Chapter 1. Proposed Project

The California Department of Transportation (Caltrans) proposes to improve the quality of storm water runoff for a segment of United States Route 50 (US 50) in the Lake Tahoe Basin. The El Dorado 50, Segment 2 – Lake Tahoe Airport to US 50/SR 89 Junction Water Quality Improvement Project (the project) will involve installing slope stability and protection measures, and installing facilities to collect and direct storm water runoff from the state highway and right-of-way. The project is needed to meet 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). Figure 1-1 shows the project vicinity.

Caltrans is the lead agency for the project, pursuant to the California Environmental Quality Act (CEQA). As of July 2007, Caltrans has been delegated the responsibility for certain reviews and approvals formerly performed by the FHWA, including the approval of Categorical Exclusions in accordance with the National Environmental Policy Act (NEPA). If it is determined that the project would have no significant adverse environmental impacts, Caltrans will approve a Negative Declaration under CEQA and a Categorical Exclusion under NEPA.

1.1. Location and Route Description

The project is located in El Dorado County approximately 1.5 miles south of Lake Tahoe. The proposed project limits extend for approximately 1.7 miles along US 50 from the Lake Tahoe Airport to the "Y" junction of US 50 and SR 89 in the City of South Lake Tahoe, California (Figure 1-2). The project limits are within the City of South Lake Tahoe except for approximately 0.25 mile at the southern limit, which is an unincorporated area. This segment of US 50 is relatively flat. Lands along this segment are primarily divided into individual private parcels, both developed and undeveloped. The Lake Tahoe Airport is adjacent to this segment on the east.

The proposed project is one of eight segments of US 50 and SR 89 in El Dorado County where similar water quality improvements are proposed. This project is also referred to as "US 50 Segment 2."

1.2. Project Purpose

The purpose of the project is to implement NPDES requirements and water quality elements of the Lake Tahoe Basin EIP that relate to US 50 between the Lake Tahoe Airport and the "Y" junction of US 50 and SR 89 in the City of South Lake Tahoe. In meeting this purpose, the project will apply current roadway design standards where feasible.

1.3. Need for the Proposed Improvements

1.3.1. Background

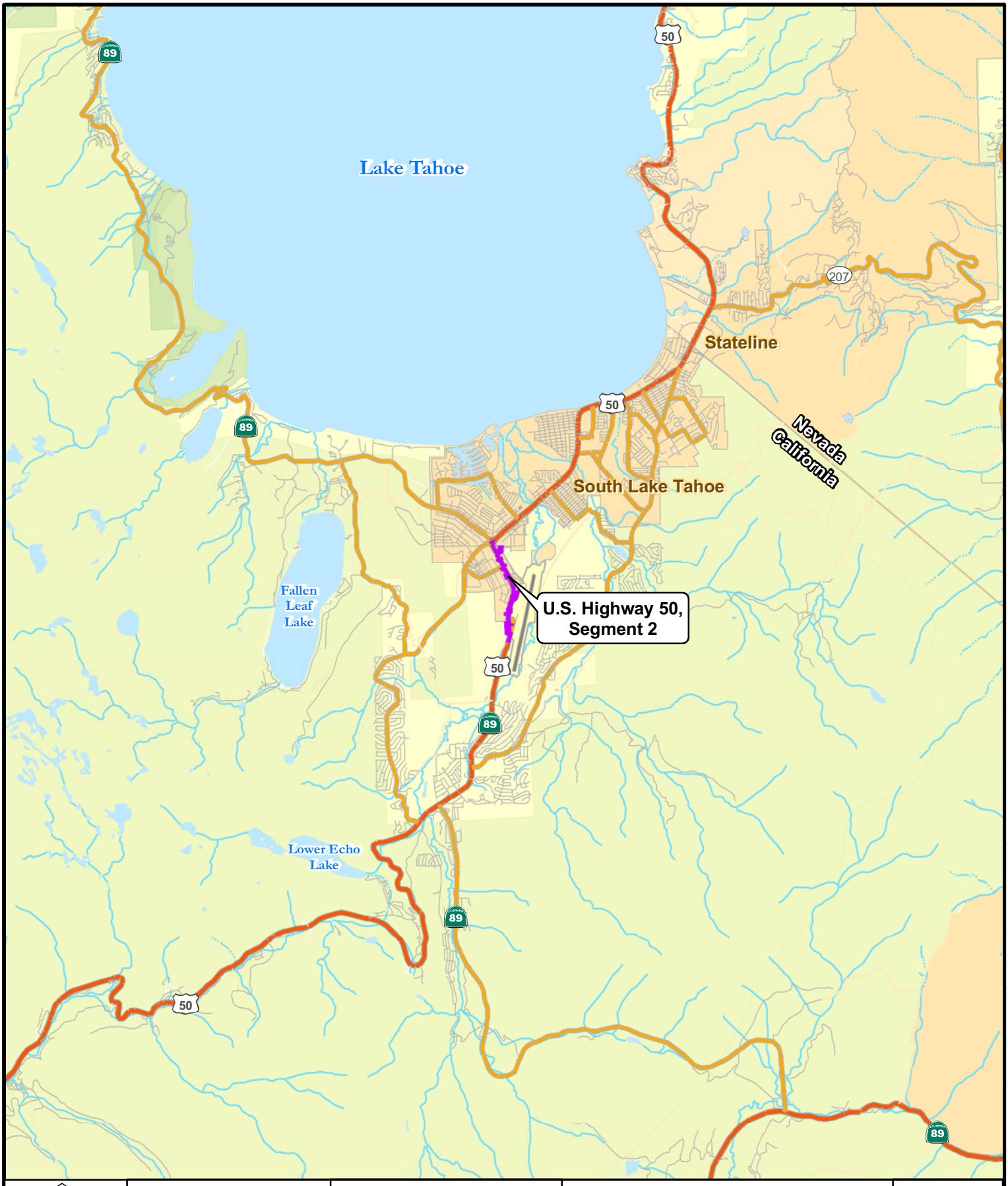
The Lake Tahoe Basin EIP, approved in 1998, included elements that would improve the quality of storm water runoff to Lake Tahoe. The Lake Tahoe region has experienced environmental degradation for the past 100 years, most notably in the lake's water clarity and the health of the basin's forestlands. The lake's clarity, which reflects water quality, has become the primary measure of the basin's environmental health and has steadily declined over the past several decades.

The objective of the Lake Tahoe Basin EIP is to achieve the environmental threshold carrying capacities required by Public Law 96-551 and adopted for the Tahoe Region in 1982 by the Tahoe Regional Planning Agency (TRPA).

Both the EIP and the Lahontan Regional Water Quality Control Board's (LRWQCB's) 1995 *Water Quality Control Plan for the Lahontan Region, North and South Basins* (Basin Plan), as referenced in Caltrans' Statewide NPDES Permit, are linked in time and purpose in the area of water quality. Both require retrofitting the state highway system to stabilize eroding slopes and meet specific storm water collection, treatment, and transport standards by 2008.

1.3.2. Tahoe Regional Planning Agency

The TRPA was created with the authority to plan, oversee, and regulate development within the bi-state Tahoe region, which includes the state highways. Environmental threshold carrying capacities were established for Lake Tahoe by Public Law 96-551 and adopted for the Lake Tahoe Region in 1982. The Tahoe Regional Planning Compact charges TRPA with attaining and maintaining these environmental threshold carrying capacities to protect the unique values of the Lake Tahoe Basin. The nine categories of environmental thresholds are as follows:



	Caltrans	U.S. Highway 50 - Segment 2 ED-50 PM 73.7/75.4 Lake Tahoe Basin - TO 47	Study Vicinity Map	Figure 1-1

End U.S. Highway 50, Segment 2

Begin U.S. Highway 50, Segment 2

0 1,500 3,000 6,000 9,000 12,000 Feet

1:24,000

1 inch equals 2,000 feet

Project Study Area

Caltrans

U.S. Highway 50 - Segment 2
ED-50 PM 73.7/75.4

Lake Tahoe Basin - TO 47

Figure 1-2:
Project Study Area

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- Water Quality
- Wildlife
- Vegetation
- Soil Conservation
- Fisheries
- Noise
- Recreation
- Air Quality/Transportation
- Scenic Resources/Community Design

The TRPA's *Regional Plan for the Lake Tahoe Basin: Goals and Policies* (TRPA 2004) establishes the overall approach to meeting the threshold standards. Various elements of the Regional Plan address specific environmental and planning topics, and TRPA's Plan Area Statements and Community Plans identify goals for specific land use areas throughout the Tahoe Basin. The plans and policies are ultimately implemented through the TRPA Code of Ordinances, which regulates all proposed projects and activities.

1.3.3. Executive Order 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. Executive Order 13057 created a federal partnership of five cabinet-level agency secretaries and called for a Memorandum of Agreement between the federal partnership, the States of California and Nevada, the TRPA, and the Washoe Tribal Government to facilitate coordination and cooperation. The Memorandum of Agreement was subsequently signed by the Governor of California, and it affirmed a commitment to manage and protect Lake Tahoe's natural resources; to achieve and maintain the previous environmental thresholds; and to 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 reaffirms California's commitment to protecting and restoring the environmental quality of Lake Tahoe.

The EIP identifies restoration, capital improvement, and operational modification work in eight of the nine environmental threshold areas. Approximately 83 EIP projects involve California highways in the Tahoe Basin. Caltrans has capital funding involvement with approximately 28 highway projects and is the lead agency for 20 projects, including proposed water quality improvements on US 50.

1.3.4. National Pollutant Discharge Elimination System Permit Requirements

In 1987, the Clean Water Act (CWA) was amended to include Section 402(p), which established a framework for regulating municipal and industrial storm water discharges under the NPDES. Caltrans was issued a Statewide NPDES Permit (Order No. 99-06-

DWQ, NPDES No. CAS000003; Statewide Permit) from the State Water Resources Control Board (SWRCB) on July 15, 1999. The Statewide Permit incorporates the provisions of the Basin Plan, which contains additional requirements that have historically applied to Caltrans permits. The Basin Plan includes numerical effluent limitations for storm water discharges within the Lake Tahoe Hydrologic Unit (LTHU).

The Statewide Permit requires storm water/urban runoff collection, treatment, and/or infiltration disposal facilities to be designed, installed, and maintained for the discharge of storm water runoff from all impervious surfaces generated by the 20-year, 1-hour design storm within the LTHU. All Caltrans facilities within the LTHU 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/or receiving water limitations specified in the Basin Plan. The Regional Water Quality Control Board Executive Officer may approve alternative mitigation measures.

Caltrans developed and the SWRCB approved a Storm Water Management Plan that identifies appropriate best management practices (BMPs) to be implemented on projects as site conditions allow. The *Storm Water Quality Handbook: Project Planning and Design Guide* (Caltrans 2007a) was developed to give additional guidance to designers in considering and implementing these BMPs on all projects. The project would improve storm water quality by implementing source control and treatment BMPs as approved in the *Storm Water Quality Handbook*. Source controls include, but are not limited to, preservation of existing vegetation, use of flow conveyance systems, and slope/surface protection systems (vegetated and hard surfaces). Treatment controls to be considered include, but are not limited to, infiltration basins, and sand traps and vaults. Additional drainage systems will be constructed as part of the project to augment these BMPs.

This section describes the proposed project and the No Build Alternative.

1.4. Proposed Build Alternative

1.4.1. Description

The intent of the project is to treat or otherwise improve the quality of storm water runoff that drains from the state right-of-way. To achieve this, the project would construct various water quality and drainage improvements designed to site-specific conditions (e.g., soil, drainage, and topography) and right-of-way availability, while avoiding or minimizing environmental impacts along US 50 Segment 2. The proposed improvements, shown in the maps in Appendix A, consist of the following:

- The existing roadway drainage system will be enhanced by adding Portland Cement Concrete (PCC) or Asphalt Concrete (AC) curbs and gutters at the edges of shoulders and rehabilitating and constructing new drainage inlets and culverts. These features will convey runoff to underground sand collection vaults, sand collection traps, infiltration basins, and meandering ditches for treatment.[1]
- With concurrence from LRWQCB and TRPA, spreading of runoff will be proposed where feasible in Stream Environment Zone (SEZ) areas. Sheet flow will be enhanced in areas where it is determined to provide better runoff treatment than drainage collection facilities.
- Maintenance pullouts will be constructed at sand collection vaults where feasible.
- Existing shoulders will be spot widened where necessary for water conveyance facilities.
- Drainage outfalls will be reconstructed to reduce erosion and convey runoff.
- Erosion control measures will be incorporated on all eroding slopes within the state right-of-way. To provide additional water quality improvements, unvegetated dirt areas adjacent to the shoulder will be landscaped to promote vegetation growth and discourage vehicles from entering. Erodible slopes will also be flattened and protected. Rock slope protection will be used where appropriate.
- A uniform depth AC overlay will be placed over the existing pavement. Failed pavement sections will be dug out and replaced.
- Sand traps and sand vaults will be installed within the project limits.

Most of the improvements can be installed within the existing state right-of-way. Some proposed facilities, such as the new infiltration basins, might require minor acquisition of property or easements to construct and maintain. The project does not involve realignment, expansion, or changes to the existing highway travel lanes other than to accommodate the construction of the proposed water quality improvements.

Construction work will be completed seasonally. The project may require two to three seasons to complete. Periodically, construction may require lane closures to accommodate sufficient and safe work areas. These closures will result in temporary traffic delays, although emergency response vehicles will always have priority access through the work area. Following construction, and between seasons of construction, erosion control and slope stability measures will be applied.

[1] **Sand collection vaults and traps** temporarily detain runoff and capture sand that was applied to icy or snowy roadways to provide traction (Caltrans 2007c). **Infiltration basins** are excavated shallow basins that capture and detain rainfall and snowmelt runoff to remove particles and pollutants before the runoff infiltrates into the ground below.

Utility relocations may be required for construction of the proposed facilities. This may include relocation of above- or below-ground utilities outside of a widened right-of-way.

The proposed Build Alternative was developed by a multidisciplinary team involved in many steps of design and environmental review. A conceptual set of improvements was first identified in 2003 for the Project Study Report (PSR; Caltrans 2003a) and was evaluated for environmental considerations both in the PSR and in a Draft Program Environmental Impact Report (Draft Program EIR; Caltrans 2007b). Some of the proposed improvements were subsequently relocated or eliminated based on design or environmental considerations, such as where proposed drainage features or construction areas might adversely affect biological or known cultural resources. The resulting changes to the design that were incorporated into the proposed Build Alternative avoid nearly all impacts to sensitive resources along this segment. The proposed project will therefore improve the quality of storm water runoff along US 50 while avoiding any substantial environmental or community impacts. No other alternatives were identified that achieve the purpose of the project with minimal impact.

After the public circulation period, all comments will be considered, and Caltrans will make the final determination of the project's effect on the environment.

1.5. No Build Alternative

The No Build Alternative would consist of not implementing the proposed project. Caltrans is required to comply with the Statewide NPDES Permit issued by SWCRB and could be in violation of the requirements of this permit if the proposed project were not constructed.

The No Build Alternative could result in a failure to meet TRPA environmental thresholds for water quality designated in the EIP. This alternative would not address the environmental problems facing the Lake Tahoe Basin, and therefore is not considered a viable alternative.

The No Build Alternative would have a lesser amount of temporary impacts to water resources compared to construction of the proposed project; however, the No Build Alternative would result in a greater amount of water quality deterioration over the long term compared to the proposed project.

1.6. Alternatives Considered but Eliminated from Further Discussion

Although no formal alternatives other than the proposed Build Alternative have been developed, several considerations have been made about the placement of water quality improvement features throughout the project limits. Many potential locations for infiltration basins have been rejected due to topography, soil properties, possible conflict with SEZs or wetlands, conflict with utilities, or presence of cultural resources.

Basin locations were selected based on the following criteria:

- At or near the discharge point of runoff from state right-of-way
- Downgradient from the discharge point of runoff from state right-of-way
- Flat or gently sloping topography
- Undeveloped
- Not in an obvious SEZ
- Not in a floodplain
- Accessible by construction and maintenance equipment
- Greater than 100 feet upgradient or 10 feet downgradient of structural foundations
- Not above a known underground hazardous waste plume

The proposed improvements are also based on recent research and testing of a range of technologies and treatment measures that could be implemented along the state highways to comply with project requirements. Pilot facilities for runoff treatment have been designed and implemented in the Tahoe Basin and elsewhere in California, and development and testing are still under way. The *Storm Water Quality Handbooks: Project Planning and Design Guide* (Caltrans 2007a) identifies BMPs that are approved for implementation, and new technologies and treatments are being developed and tested through pilot programs. The proposed improvements are limited to approved BMPs, but new technologies will be considered if they are approved for implementation within the time frame of development of the project.

1.7. Permits and Approvals Needed

Permits would be required from local, state, and federal agencies depending on the jurisdiction of each agency. The following agencies may require permits for approval or review:

Agency	Permit/Approval	Status
U.S. Army Corps of Engineers (USACE)	• Section 404 permit.	• Draft wetland delineation completed and will be provided to USACE for review/verification. • Permit application will be submitted during final design phase.
State Historic Preservation Officer (SHPO)	• Section 106 National Historic Preservation Act Consultation.	• Records review and resource inventory completed. • SHPO concurrence with findings of eligibility and avoidance.
California Department of Fish and Game (CDFG)	• Section 1602 Permit/Streambed Alteration.	• Permit application will be submitted during final design phase.
LRWQCB	• Section 401 Certification/NPDES. • May require an exemption to the Basin Plan, which prohibits disturbance in an SEZ.	• Permit application will be submitted during final design phase. • Application for exemption, if needed, will be submitted during final design phase.
TRPA	• Permit.	• Permit application will be submitted during final design phase.
City of South Lake Tahoe	• Encroachment permit.	• Permit application will be submitted during final design phase.
El Dorado County	• Encroachment permit.	• Permit application will be submitted during final design phase.