This section describes the proposed Program improvements and how they would be implemented. The No Project alternative is also described.

2.1 PROPOSED PROGRAM

The proposed stormwater control, treatment, and roadway improvements are described as an overall Program consisting of eight highway segments. The Program is considered the preferred alternative. The Program proposes to comply with the NPDES permit requirements and to improve stormwater quality by collecting and treating the stormwater runoff from the highway by implementing the following improvements where feasible and warranted:

- Spot widen roadway shoulders and construct asphalt concrete (AC) or Portland Cement Concrete (PCC) dikes if necessary to convey stormwater runoff.
- Construct retaining walls where required to facilitate shoulder widening
- Construct new cut and fill slopes where necessary to install proposed facilities
- Pave some existing unsurfaced pullouts
- Install maintenance turnouts
- Rehabilitate existing and install new drainage systems (including infiltration basins and water conveyance systems)
- Install traction sand traps
- Provide maintenance pullouts for servicing of proposed facilities such as sand traps
- Provide rock slope protection
- Flatten and protect erodible slopes for erosion control
- Revegetate bare or erodible areas
- Where feasible and permitted by the RWQCB, allow sheet flow off of roadways where longitudinal basins are proposed, and allow spreading of runoff water where feasible in Stream Environment Zone (SEZ) areas.
- Pave all existing driveway connections within state right-of-way
- Place AC overlay (45 millimeters [mm] [1.8 inches])
- Dig out failed pavement sections prior to overlay

In addition, the Program would provide pavement cross-slope correction along US 50 Segment 3, which may include reconstruction of entire roadway structural sections.

Conceptual locations for potential infiltration basins were identified during the development of the Project Study Reports for US 50 and SR 89. The Program improvements were developed with input and coordination among Caltrans multifunctional units specializing in design, materials, traffic, constructability, safety, and environmental review. 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 Program 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 Best Management Practices (BMPs) that are approved for implementation, and new technologies and treatments are being developed and tested through pilot programs. The proposed Program of improvements is limited to approved BMPs, but new technologies will be considered if they are approved for implementation within the time frame of development of each project segment.

Preliminary design review and input was provided by staff from the Lahontan RWQCB, the TRPA, El Dorado County, the Caltrans TRPA Coordinator, and the Caltrans District 3 Landscape and Design units who conducted field reviews of the US 50 and SR 89 segments. Appendix B summarizes the initial feasibility assessment and comments.

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 by maintenance equipment. To accommodate flexibility in the planning and design of the proposed facilities, a broad study area was defined that encompassed most of the anticipated improvements. This study area is shown on the figures in Appendix A.

2.1.1 Design, Right-of-Way Acquisition, and Construction

The proposed Program elements discussed and described in this Program EIR are considered preliminary. Program design and construction will proceed in segments, described in Section 1.2. As each segment is advanced for funding, additional design work will be completed, ultimately leading to development of Plans, Specifications, and Estimates (PS&E). Where basins and other facilities are proposed that are outside of the existing state right-of-way, portions of parcels or entire parcels may be required as new right-of-way for drainage easements. The right-of-way phase will identify the necessary parcels, and established right-of-way easement and property acquisition procedures will be followed. At the time of preparation of this Program EIR, only conceptual, proposed facilities and a study area have been identified. Further development of the design together with environmental and public review will be completed for each segment.

All construction will take place between 8:00 a.m. and 6:30 p.m., when construction noise is exempt from TRPA Code of Ordinances noise thresholds. Construction will require clearing of vegetation where facilities will be installed. Tree removal can be minimized through further refinement of basin and facility design but will be necessary in some locations. State, regional, and local vegetation and tree removal requirements and permitting will be followed. Erosion control measures and plans will be developed and required of the contractor during construction, and seasonal restrictions applicable to projects in the Tahoe Basin will be followed. As noted previously, as specific projects and segments advance in planning and design beyond this program EIR, additional review will be performed as necessary.

Construction will include the removal and replacement of existing pavement and the installation of new paved areas along the highways. Any widening of the roadway might require extensive earthwork and disturbance of existing slopes. New cutslopes will be stabilized with rock-slope protection and/or vegetation. TRPA scenic threshold criteria will be considered in the design of the 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. Excavated earth and materials not reused at project sites or elsewhere will be disposed of by the contractors at appropriate disposal facilities. The contractors may have to use controlled blasting at locations where existing rock prevents or substantially impairs excavation. Permanent, long-term BMPs, including asphalt dikes and new drainage systems, will be implemented for controlling the potential impacts to existing waterways or storm drainage facilities.

2.1.2 Traffic Management and Controls

2.1.2.1 Construction Traffic and Traffic Management Plan

Restrictions on traffic, including one-way lane closures and temporary road closures, would be required to construct some of the improvements. Lane and road closures would be needed where work would be performed within or close to traffic lanes. Closures would also be needed to provide access and work areas sufficient to accelerate work schedules and allow completion of the proposed improvements within the limited seasonal work periods allowed in the Tahoe Basin.

A Traffic Management Plan (TMP) would be developed as part of the final design phase of each project. The TMP would include construction restrictions that meet the requirements for work planned in the Tahoe Basin. The TMP may include installing Traffic Operations Systems to provide current construction, traffic, and detour information; developing a master construction schedule to ensure minimal traffic disruption; coordinating with local and state agencies to minimize conflicting construction operations; and staging/sizing contractor construction efforts to stabilize the total workforce on the roads at any time. An additional measure includes restricting lane closures in the Basin from July 1 through Labor Day with no lane closures allowed from Friday after noon through Sunday. Lane closure charts would be developed as part of the TMP to address the restrictions and planned closures. Work off of the highway that does not impact traffic flow would be allowed within the work window mentioned above.

Table 2-1 summarizes preliminary construction traffic management requirements, which would be refined as each project segment is designed. The potential lane closures, changes, and timing described are representative of the possible construction changes and are therefore preliminary and approximate. It is important to note that construction activities would be transient within each segment, meaning that, at any one location, construction may be completed well within the time frames noted below and the work crews and equipment would move to another location as work proceeds within a highway segment.

2.1.3 Right-of-Way Requirements

New right-of-way would be required where some facilities are proposed that are outside of the existing state right-of-way for US 50 and SR 89. New right-of-way would be needed for the proposed basins, shoulder widening, and utility relocation, among other needs. The following preliminary right-of-way requirements are anticipated:

- US 50: 32 parcels
- SR 89: 174 parcels

To allow for construction, temporary access to or use of lands outside of the permanent right-of-way would be required. This 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. Construction easements would be defined during PS&E preparation for each project. The study area for the Program extends along both sides of US 50 and SR 89 and was defined to allow room for construction access and activities where easements would ultimately be obtained.

2.1.4 Culverts, Retaining Walls, and Slope Protection

Culverts in poor condition will be lined or replaced. Retaining walls might be constructed at various locations, primarily to allow for widening of shoulders and pullouts and/or installation of drainage facilities. Soil nail walls[2] would also be used as a construction alternative to retaining walls. Where applicable, the use of soil nail walls can facilitate construction while reducing traffic and environmental impacts. Slope protection measures requiring new walls or other structures would be required to comply with TRPA's aesthetics thresholds.

Table 2-1 Conceptual Staged Construction Lane Closure Requirements

US 50	
Segment 1	**Old Meyers Road to east of Incline Road**
Meyers Road to Chiapa Drive	Construction may be limited to daytime work with one lane closed (traffic is allowed use of the single lane in alternating directions under the control of flagmen and pilot cars, as necessary)
Chiapa Drive to Pioneer Trail Road	Use of existing left-turn lanes and wide shoulders may be possible to keep two-way traffic open during construction.
Pioneer Trail Road to east of Incline Road	Temporary one-way traffic control will likely be required.
US 50 Segment 1 construction time: Overall construction time within this segment is estimated to require three to four construction seasons.	
Segment 2	**Airport Road to the US 50/SR 89 "Y"**
Airport Road to "E" Street	One-way traffic control will be required.
"E" Street to US 50/SR 89 "Y"	Four-lane highway, which may allow two-way traffic to be maintained with some lane closures and traffic management.
US 50 Segment 2 construction time: One-construction season for the overall segment.	
Segment 3	**Ski Run Boulevard to the Nevada State Line**
Entire segment	Segment 3 has four lanes with a continuous left-turn lane. Two-way traffic can be maintained with some lane closures.
US 50 Segment 3 construction time: Two construction seasons for the overall segment.	

[2] Soil nailing is a method of construction that reinforces existing ground or an excavated cut by installing "nails" or anchors into the cut to provide reinforcement. The face of the cut is then treated or covered to prevent erosion.

Table 2-1 Conceptual Staged Construction Lane Closure Requirements (concluded)

SR 89	
Segments 1, 2, 4, and 5	**Alpine County line to the US 50/SR 89 Intersection, US 50/SR 89 "Y" to Cascade Road, and North of the Eagle Falls Sidehill Viaducts to the Placer County Line**
Entire segments	Except for within South Lake Tahoe, these segments generally consist of one lane in each direction, with varying shoulder widths. Construction will be limited to daytime with one-way traffic control with the use of flagmen. Use of pilot cars may be required at various locations along these segments. Where left-turn lanes and wide shoulders allow, two-way traffic flow will be managed.
SR 89 Segments 1, 2, 4 and 5: Construction is estimated to take three to four seasons overall	
Segment 3	**Cascade Road to North of the Eagle Falls Sidehill Viaducts**
Entire segment	One-way traffic control will be required with the possibility of longer periods of lane closures.
SR 89 Segment 3 construction time: Estimated to take about two to three seasons	

2.1.5 Utilities

Utility relocations may be required for construction of the proposed facilities. This could include relocation of aboveground or belowground utilities outside of a widened roadway shoulder or right-of-way. The study area for the Program includes areas outside of the roadway and right-of-way, and although the specific needs for any utility relocation would not be defined until the final design of each segment, the relocations are expected to be within the areas evaluated in this report. This will be verified during the final design, and any further environmental review will be performed as necessary for each specific project.

2.2 NO PROJECT ALTERNATIVE

The No Project Alternative would consist of not implementing the EIP projects for which Caltrans is the lead agency. Caltrans would construct none of the improvements listed in Section 2.1. Caltrans is required to comply with the Statewide NPDES permit issued by SWRCB and would be in violation of the requirements of this permit if the proposed Program is not constructed.

The No Project Alternative would result in failure to meet the Program purpose. This alternative would not address the environmental problems facing the Lake Tahoe Basin, and therefore is not considered a viable alternative with respect to the purpose and need.

The No Project Alternative would not directly impact the resources discussed in this report, including biological and cultural resources and parklands.

2.3 NECESSARY APPROVALS AND PERMITS

2.3.1 California Environmental Quality Act and National Environmental Policy Act

This program EIR addresses the planned improvements within Segments 1 through 3 on US 50 and Segments 1 through 5 on SR 89. As segments are advanced for further consideration, they would be reviewed based on site-specific design work and timing of construction. For a specific project, Caltrans may propose mitigation measures consistent with this EIR to reduce impacts to

subsequent levels that are less than significant. If necessary, the project segments may be subject to follow-up environmental review consistent with CEQA. If federal approval or involvement is necessary (such as federal funding allocated through the Federal Highway Administration [FHWA]), the segments may require environmental review consistent with the National Environmental Policy Act (NEPA) and the U.S. Department of Transportation Section 4(f) requirements. Any project that affects National Forest lands must comply with NEPA regardless of funding source.

2.3.2 Permits and Approvals

Permits would be required from local, state, and federal agencies depending on the jurisdiction of each agency with respect to each specific project that is advanced for review. The following agencies may require permits, approvals, or review:

- U.S. Army Corps of Engineers (USACE) (Section 404 permit)
- U.S. Fish and Wildlife Service (USFWS) (Section 7 consultation)
- State Historic Preservation Officer (SHPO)
- U.S. Department of Agriculture Forest Service (Forest Service), Lake Tahoe Basin Management Unit (LTBMU) (easement or Special Use permit)
- California Department of Fish and Game (CDFG) (Section 1602 permit/Streambed Alteration)
- SWRCB and RWQCB (Section 401 permit/NPDES)
- TRPA
- California State Parks (encroachment permit)
- El Dorado County
- City of South Lake Tahoe (encroachment permits)

2.3.3 Further Environmental Review and Documentation

Further environmental review and documentation will be completed for each Program segment. The appropriate type of environmental document or approval for each segment will be determined based on the potential for impacts and whether they can be avoided. Categorical Exemptions (CEQA) and Categorical Exclusions (NEPA) will be prepared where the Program segments meet the definition of Categorical Exemptions and/or Exclusions and all significant impacts are avoided (without mitigation). If Categorical Exemptions and/or Exclusions are not appropriate, Initial Studies/Negative Declarations and Environmental Assessments/Findings of No Significant Impact will be prepared. None of the segments is anticipated to require an Environmental Impact Report or Environmental Impact Statement at this time.

2.4 AREAS OF KNOWN OR POTENTIAL CONTROVERSY

The proposed Program would be beneficial to water quality but would require new right-of-way along the highways, which would impact existing public and private landowners. All property

acquisition would follow state law and established guidelines. As part of state and federal procedures, Caltrans would appraise properties needed for right-of-way and make offers to landowners to acquire the rights and follow eminent domain guidelines to both construct and maintain new permanent drainage and roadway improvements.

Construction would take place along and within the existing highways, which would temporarily cause traffic delays and disrupt existing parking availability along the shoulders, and may lead to the permanent loss of parking in some areas. Mitigation in the form of public information and notification about construction activities would be provided to allow drivers to anticipate delays and disruption and to plan accordingly. However, some level of delays would be unavoidable depending on the location and type of work required.

New drainage facilities and roadway improvements would affect existing vegetation and the visual setting. Infiltration basins, slope protection, and drainage facilities would be designed and constructed to blend in with the surroundings.

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