Final Program Environmental Impact Report

El Dorado 50 and 89 Water Quality Improvement Projects

El Dorado County, California

On US Highway 50 between Old Meyers Road and Nevada State Line and
SR 89 between Alpine and Placer County Lines

03-ED-50 PM 67.6 to 72.9, 73.7 to 75.4, and 79.3 to 80.4

03-ED-89 PM 0.0 to 27.4

03-1A730 and 03-1A845

July 2008

Caltrans Metric

Caltrans

State Clearinghouse Number: 2006102021
03-ED-50 PM 67.6 to 72.9, 73.7 to 75.4, and 79.3 to 80.4
03-ED-89 PM 0.0 to 27.4
EA 03-1A730 and EA 03-1A845

In El Dorado County, California,
On U.S. Highway 50 between Old Meyers Road and Nevada State Line
and State Route 89 between Alpine and Placer County Lines

FINAL PROGRAM ENVIRONMENTAL IMPACT REPORT

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

THE STATE OF CALIFORNIA
Department of Transportation

7/17/08
Date of Approval

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Abstract

Caltrans proposes to implement a program of water quality improvement measures along segments of U.S. Highway 50 and 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. Two alternatives are evaluated in this Program EIR: the proposed Program and the No Project Alternative. Potential project impacts are described, especially with regard to traffic and circulation (temporary impacts), visual resources, wetlands, sensitive habitats, and plant and wildlife species. Mitigation measures for each project segment will be applied where necessary.

The California Department of Transportation (Caltrans) proposes to implement a program of water quality improvement measures along segments of U.S. Highway 50 (US 50) and State Route (SR) 89 in El Dorado County, California, to comply with National Pollutant Discharge Elimination System (NPDES) permit requirements. The proposed stormwater control and treatment measures are described as an overall Program consisting of eight highway segments. The Program is considered the preferred alternative.

This Program Environmental Impact Report (EIR) addresses the proposed Program's potential to have adverse impacts on the environment. It has been prepared to meet the requirements of the California Environmental Quality Act (CEQA). The Program is also subject to other federal, state, regional, and local laws, policies, and guidelines, which are addressed in this EIR.

S.1 Purpose and Need

The purpose of the proposed Program is to implement NPDES permit requirements along with elements of the Lake Tahoe Basin Environmental Improvement Program (EIP) that relate to segments of US 50 and SR 89.

The NPDES requirements arise from goals and objectives to improve the quality of water at Lake Tahoe. The Tahoe Regional Planning Agency (TRPA) is responsible in part for attaining and maintaining established environmental threshold carrying capacities that protect the unique values of the Lake Tahoe Basin, including not only water quality but wildlife, vegetation, soil conservation, fisheries, noise, recreation, air quality, transportation, scenic resources, and community design. The TRPA's goals are implemented through its Code of Ordinances, which regulates all proposed projects and activities at Lake Tahoe. TRPA approval is required for all water quality treatment projects. In addition, a 1997 federal agency partnership with California and Nevada, TRPA, and the Washoe Tribal Government affirmed a commitment to manage and protect the Lake's natural resources, achieve environmental thresholds, and adopt and fund an Environmental Improvement Program, or EIP. The EIP contains specific projects, including many that involve California highways in the Lake Tahoe Basin. The proposed Program addressed in this EIR involves elements of several EIP projects (EIP numbers 9, 993, 995, and 1012).

Caltrans was issued a statewide NPDES permit from the State Water Resources Control Board (SWRCB) in 1999. The Statewide Permit requires that stormwater/urban runoff collection, treatment, and/or 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 Lake Tahoe Hydrologic Unit must be retrofitted to comply with this requirement by 2008. The permit also incorporates provisions of the Water Quality Control Plan for the Lahontan Region (Basin Plan). The Basin Plan contains requirements that apply to Caltrans highways and projects, including effluent limitations for stormwater discharges (i.e., stormwater and snowmelt runoff from the state's highways). Essentially, all stormwater runoff from Caltrans highways must be managed within the state rights-of-way or, if infeasible, treated to meet applicable standards and effluent limitations contained in the Basin Plan unless alternative mitigation is approved by the Regional Water Quality Control Board (RWQCB).

This is a Program EIR that addresses the broad range of improvements in eight segments of state highway in El Dorado County between the areas of approximately the community of Meyers to

Stateline on US 50, and Luther Pass to Tahoma on SR 89. The proposed improvements discussed in this EIR have been developed to a conceptual or preliminary design level only, and further engineering and environmental studies will be completed to refine the specific projects that will be implemented. The EIR therefore evaluates impacts and mitigation at a broad level, including cumulative impacts of the overall Program. As project segments are designed and funded, they will receive more detailed environmental review and documentation. The individual segment environmental reviews will use or "tier off" of this Program EIR and incorporate applicable information from this document.

S.2 Program Alternatives

Two alternatives are evaluated in this Program EIR: the proposed Program and the No Project Alternative. The proposed Program (the preferred alternative), in complying with the NPDES permit requirements, would improve stormwater quality by applying Best Management Practices (BMPs) and implementing improvements for the collection and treatment of stormwater runoff from US 50 and SR 89 where feasible and warranted. These improvements may include, but are not limited to, source controls involving preservation of existing vegetation, use of flow conveyance systems, and slope/surface protection systems. Treatment controls being considered include, but are not limited to, infiltration basins, sand traps, and biofiltration strips and swales. Additional drainage systems will be constructed as part of this Program. To construct the necessary water treatment, control, and conveyance systems, Caltrans may include highway improvements involving widening shoulders, constructing retaining walls, paving unsurfaced pullouts, rehabilitating existing draining systems, reworking slopes and erodible areas, and other activities.

With the No Project Alternative, Caltrans would not construct the improvements outlined in Section 2.1 to comply with the NPDES permit or implement the elements of the EIP. Caltrans is required to comply with the NPDES permit issued by the State Water Resources Control Board (SWRCB) and would be in violation of permit requirements if the proposed Program were not constructed.

S.3 Summary of Potential Impacts and Mitigation

S.3.1 No Project Alternative

No construction-related impacts would result from the No Project Alternative. However, the No Project Alternative would not implement water quality improvement measures along segments of US 50 and SR 89 in El Dorado County to comply with NPDES permit requirements for the Lake Tahoe Basin. In addition, the No Project Alternative would not implement Lake Tahoe Basin EIP improvements and changes.

S.3.2 Program Alternative

Potential impacts and mitigation measures for the Program are summarized in Table S-1. Impacts and mitigation are discussed in detail in Section 3.

Table S-1
Summary of Impacts and Avoidance, Minimization, and Mitigation

Impact Category	Potential Program Impacts	Avoidance/Minimization/Mitigation
Land Use and Community Impacts	CEQA: Temporary construction-related lane closures could cause delays in local circulation and access. Periodic maintenance-related lane closures (for servicing of installed facilities such as sand traps) could also delay circulation and access. However, maintenance pullouts will be included in the project segment designs where feasible. No long-term or permanent impacts are anticipated. TRPA Considerations: Program construction would have temporary traffic and transportation impacts. No changes to Plan Area Statements, population, or community services or facilities are anticipated. The Program is consistent with recreation thresholds.	A Traffic Management Plan (TMP) would outline maximum lane closures and other traffic control elements to be implemented during construction. The TMP will also define construction restrictions and requirements and provide public information about construction times, dates, and locations. Other possible activities include: • Developing construction schedule to minimize roadway/lane closures • Constructing Traffic Operations Systems prior to EIP projects to provide current information for motorists • Setting order of projects to provide minimal overall traffic disruption to the area • Providing public notice for construction activities that may impact recreational facilities • Providing notice before blocking any property, driveway, and access roads; restoring access by the end of each working day • Scheduling maintenance to minimize traffic congestion; paved turnouts may minimize impacts.
Water Quality	CEQA: Temporary construction-related vegetation clearing and excavation would increase the potential to transport exposed soils. No long-term or permanent impacts are anticipated. TRPA Considerations: The Program would improve current water quality conditions and is not expected to have adverse long-term effects.	Temporary construction BMPs and avoidance measures will be applied. These include streambed protection and dewatering or diversions of water flow as necessary (see Section 3.2.4)

Table S-1 (Continued)
Summary of Impacts and Avoidance, Minimization, and Mitigation

Impact Category	Potential Program Impacts	Avoidance/Minimization/Mitigation
Visual Resources	CEQA: The public would be exposed to views of construction materials, equipment, and activities, a temporary construction-related impact. The visual character and quality of the environment may be affected by the construction of retaining walls, concrete drainage structures, and large basins and tree and vegetation removal, a long-term, permanent impact. TRPA Considerations: Program facilities such as widened shoulders, retaining walls, paved pullouts, drainage structures, sand traps, infiltration basins, and erosion control measures will have long-term, permanent impacts.	Include feasible measures to blend the construction of drainage systems (basins and swales), retaining walls, sand vaults and sand traps, and erosion control measures with the natural environment. These measures include designing basins and swales to conform with natural land contours, using rock coloration, surfacing sand vaults and sand traps or locating them out of sight to minimize their visibility, and using vegetation screening. Visual impacts from tree removal would be mitigated through tree plantings.
Wetlands	CEQA: Impacts of preliminary Program plans could include the following. Impacts to jurisdictional wetlands from construction of basins and pullout areas are not anticipated to exceed 10 acres. Impacts from construction of basins and pullout areas to other waters of the United States are not anticipated to exceed 1 acre. TRPA Considerations: The TRPA Code of Ordinances requires mitigation for public works projects in wetland areas.	Avoidance measures include designating wetlands as environmentally sensitive areas (ESAs) to be avoided by construction activities. Where avoidance is not feasible, minimization and mitigation measures include: • Requirements for construction clean-up and construction scheduling • Weed control measures such as equipment washing and staging in weed-free areas and using locally approved species for erosion control or revegetation • Minimal disturbance to creek channels and adjacent areas • Use of construction site BMPs such as erosion control • Temporary settling basins if dewatering is necessary • Riparian and stream habitat restoration • Water quality fees or excess coverage mitigation

Table S-1 (Continued)
Summary of Impacts and Avoidance, Minimization, and Mitigation

Impact Category	Potential Program Impacts	Avoidance/Minimization/Mitigation
Natural Environment	CEQA: Temporary construction-related impacts would consist of loss of vegetation, increased construction noise and activity, and possible impacts to stream channels. Paving and grading activities associated with the construction of retaining walls and installation of drainage facilities could result in long-term, permanent impacts to special-status wildlife and plant species and sensitive habitats. See Section 3.5.3. TRPA Considerations: TRPA special-interest species were identified that have the potential to occur within the study area. Removal of trees could impact existing wildlife habitat, and removal of large trees would require permit approval by TRPA. Any construction work at creek crossings must allow for fish passage. Impacts to Stream Environment Zones (SEZs) from construction of basins and pullout areas are not anticipated to exceed 20 acres. Other Program activities: Specific areal impacts are not available, but types of impacts are described in Section 3.5.3.2.	Avoidance measures include designating wetlands as ESAs to be avoided by construction activities. Minimization and mitigation measures include: • Requirements for construction clean-up and construction scheduling • Preconstruction surveys for Tahoe yellow cress and collection of seeds or bulbs for revegetation • Weed control measures such as equipment washing and staging in weed-free areas and using locally approved species for erosion control or revegetation • Ensure fish passage through streams and water bodies • Preconstruction surveys for amphibians; nesting birds; and roosting, denning, or burrowing mammals • Restriction of work in fish-bearing drainages to low or no flow • Minimal disturbance to creek channels and adjacent areas • Use of construction site BMPs such as erosion control • Temporary settling basins if dewatering is necessary • Riparian and stream habitat restoration • Water quality fees or excess coverage mitigation
Cultural Resources	CEQA: No temporary construction-related impacts are anticipated. Ground-disturbing activities could have long-term, permanent impacts on the integrity of archaeological or historical resources. See Section 3.6.3. TRPA Considerations: No additional impacts are anticipated.	Prior to commencing work at a specific location, the Program's Archaeological Survey Report and Historic Resources Evaluation Report must be reviewed to identify resources in the work vicinity. Any resources in the work vicinity must be considered and avoided if possible. If a resource cannot be avoided, data recovery and further study may be required. If cultural resources are discovered during project activities work will be halted until further review and consultation.

Table S-1 (Continued)
Summary of Impacts and Avoidance, Minimization, and Mitigation

Impact Category	Potential Program Impacts	Avoidance/Minimization/Mitigation
Noise	CEQA: Noise levels would exceed El Dorado County construction noise standards in and around Program construction sites, although levels would vary depending on the activity; this would be a temporary construction-related impact. No long-term or permanent impacts are anticipated. TRPA Considerations: The TRPA Code of Ordinances exempts normal construction from 8 a.m. to 6:30 p.m.; work cannot exceed community noise standards outside these hours.	Standard noise control measures include construction time restrictions, staging restrictions, idling restrictions, and the use of technology to modify/lessen construction equipment noise. Construction noise will be associated with daytime and nighttime activities. Nighttime construction activities will be minimized to the extent possible. It is not anticipated that construction activities will violate TRPA's CNELs or Caltrans' instantaneous noise limits.
Air Quality	CEQA: Dust and particulate emissions would temporarily increase during construction but vary from day to day, depending on location. No long-term or permanent impacts are anticipated. TRPA Considerations: Construction emissions would have a temporary impact and require BMPs as mitigation.	TRPA Coordinator will apply for the required TRPA permits. Additional minimization measures include: • Dust control measures such as watering disturbed areas, limiting areas to be cleared, and limiting the speed of construction vehicles. • Erosion control measures • Engine tune-up and idling restrictions
Hazardous Materials	CEQA: A potential exists for exposure to gasoline, diesel fuel, oil, and lubricants due to operation of construction equipment, a temporary construction-related impact. No long-term or permanent impacts are anticipated. TRPA Considerations: No additional potential exists for increased exposure to health hazards beyond the temporary construction-related impacts noted above.	Certain sites will require a Preliminary Site Investigation prior to commencement of construction activities. Equipment will be available on-site to clean up fuel leaks and spills if they occur. No acutely hazardous materials will be stored on-site.

Table S-1 (Concluded)
Summary of Impacts and Avoidance, Minimization, and Mitigation

Impact Category	Potential Program Impacts	Avoidance/Minimization/Mitigation
Geology	CEQA: No temporary construction-related impacts are anticipated. The construction of retention basins, cut and fill slopes, brow ditches (ditches placed upslope of construction to divert runoff away from the site), and other drainage facilities in unstable soils and/or steep slopes have the potential to result in erosion and/or landslides if improperly constructed. TRPA Considerations: The Program could have long-term, permanent impacts to approximately 20 acres of SEZ lands and 10 acres of wetlands and other waters of the United States due to paving of turnouts and impacts to existing and proposed basins.	Certain sites will require geotechnical investigations to identify soil types prior to the design stage. In addition, standard BMP practices will be implemented, such as revegetation and soil erosion prevention. Construction work for new and existing basins will be designed to minimize SEZ and wetland impacts. The acreage impacts are for worst-case scenarios; actual impacts are expected to be significantly lower.
Growth Inducement	CEQA: The Program would not increase highway capacity or induce growth. No temporary or long-term, permanent impacts are anticipated. TRPA Considerations: No additional impacts.	No mitigation or minimization measures are required.

S.4 Areas of Potential Controversy

S.4.1 Land Use and Community Impacts

The Program would have no effect on population, housing, or development trends, but temporary construction-related traffic congestion would affect local circulation. In the vicinity of Meyers and South Lake Tahoe, US 50 and SR 89 serve as major arterials to access secondary roads and residential areas as well as various commercial and business areas, including the Lake Tahoe Airport. Due to the number of visitors to the Lake Tahoe region and the limited road infrastructure in the area, US 50 and SR 89 can quickly reach capacity during weekends and other peak tourism periods. The areas surrounding Meyers and South Lake Tahoe have among the highest seasonal volumes of tourism activity in the region.

The Program has the potential to create temporary impacts to traffic flow. Temporary lane closures along work areas could require closure of traffic lanes, resulting in delays. Construction activities within the project segments may also cause traffic delays for public transit. Slow-moving construction vehicles accessing or leaving the work areas could also impede through-traffic flow on highways. Wherever possible, at least one lane in each direction would be maintained by using lane width reductions or 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; however, delays in any one area would be temporary as construction progresses along each segment. No long-term or permanent impacts are anticipated.

Public access to popular vista points and recreational areas along the southern shore of Lake Tahoe, such as in and around Emerald Bay, may be affected. Some off-highway parking is available, but at the most popular trailheads and visitor locations, designated parking lots can overflow. Slow-moving vehicles seeking the limited parking spaces in these areas can also create increased congestion or risk of conflicts with through traffic on the highway. During construction, shoulder areas that are sometimes used for parking may be used for work setup and construction staging. Access to some recreational destinations may be further limited or restricted because of these construction needs.

A Traffic Management Plan (TMP) would be developed as part of the final design to minimize traffic congestion and delays. The TMP would include contractor construction restrictions and requirements for different types of work. A master construction schedule for all projects has been developed to minimize overlapping construction sequences and reduce traffic impacts. Additionally, Traffic Operations Systems are proposed in a separate project to be installed before the water quality improvement projects to provide current construction, traffic, and detour information for motorists.

S.4.2 Visual Impacts

Construction activities would be visible to motorists and pedestrians passing through work areas. Residents and business owners/employees would be exposed to construction while work is under way within each segment. Construction activities that could be visible, depending on the location, include possible removal of trees, installation of new infiltration basins and retaining walls, rock blankets and slope protection, shoulder widening, excavation or blasting of rock, and grading of slopes. Impacts would be temporary and seasonal but unavoidable as the work transitions along each segment.

Existing views in the vicinity of Emerald Bay, a National Natural Landmark, could be temporarily affected by construction activities. The steepness of the slopes and the long views in this area could make it difficult to avoid the visibility of construction work or blend it into the natural terrain.

Mitigation for retaining walls should incorporate native rock, rock coloration, and material consistent with surroundings. Wall heights and alignment should be varied if practicable. Locating any large concrete vaults or other structures away from immediate public view, potentially downslope from the roadway, may mitigate the appearance of drainage structures.

Drainage basins should be designed with freeform shapes in and around trees or groups of trees. Planting at basins should be considered using plant materials indigenous to the area. Rock placed for drainage control at the basins or other facilities should be native rock to avoid contrasting with existing site conditions.

Erosion control should consider use of geo-fabric materials overlain by boulders and soil and should incorporate planting holes for indigenous species. Disturbed areas should be replanted.

S.4.3 Wetland Impacts

Portions of the jurisdictional wetlands and other waters of the United States within the study area would be permanently affected by the proposed construction of infiltration basins, the retrofitting of existing basins, the paving of pullout areas along US 50 and SR 89, and other activities. The

proposed activities would have both direct and indirect and temporary and permanent impacts to the waters within these areas.

The impacts to the wetlands will be avoided and/or minimized by designating these features outside of the construction impact area as environmentally sensitive areas (ESAs). ESA provisions should include, but are not limited to, the use of temporary high-visibility orange fencing to delineate the proposed limit of work in areas adjacent to sensitive resources and to delineate and exclude sensitive resources from potential construction impacts. Contractor encroachment into ESAs will be restricted, including the staging and operation of heavy equipment or casting of excavation materials.

Construction would be timed to minimize potential impacts to sensitive biological resources as specified in the mitigation measures for water quality, rare plants, and wildlife. Construction work will be minimal during the fall, winter, and spring.

Specific minimization and mitigation measures for water quality impacts include imposing time restrictions for in-stream activities, minimizing disturbance to creek channels and adjacent areas, and implementing containment measures and construction site BMPs. The riparian and stream habitat disturbed by construction will be stabilized and restored upon the completion of construction activities.

S.4.4 Natural Environment Impacts

Permanent impacts to the natural environment would primarily occur where paving and grading of shoulders and pullouts is performed, new retaining walls are constructed, and drainage facilities (primarily the proposed drainage basins) are installed. This construction would occur along the existing highways and extend outside of the existing right-of-way in locations where new drainage facilities are installed. This could require removal of existing vegetation within the drainage areas and along shoulders that are being widened, such as where cut and fill is necessary along slopes and embankments. Temporary impacts could include loss of vegetation where equipment access and work areas are necessary. Noise levels and construction activities could also cause temporary disturbance to wildlife species.

The Program has the potential to impact a minimum of 10 special-status wildlife species. Potential impacts to sensitive plant species and habitat could include permanent, temporary, and indirect effects. Permanent impacts could include loss or degradation of habitat due to creation of drainage basins. Temporary impacts, which would occur only during the construction period, could include increased erosion and vehicle disturbances of habitat. Indirect effects are those that may result after Program implementation, such as altered hydrology, introduction of invasive nonnative species, or reduced genetic exchange.

Avoidance and mitigation measures include seasonal timing restrictions for construction activities to avoid periods of time when wildlife species are most vulnerable, such as during breeding seasons. Preconstruction surveys would be performed in areas of known habitat for sensitive species to verify whether the species is present; if the species is found, avoidance measures will be applied. Construction contract specifications would include establishing ESAs; imposing construction clean-up, weed control, and erosion control measures; restricting in-stream work; and restoring disturbed vegetation.

Direct and indirect impacts to SEZ areas could occur from the proposed construction of infiltration basins, retrofitting of existing basins, paving of pullout areas on the sides of US 50 and SR 89, and other proposed Program activities. Mitigation will be provided for direct impacts to SEZ areas according to RWQCB policy requirements and TRPA policy.

S.5 Required Approvals and Permits

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 (easement or Special Use permit)
- California Department of Fish and Game (CDFG) (Section 1602 permit/Streambed Alteration)
- SWRCB and Regional Water Quality Control Board (RWQCB) (Section 401 and NPDES)
- Tahoe Regional Planning Agency (TRPA)
- California State Parks (encroachment permit)
- El Dorado County
- City of South Lake Tahoe (encroachment permits)

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List of Acronyms and Abbreviations

°C	degree(s) Celsius
°F	degree(s) Fahrenheit
$\mu g/m^3$	microgram(s) per cubic meter
µg/L	microgram(s) per liter

208 Plan	*Lake Tahoe Basin Water Quality Management Plan* (TPRA n.d.)
AC	asphalt-concrete
AADT	annual average daily traffic
ASR	*Archaeological Survey Report for the Lake Tahoe Basin Environmental Improvement Program* (Condor Country Consulting 2006)
Basin Plan	*Water Quality Control Plan for the Lahontan Region, North and South Basin* (Lahontan RWQCB n.d.)
bgs	below ground surface
BMP	best management practice
BTEX	benzene, toluene, ethylbenzene, and xylenes
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCD	(South Lake Tahoe) Census County Division
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geologic Survey
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CRHR	California Register of Historical Resources
CSU	California State University
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
EIP	(Lake Tahoe Basin) Environmental Improvement Program
EIR	Environmental Impact Report
EPCRA	Emergency Planning and Community Right-to-Know Act

ESA	environmentally sensitive area
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
Forest Service	(U.S. Department of Agriculture) Forest Service
GHG	greenhouse gas
ha	hectare(s)
HRER	*Historical Resources Evaluation Report for the Lake Tahoe Basin Environmental Improvement Program* (JRP Historical Consulting 2006)
ISA	Initial Site Assessment
km	kilometer(s)
KP	kilometer post
L_{eq}	average A-weighted decibel level during a measurement period
L_{max}	maximum noise level during a measurement period
LTBMU	(Forest Service) Lake Tahoe Basin Management Unit
LTHU	Lake Tahoe Hydrologic Unit
LTIMP	Lake Tahoe Interagency Monitoring Program
LTUSD	Lake Tahoe Unified School District
m^2	square meter(s)
MBTA	Migratory Bird Treaty Act
mg/L	milligram(s) per liter
msl	mean sea level
MTBE	methyl tertiary butyl ether
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NDEP	Nevada Department of Environmental Planning
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
NRCS	(U.S. Department of Agriculture) Natural Resources Conservation Service

NRHP	National Register of Historic Places
NTU	Nephlometric Turbidity Unit
O_3	ozone
OHWM	ordinary high water mark
Pb	lead
PM	post mile
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppm	part(s) per million
PS&E	Plans, Specifications and Estimates
PSI	Preliminary Site Investigation
PSR	Project Study Report
ROG	reactive organic gas
RQ	reportable quantity
RRR	Resurfacing, Restoration, and Rehabilitation
RTP-AQP	(TRPA) Regional Transportation Plan–Air Quality Plan
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SCS	(U.S. Department of Agriculture) Soil Conservation Service
SEZ	stream environment zone
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SNFP FEIS	*Sierra Nevada Forest Plan Amendment Final Environmental Impact Statement* (Forest Service 2001)
SO_2	sulfur dioxide
SR	State Route
State Parks	California Department of Parks and Recreation
Statewide Permit	Caltrans National Pollutant Discharge Elimination System Permit Order No. 99-06-DWQ, No. CAS000003
STPUD	South Tahoe Public Utility District
SWMP	Statewide Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board

TART	Tahoe Area Regional Transit
TCPUD	Tahoe City Public Utility District
TMP	Traffic Management Plan
TPH-g	total petroleum hydrocarbons as gasoline
TRPA	Tahoe Regional Planning Agency
TTUSD	Tahoe Truckee Unified School District
US 50	U.S. Highway 50
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
V:H	vertical to horizontal
“Y’	Intersection of US 50 and SR 89 in South Lake Tahoe