardson—Richardson House; bike path; vacant | PRW | Yes | Partial parcel |
| L-11 | 019-081-041 | NA | Vacant; utility/maintenance building | TCE | NA | None |
| L-11 | 019-081-111 | NA | Vacant; bike path | TCE | NA | None |

**Table 2.1.1-1. Continued**



| Map Page | APN | Address | Existing Use | Impacts | | |
|---|---|---|---|---|---|---|
| | | | | ROW | Access Points | Basin Impact |
| L-11<br>L-12<br>L-13<br>L-14 | 019-050-151 | NA | Vacant; bike path; electrical substation; access to Camp Richardson Corral and Pack Station | PRW | NA | None |
| L-14<br>L-15<br>L-16<br>L-17<br>L-18<br>L-19 | 019-041-031 | NA | Vacant; bike path | PRW | NA | Partial parcel |
| L-18 | 018-300-061 | NA | Vacant | TCE | NA | None |
| L-18<br>L-19 | 018-300-041 | NA | Vacant | TCE | NA | None |
| L-19 | 018-130-271 | NA | Vacant | TCE | NA | None |
| L-19<br>L-20 | 018-130-201 | NA | Vacant | PRW | NA | None |
| L-19<br>L-20 | 019-020-051 | NA | Vacant | PRW | NA | None |
| L-20 | 018-090-031 | NA | Vacant | TCE | NA | None |
| L-20 | 018-090-571 | NA | Vacant | TCE | NA | None |
| L-21 | 023-321-051 | NA | Vacant | TCE | NA | None |
| L-21 | 023-573-061 | 850 Patricia Lane | SFR | | Yes | None |
| L-21 | 023-171-161 | 828 Eloise | Tahoe Outdoor Living—Sales offices | TCE | Yes | None |
| L-21 | 023-573-071 | 846 Patricia Lane | SFR | TCE | Yes | None |
| L-22 | 023-131-211 | NA | Vacant | | NA | None |
| L-22 | 023-131-221 | 590 Eloise | SFR | TCE | Yes | None |
| L-22 | 012-131-081 | 546 Eloise | MFR | | Yes | None |
| L-22 | 023-111-061 | 2038 Lukins Way | SFR | | No | None |
| L-22 | 023-131-221 | 590 Eloise | SFR | | Yes | None |
| L-22 | 023-131-111 | 572 Eloise | SFR | | Yes | None |
| L-22 | 023-131-161 | 578 Eloise | SFR | | Yes | None |
| L-22 | 023-261-051 | 609 Eloise | SFR | | Yes | None |
| L-22 | 023-261-181 | 571 Eloise | Vacant | | NA | None |

**Table 2.1.1-1. Continued**



| Map Page | APN | Address | Existing Use | Impacts | | |
|---|---|---|---|---|---|---|
| | | | | ROW | Access Points | Basin Impact |
| L-22 | 023-261-271 | 559 Eloise | Vacant | | NA | None |
| L-22 | 023-261-261 | 555 Eloise | SFR | | Yes | None |
| L-22 | 023-261-191 | 561 Eloise | SFR | | Yes | None |
| L-22 | 023-261-201 | 567 Eloise | SFR | | Yes | None |
| L-22 | 023-261-041 | 575 Eloise | SFR | | Yes | None |

*Notes*: MFR = Multi-Family Residential
PRW = Permanent Right of Way Take
SFR = Single-Family Residential
TCE = Temporary Construction Easement

# Appendix C Physical Environment, Tables 2.2.5-1 and 2.2.5-2

**Table 2.2.5-1. Ambient Air Quality Standards Applicable in California**

| Pollutant | Symbol | Average Time | Standard (parts per million) | | Standard (micrograms per cubic meter) | | Violation Criteria | |
|---|---|---|---|---|---|---|---|---|
| | | | California | National | California | National | California | National |
| Ozone* | $O_3$ | 1 hour | 0.09 | NA | 180 | NA | If exceeded | NA |
| | | 8 hours | 0.070 | 0.08 | 137 | 157 | If exceeded | If fourth highest 8-hour concentration in a year, averaged over 3 years, is exceeded at each monitor within an area |
| Carbon monoxide | CO | 8 hours | 9.0 | 9 | 10,000 | 10,000 | If exceeded | If exceeded on more than 1 day per year |
| | | 1 hour | 20 | 35 | 23,000 | 40,000 | If exceeded | If exceeded on more than 1 day per year |
| (Lake Tahoe only) | | 8 hours | 6 | NA | 7,000 | NA | If equaled or exceeded | NA |
| Nitrogen dioxide | $NO_2$ | Annual average | 0.030 | 0.053 | 56 | 100 | NA | If exceeded on more than 1 day per year |
| | | 1 hour | 0.18 | NA | 338 | NA | If exceeded | NA |
| Sulfur dioxide | $SO_2$ | Annual average | NA | 0.03 | NA | 80 | NA | If exceeded |
| | | 24 hours | 0.04 | 0.14 | 105 | 365 | If exceeded | If exceeded on more than 1 day per year |
| | | 1 hour | 0.25 | NA | 655 | NA | If exceeded | NA |
| Hydrogen sulfide | $H_2S$ | 1 hour | 0.03 | NA | 42 | NA | If equaled or exceeded | NA |
| Vinyl chloride | $C_2H_3Cl$ | 24 hours | 0.01 | NA | 26 | NA | If equaled or exceeded | NA |
| Inhalable particulate matter | PM10 | Annual arithmetic mean | NA | NA | 20 | 50 | NA | If exceeded at each monitor within area |
| | | 24 hours | NA | NA | 50 | NA | If exceeded | If exceeded on more than 1 day per year |
| | PM2.5 | Annual arithmetic mean | NA | NA | 12 | 15 | NA | If 3-year average from single or multiple community-oriented monitors is exceeded |
| | | 24 hours | NA | NA | NA | 35 | NA | If 3-year average of 98$^{th}$ percentile at each population-oriented monitor within an area is exceeded |
| Sulfate particles | $SO_4$ | 24 hours | NA | NA | 25 | NA | If equaled or exceeded | NA |
| Lead particles | Pb | Calendar quarter | NA | NA | NA | 1.5 | NA | If exceeded no more than 1 day per year |
| | | 30-day average | NA | NA | 1.5 | NA | If equaled or exceeded | NA |

*Source:* California Air Resources Board 2006.
*Notes:* All standards are based on measurements at 25ºC and 1 atmosphere pressure.
National standards shown are the primary (health effects) standards.
NA = not applicable.
* The U.S. Environmental Protection Agency recently replaced the 1-hour ozone standard with an 8-hour standard of 0.08 part per million. It issued a final rule that revoked the 1-hour standard on June 15, 2005. However, the California 1-hour ozone standard will remain in effect.

## Table 2.2.5-2. Ambient Air Quality Monitoring Data

| Pollutant Standards | Echo Summit | | | South Lake Tahoe | | | Tahoe City | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 |
| **Ozone** | | | | | | | | | |
| Maximum 1-hour concentration (ppm) | 0.096 | 0.079 | 0.096 | 0.066 | – | – | 0.065 | – | – |
| Maximum 8-hour concentration (ppm) | 0.082 | 0.070 | 0.083 | 0.058 | – | – | 0.061 | – | – |
| Number of days standard exceeded[a] | | | | | | | | | |
| CAAQS 1-hour (>0.09 ppm) | 1 | 0 | 1 | 0 | – | – | 0 | – | – |
| NAAQS 8-hour (>0.08 ppm) | 0 | 0 | 0 | 0 | – | – | 0 | – | – |
| **Carbon Monoxide (CO)** | | | | | | | | | |
| Maximum 8-hour concentration (ppm) | 4.35 | – | – | 1.18 | – | – | 0.53 | – | – |
| Number of days standard exceeded[a] | | | | | | | | | |
| NAAQS 8-hour (≥9.0 ppm) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CAAQS 8-hour (≥9.0 ppm) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NAAQS 1-hour (≥35 ppm) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CAAQS 1-hour (≥20 ppm) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Particulate Matter (PM10)**[b] | | | | | | | | | |
| National[c] maximum 24-hour concentration ($\mu g/m^3$) | 24.0 | – | – | 47.0 | 38.0 | 66.6 | – | – | – |
| National[c] second-highest 24-hour concentration ($\mu g/m^3$) | 23.0 | – | – | 45.0 | 38.0 | 59.3 | – | – | – |
| State[d] maximum 24-hour concentration ($\mu g/m^3$) | 19.0 | – | – | 41.0 | 33.0 | – | – | – | – |
| State[d] second-highest 24-hour concentration ($\mu g/m^3$) | 18.0 | – | – | 41.0 | 32.0 | – | – | – | – |
| National annual average concentration ($\mu g/m^3$) | 8.3 | – | – | 15.2 | 17.5 | 17.1 | – | – | – |
| State annual average concentration ($\mu g/m^3$)[e] | – | – | – | – | 14.8 | – | – | – | – |
| Number of days standard exceeded[a] | | | | | | | | | |
| CAAQS 24-hour (>50 $\mu g/m^3$)[f] | 0 | – | – | 0 | 0 | – | – | – | – |

*Source:* California Air Resources Board 2006.

*Notes:* CAAQS = California ambient air quality standards.
NAAQS = national ambient air quality standards.
– = insufficient data available to determine the value.

[a] An exceedance is not necessarily a violation.

[b] Measurements usually are collected every 6 days.

[c] National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.

[d] State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, State statistics are based on California approved samplers.

[e] State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

[f] Mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored.

# Appendix D Biological Environment, Tables 2.3.3-1 and 2.3.4-1

## Table 2.3.3-1. Special-Status Plants with Potential to Occur in the Project Vicinity



| Common and Scientific Name | Legal Status[a] (Federal/State/CNPS) | Geographic Distribution/Floristic Province | Habitat Requirements | Occurrence in Study Area |
|---|---|---|---|---|
| Upswept moonwort *Botrychium ascendens* | –/–/2.3 | Southern high Cascade Range and scattered occurrences elsewhere: Butte, El Dorado, Mono, Modoc, Plumas, Shasta, Tehama, and Tulare Counties; Idaho, Oregon, Nevada, Washington, and elsewhere. | Wet areas in lower montane coniferous forest; 1,500–2,285 meters; blooms July–August. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. No known occurrences within 10 miles of the study area. |
| Scalloped moonwort *Botrychium crenulatum* | –/–/2.2 | Mountains of California, with scattered occurrences in Butte, Colusa, Lake, Los Angeles, Mono, Modoc, Placer, Plumas, San Bernardino, Shasta, Tehama, and Tulare Counties; Arizona, Idaho, Nevada, Oregon, Utah, Washington, and Wyoming. | Bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps; 1,500–3,280 meters; blooms June–July. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. No known occurrences within 10 miles of the study area. |
| Western goblin *Botrychium montanum* | –/–/2.1 | Southern high Cascade Range and Sierra Nevada, with occurrences in Butte, El Dorado, Fresno, Modoc, Plumas, Shasta, and Tehama Counties; Idaho, Oregon, and Washington. | Wet areas in lower and upper montane coniferous forest; 1,500–2,130 meters; blooms July–August. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. No known occurrences within 10 miles of the study area. |
| Shore sedge *Carex limosa* | –/–/2.2 | High Sierra Nevada, with occurrences in Butte, El Dorado, Fresno, Lassen, Nevada, Plumas, Siskiyou, and Tuolumne Counties; Nevada and elsewhere. | Lower and upper montane coniferous forest, meadows and seeps, bogs and fens, marshes and swamps; 1,200–2,700 meters; blooms June–August. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. Closest occurrence 7 miles north of the study area. |
| Alpine dusty maidens *Chaenactis douglasii* var. *alpina* | –/–/2.3 | Northern high Sierra Nevada and northern desert mountains, with occurrences in Alpine, El Dorado, Inyo, Mono, Siskiyou, and Tuolumne Counties. | Granitic soils in alpine boulder and rock field; 3,000–3,400 meters; blooms July–September. | None. Occurs outside the elevational range of the study area. No known occurrences within 10 miles of the study area. |
| Fell-fields claytonia *Claytonia megarhiza* | –/–/2.3 | Northern and central high Sierra Nevada and Warner Mountains, with occurrences in Alpine, Lassen, Mariposa, Mono, Modoc, Nevada, and Tuolumne Counties; Colorado, Montana, Wyoming, New Mexico, and Canada. | Alpine boulder and rock field, rocky or gravely substrate in subalpine coniferous forest; 2,600–3,300 meters; blooms July–August. | None. Occurs outside the elevational range of the study area. Closest occurrence within 5 miles southwest of the study area. |
| Subalpine cryptantha *Cryptantha crymophila* | –/–/1B.3 | Alpine, Mono, and Tuolumne Counties. | Subalpine coniferous forest on volcanic, rocky substrates; 2,600–3,200 meters; blooms July–August. | None. Occurs outside the elevational range of the study area. No known occurrences within 10 miles of the study area. |

## Table 2.3.3-1. Continued



| Common and Scientific Name | Legal Status[a] (Federal/State/CNPS) | Geographic Distribution/Floristic Province | Habitat Requirements | Occurrence in Study Area |
|---|---|---|---|---|
| Tahoe draba *Draba asterophora* var. *asterophora* | –/–/1B.3 | Northern and central high Sierra Nevada, with occurrences in Alpine, El Dorado, Mono, and Tuolumne Counties; Nevada. | Alpine boulder and rock field in subalpine coniferous forest; 2,500–3,505 meters; blooms July–August. | None. Occurs outside the elevational range of the study area. Closest occurrence 4 miles east of the study area. |
| Cup Lake draba *Draba asterophora* var. *macrocarpa* | –/–/1B.3 | Endemic to El Dorado County. | Rocky areas in subalpine coniferous forest; 2,500–2,815 meters; blooms July–August. | None. Occurs outside the elevational range of the study area. Closest occurrence within 7 miles south of the study area. |
| Subalpine fireweed *Epilobium howellii* | –/–/1B.3 | Fresno, Madera, Mariposa, Mono, Nevada, and Sierra Counties. | Wet areas in meadows and mossy seeps, subalpine coniferous forest; 2,000–2,700 meters; blooms July–August. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. No known occurrences within 10 miles of the study area. |
| Oregon fireweed *Epilobium oreganum* | –/–/1B.2 | Klamath Range and outer north Coast Ranges, with occurrences in Del Norte, El Dorado, Glenn, Humboldt, Mendocino, Nevada, Placer, Shasta, Siskiyou, Tehama, and Tuolumne Counties; Oregon. | Bogs and fens, wet areas in lower and upper montane coniferous forest; 500–2,240 meters; blooms June–September. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. Closest occurrence within 4 miles northwest of the study area. |
| Marsh willowherb *Epilobium palustre* | –/–/1B.2 | Central high Sierra Nevada in El Dorado and Plumas Counties; Idaho and elsewhere. | Bogs and fens, meadows and seeps; 2,200 meters; blooms July–August. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. Closest occurrence within 9 miles southeast of the study area. |
| Short-leaved hulsea *Hulsea brevifolia* | –/–/1B.2 | Central and southern high Sierra Nevada, with occurrences in El Dorado, Fresno, Madera, Mariposa, Tulare, and Tuolumne Counties. | Gravelly or sandy soils derived from granitic or volcanic substrate in lower and upper montane coniferous forest; 1,500–3,200 meters; blooms May–August. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. No known occurrences within 10 miles of the study area. |
| Long-petaled lewisia *Lewisia longipetala* | –/–/1B.3 | Northern high Sierra Nevada, with occurrences in El Dorado, Nevada, and Placer Counties. | Alpine boulder and rock field, wet, rocky areas in subalpine coniferous forest in soils derived from granite; 2,500–2,925 meters; blooms July–August. | None. Occurs outside the elevational range of the study area. Closest occurrence 3 miles west of the west end of the study area. |

## Table 2.3.3-1. Continued



| Common and Scientific Name | Legal Status[a] (Federal/State/CNPS) | Geographic Distribution/Floristic Province | Habitat Requirements | Occurrence in Study Area |
|---|---|---|---|---|
| Three-ranked hump moss *Meesia triquetra* | –/–/2.2 | Widespread with occurrences from Humboldt and Lassen Counties south to Riverside County; Nevada, Oregon, and elsewhere. | Soils in bogs and fens, meadows and seeps, subalpine coniferous forest, wet areas in upper montane coniferous forest; 1,300–2,953 meters. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. Closest occurrence within 7 miles southeast of the study area. |
| Broad-nerved hump-moss *Meesia uliginosa* | –/–/2.2 | Known from El Dorado, Fresno, Madera, Mariposa (?), Nevada, Plumas, Riverside, Sierra, Siskiyou, and Tulare Counties; Nevada, Oregon, and elsewhere. | On damp soils in bogs and fens, meadows and seeps, subalpine and upper montane coniferous forest; 1,300–2,800 meters. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. Closest occurrence 3 miles southeast of the east end of the study area. |
| Stebbin's phacelia *Phacelia stebbinsii* | –/–/1B.2 | El Dorado, Nevada, and Placer Counties. | Meadows and seeps, cismontane woodland, and lower montane coniferous forest; 610–2,010 meters; blooms June–July. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. No known occurrences within 10 miles of the study area. |
| Holly fern *Polystichum lonchitis* | –/–/3 | Alpine, El Dorado, Plumas (?),Siskiyou, and Trinity (?) Counties; Arizona, Idaho, Nevada, Oregon, Utah, and Washington. | Granitic or carbonate soils in subalpine coniferous forest, upper montane coniferous forest; 1,800–2,600 meters; blooms June–September. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. No known occurrences within 10 miles of the study area. |
| Nuttall's pondweed *Potamogeton epihydrus* ssp. *nuttallii* | –/–/2.2 | El Dorado, Mariposa, Mendocino, Modoc, and Plumas Counties; Oregon and elsewhere. | Marshes and assorted shallow freshwater swamps; 370–1,900 meters; blooms July–August. | None. Suitable habitat is not present in the study area. Not observed in the study area. Closest occurrence within 10 miles southwest of the study area. |
| Slender-leaved pondweed *Potamogeton filiformis* | –/–/2.2 | Scattered occurrences in Contra Costa, El Dorado, Lassen, Merced, Mariposa, Modoc, Mono, Placer, Santa Clara, and Sierra Counties; Arizona, Nevada, Oregon, and Washington. | Freshwater marshes and assorted shallow swamps, shallow emergent wetlands and freshwater lakes, and drainage channels; 300–2,150 meters; blooms May–July. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. Closest occurrence within 3 miles northwest of the west end of the study area. |

## Table 2.3.3-1. Continued



| Common and Scientific Name | Legal Status[a] (Federal/State/CNPS) | Geographic Distribution/Floristic Province | Habitat Requirements | Occurrence in Study Area |
|---|---|---|---|---|
| Tahoe yellow cress *Rorippa subumbellata* | C/E/1B.1 | Lake Tahoe Basin with occurrences in El Dorado, Nevada, and Placer Counties; Nevada. | Decomposed granitic beaches in lower montane coniferous forest, meadows and seeps; 1,859–1,900 meters; blooms May–September. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. Closest occurrence 0.4 mile north of SR 89 in the study area along shore of Lake Tahoe. |
| Water bulrush *Scirpus subterminalis* | –/–/2.3 | Klamath Range and northern high Sierra Nevada. | Bogs and fens, marshes and swamps in montane lake margins; 750–2,250 meters; blooms July–August. | None. Suitable habitat is not present in the study area. Not observed in the study area. Closest occurrence 5 miles south of the study area. |
| Marsh skullcap *Scutellaria galericulata* | –/–/2.2 | Northern high Sierra Nevada, Modoc Plateau, with occurrences in El Dorado, Lassen, Modoc, Nevada, Placer, Plumas, Shasta, San Joaquin, and Siskiyou Counties; Oregon and elsewhere. | Lower montane coniferous forest, meadows and seeps, marshes and swamps; below 2,100 meters; blooms June–September. | Moderate. Suitable habitat is present, but occurrence unlikely due to human and road maintenance activities. Not observed in the study area. Closest occurrence 0.4 mile north of SR 89 in the study area near Tallac Creek. |
| Cream-flowered bladderwort *Utricularia ochroleuca* | –/–/2.2 | El Dorado and Plumas Counties; Oregon, Washington, and elsewhere. | Shallow water in meadows, seeps, marshes, swamps, and lake margins; 1,435–1,440 meters; blooms June–July. | None. Occurs outside the elevational range of the study area. No known occurrences within 10 miles of the study area. |

[a] Status explanations:

– = no listing.
? = population location within county uncertain.

**Federal**

C = candidate for listing under federal Endangered Species Act.

**State**

E = listed as endangered under California Endangered Species Act.

**California Native Plant Society**

1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
2 = List 2 species: rare, threatened, or endangered in California, but more common elsewhere.
3 = List 3 species: plants about which more information is needed to determine their status.

**California Native Plant Society Code Extensions**

.1 = seriously endangered in California (more than 80% of occurrences threatened, or high degree and immediacy of threat).
.2 = fairly endangered in California (20–80% of occurrences threatened).
.3 = not very endangered in California (less than 20% of occurrences threatened or no current threats known).

## Table 2.3.4-1. Special-Status Wildlife and Fish Species That Could Occur in the Project Vicinity



| Common and Scientific Name | Status (Federal/State/Other) | California Distribution | Habitats | Occurrence in Study Area |
|---|---|---|---|---|
| Great Basin rams-horn *Helisoma newberryi* | –/–/FS | Lakes and larger, slow streams in and around the periphery of the northern Great Basin. Occur in Sheepy Creek (Siskiyou County), Pit River, Eagle Lake, and Lake Tahoe/Truckee River. | Larger lakes and slow rivers, including larger spring sources and spring-fed creeks. These snails may be invisible even when abundant, either because of being in deep water or burrowing in soft mud. | Low. Not known to occur in Taylor and Tallac Creeks, and these do not provide ideal habitat. |
| Lahontan cutthroat trout *Oncorhynchus clarki henshawi* | T/–/FS, MI, TRPA | Restricted to a few lakes and streams within and outside their historic range. Occur in Independence Lake, Meiss Lakes basin in upper Truckee River watershed. Stocked in Fallen Leaf Lake. | Lakes and streams of the Lahontan basin. | High. Known to occur in Fallen Leaf Lake. Potential suitable habitats present in the study area. |
| Central Valley steelhead *Oncorhynchus mykiss* | T/–/– | Sacramento River and tributary Central Valley rivers. | Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 7.8 to 18°C (Moyle 2002). Habitat types are riffles, runs, and pools. | None. Study area is outside the species' known range. |
| Rainbow trout–non-anadromous *Oncorhynchus mykiss* | –/–/MI | Widely distributed in California, from Baja California to Oregon. Native to Pacific slope upstream to first impassable barriers. Widely transplanted, including hatchery fish, to areas outside historic range, including the Lake Tahoe Basin. | Cold, perennial freshwater systems statewide. | High. Suitable habitat present in study area. |
| Brook trout *Salvelinus fontinalis* | –/–/MI | Native to east coast of U.S. Occurs from the San Bernardino Mountains in southern California north to the Oregon border. Most abundant in the Sierra Nevada, where they have been widely introduced. | High mountain lakes and streams, generally above 4,000 feet in elevation. | High. Occurs in Lake Tahoe and may spawn in study area streams. |
| Mount Lyell salamander *Hydromantes platycephalus* | –/SSC/– | High Sierra Nevada, mostly above 8000 feet (4,000-12,000 feet, overall), from Sonora Pass, Alpine County, to Franklin Pass area, Tulare County; low elevation records are from the south side of Yosemite Valley. Isolated population at Smith Lake, Desolation Wilderness, El Dorado County. | Granite rock exposures, talus, and rock fissures, near seepages from streams or melting snow, also in spray zone of waterfalls. Apparently prefers north-facing slopes. | Low. No suitable habitat in the study area. No known locations within 10 miles of the study area. |
| Yosemite toad *Bufo canorus* | C/SSC/– | Sierra Nevada from Blue Lake region north of Ebbets Pass in Alpine County to 5 kilometers south of Kaiser Pass in the Evolution Lake/Darwin Canyon area in Fresno County; 4,800–12,000 feet, mostly above 9,000 feet. | Inhabits montane wet meadows and seasonal ponds associated with lodgepole pine and subalpine conifer forests. Breeds in shallow pools or lake margins, shelters in burrows or clumps of grass, sedges or willows. | Low. Meadow and wetland areas do not appear to contain water long enough to support breeding. No known locations within 10 miles of the study area. |

## Table 2.3.4-1. Continued



| Common and Scientific Name | Status (Federal/State/Other) | California Distribution | Habitats | Occurrence in Study Area |
|---|---|---|---|---|
| Mountain yellow-legged frog *Rana muscosa* | C/SSC/FS | Found in the Sierra Nevada above 4,500 feet from Plumas County to southern Tulare County. Isolated populations in Butte County and near Mono Lake, Mono County. | Associated with streams, lakes, and ponds in montane riparian, lodgepole pine, subalpine conifer, and wet meadow habitats. | Moderate. Meadow and wetland areas do not appear to contain water long enough to support breeding. Limited amount of breeding habitat in Taylor and Tallac Creeks. One historic occurrence within 1 mile of study area (CNDDB 2007). |
| Golden eagle *Aquila chrysaetos* | PR/SSC, FP/TRPA | Foothills and mountains throughout California. Uncommon non-breeding visitor to lowlands such as the Central Valley. | Nests on cliffs and escarpments or in tall trees overlooking open country. Forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals. | Low. Unlikely to nest in the study area, and no suitable foraging habitat in the study area. |
| Osprey *Pandion haliaetus* | –/SSC/TRPA | Nests along the north coast from Marin County to Del Norte County, east through the Klamath and Cascade Ranges, and in the upper Sacramento Valley. Important inland breeding populations at Shasta Lake, Eagle Lake, and Lake Almanor, and small numbers elsewhere south through the Sierra Nevada. Winters along the coast from San Mateo County to San Diego County. | Nests in snags, trees, or utility poles near the ocean, large lakes, or rivers with abundant fish populations. | High. Many records for locations of nests adjacent to the study area. May nest in or adjacent to study area. |
| Bald eagle *Haliaeetus leucocephalus* | D,PR/E, FP/MI, TRPA | Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties, and in the Lake Tahoe Basin. Reintroduced into central coast. Winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County. | In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, stream, or the ocean. | Moderate. May occur in study area, but unlikely to nest because of proximity of study area to SR 89 and continuous human disturbance. |
| Northern goshawk *Accipiter gentilis* | –/SSC/FS, MI, TRPA | Permanent resident in the Klamath and Cascade Ranges, in the north Coast Ranges from Del Norte County to Mendocino County, and in the Sierra Nevada south to Kern County. Winters in Modoc, Lassen, Mono, and northern Inyo Counties. | Nests and roosts in older stands of red fir, Jeffrey pine, Ponderosa pine, lodgepole pine, Douglas fir, and mixed conifer forests. | High. Suitable foraging and nesting habitat in the study area. Unlikely to nest because of proximity of study area to SR 89 and continuous human disturbance. |

## Table 2.3.4-1. Continued



| Common and Scientific Name | Status (Federal/State/Other) | California Distribution | Habitats | Occurrence in Study Area |
|---|---|---|---|---|
| American peregrine falcon *Falco peregrinus anatum* | D/E/FS, MI, TRPA | Permanent resident along the north and south Coast Ranges. May summer in the Cascade and Klamath Ranges and through the Sierra Nevada to Madera County. Winters in the Central Valley south through the Transverse and Peninsular Ranges and the plains east of the Cascade Range. | Nests and roosts on protected ledges of high cliffs, usually adjacent to lakes, rivers, or marshes that support large prey populations. | Low. No suitable nesting habitat in the study area. Historic occurrence in the basin; no known occurrences since 1990s failed reintroductions (Thayer pers. comm.). |
| Great gray owl *Strix nebulosa* | –/E/FS | Permanent resident of the Sierra Nevada from Plumas County south to the Yosemite area. Occasionally occurs in northwestern California in winter and the Warner Mountains in summer. | Old growth red fir, mixed conifer, or lodgepole pine forests bordering meadows. | Low. No known records of breeding in the Lake Tahoe Basin (Thayer pers. comm.). Two unconfirmed records in the basin (Lyon pers. comm.). |
| California spotted owl *Strix occidentalis occidentalis* | –/SSC/FS, MI | Sierra Nevada from Lassen County south to northern Kern County, and in the Transverse Range, Peninsular Range, and southern coastal mountains. | Mature forest with suitable nesting trees. In southern California, occurs in oak and oak-conifer habitats, in addition to mature conifer forest. | Moderate. May occur in study area, but unlikely to nest because of proximity of study area to SR 89 and continuous human disturbance. Records exist in the Lake Tahoe Basin (Lyon pers. comm.) |
| Bank swallow *Riparia riparia* | –/T/– | Occurs along the Sacramento River from Tehama County to Sacramento County, along the Feather and lower American Rivers, in the Owens Valley, and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou Counties. Small populations near the coast from San Francisco to Monterey County. | Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam. | Moderate. May occasionally forage in the study area. A limited amount of nesting habitat may occur along Taylor and Tallac Creeks. Known occurrence at Tahoe Keys within 1 mile of the study area. |
| Willow flycatcher *Empidonax traillii* | –/E/FS, MI | Summers along the western Sierra Nevada from El Dorado to Madera County, in the Cascade Range and northern Sierra Nevada in Trinity, Shasta, Tehama, Butte, and Plumas Counties, and along the eastern Sierra Nevada from Lassen to Inyo County. | Riparian areas and large wet meadows with abundant willows. Usually found in riparian habitats during migration. | Moderate. May occasionally forage in the study area. Unlikely to nest in study area because of limited dense willow thickets and proximity to human disturbance. Known occurrence at Taylor Marsh within 1 mile of the study area (CNDDB 2007). |

## Table 2.3.4-1. Continued



| Common and Scientific Name | Status (Federal/State/Other) | California Distribution | Habitats | Occurrence in Study Area |
|---|---|---|---|---|
| Waterfowl | –/–/TRPA | Throughout California in suitable habitat. | Aquatic habitat, wetlands, and edges of wetlands. | Low. Aquatic and wetland habitat generally associated with waterfowl is not present in the study area. However marsh habitats adjacent to the study area are known to support breeding pairs of many species within this group (Thayer pers. comm.). |
| Sierra Nevada snowshoe hare *Lepus americanus tahoensis* | –/SSC/– | In the Cascade Range in Siskiyou and Del Norte Counties and the Sierra Nevada from Mt. Lassen south to Mono and Tulare Counties, generally between 4,800 and 8,000 feet. | Found in dense thickets of conifers, riparian vegetation, or chaparral in boreal life zones. | Moderate. Suitable habitat is present within the study area. One historic record within 5 miles of the study area (CNDDB 2007). |
| Sierra Nevada red fox *Vulpes vulpes necator* | –/T/FS | In the Cascade Range, in Siskiyou County, and in the Sierra Nevada from Lassen County south to Tulare County. | Alpine dwarf-shrub, wet meadow, subalpine conifer, lodgepole pine, red fir, aspen, montane chaparral, montane riparian, mixed conifer, and ponderosa pine. In the Sierra Nevada, most sightings have been above 7,000 feet. | Low. Unlikely to occur because of proximity of study area to SR 89 and continuous human disturbance. |
| Pacific fisher *Martes pennanti pacifica* | C/SSC/– | Coastal mountains from Del Norte County to Sonoma County, east through the Cascade Range to Lassen County, and south in the Sierra Nevada to Kern County. | Late successional coniferous forests and montane riparian habitats. | Low. Study area is located within a gap of fisher distribution. Three records for occurrences from 1967 to 1984 within 10 miles of the study area (CNDDB 2007). |
| American badger *Taxidea taxus* | –/SSC/– | Throughout California, except for the humid coastal forests of northwestern California in Del Norte County and northwestern Humboldt County. | Requires sufficient food, friable soils, and relatively open uncultivated ground; preferred habitat includes grasslands, savannas, and mountain meadows near timberline. | Low. Sufficient open habitat not present in the study area. Incidental observation by USFS in the Meeks Bay area in past 5 years (Thayer pers. comm.) |
| California wolverine *Gulo gulo luteus* | –/T, FP/FS | Klamath and Cascade Ranges south through the Sierra Nevada to Tulare County. | Found in a variety of mountain habitats. In north coastal areas, most sightings have been between 1,600 and 4,800 feet. The species has been found between 4,300 and 7,300 feet in the northern Sierra Nevada and between 6,400 and 10,800 in the southern Sierra Nevada. Most common in open terrain above timberline and subalpine forests. | Low. Unlikely to occur because of proximity of study area to SR 89 and continuous human disturbance. Sighting in 1990 within 2 miles of the study area (CNDDB 2007). |

## Table 2.3.4-1. Continued



| Common and Scientific Name | Status (Federal/State/Other) | California Distribution | Habitats | Occurrence in Study Area |
|---|---|---|---|---|
| American marten *Martes americana* | –/–/FS | Klamath Range, Cascade Range, and Sierra Nevada from Del Norte to Tulare County, and a small portion of the north Coast Ranges around Mendocino, Glenn, and Lake Counties. | Red fir, lodgepole pine, subalpine conifer, mixed conifer, Jeffrey pine, and eastside pine habitats. Habitat with limited human use is important. | High. Suitable habitat is present in the study area. Several records for sightings within the study area (CNDDB 2007). |
| Mule deer *Odecoileus hemionus* | –/–/MI, TRPA | Throughout California, except in intensively farmed areas without cover (Central Valley) and in deserts. | Early to intermediate stages of most forest, woodland, and brush habitats. Prefers a mixture of a various aged vegetation that provides woody cover, meadow, and shrubby openings and open water. | High. The Truckee/Loyalton and Carson deer herds occur in the Lake Tahoe Basin (Thayer pers. comm.) |

[a] Status explanations:

– = no status.

**Federal**

T = listed as threatened under federal Endangered Species Act.
C = candidate for threatened or endangered status.
PR = protected by Bald and Golden Eagle Protection Act.
D = delisted (delisted species are monitored for 5 years).

**State**

E = listed as endangered under California Endangered Species Act.
T = listed as threatened under California Endangered Species Act.
SSC = species of special concern in California.
FP = fully protected under California Fish and Game Code.

**Other**

FS = U.S. Forest Service sensitive species
MI = Lake Tahoe Basin Management Unit Management Indicator Species
TRPA = Tahoe Regional Planning Agency Special Interest Species

# Appendix E CEQA Checklist

# Appendix E CEQA Checklist

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| **I. AESTHETICS** -- 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) Substantially degrade the existing visual character or quality of the site and its surroundings? | ☐ | ☐ | ☒ | ☐ |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | ☐ | ☐ | ☐ | ☒ |
| **II. AGRICULTURE 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. 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) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? | ☐ | ☐ | ☐ | ☒ |
| **III. AIR QUALITY** -- Where available, the significance criteria established by the applicable air quality management 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? | ☐ | ☐ | ☒ | ☐ |

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | ☐ | ☐ | ☒ | ☐ |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | ☐ | ☐ | ☒ | ☐ |
| d) Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☐ | ☒ | ☐ |
| e) Create objectionable odors affecting a substantial number of people? | ☐ | ☐ | ☐ | ☒ |
| **IV. 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 Game 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 Game or US Fish and Wildlife Service? | ☐ | ☐ | ☒ | ☐ |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (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? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| **V. CULTURAL RESOURCES** -- Would the project: | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | ☐ | ☐ | ☒ | ☐ |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | ☐ | ☐ | ☒ | ☐ |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☐ | ☐ | ☒ |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☐ | ☒ | ☐ |
| **VI. GEOLOGY AND SOILS** -- Would the project: | | | | |
| a) Expose people or structures to 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 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? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| **VII. 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 for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☒ | ☐ |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | ☐ | ☐ | ☒ | ☐ |
| **VIII. HYDROLOGY AND WATER QUALITY** -- Would the project: | | | | |
| a) Violate any water quality standards or waste discharge requirements? | ☐ | ☐ | ☒ | ☐ |

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| 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 which would result in flooding on- or off-site? | ☐ | ☐ | ☒ | ☐ |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | ☐ | ☐ | ☒ | ☐ |
| 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 which 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? | ☐ | ☐ | ☐ | ☒ |
| **IX. LAND USE AND PLANNING** -- Would the project: | | | | |
| a) Physically divide an established community? | ☐ | ☐ | ☒ | ☐ |

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | ☐ | ☐ | ☐ | ☒ |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | ☐ | ☐ | ☐ | ☒ |
| **X. 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? | ☐ | ☐ | ☐ | ☒ |
| **XI. 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 within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| **XII. POPULATION AND HOUSING** -- Would the project: | | | | |
| a) Induce substantial 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 housing, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |
| **XIII. 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 public services: | | | | |
| Fire protection? | ☐ | ☐ | ☐ | ☒ |
| Police protection? | ☐ | ☐ | ☐ | ☒ |
| Schools? | ☐ | ☐ | ☐ | ☒ |
| Parks? | ☐ | ☐ | ☐ | ☒ |
| Other public facilities? | ☐ | ☐ | ☐ | ☒ |
| **XIV. 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? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| **XV. TRANSPORTATION/TRAFFIC** -- Would the project: | | | | |
| a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? | ☐ | ☐ | ☒ | ☐ |
| b) Exceed, either individually or cumulatively, a level of service standard 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) Result in inadequate parking capacity? | ☐ | ☐ | ☒ | ☐ |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? | ☐ | ☐ | ☐ | ☒ |
| **XVI. 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? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| 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? | ☐ | ☐ | ☐ | ☒ |
| **XVII. MANDATORY FINDINGS OF SIGNIFICANCE** -- | | | | |
| a) Does the project have the potential to 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, 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? | ☐ | ☐ | ☒ | ☐ |

# Appendix F TRPA Checklist

# *INITIAL ENVIRONMENTAL CHECKLIST FOR DETERMINATION OF ENVIRONMENTAL IMPACT*

**I. Assessor's Parcel Number (APN)/ Project Location:** *Various APNs/State Route 89 between State Route 89/ U.S. Highway 50 "Y" and Cascade Road*

**Project Name** *ED-89 PM 8.6–13.8 Water Quality Improvements* **County/City** *El Dorado County*

**Brief Description of Project**

The Project proposes to improve the quality of stormwater runoff by collecting and treating the stormwater runoff from State Route (SR) 89 by implementing the following improvements where feasible and warranted: rehabilitate existing drainage systems and install new drainage systems, including stormwater basins and water conveyance systems; deploy treatment best management practices (BMPs); provide rock slope protection; flatten and protect erodible slopes for erosion control; revegetate bare or erodible areas; where permitted by the Lahontan Regional Water Quality Control Board and Tahoe Regional Planning Agency (TRPA), allow sheet flow off roadways where longitudinal basins are proposed and spreading of runoff water where feasible in stream environment zone areas; pave all existing driveway connections within state right-of-way; place asphalt-concrete overlay (1.8 inches); and, dig out failed pavement sections before overlay. Culverts in poor condition will be lined or replaced. Slope protection measures requiring new walls or other structures would be required to comply with TRPA's aesthetics thresholds. To allow for construction, temporary access to or use of lands outside the Caltrans right-of-way would be required. This access or use would allow for temporary staging of equipment and construction, and access to and from the construction areas. To minimize disruptions in use, and for safety of recreational users in the area during construction, temporary detours would be provided for the South Lake Tahoe City Bike Path, for trails that cross SR 89 near the Taylor Creek Visitor Center, and for other recreational areas, as appropriate. Construction activities will require the clearing of vegetation where facilities will be installed. Tree removal will be necessary in some locations, but will be minimized through further refinement of basin and facility design. State, regional, and local vegetation and tree removal requirements and permitting will be followed. During construction, the contractor will be required to develop and implement erosion control measures and plans, and to follow seasonal restrictions applicable to projects in the Lake Tahoe Basin. New vehicle pullouts might require earthwork and disturbance of existing slopes. New cut slopes will be stabilized with rock slope protection or vegetation. TRPA scenic threshold criteria will be considered in the design of slope protection systems. Excavation and earthwork will be necessary for the installation of pavement, retaining walls or soil-nail walls, runoff basins, water collection and control devices, and similar facilities. Permanent, long-term BMPs, including asphalt dikes and new drainage systems, will be implemented for controlling potential impacts on existing waterways or storm drainage facilities.

**The following questionnaire will be completed by the applicant based on evidence submitted with the application. All "Yes" and "No, With Mitigation" answers will require further written comments.**

## II. Environmental Impacts:

### 1. Land

Will the proposal result in:

a. Compaction or covering of the soil beyond the limits allowed in the land capability or Individual Parcel Evaluation System (IPES)?
- ☐ Yes ☒ No
- ☐ No, With Mitigation ☐ Data Insufficient

b. A change in the topography or ground surface relief features of site inconsistent with the natural surrounding conditions?
- ☐ Yes ☒ No
- ☐ No, With Mitigation ☐ Data Insufficient

c. Unstable soil conditions during or after completion of the proposal?
- ☐ Yes ☒ No
- ☐ No, With Mitigation ☐ Data Insufficient

d. Changes in the undisturbed soil or native geologic substructures or grading in excess of 5 feet?
- ☐ Yes ☒ No
- ☐ No, With Mitigation ☐ Data Insufficient

e. The continuation of or increase in wind or water erosion of soils, either on or off the site?
- ☐ Yes ☒ No
- ☐ No, With Mitigation ☐ Data Insufficient

f. Changes in deposition or erosion of beach sand, or changes in siltation, deposition or erosion, including natural littoral processes, which may modify the channel of a river or stream or the bed of a lake?
- ☐ Yes ☒ No
- ☐ No, With Mitigation ☐ Data Insufficient

g. Exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mud slides, ground failure, or similar hazards?
- ☐ Yes ☒ No
- ☐ No, With Mitigation ☐ Data Insufficient

### 2. Air Quality

Will the proposal result in:

a. Substantial air pollutant emissions?
- ☐ Yes ☒ No
- ☐ No, With Mitigation ☐ Data Insufficient

b. Deterioration of ambient (existing) air quality?
- ☐ Yes ☒ No
- ☐ No, With Mitigation ☐ Data Insufficient

c. The creation of objectionable odors?
- ☒ Yes ☐ No
- ☐ No, With Mitigation ☐ Data Insufficient

d. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?
- ☐ Yes ☒ No
- ☐ No, With Mitigation ☐ Data Insufficient

e. Increased use of diesel fuel?

☒ Yes ☐ No
☐ No, With Mitigation ☐ Data Insufficient

*Explanation:*

c. Pavement resurfacing would create temporary odors. This effect would be very limited in duration.

e. The use of diesel fuel by construction equipment would be temporary.

## 3. Water Quality

Will the proposal result in:

a. Changes in currents, or the course or direction of water movements?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff so that a 20 yr. 1 hr. storm runoff (approximately 1 inch per hour) cannot be contained on the site?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

c. Alterations to the course or flow of 100-yearflood waters

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

d. Change in the amount of surface water in any water body?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?

☒ Yes ☐ No
☐ No, With Mitigation ☐ Data Insufficient

f. Alteration of the direction or rate of flow of ground water

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

g. Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?

☒ Yes ☐ No
☐ No, With Mitigation ☐ Data Insufficient

h. Substantial reduction in the amount of water otherwise available for public water supplies?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

i. Exposure of people or property to water related hazards such as flooding?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

j. The potential discharge of contaminants to the groundwater or any alteration of groundwater quality?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

k. Is the project located within 600 feet of a drinking water source?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

*Explanation:*

e. Impacts on drainage patterns would be minor and consist only of directing runoff into new drainage facilities. The Project proposes to implement improvements, such as sand traps, infiltration basins, and culverts along SR 89 that would collect and treat the surface water runoff to remove sediments

and pollutants. These facilities would increase the amount of sediments and pollutants that would be filtered out of the surface water, thereby improving the surface water quality leaving the right-of-way.

g. The Project would increase the infiltration of stormwater runoff into groundwater.

## 4. Vegetation

Will the proposal result in:

a. Removal of native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES system?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Removal of riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table?

☒ Yes ☐ No
☐ No, With Mitigation ☐ Data Insufficient

c. Introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

d. Change in the diversity or distribution of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora and aquatic plants)?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

e. Reduction of the numbers of any unique, rare or endangered species of plants?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

f. Removal of stream bank and/or backshore vegetation, including woody vegetation such as willows?

☒ Yes ☐ No
☐ No, With Mitigation ☐ Data Insufficient

g. Removal of any native live, dead or dying trees 30 inches or greater in diameter at breast height (dbh) within TRPA's Conservation or Recreation land use classifications?

☒ Yes ☐ No
☐ No, With Mitigation ☐ Data Insufficient

h. A change in the natural functioning of an old growth ecosystem

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

*Explanation:*

b. Some removal of riparian vegetation may be required. Removal of riparian vegetation would be kept to a minimum. Efforts to restore previously disturbed areas would be attempted where possible. Some trees and vegetation may be removed where basin and other drainage facilities are proposed. Impacts on trees and existing vegetation would be minimized during the design of the drainage facilities.

f. Construction at streambanks and creeks would be minimized, as would the removal of woody vegetation.

g. The proper permits will be obtained before the removal of any native live, dead, or dying trees that measure 30 inches in dbh or more within land classified for Conservation or Recreation uses.

## 5. Wildlife

Will the proposal result in:

a. Change in the diversity or distribution of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, mammals, amphibians or microfauna)?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Reduction of the number of any unique, rare or endangered species of animals?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

d. Deterioration of existing fish or wildlife habitat quantity or quality?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

## 6. Noise

Will the proposal result in:

a. Increases in existing Community Noise Equivalency Levels (CNEL) beyond those permitted in the applicable Plan Area Statement, Community Plan or Master Plan?

☒ Yes ☐ No
☐ No, With Mitigation ☐ Data Insufficient

b. Exposure of people to severe noise levels

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

c. Single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

*Explanation:*

a. The Project would not contribute any new traffic and therefore would not change traffic-related noise levels with respect to the TRPA CNEL noise thresholds. The noise thresholds could be exceeded temporarily during heavy or sustained construction activities. TRPA-approved construction projects are exempt from the TRPA Noise Ordinance if the construction activities occur between 8:00 a.m. and 6:30 p.m.

## 7. Light and Glare

Will the proposal:

a. Include new or modified sources of exterior lighting?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Create new illumination, which is more substantial than other lighting, if any, within the surrounding area?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

c. Cause light from exterior sources to be cast off –site or onto public lands?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

d. Create new sources of glare through the siting of the improvements or through the use of reflective materials?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

## 8. Land Use

Will the proposal:

a. Include uses which are not listed as permissible uses in the applicable Plan Area Statement, adopted Community Plan, or Master Plan?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Expand or intensify an existing non-conforming use?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

## 9. Natural Resources

Will the proposal result in:

a. A substantial increase in the rate of use of any natural resources?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Substantial depletion of any non-renewable natural resource?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

## 10. Risk of Upset

Will the proposal:

a. Involve a risk of an explosion or the release of hazardous substances including, but not limited to, oil, pesticides, chemicals, or radiation in the event of an accident or upset conditions?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Involve possible interference with an emergency evacuation plan?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

## 11. Population

Will the proposal:

a. Alter the location, distribution, density, or growth rate of the human population planned for the Region?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Include or result in the temporary or permanent displacement of residents?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

## 12. Housing

Will the proposal:

a. Affect existing housing, or create a demand for additional housing?

To determine if the proposal will affect existing housing or create a demand for additional housing, please answer the following questions:

(1) Will the proposal decrease the amount of housing in the Tahoe Region?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

(2) Will the proposal decrease the amount of housing in the Tahoe Region historically or currently being rented at rates affordable by lower and very-low-income households?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Will the proposal result in the loss of housing for lower-income and very-low-income households?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

Number of Existing Dwelling Units: **N/A**

Number of Proposed Dwelling Units: **N/A**

## 13. Transportation/Circulation

Will the proposal result in:

a. Generation of 100 or more new Daily Vehicle Trip Ends (DVTE)?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Changes to existing parking facilities, or demand for new parking?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

c. Substantial impact upon existing transportation systems, including highway, transit, bicycle or pedestrian facilities?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

d. Alterations to present patterns of circulation or movement of people and/or goods?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

e. Alterations to waterborne, rail or air traffic?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

f. Increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

## 14. Public Services

Will the proposal have an unplanned effect upon, or result in a need for new or altered governmental services in any of the following areas?

a. Fire protection?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Police protection?
- ☐ Yes
- ☒ No
- ☐ No, With Mitigation
- ☐ Data Insufficient

c. Schools?
- ☐ Yes
- ☒ No
- ☐ No, With Mitigation
- ☐ Data Insufficient

d. Parks or other recreational facilities?
- ☐ Yes
- ☒ No
- ☐ No, With Mitigation
- ☐ Data Insufficient

e. Maintenance of public facilities, including roads?
- ☐ Yes
- ☒ No
- ☐ No, With Mitigation
- ☐ Data Insufficient

f. Other governmental services?
- ☐ Yes
- ☒ No
- ☐ No, With Mitigation
- ☐ Data Insufficient

## 15. Energy

Will the proposal result in:

a. Use of substantial amounts of fuel or energy?
- ☐ Yes
- ☒ No
- ☐ No, With Mitigation
- ☐ Data Insufficient

b. Substantial increases in demand upon existing sources of energy, or require the development of new sources of energy?
- ☐ Yes
- ☒ No
- ☐ No, With Mitigation
- ☐ Data Insufficient

## 16. Utilities

Except for planned improvements, will the proposal result in a need for new systems, or substantial alterations to the following utilities:

a. Power or natural gas?
- ☐ Yes
- ☒ No
- ☐ No, With Mitigation
- ☐ Data Insufficient

b. Communication systems?
- ☐ Yes
- ☒ No
- ☐ No, With Mitigation
- ☐ Data Insufficient

c. Utilize additional water which amount will exceed the maximum permitted capacity of the service provider?
- ☐ Yes
- ☒ No
- ☐ No, With Mitigation
- ☐ Data Insufficient

d. Utilize additional sewage treatment capacity which amount will exceed the maximum permitted capacity of the sewage treatment provider?
- ☐ Yes
- ☒ No
- ☐ No, With Mitigation
- ☐ Data Insufficient

e. Storm water drainage?
- ☐ Yes
- ☒ No
- ☐ No, With Mitigation
- ☐ Data Insufficient

f. Solid waste and disposal?
- ☐ Yes
- ☒ No
- ☐ No, With Mitigation
- ☐ Data Insufficient

## 17. Human Health

Will the proposal result in:

a. Creation of any health hazard or potential health hazard (excluding mental health)?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Exposure of people to potential health hazards?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

## 18. Scenic Resources/Community Design

Will the proposal:

a. Be visible from any state or federal highway, Pioneer Trail or from Lake Tahoe?

☒ Yes ☐ No
☐ No, With Mitigation ☐ Data Insufficient

b. Be visible from any public recreation area or TRPA designated bicycle trail?

☒ Yes ☐ No
☐ No, With Mitigation ☐ Data Insufficient

c. Block or modify an existing view of Lake Tahoe or other scenic vista seen from a public road or other public area?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

d. Be inconsistent with the height and design standards required by the applicable ordinance or Community Plan?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

e. Be inconsistent with the TRPA Scenic Quality Improvement Program (SQIP) or Design Review Guidelines?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

*Explanation:*

a. The Project is located on and immediately adjacent to SR 89.

b. The Project is visible from the South Lake Tahoe City Bike Path, Camp Richardson, and campgrounds on U.S. Department of Agriculture (USDA) Forest Service land adjacent to SR 89.

## 19. Recreation

Does the proposal:

a. Create additional demand for recreation facilities?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Create additional recreation capacity?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

c. Have the potential to create conflicts between recreation uses, either existing or proposed?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

d. Result in a decrease or loss of public access to any lake, waterway, or public lands?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

## 20. Archaeological/Historical

a. Will the proposal result in an alteration of or adverse physical or aesthetic effect to a significant archaeological or historical site, structure, object or building?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Is the proposed project located on a property with any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official maps or records?

☒ Yes ☐ No
☐ No, With Mitigation ☐ Data Insufficient

c. Is the property associated with any historically significant events and/or sites or persons?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

d. Does the proposal have the potential to cause a physical change, which would affect unique ethnic cultural values?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

e. Will the proposal restrict historic or pre-historic religious or sacred uses within the potential impact area?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

*Explanation:*

b. A total of 15 cultural resources are located in the Project area. Of these 15 resources, 12 are recorded on maps at the North Central Information Center of the California Historical Resources Information System and the Forest Service's Lake Tahoe Basin Management Unit, and three were recorded during recent cultural resource investigations. One of these resources—archaeological site CA-ELD-180/H (USFS 05-19-67)—has been determined eligible for listing in the National Register of Historic Places. This site will be avoided by the use of Environmentally Sensitive Areas and monitoring.

## 21. Findings of Significance

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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 or Nevada history or prehistory?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one, which occurs, in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.)

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environmental is significant?)

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

d. Does the project have environmental impacts which will cause substantial adverse effects on human being, either directly or indirectly?

☐ Yes ☒ No
☐ No, With Mitigation ☐ Data Insufficient

**Declaration**

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signature **(Original signature required.)**

_____ At _____ Date _____
Person Preparing Application County

**Applicant Written Comments:** (Attach additional sheets if necessary)

**FOR OFFICE USE ONLY**

Date Received _____ By: _____

Determination:

On the basis of this evaluation

The proposed project could not have a significant effect on the environment and a finding of no significant effect shall be prepared in accordance with TRPA's Rules of Procedure.

☐ Yes ☐ No

The proposed project could have a significant effect on the environment, but due to the listed mitigation measures which have been added to the project, could have no significant effect on the environment and a mitigated finding of no significant effect shall be prepared in accordance with TRPA's Rules and Procedures.

☐ Yes ☐ No

The proposed project may have a significant effect on the environment and an environmental impact statement shall be prepared in accordance with this chapter and TRPA's Rules of Procedure

☐ Yes ☐ No

_____ Date: _____

Signature of Evaluator

_____

Title of Evaluator

# Appendix G Title VI Policy Statement

**DEPARTMENT OF TRANSPORTATION**
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*Flex your power!*
*Be energy efficient!*

January 14, 2005

# TITLE VI
# POLICY STATEMENT

The California Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, and age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

WILL KEMPTON
Director