Upper Truckee River Restoration Project, Middle Reaches 3 and 4

Joint NEPA/CEQA/TRPA Environmental Document

Environmental Assessment/Finding of No Significant Impact,
Initial Study/Mitigated Negative Declaration and
Tahoe Regional Planning Agency Initial Environmental Checklist
Environmental Improvement Program # 556

Prepared for:
Bureau of Reclamation
City of South Lake Tahoe and
Tahoe Regional Planning Agency

January 16, 2008

Prepared by:

CDM
consulting · engineering · construction · operations

Draft

Upper Truckee River Restoration Project
Middle Reaches 3 and 4

Draft Finding of No Significant Impact

Draft Proposed Mitigated Negative Declaration

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

MID-PACIFIC REGION

SACRAMENTO, CALIFORNIA

DRAFT FINDING OF NO SIGNIFICANT IMPACT

UPPER TRUCKEE RIVER RESTORATION PROJECT
MIDDLE REACHES 3 AND 4

Recommended: _____ **Date:** _____
Environmental Specialist

Concur: _____ **Date:** _____
Regional Environmental Officer

Approved: _____ **Date:** _____
Special Projects Officer

FONSI No. _____

Draft Finding of No Significant Impact

Upper Truckee River Restoration Project Middle Reaches 3 and 4

Background

The Upper Truckee River (UTR) is the largest tributary into Lake Tahoe and has been subject to modification from land use and resource extraction dating back to the 1860s and more recently by urban development. These modifications have impaired the natural hydrologic function of the marsh, reduced wetland areas, and modified channel morphology in a manner that has reduced aquatic habitat quality and introduced related abundant pollutant sources. A main focus of ecological improvement is the Upper Truckee River channel, which has eroded into the valley floor 2-4 feet and increased bank erosion in response to historical changes. Overcoming the historic incision, increasing overbank flow, stabilizing eroding banks, and raising groundwater elevation within marsh and floodplain areas are key strategies for ecological improvement.

Some of the major land uses in the watershed that have contributed to adverse impacts on the existing river geomorphology include:

- Relocation and straightening (i.e., channelization) of the lower Middle Reach of the Upper Truckee River in the past to accommodate grazing, airport development, and irrigation needs.

- Grazing on the meadow adjacent to the river channel may have contributed to channel degradation through both direct impacts to river banks from cattle hooves and alteration of meadow hydrology and vegetation populations.

- Urbanization in the Upper Truckee River watershed has altered water and sediment deliveries to the river. Urban development is often linked to initial increases in sediment delivery to the stream during construction phases.

- Deforestation of much of the Upper Truckee River watershed during the Comstock Era increased peak runoff and sediment delivery.

In January of 2003, the Tahoe Resource Conservation District (TRCD) released an Environmental Assessment (EA), Feasibility Report, and Conceptual Plans for the Upper Truckee River Reclamation Project now commonly referred to as the Upper Truckee River Restoration Project. The project study area encompassed six reaches which comprise the entire Middle Reach, extending from the Highway 50 bridge in the City of South Lake Tahoe to the Elks Club Bridge at Highway 50 in El Dorado County. The report evaluated four alternatives including no action, moderate enhancement plan, full enhancement plan, and complete restoration of the old river channel. Complete restoration of Middle Reaches 2, 3 and 4 (Airport Reach) was

deemed not feasible because the existing private landowner wished to keep his property as a grazing meadow and it was anticipated that the Lake Tahoe Airport would remain indefinitely. Based on preliminary investigations, the selected plan included in the TRCD 2003 EA was a combination of the moderate and full enhancement plans.

Since the release of the January 2003 report, the six reaches have been divided into three separate sections: 1) Reach 1 is private property, Reach 2 is a mix of private property and City of South Lake Tahoe owned property, 2) Reaches 3 and 4 are City property, and 3) Reaches 5 and 6 are California Tahoe Conservancy and U.S. Forest Service property. Different project proponents are pursuing environmental documentation for each of the three sections.

The EA focuses on the portion of Reach 2 owned by the City and Reaches 3 and 4 or the Airport Reach. This area is adjacent to the Lake Tahoe Airport and cattle grazing property within private ownership. Funding is being provided for the Airport Reach project by the Bureau of Reclamation (Reclamation) Tahoe Regional Development Program for planning funds, Southern Nevada Public Land Management Act (SNPLMA) for construction funds and the California Tahoe Conservancy for both planning and construction funding.

The objectives of the Upper Truckee River Restoration Project for the Airport Reach are to improve natural function of the channel, increase overbank flow, and deposit sediment into the floodplain more frequently. Controlling the flow and gradient, protecting the stream banks and designing to allow the river to overtop its banks during peak periods will have many benefits. Benefits are reduced velocities, more frequent flooding of the meadow during high flows, improved riparian and meadow vegetation, higher groundwater, more productive fisheries, improved macroinvertebrate populations and terrestrial wildlife habitat, and a reduction in fine sediment transport during overbanking events.

Findings

In accordance with NEPA and consistent with the Upper Truckee River Restoration Project, Middle Reaches 3 and 4 EA/IS/TRPA IEC, the Mid-Pacific Regional Office of Reclamation has found that the Project is not a major federal action that will significantly affect the quality of the environment and that an Environmental Impact Statement is therefore not required.

The following discussion provides the rationale for the finding that impacts of the Project will not be significant:

1. **Scenic Quality -** There will not be any significant aesthetic impacts. Scenic quality will improve because of enhanced riparian vegetation.

2. **Agricultural Resources -** There will not be any significant impacts to agricultural resources. Increased flooding frequency of grazing area may benefit production

of vegetation for grazing. The extent of flooding area would not change as a result of the project.

3. **Air Quality -** The project will have no impacts to Air Quality. EA analysis has shown that emissions produced as a result of the project will be below applicable standards. However, per El Dorado AQMD Rule 223-1, the local government agency has established the Fugitive Dust Control Permit program, which requires the construction operator to submit a permit application for a fugitive dust control plan including the dust control measures as stipulated in El Dorado AQMD Rule 223-1 Table 1 and 2, such as spraying water, applying soil stabilizer, covering stockpiles, haul materials, etc. The permit application must be submitted and approved prior to the construction project. The details of the fugitive dust control measures can be found in Appendix F of the EA. All excess fill material will be disposed onsite which helps to keep emissions below emission standards.

4. **Aquatic Resources/Fisheries -** Impacts to aquatic resources will be reduced to a less than significant level through mitigation measures. Fish rescue and relocation measures discussed in the EA will prevent fish mortality during construction of inchannel features and during river diversion. The project will benefit the fishery by improving aquatic habitat for salmanoid species and removing fish barriers that impede fish passage.

5. **Wildlife Resources -** Impacts to wildlife resources will be reduced to a less than significant level through environmental commitments established in the EA. Special status species are not present within the project area, however, habitat exists for some special status species. Environmental commitments include requiring wildlife surveys prior to construction for Northern goshawk and willow flycatcher to verify that birds are not present. If birds are discovered in the project area limited operating periods (LOPs) will be imposed. Additional environmental commitments include conducting bird surveys to determine if nesting birds are present where trees are proposed to be removed between April 1 and August 15. If nesting birds are present, then affected nest trees will not be cut until the nests are empty or after August 15. Additional environmental commitments and mitigations measures are identified in the EA. The project will benefit wildlife because increased wetland area and enhanced riparian area is expected upon project completion. The project is expected to increase habitat for Willow flycatcher.

6. **Vegetation -** Impacts to vegetation will be reduced to a less than significant level through environmental commitments and mitigation measures. Special status species are not present within the project area. The project design includes revegetation with riparian species within the newly created floodplain. During construction a temporary irrigation system will be constructed to help with riparian vegetation establishment. Additional environmental commitments and mitigation measures are listed in the EA. The project will benefit vegetation because increased wetland area and enhanced riparian area is expected upon project completion. The project shall include a provision in the project plans and

specifications to remove identified noxious weeds from the project area. Existing beneficial species will be salvaged and replanted to the extent practicable.

7. **Wetlands -** Impacts to wetlands will be reduced to a less than significant level through environmental commitments and mitigation measures. The project is for the purpose of river and SEZ restoration. After completion of the project, wetland area could increase by 54 percent which will be a benefit to wetlands. Other delineated wetlands where construction is not proposed will be protected from disturbance during construction.

8. **Cultural Resources -** The project will not impact known cultural resources in the area. Construction and grading activities avoid many of the cultural resources known in the project area. All of the known cultural resources that would be affected by grading activities have been designated as not significant by a qualified archaeologist. An environmental commitment/mitigation measure is included in the EA to address potential impacts to unknown cultural resources discovered during grading activities to a less than significant level.

9. **Geology and Soils -** Impacts to geology and soils will be reduced to a less than significant level through environmental commitments and mitigation measures identified in the EA. Bank stabilization measures are included in the project description along the UTR. This is a benefit to soils and geology in the project area. The project would increase the frequency of overbank flow that will help to reduce sediment loading downstream to Lake Tahoe. Clarity loss in Lake Tahoe is attributed to fine sediment and nutrient loading, thus a reduction in sediment loading will benefit Lake Tahoe. A Stormwater Pollution Prevent Plan (SWPPP) is required to be approved by Lahontan RWQCB prior to issuance of a permit for construction.

10. **Public Safety and Hazards/Risk of Upset -** Impacts to public safety and hazards will be reduced to a less than significant level through environmental commitments and mitigation measures identified in the EA. A construction safety plan will be prepared that will address travel through runway safety areas at the airport. Existing South Tahoe Public Utility District (STPUD) sewer and water lines will be marked prior to construction to avoid grading conflicts with these facilities. The plans and specifications will require the contractor to conduct an Underground Service Alert (USA) notice prior to excavation. The project description includes construction of engineered bank protection along the airport fence that will protect the airport runway and STPUD lines from future river encroachment.

11. **Hydrology and Water Quality -** Impacts to water quality during construction will be reduced to a less than significant level through environmental commitments, mitigation measures and project controls included in the project description in the EA. A 6 foot high water filled berm will be placed at key points, where the old and new channel meet and at the low water crossing; thereby protecting receiving waters and striving to prevent potential exceedences of water quality discharge

standards stipulated in the Lahontan permit. An internal drainage system will be constructed and maintained within the project site during all construction activities to contain any runoff within the project boundary and prevent it from exiting the site.

Grading activities are scheduled to occur during the months of August through October when the weather is usually dry. Localized pumping will be used to hydraulically contain turbid groundwater or standing water as a result of excavation of saturated soil. If turbid water occurs, it will be treated to ensure discharge meets TRPA and Lahontan standards. Additional mitigation measures are included in the EA. A preliminary dewatering plan has been developed and is discussed in the EA. A Stormwater Pollution Prevent Plan (SWPPP) is required to be approved by Lahontan RWQCB prior to issuance of a permit for construction.

It is expected that water quality will improve as a result of the project because river banks will be stabilized helping to reduce the amount of sediment and bank erosion entering the river. In addition, increased overbanking frequency will result in a reduction in sediment entering Lake Tahoe because it will have more opportunity to be deposited on the newly created floodplain.

12. **Land Use -** There will be no impacts to land use as a result of the project. The project will provide restoration improvements described in planning considerations and special policies of the TRPA Plan Area Statements.

13. **Noise -** No permanent noise impacts will result from the project. Short-term impacts during construction will be mitigated with environmental commitments and measures described in the EA. These measures discuss hours of construction to be limited between 8 a.m. to 6:30 p.m. Monday through Friday and using equipment with mufflers.

14. **Recreation -** Impacts to recreation during construction will be reduced to less than significant with environmental commitments and mitigation measures described in the EA. Construction in the river channel will be at times when the flow is low and boating use is low. The contractor will fence off some areas of the site and place signage to inform the public that may stray into the City project from adjacent neighborhoods. All public recreation access will be restored once the project is completed.

15. **Traffic and Circulation -** There will be no impacts to automobile traffic from the project. Potential impacts to air traffic will be reduced to a less than significant level with environmental commitments and mitigation measures described in the EA. Traffic control and safety measures shall be included in the construction plans and specifications.

16. **Utilities -** Impacts to existing utilities will be reduced to less than significant with environmental commitments and mitigation measures described in the EA. The contractor will consult with STPUD prior to construction. STPUD will have an opportunity to review the plans prior to construction. The project description

includes construction of engineered bank protection along the airport fence that will protect the STPUD lines from future river encroachment.

17. **Indian Trust Assets -** There will be no impacts to Indian Trust Assets.

18. **Environmental Justice -** There will be no Environmental Justice impacts.

19. **Cumulative impacts** to water quality could occur during construction. However, construction controls already included in the project description and environmental commitments and mitigation measures identified within the EA will reduce cumulative water quality impacts to a less than significant level. No other cumulative impacts will result from the project.

Draft Proposed Mitigated Negative Declaration

Upper Truckee River Restoration Project Middle Reaches 3 and 4

Lead Agency: City of South Lake Tahoe

Mitigated Negative Declaration: Pursuant to Division 13, Public Resources Code, California Environmental Quality Act

Description

Project Location:
The Upper Truckee River watershed is located within several local jurisdictions including the City of South Lake Tahoe, El Dorado and Alpine Counties. For this document, the study area encompasses land along the Upper Truckee River owned by the City of South Lake Tahoe in the Middle Reaches 2, 3 and 4 (Airport Reach). These reaches are located to the east of the Lake Tahoe Airport and grazing land to the north of the airport.

Purpose of the Project:
The purpose of the project is for restoration of the river, stream environment zone (SEZ) and wildlife habitat within Middle Reaches 2, 3 and 4 of the Upper Truckee River. The Upper Truckee River is the largest tributary into Lake Tahoe. The natural river channel has been significantly altered by urban, airport and recreational development throughout the Upper Truckee River watershed. The objectives of the Project, as stated in the Project Work Plan for California Tahoe Conservancy planning grant funding (City 2006), are to improve natural function of the channel, increase overbank flow frequency, and deposit sediment into the floodplain more frequently. Controlling the flow and gradient, protecting the stream banks and designing to allow the river to overtop its banks during peak periods will have many benefits including: reduced velocities, more frequent flooding of the meadow during high flows, improved riparian and meadow vegetation, higher groundwater, more productive fisheries, improved macroinvertebrate populations and terrestrial wildlife habitat, and a reduction in fine sediment transport during overbanking events.

Determination

The City of South Lake Tahoe has prepared an Initial Study to assess the significance of the effects of the Upper Truckee River Restoration Project, Middle Reaches 3 and 4. The City has determined that the project, as proposed, could cause a significant effect on the environment. This determination is based upon the evidence provided in the attached Initial Study and other relevant documents and agency consultation.

Mitigation measures have been incorporated into the project to reduce potential impacts to a less-than-significant level. These mitigation measures are listed below.

Air Quality During Construction

Fugitive Dust Mitigation

AQ-1 The contractor shall submit a permit application for fugitive dust control plan including the dust control measures as stipulated in El Dorado County Air Quality Management District Rule 223-1 Table 1 and 2, such as spraying water, applying soil stabilizer, covering stockpiles, haul materials, etc. The permit application must be submitted and approved prior to the construction project.

Aquatic Resources

AR-1 Fish rescue shall be performed prior to dewatering or partial diversion of water from the stream course or other aquatic habitats in the project area where fish may be present, in order to avoid stranding of fish during construction activities. The removal and relocation of fish shall be performed by a qualified biologists using techniques such as electrofishing and seining. Specimens shall be relocated to viable and comparable habitats in the immediate vicinity that are to remain undisturbed for the duration of construction activities. The City will be responsible for this as part of a Construction Management/Oversight contract with a qualified consultant.

Wildlife Resources

W-1 Any sighting of listed species, sensitive species, or location of nest or dens of these species will be reported to a U.S. Forest Service (USFS) or TRPA biologist by the contractor or City's Construction Manager. These nest or den locations will be protected in accordance with the Sierra Nevada Forest Plan Amendment (SNFPA) 2000 and the Environmental Threshold Carrying Capacities for the Lake Tahoe Region guidelines.

W-2 The City or their Construction Manager will consult with agency biologists (e.g., TRPA, USFS) to determine whether information on northern goshawk nesting is available. If no agency surveys have been performed, pre-project surveys will be conducted to determine the location of any active nests.

W-3 An annual protocol level willow flycatcher survey will be performed prior to construction to be coordinated by the City or their Construction Manager. If willow flycatchers are detected nesting in the project area, an agency mandated protected activity center will be delineated and a LOP will be applied.

W-4 Special status wildlife species with agency-mandated protected activity centers and limited operating periods found breeding in the project area should be reported to the City or their Construction Manager. If this occurs, a

protected activity center will be delineated by a USFS or TRPA wildlife biologist and a LOP will be implemented.

W-5 All trash created during construction will be properly contained (wildlife-proof containers) and removed at the end of each day. This will be included in the plans and specifications for the contractor.

W-6 Any management activities that require removal of trees and shrubs should be conducted outside the avian nesting season (April 1 through August 15) unless a qualified biologist determines that no nesting is occurring. The City shall retain a qualified biologist to conduct a focused survey for active nest sites of migratory birds covered by the MBTA within a 1/8 mile radius prior to (i.e., within 15 days) the onset of construction activities initiated during the nesting season (April 1 through August 15). If active nests are located during the preconstruction surveys, the biologist shall consult with CDFG and/or USFWS to determine an appropriate buffer around the nest. The buffer will be implemented until the juveniles fledge or the adults abandon the site if the nest fails. The size of the buffer will depend on various factors such as vegetation and topographic screening and the type of project activities in the nest's vicinity.

Vegetation Resources

V-1 During construction, upland and riparian native vegetation would be removed and native riparian vegetation of good quality shall be stockpiled and replanted once the new channel is constructed. Specifications for this work will be included in the plans and specifications.

V-2 The vegetation shall be irrigated and soil amendments added while it is being stockpiled. Soil amendments and irrigation shall also be used to help with plant establishment after replanting. Specifications for this work will be included in the plans and specifications.

V-3 Over-plant new vegetation or provide fence protection of new vegetation to help prevent beaver browsing under the direction of the City's Construction Manager.

V-4 Disturbed areas shall be revegetated or stabilized where needed once construction is complete. Specifications for this work will be included in the plans and specifications.

V-5 The stockpile site shall be regraded to the natural contours and revegetated at the completion of the project. Specifications for this work will be included in the plans and specifications.

V-6 Noxious and invasive weed control shall be identified in the plans and specifications.

Wetlands

Wet-1 Place construction fencing around wetland areas identified on the Wetlands Delineation Map that are located outside of proposed disturbance to avoid disturbance during construction. Specifications for this work will be included in the plans and specifications.

Cultural Resources

CR-1 In the event of fortuitous discoveries of buried or concealed heritage resources, ground disturbance activities should cease in the area of the find and the project sponsor should consult a qualified archaeologist for recommended procedures. If human remains are inadvertently discovered, California law requires that work must stop immediately and the county coroner must be notified. If the remains are Native American, AB 297 makes it mandatory that the coroner notifies the members of the Washoe Tribe to insure that proper treatment is given to the burial site. Specifications for this work will be included in the plans and specifications.

Geology and Soils

GS-1 The contractor will implement appropriate bank stabilization measures to reduce erosion as described in the project description and Section 4.12 Hydrology and Water Quality. This information will be included in the plans and specifications. The City or their Construction Manager will monitor during construction.

GS-2 Revegetate all disturbed areas and reuse excavated top-soil and vegetation whenever possible. This information will be included in the plans and specifications. The City or their Construction Manager will monitor during construction.

GS-3 Use gravel with road base to construction access roads. This information will be included in the plans and specifications. The City or their Construction Manager will monitor during construction.

GS-4 Cover all exposed stockpiles to reduce wind and water erosion. This information will be included in the plans and specifications. The City or their Construction Manager will monitor during construction.

GS-5 Keep construction vehicles and equipment within designated areas. This information will be included in the plans and specifications. The City or their Construction Manager will monitor during construction.

GS-6 Implement environmental commitments and mitigation measures described in Section 4.12.7. This information will be included in the plans and specifications. The City or their Construction Manager will monitor during construction.

Public Safety and Hazards

PS-1 The contractor shall develop and implement a construction safety plan that will include safety measures for travel through Runway Safety Areas and Object Free Area to include schedule of travel, procedures to ensure Airport Safety, NOTAM procedures, and responsible personnel. Construction Manager and airport staff will monitor during construction.

PS-2 Daily coordination between the contractors for both the River Restoration project and the Runway Reconstruction project for safety related issues shall be conducted. Construction Manager and airport staff to monitor during construction.

PS-3 Determine and mark the location of existing South Tahoe Public Utility District facilities prior to construction. Contractor shall conduct an Underground Service Alert (USA) notice prior to excavation. Excavation will not begin until all utilities in the area have been marked. The City of South Lake Tahoe will provide STPUD with plans and specifications for review prior to construction.

PS-4 Construct engineered bank stabilization at the edge of the airport easement to protect South Tahoe Public Utility District facilities and the airport runway from complications due to lateral movement of the river. The City and their Construction Manager to monitor during construction.

Hydrology and Water Quality

WQ-1 Earthwork shall be confined to areas of construction activities according to the construction phasing plan and Figure 3-3. This information will be included in the contractor specifications. Filter fencing will be installed around all of the stockpile locations and equipment storage areas. The City and their Construction Manager will monitor during construction.

WQ-2 An internal drainage system shall be constructed and maintained within the project site during all construction activities to contain any runoff within the project boundary and prevent it from exiting the site. Localized pumping will be used to hydraulically contain turbid groundwater or standing water as a result of excavation of saturated soil. The turbid water will be treated at an upland area at the project site in a temporary settling basin to levels below TRPA and Lahontan thresholds prior to discharge as described in Section 4.12.5.1. Once water has had time to settle, clean water will be released into the UTR downstream of RS 8900. The City and their Construction Manager will monitor during construction.

WQ-3 Stockpiled and transported material will be covered to control stormwater runoff. The City and their Construction Manager will monitor during construction.

WQ-4 Construction vehicles will be serviced in specific upland areas or stabilized areas to prevent accidental spills of fluids, oils and lubricants into surface water. This area will consist of a clean gravel pad with an impervious liner underneath. The City and their Construction Manager will monitor during construction.

WQ-5 Construction equipment shall be cleaned to remove any loose dirt or sediment prior to exiting the site. Washing will take place in an area stabilized with crushed stone and drain to an approved sediment trap or basin. The City and their Construction Manager will monitor during construction.

WQ-6 The excess fill disposal locations will be regraded to the natural contours of the surrounding area and revegetated with native upland species. The City and their Construction Manager will monitor during construction.

WQ-7 All spills shall be reported to Lahontan and procedures and response protocols for immediate cleanup outlined in the SWPPP shall be implemented. These procedures shall include placement of sandbags, gravel, boards or other TRPA approved methods to prevent spilled material from entering any drainage facilities or areas. The City and their Construction Manager will monitor during construction.

WQ-8 Construct temporary 4 to 6 foot high water filled berms in Year 1 to isolate the construction site, and protect the river from spring runoff prior to implementation of the new channel. These water filled berms will be placed at the two tie in ends between the old and new channel and run the entire length of the existing channel from the two tie in points. The water filled berm will be wrapped around the low-water crossing at both sides to allow for access across the low-water crossing during construction. Filter fencing will also be constructed between the excavation area and the water filled berm for extra protection. The City and their Construction Manager will monitor during construction.

WQ-9 A railcar crossing/bridge will be constructed to transport materials across the river to prevent interaction with the channel. The bridge will be designed with BMPs to prevent sediment discharges to the UTR. Clean gravel will be placed at the bridge approaches. A silt fence that will be placed along the east and west river banks will be tied into the railcar crossing abutments with a secondary silt fence running under the railcar crossing. Coir logs will be placed on paved surfaces under the railcar crossing. Silt curtains will be placed in the river as an additional protection along the channel from upstream to downstream of the low-water crossing. Access routes will be continuously cleaned with water trucks and brooms trucks. Silt fences and cut off channel connected to small settling basins would be placed along the sides of the access routes. The City and their Construction Manager will monitor during construction.

WQ-10 In channel work sites will be isolated both upstream and downstream by water filled berms with the main flow of the river pumped around the work areas. Water that infiltrates into the isolated project site will be pumped into the new channel alignment downstream and allowed to flow the length of the channel for infiltration. At the end of the new channel alignment remaining water will be pumped to the dewatering site and go through the settling and filtration systems as describe above. Following completion of the first bank stabilization the same procedure will be used on the second bank stabilization.

The three fish habitat structures located downstream of the new channel alignment will be dewatered by laying a water filled berm along the existing channel bed to isolate the work area. The main flow will be slightly confined but will remain in the existing channel alignment. While the work is being completed the water that infiltrates into the work area will be pumped to the dewatering site and go through the settling and filtration systems as describe above. Each fish habitat structure will be completed one after another. The City and their Construction Manager will monitor during construction.

WQ-11 The project site will be winterized according to TRPA and Lahontan RWQCB requirements at the end of each construction season. These measures will include: wrapping water filled berm to secure all isolated areas for winter and spring flows around the length of the western approach to the low-water crossing and a small portion along the existing airport fence, wrap water filled berm around the downstream end of the new channel and along a portion of the airport fence, winterize temporary irrigation system installed for plant establishment. Other proposed winterization measures are listed below.

- Maintain all temporary erosion control including filter fencing and coir logs.
- Stabilize all disturbed areas with a heavy mulch.
- Clean up and remove all construction site waste including trash, debris and spoil piles.
- Cover all soil stockpiles with a natural fiber blanket and secure stockpile locations with filter fencing.

WQ-12 Prior to diversion of UTR flows into the new river alignment, the new river channel will be wetted in September of the second construction year, and potentially in the third construction year as well, to prepare the river channel. These wetting flows will either be allowed to infiltrate or be pumped from the downstream end of the new river alignment and treated to ensure compliance with discharge standards prior to their diversion back into to the UTR. This is described in the dewatering discussions in Section 4.12.5.1. During the third construction year clean washed gravel will be placed in the new river channel before the UTR is diverted into the new alignment. The City and their Construction Manager will monitor during construction.

WQ-13 Implement the dewatering plan for each construction year as described in Section 4.12.5.1. The City and their Construction Manager will monitor during construction.

WQ-14 During Year 3, the locations where the new alignment and the existing alignment converge will be graded and armored with a combination of rock and large wood elements. Willow stakes will be incorporated into these engineered areas. Propagated sod will be placed as needed on top of the armored banks. The City and their Construction Manager will monitor during construction.

WQ-15 Revegetate all disturbed areas and old channel with native riparian or upland vegetation where applicable. Salvaged sod, willows and other riparian vegetation will be propagated and used where possible. Additional seed or vegetation will be added where needed for stabilization measures. The City and their Construction Manager will monitor during construction.

Noise

N-1 Contractor shall equip all construction equipment with operating mufflers

N-2 Contractor shall limit construction hours to 8 AM to 6:30 PM.

Recreation

REC-1 Contractor and/or City's Construction Manager shall post signs upstream of the project site to notify boaters of access restrictions during construction.

REC-2 Restore river access at the close of construction. This is included in the Contractors plans and specifications. Construction Manager to monitor.

Traffic and Circulation

TR-1 Contractor shall provide traffic control on the specific days of transport of heavy equipment to prevent congestion and safety hazards at the intersection of Highway 50 and Airport Road. This is included in the Contractor plans and specifications. Construction Manager to monitor during construction.

TR-2 During days of equipment transport through the runway safety area, a Notice to Airmen will be circulated for safety purposes. This is the responsibility of the Contractor and/or the City's Construction Manager. Construction Manager to monitor during construction.

Utilities

UT-1 The contractor shall confirm the exact location of the pipelines near the excavation area. In addition to the existing fence that borders the airport and the pipelines, fences would be constructed to protect the pipelines in the

excavation and construction areas as needed. Contractor and Construction Manager will consult with STPUD prior to construction.

UT-2 Engineered bank toe protection along the airport easement will be constructed to protect potential lateral movement of the channel into the pipelines within the airport property. Contractor and Construction Manager will consult with STPUD prior to construction.

A copy of the Initial Study is attached. Questions about this Mitigated Negative Declaration and the Initial Study may be directed to:

Ms. Jennifer Quickel, Assistant Engineer
City of South Lake Tahoe
1052 Tata Lane
South Lake Tahoe, CA 96150
(530) 542-6036

All comments will be reviewed and responses prepared by the City of South Lake Tahoe.

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Date:

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Appendices

Tables

Figures

Acronyms

AADT	annual average daily traffic
AEM	Alternatives Evaluation Memorandum
APCD	Air Pollution Control District
AQMD	Air Quality Management District
ATM	Access and Travel Management Plan
BMP	Best Management Practice
CARB	California Air Resources Board
CDFG	California Department of Fish and Game
CDM	Camp Dresser & McKee Inc.
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
City	City of South Lake Tahoe
CLUP	comprehensive land use plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon monoxide
County	El Dorado County
CSLT	City of South Lake Tahoe
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
dB	decibel
dBA	A-weighted decibel scale
DFC	Desired Future Conditions
DOC	diesel organic compounds
DRO	diesel range organics
DWR	Department of Water Resources
EA	Environmental Assessment
ECAM	Existing Conditions Analysis Memorandum
EIP	Environmental Improvement Program
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAM	Alternatives Formulation Memorandum
FBO	fixed base operator

FONSI	Finding of No Significant Impact
GOC	gasoline organic compounds
GP	General Permit
GRO	gasoline range organics
IEC	Initial Environmental Checklist
IS	Initial Study
ITAs	Indian Trust Assets
JgC	Jabu sandy loam
Lahontan	Lahontan Regional Water Quality Control Board
Lo	loamy alluvial land
LOP	Limited operating period
LOS	Level of service
LTBMU	Lake Tahoe Basin Management Unit
LUFTs	leaking underground fuel tanks
MCL	maximum contaminant level
MIS	Management Indicator Species
MND	Mitigated Negative Declaration
NAAQS	National Ambient Air Quality Standards
NDOW	Nevada Division of Wildlife
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NOP	Notice of Preparation
NOTAM	Notice to Airmen
NOx	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTU	nephelometric turbidity units
OAL	Office of Administrative Law
OFA	object free area
OHWM	Ordinary High Water Mark
OPR	Office of Planning and Research
PAS	Plan Area Statement
PM_{10}	Particulate matter less than 10 microns in diameter
ppm	parts per million
PWHA	Preliminary Wildlife Hazard Assessment
RAPR	Recommended Alternative Project Report
Reclamation	Bureau of Reclamation
ROD	Record of Decision

ROG	reactive organic gasses
RS	Reach Station
RSA	runway safety area
RWQCB	Regional Water Quality Control Board
SDWA	Safe Drinking Water Act
SEZ	Stream Environment Zone
SNFPA	Sierra Nevada Forest Plan Amendment
SNPLMA	Southern Nevada Public Land Management Act
SQIP	Scenic Quality Improvement Program
STPUD	South Tahoe Public Utility District
SWPPP	Stormwater Pollution Prevention Plan
SWQIC	Stormwater Quality Improvement Committee
SWRCB	State Water Resources Control Board
TAC	Technical Advisory Committee
TES	threatened, endangered, and sensitive
TESC	Threatened, endangered, sensitive and candidate
TPH	Total Petroleum Hydrocarbons
TRCD	Tahoe Resource Conservation District
TRPA	Tahoe Regional Planning Agency
TTLC	total threshold limit concentration
USA	underground service alert
USACOE	U.S. Army Corps of Engineers
USDA/SCS	U.S. Department of Agriculture/Soil Conservation Service
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTR	Upper Truckee River
UTRWAG	Upper Truckee River Watershed Advisory Group
VMT	Vehicle miles traveled
VOC	Volatile Organic Compounds

Section 1
Introduction

1.1 Background

The Upper Truckee River (UTR) is the largest tributary into Lake Tahoe and has been subject to modification from land use and resource extraction dating back to the 1860s and more recently by urban development to service a tourist economy (Figure 1-1). These modifications have impaired the natural hydrologic function of the marsh, reduced wetland areas, and modified channel morphology in a manner that has reduced aquatic habitat quality and introduced related abundant pollutant sources. A main focus of ecological improvement is the UTR channel, which has eroded into the valley floor 2-4 feet in response to historical changes. Overcoming the historic incision, increasing overbank flow, and raising groundwater elevation within marsh and floodplain areas are key strategies for ecological improvement.

Figure 1-1
Man-made structure remaining in Upper Truckee River

Some of the major watershed land uses that have likely contributed to adverse impacts on the existing river geomorphology include:

- Relocation and straightening (i.e., channelization) of the lower UTR in the past to accommodate grazing, airport development, and irrigation needs.

- Grazing on the meadow along Reach 2 may have contributed to channel degradation through both direct impacts to river banks from cattle hooves and alteration of meadow hydrology and vegetation populations. Small portions of City-owned property in Reach 2 are included within the project area. This is located in the northern portion of the project area.

- Urbanization in the Upper Truckee River watershed has altered water and sediment deliveries to the river. Urban development is often linked to initial increases in sediment delivery to the stream during construction phases. (Graf 1975).

- Deforestation of much of the Upper Truckee River watershed during the Comstock Era increased peak runoff and sediment delivery.

In January of 2003, the Tahoe Resource Conservation District (TRCD) released an environmental assessment, feasibility report, and conceptual plans for the Upper Truckee River Reclamation Project. The project study area encompassed six reaches which comprise the entire Middle Reach, extending from the Highway 50 bridge in the City of South Lake Tahoe to the Elks Club Bridge at Highway 50 in El Dorado County. The report evaluated four alternatives including no action, moderate enhancement plan, full enhancement plan, and complete restoration of the old river channel. Complete restoration of Middle Reaches 2, 3 and 4 (Airport Reach) was deemed not feasible because the existing private landowner wished to keep his property as a grazing meadow and it was anticipated that the Lake Tahoe Airport would remain indefinitely. Based on preliminary investigations, the selected plan was a combination of the moderate and full enhancement plans. (TRCD 2003)

Since the release of the January 2003 report, the six reaches have been divided into three separate sections designated by landowner: Reach 1 is private property, Reach 2 is a mix of private property and City of South Lake Tahoe (City) owned property, Reaches 3 and 4 are City property, and Reaches 5 and 6 are California Tahoe Conservancy and U.S. Forest Service (USFS) property. Different project proponents are pursuing environmental documentation for each of the three sections.

This particular document focuses on the portion of Reach 2 owned by the City and Reaches 3 and 4 and is referred to in this document as the Airport Reach. This area is adjacent to the Lake Tahoe Airport and private cattle grazing property managed by the Mosher family.

A Technical Advisory Committee (TAC) was formed as part of the Stormwater Quality Improvement Committee (SWQIC) process for planning and design of the

project. A modified SWQIC process was used as a tool for planning for this project. Three different action alternatives were developed based on recommendations by the TAC and evaluated by the TAC. A recommended alternative was selected by the TAC which is Alternative 2, New Channel East of the Airport. The recommended alternative and the No Action/No Project Alternative are analyzed for environmental impacts in this document.

1.2 Purpose and Need

The UTR is the largest tributary into Lake Tahoe. The natural river channel has been significantly altered by urban, airport and recreation development throughout the UTR watershed. In 1997 the Tahoe Regional Planning Agency (TRPA) established the Environmental Improvement Program (EIP). The EIP was developed to accelerate achievement of environmental threshold carrying capacities established for the region in the TRPA Regional Plan.

A number of Environmental Improvement Program (EIP) projects are planned within the Middle Reach of the UTR (Middle Reaches 1 through 6). The EIP is a cooperative program administered by the TRPA that relies on a partnership of private, local, state, and federal entities to implement its goals of preserving, restoring, and enhancing the environment of the Lake Tahoe Region. The focus of the EIP is to identify restoration and research needs and funding that will meet environmental goals and/or thresholds adopted by TRPA. The California Tahoe Conservancy's EIP projects relevant to the restoration project are listed below. These projects may be an integral part of the restoration project or may be on adjacent properties that will provide overall benefits. Table 1-1 lists ongoing and planned EIP projects within the Middle Reach of the UTR.

Table 1-1
EIP Projects Planned within the Middle Reach of the Upper Truckee River

EIP Number	*Conservancy Program Funding Source*	*Project Name*	*Expected Start Year*
556	SEZ	Upper Truckee Airport SEZ Restoration	2004
00S51	SEZ	Upper Truckee Conservancy and USFS Properties	2003
948	SEZ	Upper Truckee Sunset Stables	2003
New	SEZ	Sunset/Meadowvale	2003
909	Wildlife	Upper Truckee River, Middle and Upper Reaches	2007
1003	Wildlife	Sunset Stables	Ongoing
1004	Wildlife	Sunset Stables	Ongoing
188	Erosion Control	Appalachee	2002
703	Erosion Control	Golden Bear	2008
612	Recreation/Access	Elks Raft Launch	2009
736	Recreation/Access	Sawmill Bike Trail	2005
752	Recreation/Access	Highway 50 ROW Trail	2006

The purpose of this report is to provide analysis of environmental effects for the construction of the UTR Airport Reach project which includes City-owned property in Reaches 2, 3 and 4. The report is prepared in accordance with the guidelines established by National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA) and the TRPA Rules and Procedures Section of the Code of Ordinances. While the project is expected to be beneficial to the UTR habitat, some short-term impacts during construction related to air quality, aquatic resources, wildlife resources, vegetation, wetlands, cultural resources, geology and soils, public safety and hazards, hydrology and water quality, recreation, and construction traffic within the Lake Tahoe Airport could occur. However, these short-term construction related impacts are anticipated to be less than significant with environmental commitments and mitigation measures discussed in Section 6. No negative permanent impacts would result from implementation of the recommended alternative.

Upon completion of the environmental analysis and certification by the lead agencies, conditional permits may be granted to the City for construction of the project. Design modifications may be necessary to comply with permit conditions by the various permitting agencies. Environmental clearance allows the permitting agencies to finalize all permit applications and construction can commence.

The objectives of the Project, as stated in the Project Work plan for California Tahoe Conservancy grant funding (City 2006), are to improve natural function of the channel, increase overbank flow, and deposit sediment into the floodplain more frequently. Controlling the flow and gradient, protecting the stream banks and designing to allow the creek to overtop its banks during peak periods will have many benefits. Benefits are reduced velocities, more frequent flooding of the meadow during high flows, improved riparian and meadow vegetation, higher groundwater, more productive fisheries, improved macroinvertebrate populations and terrestrial wildlife habitat, and a reduction in fine sediment transport during overbanking events.

1.3 Lead Agencies

The lead agencies for environmental review include the Bureau of Reclamation (Reclamation) for NEPA, the City of South Lake Tahoe (CSLT) for CEQA and the Tahoe Regional Planning Agency (TRPA) (Figure 1-2).

Figure 1-2
Lead Agencies

1.3.1 Bureau of Reclamation

Reclamation is providing grant funding to the TRCD for planning of the project through their Tahoe Regional Development Program. Construction funding is being provided to the City from the Southern Nevada Public Land Management Act (SNPLMA) via a grant by Reclamation. The TRCD is managing the Reach 2 portion of the environmental documentation.

1.3.2 City of South Lake Tahoe

The City is the Project Proponent, CEQA lead agency and a permitting agency for the project. The City is also the grantee of funding from the California Tahoe Conservancy for planning and construction, Reclamation Tahoe Program for planning and SNPLMA for construction . The City is also the primary land owner for this project area. The City owns and operates the Lake Tahoe Airport which is located within Reaches 3 and 4. The City is managing the Reaches 3 and 4 portion of environmental documentation.

1.3.3 Tahoe Regional Planning Agency

The TRPA is the administering agency for the EIP. This project is an EIP project for Stream Environment Zone (SEZ) Restoration and Fisheries. The TRPA as EIP Administrator and a permitting agency provide a representative to the TAC for the project. As a permitting agency, this project would require preparation of a TRPA environmental document. TRPA will be the lead agency for preparation of the TRPA environmental document. This document is included as part of this joint environmental document in Section 5, Initial Environmental Checklist (IEC). The project must also comply with the TRPA Regional Plan which mandates nine thresholds for the Tahoe Basin including: water quality, air quality, wildlife habitat, scenic resources, soil conservation, fish habitat, vegetation, noise and recreation. This project would be required to comply with the *TRPA Code of Ordinances* to receive a permit for construction.

1.4 Legal Authority

The UTR project will require environmental clearance according to NEPA, CEQA and TRPA. Funding is being provided by Reclamation, a Federal agency, as part of their Lake Tahoe Program to the TRCD, as grantee, which requires NEPA compliance. These funds are being used for planning and preparation of the NEPA portion of this document. Reclamation will also be granting construction funding to the City of South Lake Tahoe from SNPLMA. The project is within the State of California and is also funded by the State of California through the California Tahoe Conservancy which requires CEQA compliance. California Tahoe Conservancy funds are being used for planning, design and construction of the project. The project is within the TRPA jurisdiction which requires TRPA Environmental Compliance. TRPA has their own specific environmental documentation procedures separate from the State of California's and Federal guidelines. This document is a joint document satisfying all federal, state and TRPA agency guidelines for environmental clearance.

A NEPA Environmental Assessment (EA), CEQA Initial Study (IS) and TRPA IEC have been prepared to determine whether the proposed project may have a significant adverse effect on the environment. It is based upon the CEQA and TRPA checklists and Reclamation NEPA guidelines (Reclamation 2000), which identify the various environmental impacts which may result from construction of the project. The CEQA Environmental Checklist Form is included in Appendix A and the TRPA IEC is included in Section 5. The administrative record associated with this analysis includes specific studies that examine the potential significance of environmental effects to specific resources. While these studies are a crucial part of the record supporting the proposed NEPA Finding of No Significant Impact (FONSI), CEQA Mitigated Negative Declaration (MND) and TRPA IEC for this project, some of the documents are merely summarized and are not included in their entirety in the body of this document.

This document considers direct impacts (those caused by an action and occurring at the same time and place), indirect impacts (those caused by an action but occurring later or farther away but at a reasonably foreseeable time or place) and cumulative impacts (those caused by the Airport Reach project and other projects happening in conjunction with the Airport Reach project). Actions that could lessen identified impacts (environmental commitments and mitigation measures) are identified when needed to reduce any adverse environmental effects to below a level of significance.

1.4.1 NEPA

In 1969 Congress enacted NEPA (Section 102, 42 U.S.C. 4332). Section 101 directs that NEPA be used for planning and decision making processes. The intent of NEPA is for Federal agencies to consider the environmental issues for decision making regardless of any requirement for an environmental document. NEPA created the Council on Environmental Quality (CEQ). CEQ has Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508).

Any Federal discretionary action raises the potential for the kind of document required by Section 102(2)(c) of NEPA. CEQ regulations (40 CFR 1507.3) require that Federal agencies "adopt procedures to ensure that decisions are made in accordance with the policies and purposes of the Act." Agencies are to designate the major decision points in their principal programs and ensure that the NEPA process corresponds with them. Whenever Reclamation is considering an action, the NEPA process will be integrated into all planning and decision making processes from the earliest discussion of the need for and type of action to be taken.

Reclamation is the lead agency for NEPA as they are a funding agency for the project. Other federal agencies involved in the project that may require NEPA clearance include: U.S. Army Corps of Engineers (USACOE) for 404 Permitting and the Federal Aviation Administration (FAA) for airport compliance issues. Additional interested federal agencies my review the NEPA document during the 30-day public review period and provide comment.

1.4.2 CEQA

This environmental analysis was prepared to comply with the requirements of CEQA of 1970, Cal. Pub. Res. Code §21000 et seq. The City is the CEQA Lead Agency and commissioned the preparation of this document to inform governmental decision makers and the public about the potential environmental effects of activities being considered for implementation.

City Planning Division staff will conduct Major Design Review for the project and the Planning Commission will make the CEQA decision. The Major Design Review decision will be made by the City Planning Commission. Other state agencies involved in the project that may require CEQA clearance include the California Tahoe Conservancy for release of funding; Lahontan Regional Water Quality Control Board (Lahontan) for 401 Water Quality Certification, National Pollution Discharge Elimination System (NPDES) permitting, SEZ exemption, and dewatering permits; California Department of Fish and Game (CDFG) for 1601 permitting, and El Dorado County Clerk Recorder. Additional interested state agencies may review the CEQA document during the 30-day public review period and provide comment.

1.4.3 TRPA

The TRPA has its own environmental documentation requirements outlined in Chapter 5 of the *TRPA Code of Ordinances.* The TRPA IEC is used to determine significant impacts to the environment from a project. The completed TRPA IEC is included in this document in Section 5. TRPA requires environmental clearance under its own requirements prior to issuing a Permit for a project.

1.5 Reviewing and Permitting Agencies

This project will require the review and approval of many federal, state and local agencies in addition to the Lead Agencies identified in Section 1.3. Some of the agencies are members of the Technical Advisory Committee (TAC) and were involved throughout the early planning process. Some of these agencies are permitting agencies who will approve this project through a defined permit process.

1.5.1 U.S. Army Corps of Engineers

The USACOE has jurisdiction of all waters of the United States including wetland areas. This project falls under their jurisdiction as a permitting agency and will require acquisition of Section 404 Permit under Tahoe Basin General Permit (GP) 16. A representative from the USACOE is a member of the TAC.

1.5.2 U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) will review the joint environmental document and may comment on the document. This project would require Section 7 Consultation between USFWS and Reclamation if there would be impacts to listed species. However, no listed species have been identified in the project area.

1.5.3 Tahoe Resource Conservation District

The TRCD is the grantee for funding from Reclamation's Tahoe Grant Program. These funds are being used for planning the project. The TRCD is jointly managing this preparation of the environmental document with the City. A representative from the agency is a member of the TAC.

1.5.4 US Forest Service – Lake Tahoe Basins Management Unit

The U.S. Forest Service (USFS) Lake Tahoe Basin Management Unit (LTBMU) is currently providing construction grant funding for other projects along the UTR at other reaches. They are also a surrounding land owner to the project area. A representative of the USFS LTBMU is a member of the TAC and will review the joint environmental document.

1.5.5 Natural Resource Conservation Service

The Natural Resource Conservation Service (NRCS) provided staff for field surveys of soils and wetlands delineations early in the planning process. A representative from the NRCS is a member of TAC.

1.5.6 Federal Aviation Administration

The FAA has been notified of the upcoming project and the close proximity of the project to the Airport. The FAA sets safety standards for airports. This project is proposing work within safety zones mandated by the FAA. Preliminary plans were sent to the FAA with the Form 7460-1, Notice of Proposed Construction or Alteration to solicit comment from the agency. The comments from the agency are addressed within this document and are discussed in Section 4.11, Public Safety and Hazards. They will not issue a permit for the project, however, they will review the Preliminary Wildlife Hazard Assessment (PWHA) prepared to comply with FAA Circular 150/5200-33, Hazardous Wildlife Attractions On or Near Airports and is referenced in this document for use in the analysis of Public Safety and Hazards.

1.5.7 Regional Water Quality Control Board – Lahontan Region

Lahontan has jurisdiction over all water quality improvement projects on the eastern slope of the Sierra Nevada. The Lahontan Region staff will determine whether or not this project will qualify for Section 401 Water Quality Certification and be eligible for a Construction Stormwater Discharge permit and Dewatering permit in accordance with National Pollutant Discharge Elimination System requirements. Lahontan has a representative on the TAC.

1.5.8 California Department of Fish and Game

The CDFG is a permitting agency with jurisdiction over the project area. A 1601 Streambed Alteration Agreement is required for all work within the high water mark of a surface water way in California. The agency will review the joint environmental document. CDFG has a representative on the TAC.

1.5.9 California Tahoe Conservancy

The California Tahoe Conservancy is providing a planning grant and a construction grant to the City for planning, design and construction of the project. A representative from the California Tahoe Conservancy is a member of the TAC.

1.5.10 Caltrans

A Caltrans Encroachment permit may be required for construction access to and from State Route 50. A representative from Caltrans is a member of the TAC.

Caltrans Aeronautics Division will receive a copy of the joint environmental document from the State Clearinghouse since the project is located within 2 miles of an Airport. Comments were received by the agency after an informal notice of the project was issued to solicit early comment. They will have an opportunity to comment on the Environmental Document during the 30-day public review period.

1.5.11 South Tahoe Public Utility District

The South Tahoe Public Utility District (STPUD) owns a sewer force main and sewer gravity line to the west of the UTR and a sewer force main to the east of the UTR. The facilities west of the river are within the project area. The STPUD is not required to issue a permit for the project, however, they will need to review projects plans as they become available and the joint environmental document to determine if any conflicts with their facilities could cause potential impacts. A representative from the STPUD is a member of the TAC.

1.5.12 El Dorado County

The project is within the incorporated area of El Dorado County. They have no permitting authority over the project; however, they will be reviewing the joint environmental document. A final CEQA Notice of Determination will be filed with the County Clerk after the final determination has been made by the City Planning Commission. A representative from El Dorado County is a member of the TAC.

1.6 Public Review Process

Opportunities for public participation in the environmental document review process are provided in order to promote open communication and better decision making. All persons and organizations having a potential interest in the proposed plan are invited to provide comments during the thirty-day comment period for this document.

Pursuant to the requirements of CEQA, this document was sent, along with a Notice of Intent (NOI) to adopt a MND, to the California State Clearinghouse. Public review is required under NEPA, CEQA and TRPA for this Draft document. A thirty-day (30) public review period is required with distribution through the California State Clearinghouse and local public repositories as well as direct mailing to a list of interested agencies and other parties. During this 30-day period, federal, state and local agencies will have the opportunity to review the document and prepare

comments. The general public will also have the opportunity to review and comment on the document.

A public meeting was held on October 9, 2007 in South Lake Tahoe to provide information about the proposed project and the environmental process and to solicit early comments and concerns about the project from the general public and neighboring property owners. This meeting was noticed by mailing post cards to property owners within 300 feet of the project and along Barbara Avenue in the Sierra Tract subdivision. Newspaper advertisements were also published in the Tahoe Daily Tribune at two different times prior to the meeting. Nobody from the public attended this meeting.

Another public meeting is scheduled for January 24, 2008 to receive verbal comments about the Draft document to be held at the City Council chambers prior to adoption of the CEQA document. The public will also be allowed to comment at the scheduled City Planning Commission meeting on April 10, 2008 when the CEQA findings will be made by the Planning Commission for the MND approval.

The TRPA Governing Board will be required to hear a presentation related to approval of the permit for the project. TRPA Governing Board approval is required when tree removal is proposed in excess of 100 trees. This meeting has not been scheduled but will be publicly noticed according to the requirements outlined in the TRPA Code of Ordinances. There will be an opportunity for the public to comment at this meeting related to the proposed tree removal. This issue is discussed in Section 4.7 Vegetation.

In compliance with NEPA and CEQA, a NOI to adopt a FONSI/MND for the proposed UTR Airport Reach Restoration Project was distributed on January 14, 2008. The NOI was sent to property owners within 300 feet, agencies as well as private organizations that may have interest in the project. A notice was also published in the Tahoe Daily Tribune. The intent of the NOI is to make known that the lead agencies plan to adopt a FONSI, MND and TRPA environmental clearance and to request comments and concerns on the document prior to adoption. The Draft FONSI and MND are included in the front of this document prior to the beginning of Section 1. The Draft TRPA IEC is included in Section 5. These documents will be updated as needed to address comments received during the 30-day public comment period which is between January 16 and February 14, 2008.

Written comments should be sent to:

NEPA
Myrnie Mayville
Bureau of Reclamation
P.O. Box 5310
Stateline, NV 89449

Or

CEQA
Ms. Jennifer Quickel, Assistant Engineer
City of South Lake Tahoe
1052 Tata Lane
South Lake Tahoe, CA 96150

Or

TRPA
Mike Elam
P.O. Box 5310
Stateline, NV 89449

1.7 Scoping

Scoping for the document was determined based on input from two scoping meetings and comments received from circulation of an informal Notice of Preparation and Notice of Intent (NOP/NOI) or scoping document. The informal NOP/NOI discussed the content of the document to be an EA/IS/IEC with the intent of adopting a FONSI/MND and TRPA environmental clearance. The TAC and other agencies with regulatory or funding authority over the project were specifically targeted for project scoping. The first scoping meeting for this project was held on August 24, 2006 at a TAC meeting. Scoping was also discussed with Reclamation prior to preparation of the document. A second scoping meeting was held on July 27, 2007 after the project team reconvened after approximately one year when the project had been placed on hold by the City to resolve FAA issues. This meeting was attended by representatives from Reclamation, the City, TRPA, Lahontan, Lake Tahoe Airport, California Tahoe Conservancy and the project planning and design consultants.

The scoping document was circulated to several public agencies to solicit an early response from the agencies about the project. Even though this document is not an EIR/EIS requiring circulation of an NOP/NOI, the lead agencies thought it would be warranted as a scoping document given the complexity of the project. A copy of this document is included in the Administrative Record at the City. Most of the comments specific to particular resource areas have been resolved and are addressed within this document.

Some of the comments were centered around the level of environmental documentation being proposed and the recommended alternative selection process. Comments related to these issues have been addressed through the scoping process with the agencies, the result being the preparation of this document.

The level of documentation for this project was discussed at length at the 2007 scoping meeting to reach a consensus as to the type of document expected. All agencies were satisfied with an EA/IS level of documentation as long as the Lahontan comments related to water quality issues were addressed to their satisfaction.

Another meeting was held with Lahontan and the project team on October 3, 2007 where it was determined that a CEQA MND would be adequate based on proposed water quality environmental commitments and mitigation measures.

The lead agencies and others attending the 2007 scoping meeting were satisfied with the selection of the Recommended Alternative through the SWQIC process. During the SWQIC process, detailed, comprehensive evaluation of the three alternatives was conducted and Alternative 2 was recommended as the project alternative by the TAC through consensus. This process is explained in detail in Section 2, Alternatives Screening and Selection. It was also decided at this Scoping meeting that a full analysis of all the alternatives considered through the SWQIC was not needed for CEQA or NEPA as long as the selection process was discussed in detail.

1.7.1 Technical Advisory Committee

The TAC includes one member from several local, regional, state and federal agencies and project design and planning consultants. Members of the TAC includes: Lahontan, California Tahoe Conservancy, TRCD, the City, County of El Dorado (County), NRCS, CDFG, California State Parks, USACOE, USFS LTBMU, STPUD, TRPA, Entrix (Design Engineer) and CDM (Planning and Permitting Consultant) . The TAC was formed to review and comment on the data and reports. The following is a list of TAC meetings to date.

- April 4, 2004 – First TAC meeting to initiate project and TAC Charter
- January 26, 2005 – Finalize Existing Conditions Memorandum according to the SWQIC process
- March 4, 2005 – Preliminary Alternatives Evaluation
- April 7, 2006 – 90% Formulation of Alternatives Memorandum and Conceptual Alternatives
- April 27, 2006 – Final Alternatives Evaluation and Selection Criteria
- June 22, 2006 – Finalize Evaluation of Alternatives Memorandum and Select Recommended Alternative

Section 2
Alternatives Screening and Selection Process

The SWQIC process was used for the development and analysis of project alternatives. The SWQIC process requires the preparation of several alternative screening documents for use in the screening process. The documents listed below may be referenced for a complete description of the Alternatives Screening Process.

- *Upper Truckee River Middle Reach Restoration Project, Reaches 3 and 4, Alternatives Formulation Memorandum* (FAM), prepared by Entrix, April 2006.
- *Upper Truckee River Middle Reach Restoration Project, Reaches 3 and 4, Alternatives Evaluation Memorandum* (AEM), prepared by Entrix, July 2006.

The TAC chose Alternative 2 as the recommended alternative based on criteria developed through the TAC and described in the AEM. The three alternatives are described below. Section 3, Project Description includes a more detailed description of Alternative 2, the recommended alternative. This section describes the process for selecting the recommended alternative and why Alternatives 1 and 3 were eliminated from future consideration.

2.1 Alternatives Considered

2.1.1 Alternative 1 – Existing Channel with Habitat Improvements

The strategy for Alternative 1 would be to construct multiple in-channel habitat structures and bank stabilization features within the existing channel to enhance ecosystem function and alleviate bank erosion. The low-flow channel would be locally narrowed at locations where constructed in-channel structures (e.g., large wood or rock toe with backfill) would constrict channel width and create a more sinuous flow path. A new floodplain would be constructed in the airport reach by excavating the fill and lowering the meadow surface.

Channel capacity would be reduced in the airport reach from approximately 1,000 cfs to 450 cfs through excavation of the left bank airport fill and addition of channel roughness features (e.g., large wood). No new channel would be constructed as part of Alternative 1, thus the sinuosity would remain the same as the existing condition (average sinuosity is 1.11). No modifications to the STPUD pipelines or the airport runway and safety area would be made. Figures 2-1 and 2-2 show the conceptual plan view and details for Alternative 1.

2.1.2 Alternative 2 – New Channel East of the Airport

The strategy for Alternative 2 would be to construct approximately 4,000 feet of new sinuous channel (average sinuosity is 1.24) in the airport fill that would restore ecosystem processes, create a more natural channel and floodplain form, and alleviate bank erosion. A new floodplain would be constructed in the airport reach by excavating the fill east of the airport fence line. No modifications to the STPUD pipelines or the airport runway and safety area would be made.

This alternative was chosen as the SWQIC recommended alternative also known as the preferred project alternative. The selection process used for this recommendation is explained in detail within this section. Figures 2-3 and 2-4 show the conceptual plan view and details for Alternative 2.

2.1.3 Alternative 3 – Partial Airport Removal and Channel Realignment

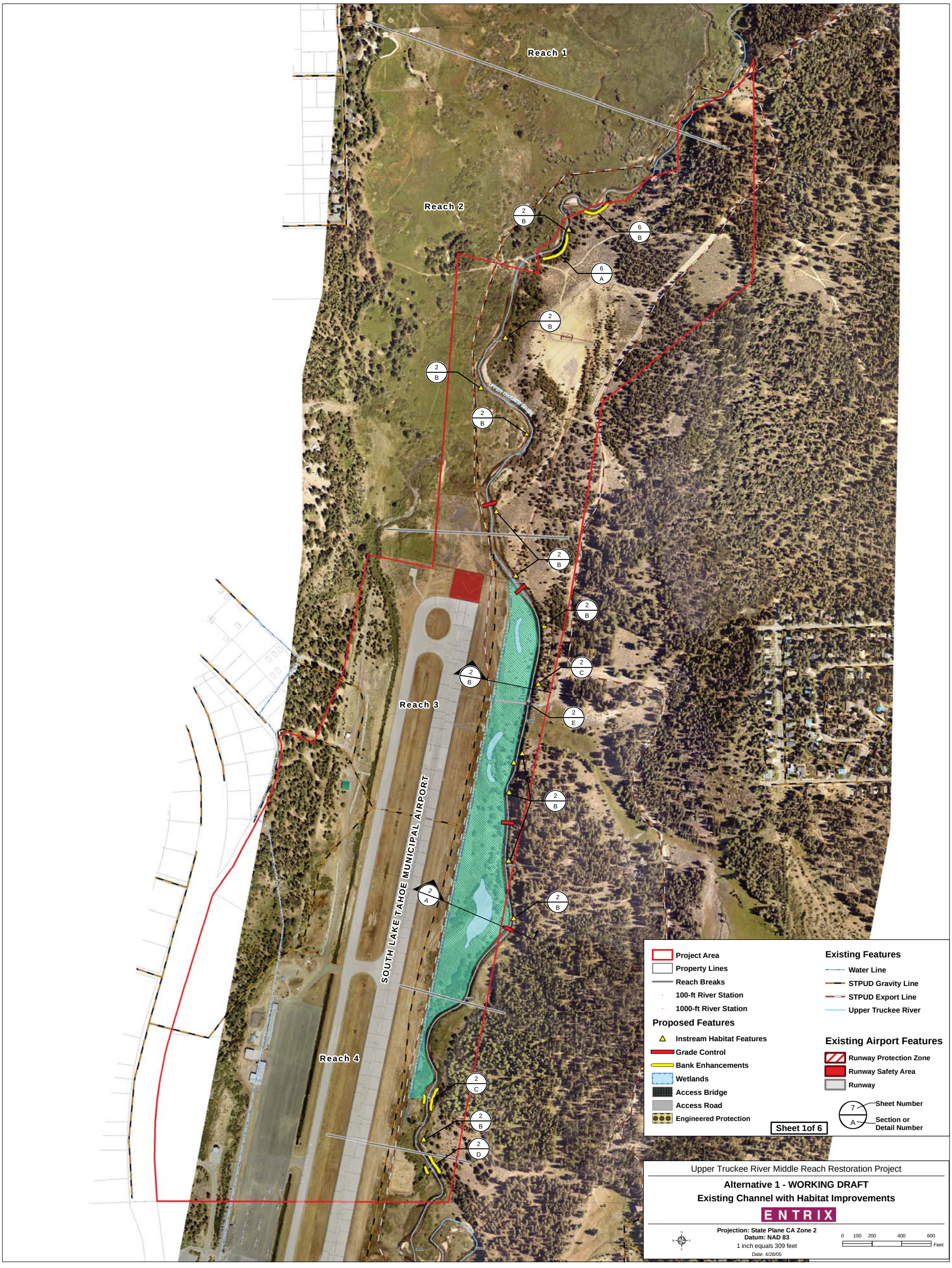
The strategy for Alternative 3 would be to remove approximately 1,500 feet of the north airport runway and construct approximately 4,800 feet of new sinuous channel (average sinuosity is 1.25) in the airport fill and existing meadow to restore ecosystem processes, create a more natural channel and floodplain form, and alleviate bank erosion. A new floodplain would be constructed in the airport reach by excavating the fill east and north of the airport fence line. Sections of the STPUD pipelines would have to be relocated to accommodate the new channel and floodplain. Figure 2-5 shows the conceptual plan view for Alternative 3.

2.2 SWQIC Alternative Evaluation and Selection Process

The SWQIC Alternative Evaluation and Selection Process is primarily used as a planning process for erosion control projects within the Tahoe Basin. During development of the project, the project proponent, funding agencies and the TAC decided to use a modified SWQIC process for this River and Habitat Restoration project along the Airport Reach because many of the project characteristics and objectives warranted its use. This process was to develop and evaluate project alternatives and determine a recommended alternative to allow the environmental planning process and final design to proceed.

Several documents were developed during the SWQIC process including the following.

- *Upper Truckee River Restoration Project Existing Conditions Report* (ECAM), prepared by CDM, January 2005.
- *Upper Truckee River Middle Reach Restoration Project, Reaches 3 and 4, Alternatives Formulation Memorandum* (FAM), prepared by Entrix, April 2006.



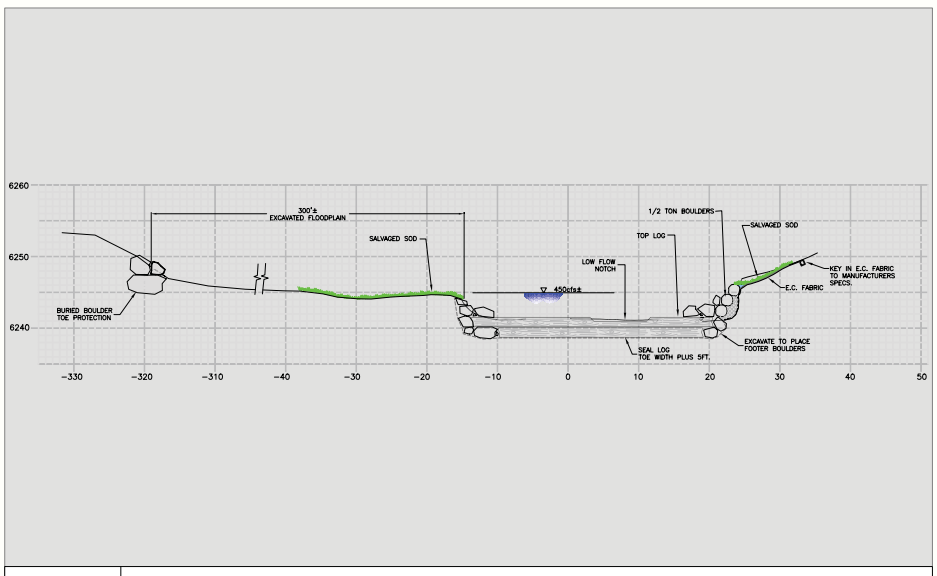
Source: ENTRIX

W:\REPORTS\Upper Truckee River\Graphics\CSLT Alternative 1 Fig 2-1.ai 11/12/07 JJT

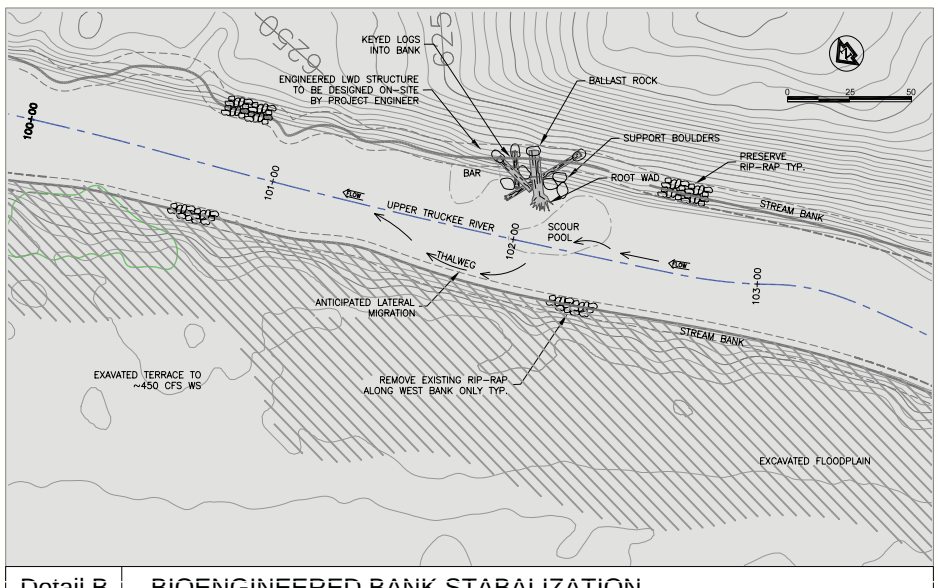
Figure 2-1

Conceptual Plan for Alternative 1 Existing Channel with Habitat Improvements

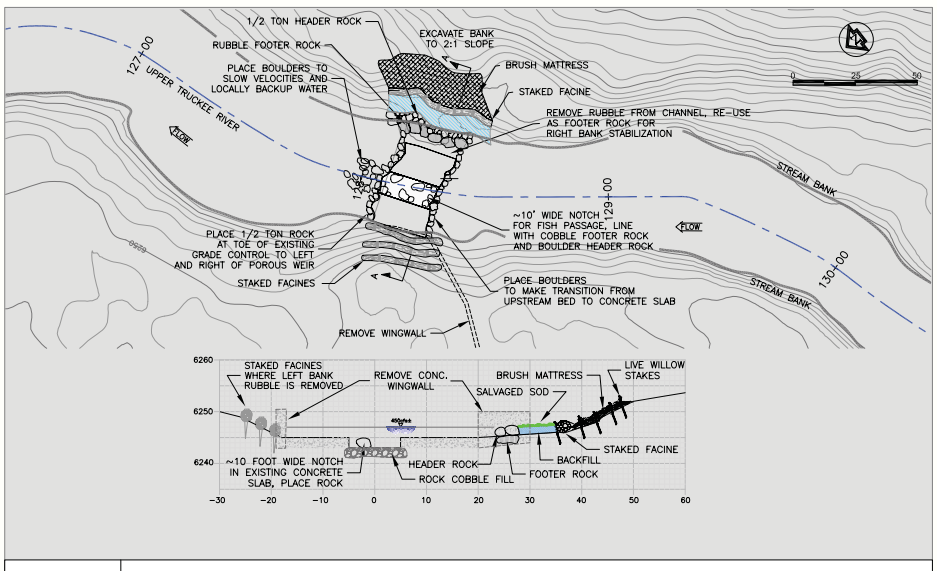
CDM



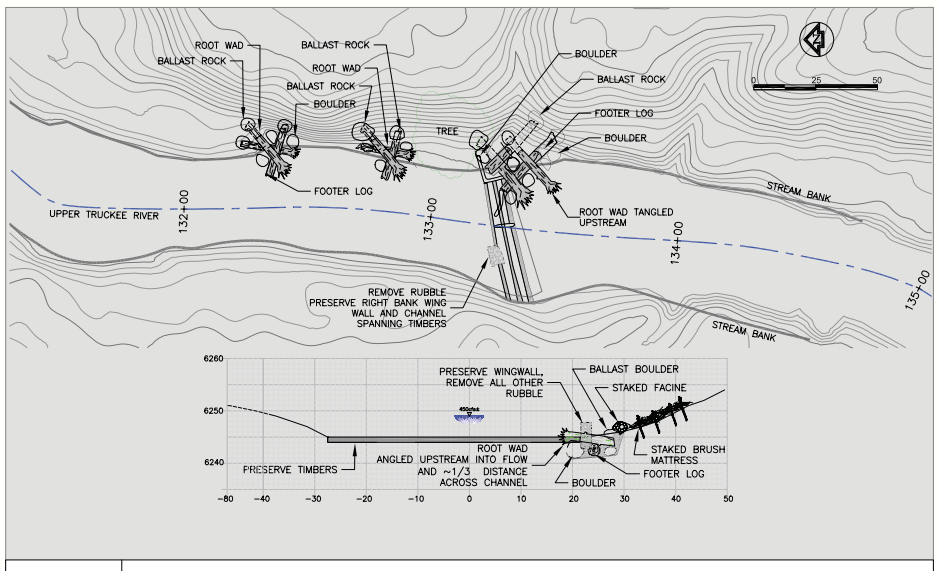
Detail A	RS 114+00 TYPICAL GRADE CONTROL STRUCTURE



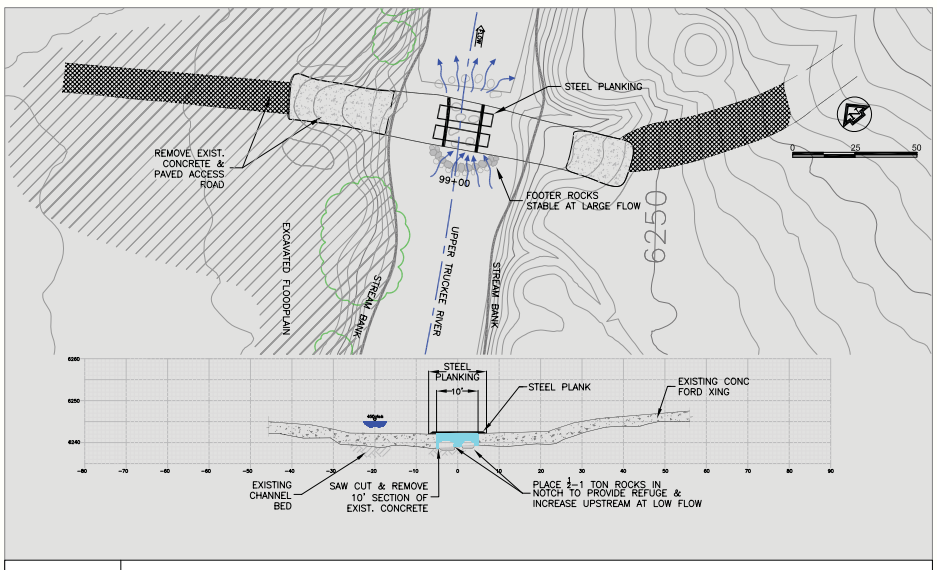
Detail B	BIOENGINEERED BANK STABALIZATION



Detail C	NOTCH IN OLD DAM AND BANK STABALIZATION



Detail D	SLOPE STABALIZATION AND CHANNEL ENHANCEMENT



Detail E	RECONFIGURE LOW-WATER CROSSING

Upper Truckee River Middle Reach Restoration Project

Alternative 1 Stream Improvement Detail Views

Sheet 2 of 6

ENTRIX

Date: 4/28/05

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Figure 2-2

Conceptual Details for Alternative 1 Existing Channel with Habitat Improvements

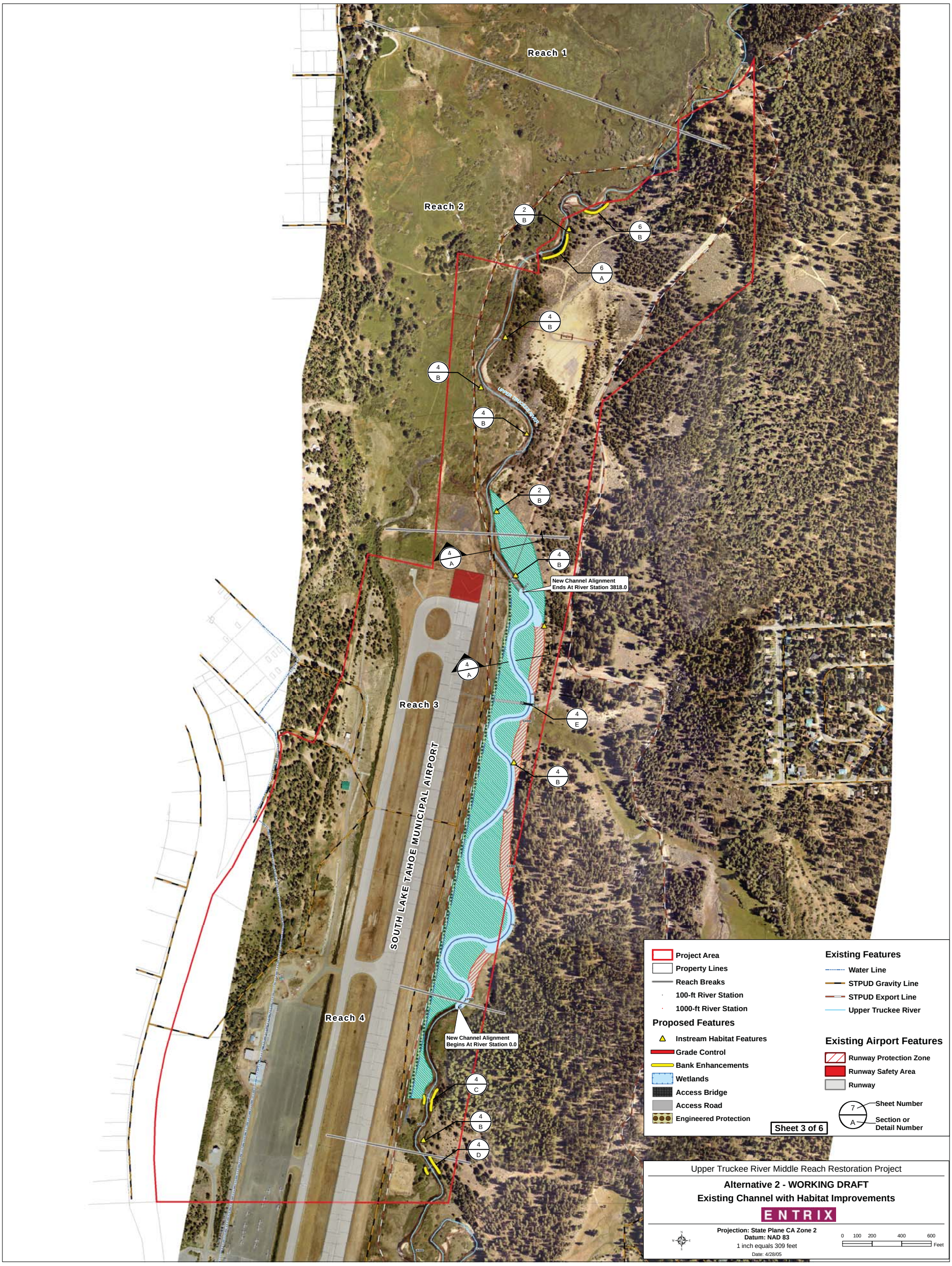

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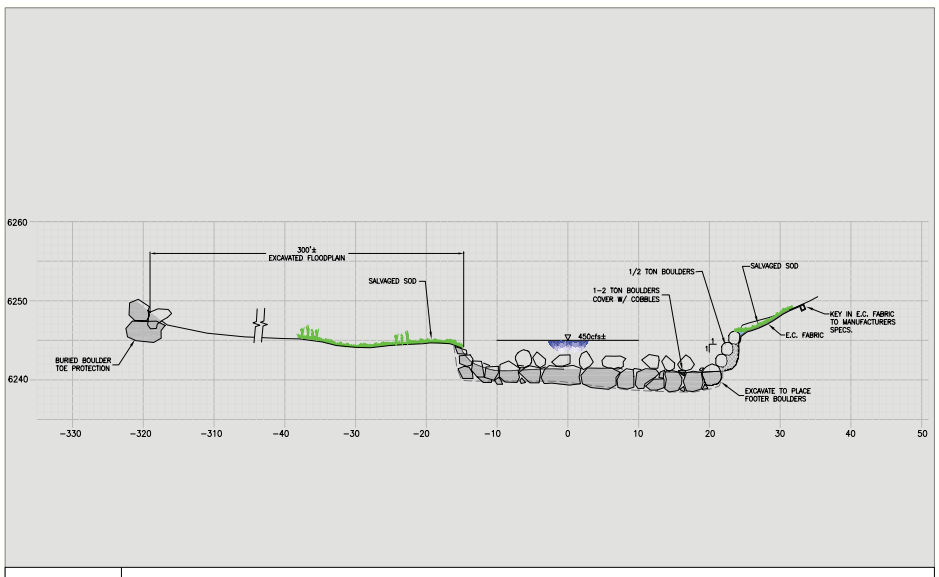
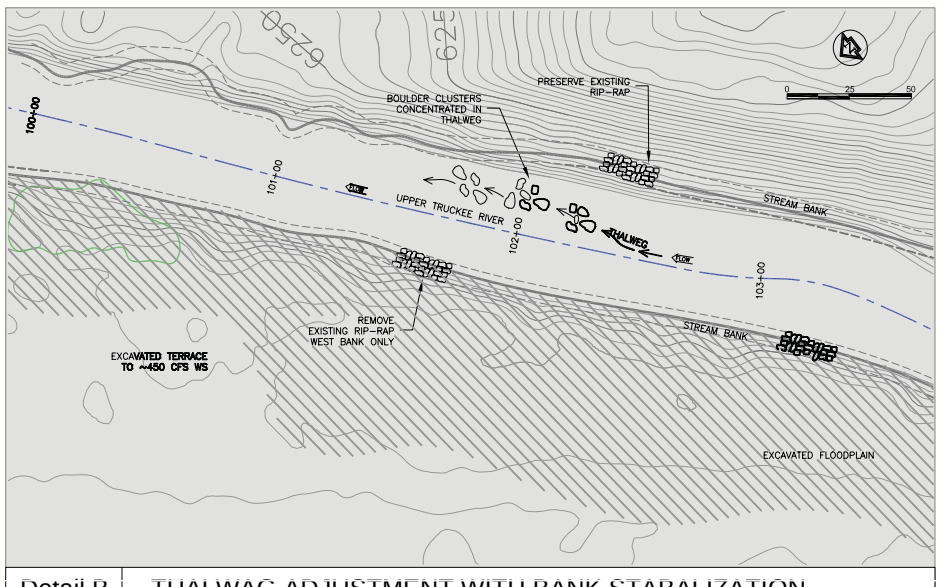
Figure 2-3

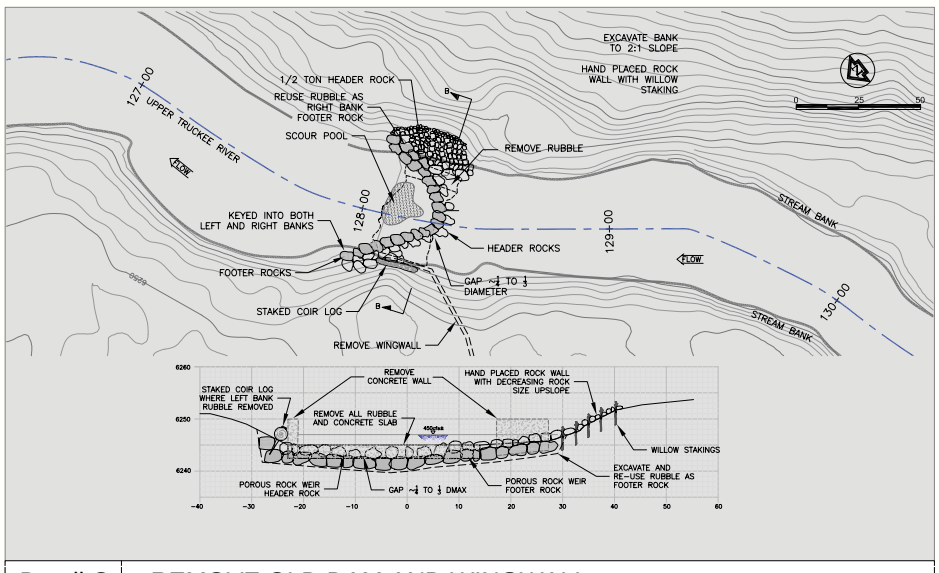
Conceptual Plan for Alternative 2 New Channel East of Airport



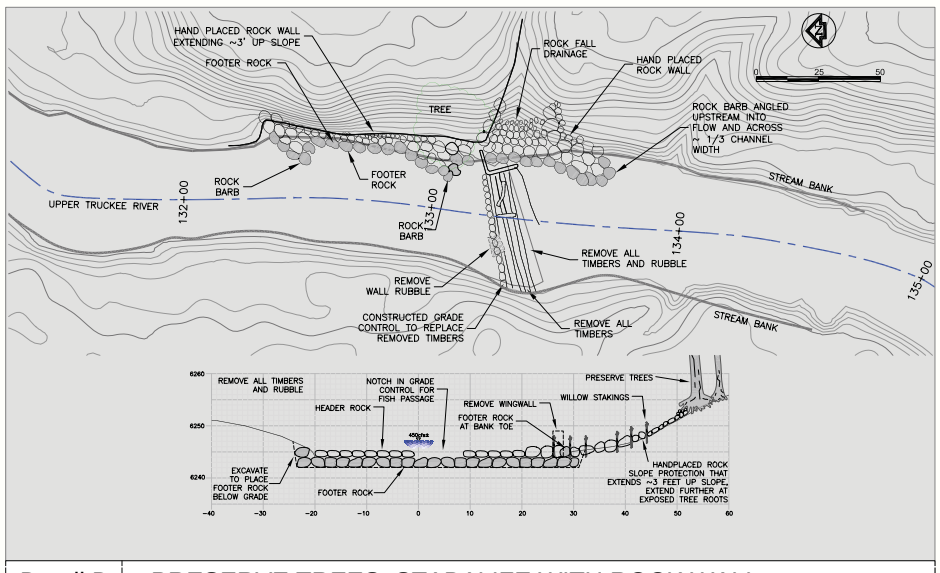
Detail A	RS 114+00 TYPICAL GRADE CONTROL CROSS SECTION



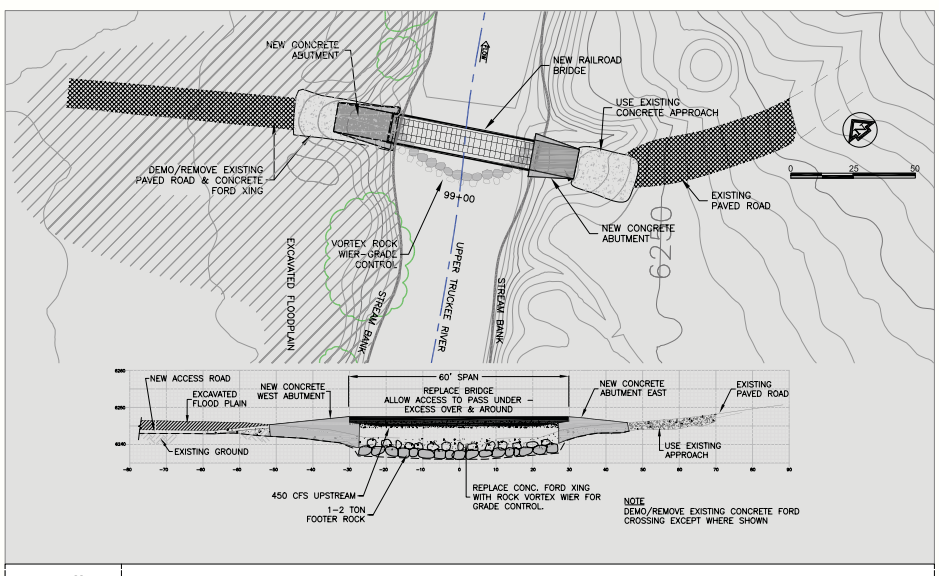
Detail B	THALWAG ADJUSTMENT WITH BANK STABALIZATION



Detail C	REMOVE OLD DAM AND WINGWALL



Detail D	PRESERVE TREES, STABALIZE WITH ROCK WALL



Detail E	REPLACE LOW-WATER CROSSING WITH RAIL CAR BRIDGE

Upper Truckee River Middle Reach Restoration Project

Alternative 2 Stream Improvement Detail Views

Sheet 4 of 6

ENTRIX

Date: 4/28/05

Source: ENTRIX

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Figure 2-4

Conceptual Details for Alternative 2 New Channel East of Airport

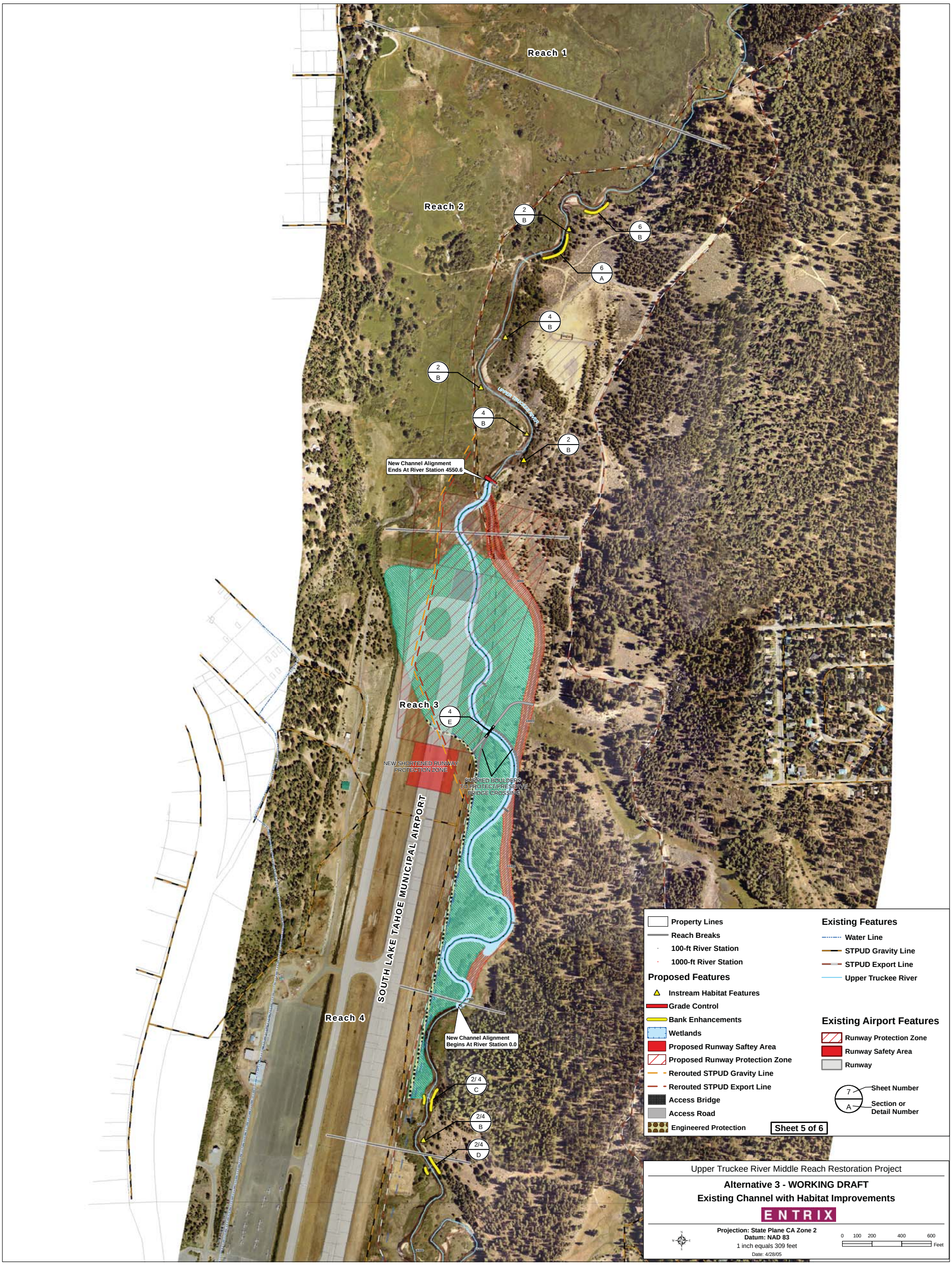

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Figure 2-5

Conceptual Plan for Alternative 3 Partial Airport Removal and Channel Realignment

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- *Upper Truckee River Middle Reach Restoration Project, Reaches 3 and 4, Alternatives Evaluation Memorandum* (AEM), prepared by Entrix, July 2006.

- *Upper Truckee River Middle Reach Restoration Project, Reaches 3 and 4, Final Recommended Alternative Project Report* (RAPR), prepared by Entrix, September 2006.

The ECAM is the first step in the SWQIC process and is a report that documents existing environmental conditions of the project area and its surroundings including information about: the Hydrology and Geomorphology, Aquatic Biology and Fisheries Resources, Vegetation, Wildlife Resources, Water Quality and Pollutant Sources, Land and Recreation Uses, Cultural Resources and a Summary of Opportunities and Constraints. Some of the information contained in the ECAM was used for preparation of the Existing Conditions in Section 4, Environmental Analysis of this document. This document ultimately outlines the opportunities and constraints to meeting the project goals. (CDM 2005)

The FAM is the second step in the SWQIC process and is a document which describes the process used to develop conceptual alternatives and key features of each of the three alternatives considered. Information related to the project opportunities and constraints and a description of the three alternatives is included in the document. The FAM considers the opportunities and constraints outlined in ECAM to formulate a range of alternatives, each with unique strategies and costs for delivering the project's objectives. The SWQIC process encourages development of a range of creative alternatives rather than focusing on the best, most practical, or least costly alternative. (Entrix April 2006)

The AEM is the third step in the SWQIC process and is a document which describes the evaluation process of the three conceptual alternatives developed during the FAM and to recommend a project alternative based on the evaluation criteria outlined in the AEM. The Recommended or Preferred Alternative was presented in the AEM based on evaluation results and input from the Technical Advisory Committee (TAC). Alternative 2 was chosen as the recommended alternative after review and comments were received for the AEM. The recommended alternative was then further developed into construction plans and specifications and environmental documentation was initiated. (Entrix July 2006)

The RAPR is the final step in the SWQIC process and is a report that summarizes the process used to select the recommended alternative and describes Alternative 2 in more detail. This document outlines the evaluation steps and evaluation criteria used to determine the recommended alternative. The information contained in the RAPR is summarized in this document to describe the recommended alternative selection process. (Entrix September 2006)

2.2.1 Evaluation Process and Criteria

The alternatives analysis during the SWQIC process used specific evaluation criteria to assess the ability of each alternative to fulfill key project objectives and desired

outcomes. For each desired outcome, a concise statement (Yes or No) was made as to whether or not each alternative met the criterion. In addition, the alternatives were ranked relative to existing conditions for each criterion with a simple quantitative scale (1 to 5). Alternatives 1, 2, and 3 rated 47, 61, and 73, respectively, for the first three objectives, indicating that Alternative 3 would have a higher level of environmental benefit. Alternative 3 also rated the highest overall with a total score of 78, Alternative 2 rated nearly the same with a total score of 75, and Alternative 1 scored significantly below that with a total score of 62. It is also important to note that Alternative 2 met the largest number of criteria, satisfying 22, while Alternatives 1 and 3 only met 19 of the evaluation criteria. (Entrix September 2006)

Table 2-1 shows the performance ranking for each evaluation criteria and provides a comparative view of the overall performance of each alternative. The table also highlights which alternatives would fail to achieve specific desired outcomes and project objectives. For additional explanation on how each alternative was ranked under each criteria refer to Section 4.0 of the Final AEM.

Table 2-1
Comparative Alternative Evaluation Results for Key Criteria

Key Evaluation	*Alternative 1*	*Alternative 2*	*Alternative 3*
1. Restore Natural and Self-sustaining River and Floodplain Processes and Functions.			
1.1.1 Longer and more sinuous channel through study reach.	2	4	5
1.1.2 Longer geomporphically-sized channel.	2	4	5
1.2.1 Increase length of channel receiving overbank flow from 2-year (760 cfs) streamflow events.	3	4	5
1.2.2 Increase area of floodplain receiving overbank flow from 2-year (760 cfs) streamflow events	3	3	5
1.3.1 No substantial increases in floodplain velocities and shear stress for the 5-year (1,600 cfs) event.	2	3	3
2. Restore and enhance fish and wildlife habitat quality			
2.1.1 Minimize risk of fish passage impairment in low-flow channel.	3	4	4
2.1.2 Decrease maximum summer water temperatures	3	4	5
2.1.3 Increase amount of streamside riparian vegetation	3	4	5

Table 2-1
Comparative Alternative Evaluation Results for Key Criteria

Key Evaluation	*Alternative 1*	*Alternative 2*	*Alternative 3*
2.1.4 Increase amount of shallow emergent habitat 1-2 ft deep.	2	3	3
2.1.5 Potential increase in the diversity of instream aquatic habitat	2	3	4
2.1.6 Raise groundwater levels during the plant growth season	3	4	5
3. Improve water quality through enhancement of natural physical and biological processes.			
3.1.1 Increase sediment deposition potential by increasing extent of floodplain inundation during overbank events.	3	3	5
3.1.2 Reduction of nutrient and fine sediment transport to downstream reaches during non-overbanking events.	2	2	2
3.2.1 Reduction of untreated runoff directly entering the UTR	3	3	4
3.3.1 Reduce long-term streambank erosion related to bank height.	2	4	5
3.3.2 Repair existing bank failures, or areas of excessive erosion.	4	4	4
3.3.3 Reduce risk of long-term streambed erosion related to incision	2	2	2
3.3.4 Minimize construction phase risk of mobilizing sediment prior to complete revegetation	2	3	3
Subtotal Score	**46**	**61**	**74**
4. Develop a cost effective, implementable design			
4.1.1 Cost per linear foot of channel, post project.	3	3	1
4.2.1 Expected O&M costs over a 5-year period.	4	3	2
4.3.1 Length of time before WQ benefits realized.	4	4	1
4.3.2 Length of time before habitat benefits realized.	4	4	1
Subtotal Score	**15**	**14**	**5**
Total Score	**61**	**75**	**79**
Number of Criteria Met	**19**	**22**	**19**

2.2.2 Recommended Alternative Selection

Although the evaluation process found that Alternative 3 would produce the greatest ecological benefit, it was also determined given the current funding timeline and excessive costs associated with relocating the utilities and removing a portion of the airport, that Alternative 3 was infeasible to implement at this time. With a total score of 75 and 22 criteria satisfied, Alternative 2 also provides important environmental benefits and is feasible both economically and physically since it requires no modification of the utility and Lake Tahoe Airport that surrounds the river channel. Therefore, Alternative 2 was chosen as the Recommended Alternative. (Entrix September 2006)

After reviewing the Draft AEM, the TAC agencies submitted written responses agreeing that Alternative 3 rated the highest in terms of potential environmental benefit, but acknowledging the infeasibility of proceeding with Alternative 3 in the near term due to cost and schedule challenges. It was recommended by the agencies to proceed with Alternative 2 as the Recommended Alternative with TRPA requesting that Alternative 3 be reserved as a potential future project, if the opportunity presents itself in the future. Agency comment letters are included as Appendix D of the RAPR. (Entrix September 2006)

Section 3
Project Description

This section describes the project location, the No Action/No Project Alternative, the recommended alternative (Alternative 2), and the construction schedule for Alternative 2. The components of the project described for Alternative 2 are taken directly from the FAM prepared by Entrix (Entrix, April 2006) with updates as appropriate.

3.1 Project Location

The UTR watershed is located within several local jurisdictions including the City of South Lake Tahoe, El Dorado and Alpine Counties. For this document, the study area encompasses land along the UTR owned by the City in the Middle Reaches 2, 3 and 4. Figure 3-1 is a project location map. Figure 3-2 is the Project Area map.

3.1.1 Project Area

The most northern point of the project area along the river is in Reach 2 near Reach Station (RS) 6000 (see 75 percent project plans in Appendix B for stationing). This is located southwest of the STPUD pump station that lies southwest of the Sierra Tract subdivision. The southernmost point of the project area is located near RS 13500 of the Upper Truckee River. The 277 acre project area spans west and includes the Lake Tahoe Airport property and east to the upland areas along Reaches 2, 3 and 4 to the Sierra Tract subdivision at Barbara Avenue.

The Reach 2 portion encompasses all City-owned property within the reach. This includes the river itself, the bank area along the east side of the existing channel and some property along the west side of the river. Reach 3 is located adjacent to the Lake Tahoe Airport property and consists of approximately 3,375 lf of channel and approximately 17 acres of modified floodplain/meadow in the UTR between the Old River Junction and the Windsock structure and the Airport runway. Reach 4 is also located adjacent to the Lake Tahoe Airport property and consists of approximately 1,175 lf of channel bounded closely by the hillslope and uplands to the east.

3.1.2 Construction Staging and Access

Construction staging, worker parking and stockpiling areas are designated in a number of locations to the east of the UTR including an area along the STPUD maintenance road. Temporary access roads would be constructed in some areas along the route from the proposed excavation area to storage areas east of the river on Airport property where soil would be stockpiled for 3 years. These areas are shown on Figure 3-3.

Trucks hauling material would cross the river at the existing low-water crossing. A temporary rail car crossing would be constructed at the low-water crossing to allow vehicles to cross the river without driving through the river water. Water filled berm would be wrapped around the temporary crossing as a BMP. They would then travel on the existing paved STPUD maintenance road to a temporary gravel road to the storage area.

3.1.3 Soil and Vegetation Stockpiling

Approximately 52,000 cubic yards of soil would be removed adjacent to the existing river channel to construct the new channel and to remove existing fill to create additional floodplain. This material would be stockpiled for placement in the existing channel once the new channel is ready for use. The material would be stockpiled for up to 3 years while vegetation along the new channel is seasoning. The material would be stockpiled in a location designated on Figure 3-3, east of the river.

A large amount of vegetation material would also be removed including willows and sod. This material, where salvageable, would also be stockpiled until it is ready to be replanted. The vegetation stockpiling locations would be near the river channel within the excavation area. A temporary propagation area would be determined where plants would be irrigated and propagated for future use within the project.

3.1.4 Fill Transport and Disposal

Approximately 52,000 cubic yards of material would be excavated. Approximately 35,000 cubic yards of the excavated material would be reused on site. The remaining 17,000 cubic yards (estimated) would remain at the stockpiling location once the project is complete and regraded to the natural contours of the environment and revegetated.

3.2 No Action/No Project Alternative

The No Action/No Project Alternative will serve as a baseline condition for NEPA against which the Recommended Alternative is compared to determine the level of significance of potential impacts. The No Action/No Project Alternative represents the future without the project condition along the Airport Reach as described in the Project Area Description, Section 3.1. Therefore, the No Action/No Project Alternative would result in no construction within the project area and the existing habitat and water quality would not be restored in this project area.

The No Action/No Project Alternative does take into account future actions along other reaches along the Upper Truckee River, primarily upstream, that could affect conditions within the Airport Reach. Alternatives have been developed for all of these projects, however, none have identified a recommended alternative. Therefore, information on the proposed actions is very conceptual and data is limited. The period of analysis for this project is the construction window, August 2008 through October 15, 2010 when it is anticipated that habitat restoration efforts would be established to allow for use of new and altered river channels. Future-without-project

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Figure 3-1
Project Location Map

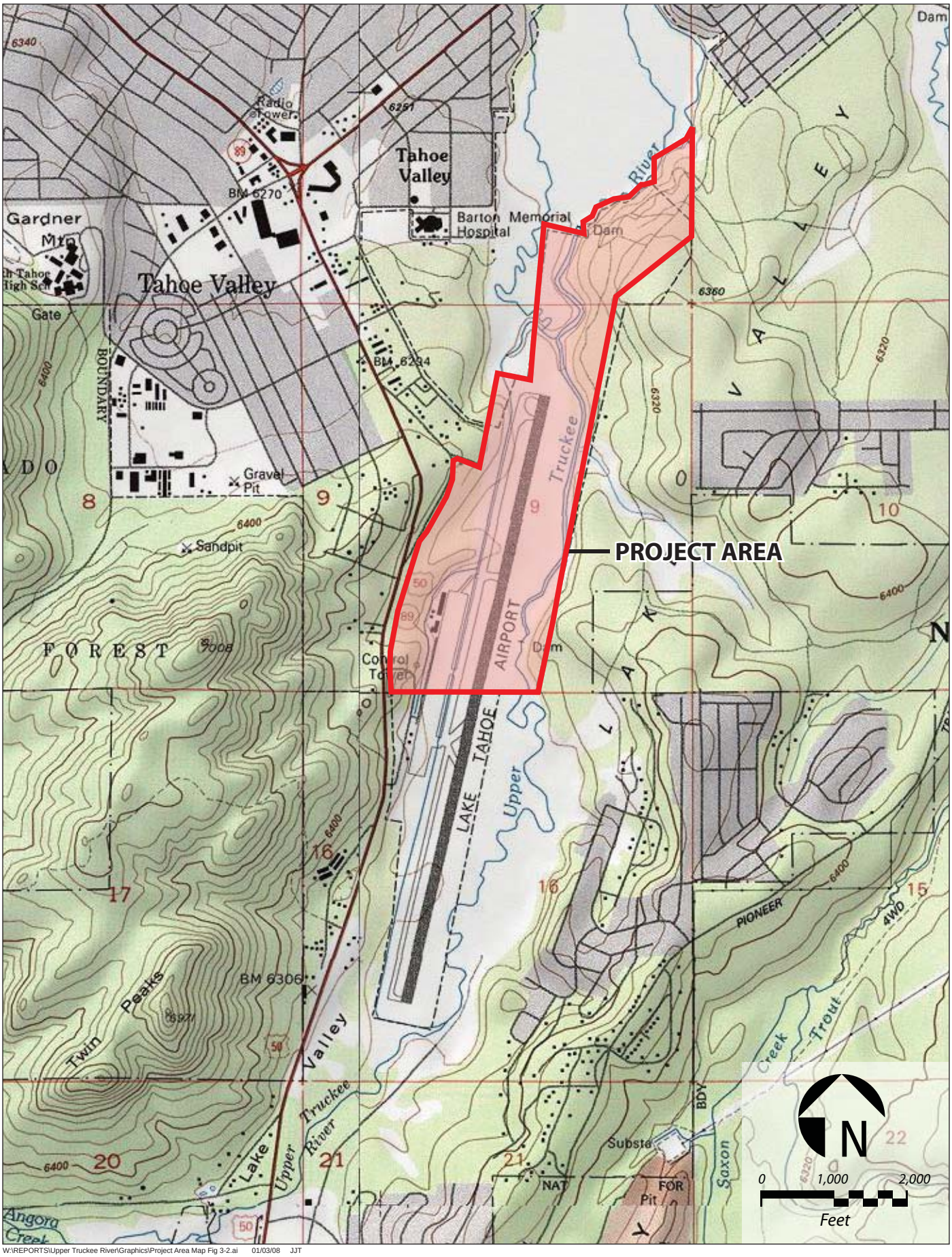

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Figure 3-2
Project Area Map

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N

0 300 600

Feet

U.S. HWY. 50

ACCESS ROAD
(HEAVY EQUIPMENT)

PROJECT BOUNDARY

SOUTH LAKE TAHOE
MUNICIPAL AIRPORT

PROPOSED NEW CHANNEL ALIGNMENT

UPPER TRUCKEE RIVER

STAGING,
STORAGE, &
STOCKPILE
AREA

LOW WATERCROSSING

ACCESS ROAD (TYP.)

PROPOSED TEMPORARY
RAILCAR BRIDGE

STAGING, STORAGE, & STOCKPILE AREA

CONSTRUCTION TRAILER AND PARKING

ACCESS ROAD
(SMALL EQUIPMENT)

BARBARA AVE.

STAGING, STORAGE, & STOCKPILE AREA

PARCEL BOUNDARY (TYP.)

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

Source: Entrix

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Figure 3-3
Construction Staging Areas & Transport Routes

conditions include the following restoration projects planned to be implemented by other agencies during the period in the UTR watershed.

- The Upper Truckee River and Marsh Restoration Project is located downstream of the project area south of the Highway 50 bridge to the mouth at Lake Tahoe. A joint CEQA/NEPA/TRPA environmental document is being prepared with environmental document approval currently scheduled for June 2009. The project is jointly funded by the California Tahoe Conservancy and Reclamation. Four alternatives are being considered. Construction is scheduled to begin in the summer of 2010. (Personal Communication Carroll 2007)

- The River Enhancement project encompassing Reach 2 was funded by the TRCD and originally include all of the property along Reach 2. The project has been placed on hold due to issues with the private land-owner. In order for TRCD to be able to use secured funds, the City-owned portion of the Reach 2 project is now a part of the project being analyzed by this document. It is uncertain what the timeframe for construction will be for the non City-owned portion of the river improvements. For the purpose of this document, it is assumed that construction will begin after 2010.

- The Sunset Stables reach is located directly upstream from the Airport project. The project is jointly funded by the USFS and the California Tahoe Conservancy. A joint CEQA/NEPA/TRPA environmental document will be prepared for construction to begin in summer of 2009. The current schedule is to initiate environmental documentation preparation in the winter of 2007/2008 with a recommended alternative. The earliest that construction could begin would be in 2009. (Personal Communication Carroll 2007)

- The California State Parks project is located at the existing public golf course upstream of the Sunset Stables project. A joint CEQA/NEPA/TRPA environmental document is being prepared and is scheduled for release of a draft by spring of 2008. Action alternatives being considered include: relocation of portions of the golf course further away from the river and restoration of the river and former golf course to a natural state; stabilization of the river in place and no change to the golf course; elimination of the golf course and river restoration; and reduction of golf area to a 9-hole or 18-hole executive course and river restoration. Action alternatives are being developed through the environmental document process. Construction is expected to begin in 2010 with construction of a the golf course component and river restoration construction beginning in 2011. (Personal Communication Carroll 2007)

3.3 Alternative 2 – New Channel East of the Airport (Recommended Alternative)

Alternative 2, New Channel East of the Airport is the Recommended Alternative (CEQA Preferred Project Alternative) and 75 percent plans have been developed. In this document, when referring to the Recommended Alternative it is also considered the CEQA Preferred Project Alternative. The 75 percent level plans (Appendix B) and project description updates from Entrix were used for the analysis for Alternative 2. The strategy for Alternative 2 would be to construct approximately 4,000 feet of new sinuous channel in the airport fill that would restore ecosystem processes, create a more natural channel and floodplain form, and help to reduce bank erosion. A new floodplain would be constructed in the airport reach by excavating the existing fill east of the airport fence line. No modifications to the STPUD underground sewer lines or the airport runway and safety area would be made. The total area of disturbance proposed within the project area would be approximately 27.6 acres. Table 3-1 shows a breakdown of estimated disturbance by construction task. Additional project components are explained in detail below.

Table 3-1
Estimated Proposed Area of Disturbance

Construction Task	*Estimated Area of Disturbance (acres)*
Floodplain and New Channel Excavation	17
Stockpile Area	3.7
Equipment Staging	1.6
Fill Old Channel	2.8
Bank Stabilization	.2
Upstream Channel Fill	1.6
New Access Roads	.2
Bank Stabilization Wall	.9
Total	**28**

3.3.1 Proposed Restoration Efforts

3.3.1.1 Channel Planform

A new sinuous, single thread channel with irregular meander loops would be constructed where the existing airport fill would be removed between the airport and the existing channel. The channel alignment drawn on Sheet C3 in Appendix B is an approximation of how the new channel would look. Final length and planform geometry for the new channel would be based on the equilibrium slope required to pass the flow and sediment load supplied to the UTR from upstream of the new channel. Based on bedload transport rates and valley floor slope, preliminary calculations indicate that the new channel length and sinuosity would be approximately 4,000 feet and 1.5, respectively. The existing channel would be filled at or near an elevation equal to the newly excavated floodplain (Entrix, April 2006).

3.3.1.2 Channel Capacity

Channel capacity would be reduced in the airport reach from approximately 1,000 cfs under the existing condition to 450 cfs in the new channel. Beginning at approximately RS 13000, the existing airport fill on the west bank would be excavated. The depth of excavation would progressively decrease to about 2 feet at approximately RS 12000, at which point the floodplain surface would equal the top of bank elevation of the new channel with a design discharge of 450 cfs. Excavation of 2 feet or more of the airport fill would continue downstream and end at approximately 0 feet at RS 8900, allowing the new channel to flow back into the existing channel (Entrix, April 2006). The total excavation volume would be approximately 52,000 cubic yards.

No floodplain would be excavated downstream of the airport reach, between RS 8900 through RS 5050. Channel capacity in this reach would remain similar to the existing condition, ranging from about 450 cfs to 1,000 cfs. Some reduction in channel capacity would be achieved through construction of in-channel habitat structures (e.g., large wood or boulder clusters) (Entrix, April 2006).

3.3.1.3 Channel Cross-Section Geometry

Cross-section geometry in the newly constructed channel would be more heterogeneous than the largely planar bed existing condition. Constructed pools and riffles associated with the meandering channel form would add complexity to channel topography. Channel width would vary along a pool-riffle unit. At channel capacity, preliminary analysis indicates that mean channel width in the new airport reach channel would be about 40 feet, and mean channel depth would be about 4.0 feet (Entrix, April 2006).

Upstream and downstream of the new channel, channel width would continue to range from approximately 63 to 70 feet, and mean channel depth would be about 4.0 feet. Placement of habitat structures in these reaches would promote future changes in channel geometry. Alteration of hydraulics and sediment transport at the constructed habitat structures would create localized diversity in the channel geometry, including scour pools, coarse grained riffles, and depositional bars (Entrix, April 2006).

3.3.1.4 Floodplain Connectivity

Excavation of the airport fill would transform a terrace surface that floods approximately once in every 3 to 5 years to a floodplain surface that floods more frequently. From RS 13000 to RS 12000, where the depth of airport fill excavation would progressively decrease downstream, the frequency of flooding would increase. At RS 12000, where the left bank elevation would equal the 450-cfs design discharge, overbanking frequency onto the floodplain would occur approximately once every 1.5 years. The extent of the overbanking would not change.

Over time, sediment deposition and lateral channel movement promoted by the inchannel structures would produce bars and new incipient floodplain within the incised meander belt (Entrix, April 2006).

Engineered bank toe protection along the east side of the airport fence would be constructed to protect potential lateral movement of the channel into the airport. Protection could be rock, as shown in the plans, or another type of engineered material (e.g., large wood or geosynthetics) (Entrix, April 2006).

Downstream of the excavated airport fill, RS 8900 to RS 5050, no changes would be made to the existing meadow surface. Overbanking frequency onto the floodplain would slightly increase due to the increased hydraulic roughness and resultant rise in the water surface elevation created by the constructed in-channel habitat structures.

3.3.1.5 Bank Stabilization

Bank stabilization treatments would be focused on locations where substantial bank erosion is evident and would continue to be a fine sediment source if left untreated. These are primarily locations where the impinged channel is cutting into the steep east hillslope and producing a continuous source of sediment. Bank erosion considered to be the result of natural fluvial processes (i.e., the outside of meander bends) would not be treated. More localized bank protection would be implemented at locations where existing hydraulic structures are removed or modified, where new hydraulic/habitat structures would be constructed, and at the transition between existing and new channel (Entrix, April 2006).

The failing dam and wing wall at RS 12800 would be removed and a Thalweg adjustment would be constructed to raise the bed elevation with the placement of clean gravel or rock in the river bed. A staked fascine would support a brush mattress with live willow stakes on the newly laid back east bank. The fascines would provide bank protection for 2 to 4 years, during which time the willows would have had time to establish and provide long-term protection. Rock would be placed in the channel near the east and west bank toes and backfilled with soil and salvaged sod. A hand placed graded rock wall would be constructed up the east bank slope along the eroding section. The rock wall bank stabilization would wrap into and out of the east bank drainage. (Entrix, April 2006).

Slope stabilization, tree protection and Thalweg adjustments are proposed at RS 13300. Timbers, the wingwall and rubble from an old bridge structure would be removed. Hand placed rock for slope and tree protection with willow stakings would extend approximately 3 feet up the eastern slope behind the footer rock extending further at exposed tree roots. A rock fall drainage would be constructed above the slope protection to prevent further erosion of sediment from the drainage into the channel.

Root wad habitat enhancements would be placed downstream of the new channel at approximately RS 8400 and RS 7800. These structures would consist of logs keyed into the bank with boulders and rootwads for support.

3.3.1.6 Grade Control

Rock weirs would be constructed at strategic locations on the UTR to promote bed aggradation. Rock weirs would be constructed to maintain grade using a channel spanning continuous row of large footer boulders buried below the bed of the channel. Above the footer rocks would be a layer of header rocks with spaces between individual rocks to allow for passage of water, sediment, and aquatic organisms. The structure would arch upstream to concentrate flow into the middle of the channel and away from the banks. The weir would also be keyed into the west and east banks with large rocks to prevent the channel from flanking the structure. Water velocities would be slowed upstream of the weir, thereby forcing sediment deposition. Over time, continued sediment deposition would lead to bed aggradation and a rise in the bed elevation which is a restoration objective of the project. (Entrix, April 2006).

There are three existing structures that are providing grade control within Reaches 3 and 4. Two structures would be removed and Thalweg adjustments will be made. The banks in these locations will also be stabilized (Entrix, April 2006). These structures include the existing low-water crossing at RS 9875, the failing dam at RS 12800, and the channel spanning timbers as RS 13300.

The existing low-water crossing will remain as is with the existing concrete remaining in place. The bed elevation approaches to the low-water crossing in the channel upstream and downstream will be raised with clean washed gravel and 6 to 8 inches of cobble to meet with the bed elevation of the new channel. Placement of gravel and cobble will continue upstream and downstream of these approaches as well in the new channel. A Thalweg adjustment will be placed downstream of the low-water crossing as well. The adjustments to the bed elevation will keep the low-water crossing from acting as a grade control and fish migration barrier. Clean gravel road approaches will be constructed on both ends of the low-water crossing as permanent BMPs for the low-water crossing.

The bed elevation upstream of the dam (RS 12800) is about 1 foot higher than the bed elevation downstream of the dam. A concrete sill poured across the entire channel width currently provides the bed grade control. The failing dam and wing wall at RS 12800 would be removed and a Thalweg adjustment would be constructed. Rubble removed from the dam would be re-used as footer rock at the east bank toe. Header rock would be placed above the footer rock and backfilled with soil and salvaged sod. After rubble from the dam is removed on the west bank, a staked coir log with footer and header rock would be placed where the rubble was removed to stabilize the banks.

The channel spanning timbers, the wingwall and rubble from an old bridge structure currently providing grade control at the dam (RS 13300) would be removed. A Thalweg adjustment would be constructed here. Header rock placed above footer rock and backfilled with soil and salvaged sod would be placed on the east bank. Rock barbs would be placed into the flow and across approximately 1/3 channel width. These would be angled upstream.

3.3.1.7 Aquatic Habitat

In-channel structures would be constructed to provide direct improvements to aquatic habitat. These structures would include engineered large wood jams, boulder clusters, and porous rock weirs. Alternative 2 would mostly improve aquatic habitat by restoring natural geomorphic processes and complex bed forms through construction of a new channel (Entrix, April 2006).

The hydraulic and structural diversity of any engineered large wood jam in the channel would create habitat for nearly all stages of fish life. Large wood jams would trap sediment, constrict flow and create a scour pool, and create a bar where flow diverges and deposits sediment. Accelerated velocities created by the large wood jam would increase the amount of coarse substrate necessary for fish spawning and a healthy macroinvertebrate community. Large wood would create water velocity gradients that provide feeding lanes where fish can rest in relatively slower water and catch food coming downstream in the faster water. The interstitial spaces and structural complexity created by large wood would create cover and provide refuge for fish from high velocities and predators. Large wood would also provide shade and lower water temperatures (Entrix, April 2006).

The placement of large and immobile boulders into clusters in the channel would add hydraulic and structural complexity. Depending upon their shape and orientation to the flow, boulders would produce scour on the upstream face and deposition on the downstream side. The alteration of water depth, velocity, and substrate size would generate many of the same benefits to aquatic habitat as described above for large wood (Entrix, April 2006).

Root wad habitat enhancements would be placed downstream of the new channel at approximately RS 8400 and RS 7800. These structures would consist of logs keyed into the bank with boulders and rootwads for support.

3.3.1.8 Riparian Vegetation

Airport fill would be removed and salvageable riparian plant material replanted to help improve riparian vegetation. Clearing and grubbing of large rocks, trees and brush would be completed along the west side of the existing UTR at a width of approximately 20 feet to allow for the water filled berm excavation, willow transplanting and silt fence protection.

Approximately 463 lodgepole pine trees over 6 inches diameter at breast height (dbh) would be removed to construct the new channel and bank stabilization along the Airport Reach. Included in this figure amount is approximately 192 trees over 14 inches dbh which require a permit for removal from TRPA. All salvageable willows and sod would be replanted after the fill is removed. Some of the trees will be reused on site to construct inchannel improvements. Irrigation and the addition of soil amendments to the newly created floodplain would be necessary until vegetation is established. Willow plantings would occur at bank stabilization sites (Entrix, April 2006).

Approximately 100 trees will be used for the restoration effort for stabilization measures and to construct inchannel habitat structures. The remaining trees will be transported to an area within the Airport property to be processed for mulch and/or firewood.

Irrigation of newly planted vegetation shall be accomplished through mechanical irrigation. The source of water shall be the Upper Truckee River or groundwater if needed. Mechanical irrigation shall be accomplished through the placement of a temporary piping and sprinkler head system. Irrigation systems shall eliminate plant stress without causing adverse soil movement by utilizing slow water delivery and low impact spray nozzles. Watering shall be done in a manner that does not cause erosion. Additionally, watering shall provide sufficient cover over all sod or seed placement, and watering shall be of sufficient duration to saturate the soil to a depth of at least two inches below the root zone (six inch minimum depth).

Hydrologic connection between the channel and newly created floodplain where the airport fill is removed would be improved and may indirectly improve riparian vegetation. Excavation of the fill and added flow resistance provided by placement of inchannel hydraulic structures would increase the frequency of overbank flows onto the new floodplain. Small depressions would be constructed in the meadow to create seasonal wetland habitat. Additionally, the floodplain would be graded with small undulations to provide the topographic gradation necessary for establishment and survival of niche species. These restoration activities would raise groundwater levels, which in turn would improve riparian and wet meadow vegetation growth and sustainability. Streambank riparian vegetation may be enhanced by removal of the west bank rip-rap and replanting. Furthermore, rock weirs and engineered large wood jams would create backwater effects that could locally elevate water levels and provide the conditions necessary for improved riparian vegetation. The sediment bars created at engineered large wood jams would potentially be colonized by riparian vegetation (Entrix, April 2006).

Over-planting or fence protection of new vegetation may be methods used to mitigate for potential beaver browsing impacts, and where feasible, local plant material would be used (Entrix, April 2006).

3.3.2 Excavation and Grading

Beginning at approximately RS 13000, the airport fill on the west bank would be excavated. The depth of excavation would progressively decrease to about 2 feet at approximately RS 12000, at which point the floodplain surface would equal the top of bank elevation of the new channel with a design discharge of 450 cfs. Excavation of 2 feet or less of the airport fill would continue downstream and end at 0 feet at approximately RS 8900, allowing the new channel to flow back into the existing channel. This material would be stockpiled for up to three years in and area located to the east of the UTR on City property. This area is identified on Figure 3-3.

The total excavation volume would be approximately 52,000 cubic yards. It is anticipated that approximately 35,000 cubic yards of this material excavated for floodplain restoration and new channel construction would be reused onsite and placed in the original channel once the new channel is ready for implementation. Approximately 17,000 cubic yards of excess excavated material would be left at the stockpiling location for disposal. This area would be revegetated upon project completion.

Equipment proposed for use on the site include: trucks with a 15 cubic yard load capacity for hauling, loaders, bulldozers and backhoes. Hours of grading operation would be approximately 10 hours per day, 5 days per week between 8:00 AM and 6:30 PM. Most of the excavation and grading would take place between August and October 15, 2008. There could be additional grading the following summer at different times. The stockpiled fill would be placed back into the original channel between July and October 15 in 2010.

3.3.3 Construction Staging and Material Storage

As described in Section 3.3.2, approximately 52,000 cubic yards of soil would be removed for construction of the new channel and floodplain. This material would be stockpiled and approximately 35,000 cubic yards would be placed in the existing channel once the new channel is ready for use. The material would be stockpiled for up to 3 years while vegetation along the new channel is seasoning.

A large amount of vegetation material would also be removed including willows and sod. This material, where salvageable, would be stockpiled until it is ready to be replanted. The time needed for stockpiling of the vegetation material would be up to 3 years. The vegetation will placed along the river within the excavation area until it is ready for use onsite.

A parking area would be designated on the east side of the river for approximately 30 cars for construction workers (Figure 3-3). Parking may also be provided within paved areas of the Airport if needed.

3.3.4 Fill Transport and Disposal

As described in Section 3.3.2, approximately 52,000 cubic yards of soil would be removed for construction of the new channel and floodplain. This material would be transported to a stockpiling location east of the UTR identified on Figure 3-3. This material would be hauled with trucks capable of hauling up to 15 cubic yards per trip which would require approximately 3,467 round trips to and from the stockpiling location.

Temporary access roads would be constructed for transport of material to and from the construction site and to stockpiling locations. A temporary rail car crossing would be constructed at the low-water crossing to allow vehicles to cross the river without driving through the river water. Water filled berm would be wrapped around the temporary river crossing as a BMP. The access route would include the existing

STPUD paved maintenance road as well. The new temporary access roads are shown on the Figure 3-3 These roads would likely be constructed of gravel and road base. These roads would not be permanent and would be removed and the area restored to preconstruction condition. Areas would be revegetated or stabilized where needed once use of the roads is completed.

Approximately 35,000 cubic yards of soil would be used to fill the old channel once the new channel is completed and accepting flow. This soil would be transported back to the old channel in year 3 of construction. Trucks capable of hauling up to 15 cubic yards per trip would be used. This would result in approximately 2,334 truck trips in year 3.

Approximately 17,000 cubic yards of soil or less would remain at the stockpiling location as a permanent disposal site for excess material generated from the project. This area would be regraded to the natural contours of the environment and revegetated once the project is completed.

3.3.5 Construction Controls and BMPs

The following Construction Controls and Best Management Practices (BMPs) and would be implemented during construction. These construction controls are being included to reduce potential impacts to air quality, aquatic resources, wildlife resources, vegetation, wetlands, cultural resources, geology and soils, hydrology and water quality, noise, recreation, traffic and circulation, and utilities. Many of the measures listed below also appear as environmental commitments and mitigation measures for some of the resource areas in Section 4. While these measures are listed in the project description, they are still considered to be environmental commitments and mitigation measures because they were added to the project description as the Environmental Assessment/Initial Study and TRPA Initial Environmental Checklist was developed.

3.3.5.1 Air Quality

- The contractor shall submit a permit application for fugitive dust control plan including the dust control measures as stipulated in El Dorado County Air Quality Management District Rule 223-1 Table 1 and 2, such as spraying water, applying soil stabilizer, covering stockpiles, haul materials, etc.

3.3.5.2 Aquatic Resources

- Fish rescue shall be performed prior to dewatering or partial diversion of water from the stream course or other aquatic habitats in the project area where fish may be present, in order to avoid stranding of fish during construction activities. The removal and relocation of fish shall be performed by a qualified biologists using techniques such as electrofishing and seining. Specimens shall be relocated to viable and comparable habitats in the immediate vicinity that are to remain undisturbed for the duration of construction activities.

3.3.5.3 Wildlife Resources

- Any sighting of listed species, sensitive species, or location of nest or dens of these species will be reported to a U.S. Forest Service (USFS) or TRPA biologist by the contractor or City's Construction Manager. These nest or den locations will be protected in accordance with the Sierra Nevada Forest Plan Amendment (SNFPA) 2000 and the Environmental Threshold Carrying Capacities for the Lake Tahoe Region guidelines.

- The City or their Construction Manager will consult with agency biologists (e.g., TRPA, USFS) to determine whether information on northern goshawk nesting is available. If no agency surveys have been performed, pre-project surveys will be conducted to determine the location of any active nests.

- An annual protocol level willow flycatcher survey will be performed prior to construction to be coordinated by the City or their Construction Manager. If willow flycatchers are detected nesting in the project area, an agency mandated protected activity center will be delineated and a LOP will be applied.

- Special status wildlife species with agency-mandated protected activity centers and limited operating periods found breeding in the project area should be reported to the City or their Construction Manager. If this occurs, a protected activity center will be delineated by a USFS or TRPA wildlife biologist and a LOP will be implemented.

- All trash created during construction will be properly contained (wildlife-proof containers) and removed at the end of each day.

- Any management activities that require removal of trees and shrubs should be conducted outside the avian nesting season (April 1 through August 15) unless a qualified biologist determines that no nesting is occurring. The City shall retain a qualified biologist to conduct a focused survey for active nest sites of migratory birds covered by the MBTA within a 1/8 mile radius prior to (i.e., within 15 days) the onset of construction activities initiated during the nesting season (April 1 through August 15). If active nests are located during the preconstruction surveys, the biologist shall consult with CDFG and/or USFWS to determine an appropriate buffer around the nest. The buffer will be implemented until the juveniles fledge or the adults abandon the site if the nest fails. The size of the buffer will depend on various factors such as vegetation and topographic screening and the type of project activities in the nest's vicinity.

3.3.5.4 Vegetation

- During construction, upland and riparian native vegetation would be removed and native riparian vegetation of good quality shall be stockpiled and replanted once the new channel is constructed.

- The vegetation shall be irrigated and soil amendments added while it is being stockpiled. Soil amendments and irrigation shall also be used to help with plant establishment after replanting.

- Over-plant new vegetation or provide fence protection of new vegetation to help prevent beaver browsing under the direction of the City's Construction Manager.

- Disturbed areas shall be revegetated or stabilized where needed once construction is complete.

- The stockpile site shall be regraded to the natural contours and revegetated at the completion of the project.

- Noxious and invasive weed control shall be identified in the plans and specifications.

3.3.5.5 Wetlands

- Place construction fencing around wetland areas identified on the Wetlands Delineation Map that are located outside of proposed disturbance to avoid disturbance during construction.

3.3.5.6 Cultural Resources

- In the event of fortuitous discoveries of buried or concealed heritage resources, ground disturbance activities should cease in the area of the find and the project sponsor should consult a qualified archaeologist for recommended procedures. If human remains are inadvertently discovered, California law requires that work must stop immediately and the county coroner must be notified. If the remains are Native American, AB 297 makes it mandatory that the coroner notifies the members of the Washoe Tribe to insure that proper treatment is given to the burial site.

3.3.5.7 Geology and Soils

- The contractor will implement appropriate bank stabilization measures to reduce erosion as described in the project description and Section 4.12 Hydrology and Water Quality.

- Revegetate all disturbed areas and reuse excavated top-soil and vegetation whenever possible.

- Use gravel with road base to construction access roads.

- Cover all exposed stockpiles to reduce wind and water erosion.

- Keep construction vehicles and equipment within designated areas.

3.3.5.8 Public Safety and Hazards/Risk of Upset

- The contractor shall develop and implement a construction safety plan that will include safety measures for travel through Runway Safety Areas and Object Free Area to include schedule of travel, procedures to ensure Airport Safety, NOTAM procedures, and responsible personnel.

- Daily coordination between the contractors for both the River Restoration project and the Runway Reconstruction project for safety related issues shall be conducted.

- Determine and mark the location of existing South Tahoe Public Utility District facilities prior to construction. Contractor shall conduct an Underground Service Alert (USA) notice prior to excavation. Excavation will not begin until all utilities in the area have been marked.

- Construct engineered bank stabilization at the edge of the airport easement to protect South Tahoe Public Utility District facilities and the airport runway from complications due to lateral movement of the river.

3.3.5.9 Hydrology and Water Quality

- Earthwork shall be confined to areas of construction activities according to the construction phasing plan and Figure 3-3. This information will be included in the contractor specifications. Filter fencing will be installed around all of the stockpile locations and equipment storage areas.

- An internal drainage system shall be constructed and maintained within the project site during all construction activities to contain any runoff within the project boundary and prevent it from exiting the site. Localized pumping will be used to hydraulically contain turbid groundwater or standing water as a result of excavation of saturated soil. The turbid water will be treated at an upland area at the project site in a temporary settling basin to levels below TRPA and Lahontan thresholds prior to discharge as described in Section 4.12.5.1. Once water has had time to settle, clean water will be released into the UTR downstream of RS 8900.

- Stockpiled and transported material will be covered to control stormwater runoff.

- Construction vehicles will be serviced in specific upland areas or stabilized areas to prevent accidental spills of fluids, oils and lubricants into surface water. This area will consist of a clean gravel pad with an impervious liner underneath.

- Construction equipment shall be cleaned to remove any loose dirt or sediment prior to exiting the site. Washing will take place in an area stabilized with crushed stone and drain to an approved sediment trap or basin.

- All spills shall be reported to Lahontan and procedures and response protocols for immediate cleanup outlined in the SWPPP shall be implemented. These procedures shall include placement of sandbags, gravel, boards or other TRPA

approved methods to prevent spilled material from entering any drainage facilities or areas.

- Construct temporary 4 to 6 foot high water filled berms in Year 1 to isolate the construction site, and protect the river from spring runoff prior to implementation of the new channel. These water filled berms will be placed at the two tie in ends between the old and new channel and run the entire length of the existing channel from the two tie in points. The water filled berm will be wrapped around the low-water crossing at both sides to allow for access across the low-water crossing during construction. Filter fencing will also be constructed between the excavation area and the water filled berm for extra protection.

- A railcar crossing/bridge will be constructed to transport materials across the river to prevent interaction with the channel. The bridge will be designed with BMPs to prevent sediment discharges to the UTR. Clean gravel will be placed at the bridge approaches. A silt fence that will be placed along the east and west river banks will be tied into the railcar crossing abutments with a secondary silt fence running under the railcar crossing. Coir logs will be placed on paved surfaces under the railcar crossing. Silt curtains will be placed in the river as an additional protection along the channel from upstream to downstream of the low-water crossing. Access routes will be continuously cleaned with water trucks and brooms trucks. Silt fences and cut off channel connected to small settling basins would be placed along the sides of the access routes.

- In channel work sites will be isolated both upstream and downstream by water filled berms with the main flow of the river pumped around the work areas. Water that infiltrates into the isolated project site will be pumped into the new channel alignment downstream and allowed to flow the length of the channel for infiltration. At the end of the new channel alignment remaining water will be pumped to the dewatering site and go through the settling and filtration systems as describe above. Following completion of the first bank stabilization the same procedure will be used on the second bank stabilization.

  The three fish habitat structures located downstream of the new channel alignment will be dewatered by laying a water filled berm along the existing channel bed to isolate the work area. The main flow will be slightly confined but will remain in the existing channel alignment. While the work is being completed the water that infiltrates into the work area will be pumped to the dewatering site and go through the settling and filtration systems as describe above. Each fish habitat structure will be completed one after another.

- The project site will be winterized according to TRPA and Lahontan RWQCB requirements at the end of each construction season. These measures will include: wrapping water filled berm to secure all isolated areas for winter and spring flows around the length of the western approach to the low-water crossing and a small portion along the existing airport fence, wrap water filled berm around the

downstream end of the new channel and along a portion of the airport fence, winterize temporary irrigation system installed for plant establishment. Other proposed winterization measures are listed below.

- Maintain all temporary erosion control including filter fencing and coir logs.
- Stabilize all disturbed areas with a heavy mulch.
- Clean up and remove all construction site waste including trash, debris and spoil piles.
- Cover all soil stockpiles with a natural fiber blanket and secure stockpile locations with filter fencing.

- Prior to diversion of UTR flows into the new river alignment, the new river channel will be wetted in September of the second construction year, and potentially in the third construction year as well, to prepare the river channel. These wetting flows will either be allowed to infiltrate or be pumped from the downstream end of the new river alignment and treated to ensure compliance with discharge standards prior to their diversion back into to the UTR. This is described in the dewatering discussions in Section 4.12.5.1. During the third construction year clean washed gravel will be placed in the new river channel before the UTR is diverted into the new alignment.

- Implement the dewatering plan for each construction year as described in Section 4.12.5.1.

- During Year 3, the locations where the new alignment and the existing alignment converge will be graded and armored with a combination of rock and large wood elements. Willow stakes will be incorporated into these engineered areas. Propagated sod will be placed as needed on top of the armored banks.

- Revegetate all disturbed areas and old channel with native riparian or upland vegetation where applicable. Salvaged sod, willows and other riparian vegetation will be propagated and used where possible. Additional seed or vegetation will be added where needed for stabilization measures.

3.3.5.10 Noise

- Contractor shall equip all construction equipment with operating mufflers

- Contractor shall limit construction hours to 8 AM to 6:30 PM.

3.3.5.11 Recreation

- Contractor and/or City's Construction Manager shall post signs upstream of the project site to notify boaters of access restrictions during construction.

- Restore river access at the close of construction.

3.3.5.12 Traffic and Circulation

- Contractor shall provide traffic control on the specific days of transport of heavy equipment to prevent congestion and safety hazards at the intersection of Highway 50 and Airport Road.

- During days of equipment transport through the runway safety area, a Notice to Airmen will be circulated for safety purposes.

3.3.5.13 Utilities

- The contractor shall confirm the exact location of the pipelines near the excavation area. In addition to the existing fence that borders the airport and the pipelines, fences would be constructed to protect the pipelines in the excavation and construction areas as needed.

3.3.6 Proposed Implementation Schedule

The project would take approximately 3 years to complete. A proposed implementation schedule is described below.

3.3.6.1 Year 1

The project is expected to begin in July of 2008 once biological surveys have been completed as discussed in Section 4.6.6. Mobilization and construction of staging areas and temporary roads would take place in July. In August through October 15, 2008 excavation of approximately 52,000 cubic yards of airport fill located between the river and the Airport fence and the new channel. This material would be hauled to the stockpiling location east of the river. Riparian vegetation would also be salvaged and a temporary propagation area would be established to propagate and irrigate plants. A temporary irrigation system would be constructed for use during the three year construction project.

Water filled berms would be constructed at the two locations where the new channel connects to the existing channel and on both sides of the low-water crossing. Revegetate the riparian area and the new channel prior to October 15. The project area would be winterized prior to October 15, 2008. Winterization would include construction of the 6 foot high water filled berm for flood protection, temporary erosion controls, soil stabilization and maintenance of water filled berms to protect the new channel prior to implementation. The site would be regularly monitored during and after any storm events to determine if measures need to be taken to improve or fix any temporary BMPs or construction controls. More detailed BMP descriptions and construction controls are included in Section 3.3.5.

3.3.6.2 Year 2

The project construction would begin again once the area is no longer saturated with spring runoff probably in July or August of 2009. The site would be monitored on a regular schedule, during and after storm events. Project conditions to be monitored would include BMPs, vegetation and irrigation. Additional grading and revegetation

would take place as needed as well as continued in-channel construction of habitat structures and bank stabilization. The project area would be winterized prior to October 15, 2009.

3.3.6.3 Year 3

During the summer of 2010, it is expected that the seasoning of the new channel would be complete. Water would be allowed to flush the new channel to prepare the channel for the river flow. This process would happen over a two month period beginning sometime in July. The purpose of the channel flushing would be to clean the material in the new channel and to look for any areas in need of repair.

Once the river flow is low, water would be diverted into the temporary water diversion constructed east of the airport fence with a temporary culvert. The water filled berms would be removed and the connection points would be stabilized and prepared for the new river flow. The stockpiled soil would then be placed into the existing channel.

All staging and temporary transport roads would be removed and revegetated. The site would be winterized prior to October 15, 2010.

Monitoring would take place throughout the fall of 2010 and into 2011 to determine if any problems develop.

If it is determined at the beginning of Year 3 that the new channel is not ready to receive the flow, then the project would extend to Year 4 with the same measures taken in Year 4 as described for Year 3.