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MITIGATED NEGATIVE DECLARATION

FINDINGS

In accordance with the County of El Dorado (County) ordinances regarding implementation of the California Environmental Quality Act, County has prepared an Initial Study to assess the project's potential effects on the environment and the significance of those effects, and on the basis of that study hereby finds:

☐ The proposed project will not have a significant adverse effect on the environment; therefore, it does not require the preparation of an Environmental Impact Report and this **Negative Declaration** has been prepared.

☒ Although the proposed project could have a significant adverse effect on the environment, there will not be a significant adverse effect in this case because County will adopt the Mitigation Monitoring and Reporting Program (Appendix B) that contains the mitigation measures necessary for the project to have a less than significant impact. A **Mitigated Negative Declaration** has thus been prepared.

Per Section 21082.1 of the CEQA Guidelines, County has independently reviewed and analyzed the Initial Study and Proposed Mitigated Negative Declaration for the proposed project and finds that they reflect the independent judgment of County. The environmental documents, which constitute the Initial Study and provide the basis and reasons for this determination are attached and/or referenced herein and are hereby made a part of this document.

Per Section 15072 (f) (5) of the CEQA Guidelines, the project site is not on any list compiled pursuant to Government Code section 65962.5 as a hazardous waste facilities, land designated as a hazardous waste property, or a hazardous waste disposal site.

PROJECT INFORMATION

Title: Montgomery Estates Area 1 Erosion Control Project (JN 95155)	
Description: Construction of erosion control and water quality improvement facilities.	
Location: The project area is located in eastern El Dorado County, California within the Lake Tahoe Basin. The site is located in South Lake Tahoe, east of Pioneer Trail and north of Cold Creek; off of Hwy 50. The Project includes El Dorado County road rights-of-way the Montgomery Estates at Lake Christopher Unit Nos. 1 and 2 (Area 1).	
Owner/Applicant: El Dorado County Department of Transportation – Tahoe Engineering Division	
Lead Agency: El Dorado County Department of Transportation – Tahoe Engineering Division	
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AVAILABILITY OF DOCUMENTS

The Initial Study for this Mitigated Negative Declaration is available for review at the El Dorado County Department of Transportation – Tahoe Engineering Division 924B Emerald Bay Road, South Lake Tahoe, CA. The document is also available for review at the El Dorado County's South Lake Tahoe Branch Library at 1000 Rufus Allen Blvd., South Lake Tahoe, CA. The library's hours of operation are from 10:00 am – 8:00 pm on Tuesday and Wednesday; 10:00 am – 5:00 pm on Thursday, Friday, and Saturday. The library is closed on Sunday and Monday. In addition to the South Lake Tahoe locations, the document is available at the California State Clearinghouse located at 1400 Tenth St., Sacramento, CA.

PROJECT DESCRIPTION

In 1997, the Tahoe Regional Planning Agency (TRPA) developed a Basin-wide Environmental Improvement Program (EIP) that defined various projects which, once implemented, would assist in attaining and maintaining TRPA Environmental Threshold Carrying Capacities (ETCC) as well as meet other federal and state enviromental goals. TRPA has established thresholds for air quality, water quality, soil conservation, vegetation, noise, scenic resources, recreation, fisheries, and wildlife to address public health and safety of residents and visitors as well as the scenic, recreation, education, scientific, and natural values of the Lake Tahoe Basin. The Montgomery Estates Erosion Control Project is defined in the TRPA EIP as Project #701. El Dorado County Department of Transportation (EDOT) proposes to initiate implementation of Area 1 of the Montgomery Estates Erosion Control Project (Project) during the 2010/2011 construction seasons to assist with meeting the goals of the EIP. This Project is being designed and constructed with financial assistance from the California Tahoe Conservancy (CTC), United States Forest Service - Lake Tahoe Basin Management Unit (USFS-LTBMU), and TRPA mitigation funds.

The Project site is an existing residential development, east of Pioneer Trail and north of Cold Creek in South Lake Tahoe, CA (Figure A). The overall goal of the Project is to design and implement erosion control and water quality improvement measures that will reduce the discharge of sediment and pollutants to Lake Tahoe from County administered rights of way in the Montgomery Estates area. The Proposed Project will not change the use of the site or surrounding area. The Project will provide benefits to the natural environment through the improvements proposed as part of the Project. After Project completion, less sediment will enter Cold Creek from the Project area, thereby improving water quality in Lake Tahoe.

PROJECT BACKGROUND

The Project utilized the Lake Tahoe Basin Stormwater Quality Improvement Committee's (SWQIC) Formulating and Evaluating Alternatives for Water Quality Improvement Projects document for guidance in moving towards the selection of a preferred Project alternative. The Project Development Team (PDT) investigated a range of possibilities for the water quality improvements in the Project area. The process of evaluating and selecting a preferred alternative for this Project included the production and analysis of the following documents:

- Existing Conditions Report (Stantec 2006)
- Formulating Alternatives Memorandum (Stantec 2007)
- Draft/Final Project Alternatives Evaluation Report (EDOT 2008)
- Final Preferred Alternative Report (EDOT 2008)

In January 2006, the County completed an Existing Conditions Report (Report) for Montgomery Estates that identified problem areas within the Project boundary for three separate areas for phasing project implementation (Stantec, 2006). From this Report the Project Development Team (PDT) identified Area 1 as having the highest rating for water quality and erosion control improvements. The location of the Montgomery Estates Area 1 Project is shown below in Figure 1. In November 2007, the County completed a Formulating Alternatives Memorandum (FAM) which compiled Best Management Practices (BMP) alternatives for mitigating specific problem areas within Area 1 (Stantec, 2007). Finally, in August 2008, the Project Alternatives Evaluation Report (PAER) was completed which included a presentation of the evaluation of the alternatives that were presented in the FAM with respect to water quality improvements and erosion control mitigation measures for Area 1 (EDOT, 2008). This Preferred Alternatives Report (PAR) presents the preferred alternative (Proposed Project) based on PDT and public input and the results of the analyses contained in the PAER.

PROPOSED PROJECT

The Proposed Project selected by the PDT is described below and is a compilation of the most comprehensive design ideas for each street within the Project area which meets the goals and objectives of the Project.

Bernice Sub-Watershed [Watershed A]

Existing Conditions

The Bernice Sub-Watershed includes runoff from on-site sub-watersheds 2.1 and a portion of 2.2. In addition, the Bernice Sub-Watershed includes bypassed off-site runoff from sub-watershed 2.1. The outfalls for this watershed are pipes 103 and 104 which are 36" and 18", respectively. They combine to drain into the Amador Sub-Watershed.

Source Control

Alice Lake Road has three areas where there are source control problems due to eroding slopes. Approximately 200 feet east of Clipper Court, the problem is due to a failed retaining wall; 200 feet north of Quartz Street it is due to steeper, less stable slopes; and 250 feet south of Talbot Street on Bernice Lane the erosion appears to be due to lack of vegetation.

The Proposed Project includes the replacement of the failed retaining wall on Alice Lake Road. Top rock with a native seed mixture would be added to the existing eroding slope on Alice Lake Road. It also includes the proposed top rock tying into the top of the existing AC swale. Additional top rock and native seed would also be added to the area on Bernice Lane.

Hydrologic Design

The existing pipes within the watershed are sized to handle peak runoff generated by the 10-year, 25-year, and 100-year rain events where the storm duration is dependent on the time of concentration for each watershed. The problem occurs with current sediment deposition that has reduced the capacity of the existing system and in some cases, diverted the flows outside of the existing drainage easement.

Northern Area

On the north side of the Bernice Sub-Watershed there is a junction structure for pipe 101 that is covered with debris making its condition unknown at this time. The outlets for pipes 101 and 102 are partially buried and the inlet for 102 is approximately 90% buried.

The Proposed Project requires maintenance of the existing infrastructure to allow the pipes to flow at their full capacity. Infiltrating drainage inlets would also be constructed west of the intersection of Clipper Court and Alice Lake Road on the north and south side of Alice Lake Road. These drainage inlets will reduce the surface volume which currently discharges through a curb opening near the outlet of pipes 103 and 104. The outfall pipes of the infiltrating drainage inlets would instead drain into sediment traps and then into a rock-lined channel on APN 025-692-02 owned by the United States Forest Service (USFS) (requiring a special use permit). These infiltrating sediment traps will provide an additional reduction in stormwater volume. The preferred alternative also includes installing an infiltrating sediment trap with window openings for the roadside ditch flow at Pipe 102.

Mid Area

In the mid area of this sub-watershed on the southwest side of the Talbot Place Cul-de-sac there is an existing drainage easement. The drainage channel within the easement is not well defined and has excess material blocking the inlet. The channel follows the localized low in the topography as it passes through the parcels that front Talbot Place and the parcels that front Bernice Lane. The topographic low occurs outside of the existing drainage easement between the parcels that front Bernice Lane, conveying stormwater runoff across a private parcel. The channel in this stretch has been lined with river cobble and appears to be stable.

The Proposed Project includes curb & gutter in the cul-de-sac with a curb opening outfall which will drain into the drainage easement and newly constructed channel. The channel would be reconstructed and armored due to the steepness of the slope (approximately 8%). The channel would have an increased roughness which will reduce the velocity. Additionally, it includes an infiltrating drainage inlet in the flow line of the curb opening allowing for some sediment capture and volume reduction. The rock lined channel constructed in the existing County drainage easement would continue to Bernice Lane. Before discharging from the easement, a new channel would be built along contour and across the USFS parcel (APN 025-644-04) to enable additional infiltration and volume reduction of the storm water runoff.

Southern Area

In the southern area of the sub-watershed the primary stormwater runoff will be coming from the channel identified in the mid area. This flow co-mingles with the flow from the high point of Bernice Lane.

The Proposed Project includes constructing curb and gutter on the northeast side of Bernice Lane. The curb and gutter would drain to a series of infiltrating drainage inlets to reduce the stormwater volume and remove sediment from the flow, with the drainage inlets then connected to a storm drain system for conveyance. The proposed storm drain system would discharge into the channel that feeds into pipe 103. A drainage inlet and bypass infiltration sediment trap will be

constructed at the low spot on Alice Lake Road. Low flows would be directed to a basin to enable a reduction in stormwater volume and removal of fine sediments through infiltration. The bypassed flow path would have a series of rock checks constructed within it to reduce the velocity and infiltrate additional runoff, further reducing the storm water volume. Pipe 104 would be left in place, but a rock bowl would be constructed at the inlet to allow for additional volume retention.

Treatment

The 25-year 1-hour design storm volume of runoff from the Bernice sub-watershed is equal to approximately 11,000 cubic feet of on-site runoff and 33% of this volume is equal to approximately 3,500 cubic feet. The water table at the location of the proposed treatment facility for this sub-watershed (outlet of pipes 103 and 104) is considered high (TRCD, 2007). Due to the presence of off-site runoff and the existing storm water system in this sub-watershed, mixing of off-site and on-site runoff can not be avoided. However, considering that the off-site sub-watershed has a greater time of concentration than the on-site sub-watershed, operating the treatment BMP's for first flush should primarily provide for volumetric and sediment treatment of the on-site sub-watershed.

The Proposed Project includes six (6) infiltrating drainage inlets and two (2) sedimentation/infiltration basins or bermed area sized for 3,500 cubic feet of runoff near the outfalls on Alice Lake Road. These improvements would allow for a reduction of stormwater volume and storage for fine sediment capturing and removal. The alternative includes a system of four (4) sedimentation/infiltration traps, a series of biologs and rock checks at the outfall for flow spreading.

Alice Lake Sub-Watershed [Watershed A]

Existing Conditions

The Alice Lake Sub-Watershed includes runoff from on-site sub-watershed 2.2. The outfall from this sub-watershed drains into one 12" pipe (pipe 106) that flows into sub-watershed 2.3. Alice Lake Road and Cold Creek Trail border the southwest and northwest sides of the sub-watershed. The road shoulder on the eastern side of Alice Lake Road is bare and abuts to a slope that is eroding and averages a 3:1 grade. The Cold Creek Trail portion has an area with bare shoulders approximately 75 feet in length.

Source Control

The Proposed Project includes stabilizing the slopes on the east side of Alice Lake Road by applying erosion control blanket and a seed mix to the slope. No improvements are planned for the bare shoulders on Cold Creek Trail due south of Alice Lake Road since they are located at a relative high location on Cold Creek Trail where minimal runoff is expected. For Alice Lake Road it would include slope stabilization by installing top rock to the native seed mix. This would be done in the areas where the slopes are steeper than 3:1, the maximum slope for erosion control blanket only applications. For steeper areas the top rock could be replaced with rock slope protection. For Cold Creek Trail rolled concrete curb and gutter would be constructed along the east side of the road, ending at the inlet of pipe 106.

Hydrologic Design

The only pipe draining this sub-watershed is a 12 inch CMP (pipe 106) and it is approximately 50% buried at the inlet and outlet.

The Proposed Project includes replacing pipe 106 with an 18" CMP and constructing a sedimentation/infiltration basin or bermed area near the outlet of pipe 106 to provide for a reduction in stormwater volume. The Project also includes constructing an infiltrating drainage inlet at the southeast corner of Cold Creek Tail and Alice Lake Road.

Treatment

The design storm volume of runoff from the Alice Lake Sub-Watershed is equal to approximately 1,200 cubic feet of on-site runoff and 33% of this volume is equal to 400 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed is between 4 and 13 inches per hour (TRCD, 2007).

The Proposed Project includes a basin at the outlet of the pipe which will provide for both stormwater volume and sediment reduction through infiltration. The Project also proposes an infiltrating drainage inlet and sediment trap.

Amador Sub-Watershed [Watershed A]

Existing Conditions

The Amador Sub-Watershed includes runoff from the lower portion of on-site sub-watershed 2.3 in addition to bypassed off-site runoff from sub-watershed 2.1 and the Alice Lake and Bernice sub-watersheds. The drainage from the lower portion of 2.3 comes through an existing 18" CMP which crosses Cold Creek Trail (Pipe 108), the inlet and outlet are partially buried with debris. The outlet discharges onto APN 025-452-01 which is privately owned. The outfall for this watershed is pipe 109, an 18" CMP that is clear of debris.

Source Control

The problem areas in this sub-watershed are the bare and eroding shoulders, primarily on Cold Creek Trail, Amador Way, and Copper Way. At the intersection of Amador Way and Copper Way the existing travel way is misaligned in the ROW such that there is minimal space for conveyance of flows down the north side of Amador Way.

The Proposed Project includes installing curb and gutter along the north side of Cold Creek Trail along with two infiltrating drainage inlets/sediment trap pairs to capture sediment. Two curb openings would be installed below each infiltrating drainage inlet to divert the remaining flow into the SEZ for further treatment. An additional 190 feet of curb and gutter would be installed on the north side of Amador Way near the intersection of Cold Creek Trail. The curb would end at an infiltrating sediment trap with the storm water discharging to an armored channel. This same curb and gutter would continue around the corner of Cold Creek Trail to a proposed infiltrating sediment trap. The Project also proposes constructing a retaining wall on Alice Lake Road near the intersection with Bernice Lane. Top rock with native seed would be added to the shoulder on the north side of Amador Way to reduce further erosion of the roadside shoulder. In addition the travel way would be realigned at the intersection of Amador Way and Copper Way by removing asphalt on the north side of Amador Way. A shallow swale would be constructed at the radius to convey the water from Amador Way to Copper Way.

Hydrologic Design

There are two pipes currently in this sub-watershed, pipe 108 on Cold Creek Trail and 109 on Copper Way. Both pipes are undersized per the County requirement of a Headwater to Depth ratio of no greater than 1.0 for a 10 year storm.

The Proposed Project includes replacement of pipe 108 with a 24" CMP for increased capacity. A sediment trap junction structure would be built at the outlet to decrease velocities before discharging. The Project also proposes removing pipe 108 and realigning the replacement pipe to discharge into the existing drainage easement. Pipe 109 would be replaced with two 18" CMPs.

Treatment

The design storm volume of runoff from the Amador Sub-Watershed is equal to approximately 3,000 cubic feet of on-site runoff and 33% of this volume is equal to approximately 1,000 cubic feet. The water table at the location of the proposed treatment facility for this sub-watershed is considered high (TRCD, 2007). Due to the presence of off-site runoff, high water table, the topography of the publicly owned parcels, and EDOT ROW, the alternatives for this sub-watershed will not meet the Project volume reduction or sediment removal goals of 33%. However, the treatment alternatives will be configured to reduce the volume of runoff and treat sediment to the greatest extent feasible.

The Proposed Project includes an increase in the frequency of street sweeping to one additional pass per season for the Amador Sub-Watershed in addition to three infiltrating sedimentation traps, three infiltrating drainage inlets, and flow spreading to the publicly owned parcels. The Project also proposes an additional (3) infiltrating sedimentation traps and flow spreading to publicly owned undeveloped parcels.

Copper North Sub-Watershed [Watershed D]

Existing Conditions

The Copper North Sub-Watershed includes runoff from on-site sub-watersheds 2.4. This includes street runoff from sections of Cold Creek Trail, Del Norte Street, Humboldt Street, and Copper Way. There are no sections of curb and gutter currently in the ROW for this sub-watershed. The conveyance system consists of road side swales and areas where sheet flow occurs. The discharge pipe for this sub-watershed is pipe 112, a 12" diameter CMP on Copper Way. The pipe discharges to

a manmade ditch which was designed to drain to the basin to the north between Pioneer Trail and Copper Way. Currently the channel is filled with sediment and debris causing the water to back flow south in the ditch.

Source Control

Sections along each of the above mentioned streets are bare and eroded with evidence of sediment making it into the travel way. See section 2.3.2 for a discussion of the realignment alternative for Amador Way. The south side of Amador Way was identified as an eroding channel (Stantec, 2006) and after further investigation it was determined to be an AC swale covered with sediment. Sections of the north side of Del Norte Street have eroding slopes and exposed road shoulders.

The Proposed Project includes installing blanket with native seed on the eroding slope at the corner of Amador Way and Del Norte Street. The Project also proposes construction of curb and gutter from the high point of Cold Creek Trail down Cold Creek Trail, to the east side of Amador Way, and then on the north side of Del Norte to its high point (within this sub-watershed). Additional curb and gutter would be constructed near the high point of Humboldt on the south side, ending at the intersection with Amador Way.

Hydrologic Design

There are three culverts within this sub-watershed: pipes 110, 111, and 112, with the last one being the main discharge point. All three pipes are undersized per the Existing Conditions Report and pipes 110 and 111 are listed as being in poor condition (Stantec, 2006).

The Proposed Project includes replacing and increasing the existing pipes to 18" diameter CMP and to add an infiltrating sediment trap at the pipe 112 outlet to act as a flow splitter sending low flows to a retention area and high flows to the existing basin between Pioneer Trail and Copper Way. Additional check dams would be added to the ditch to reduce velocities and help backup and infiltrate additional runoff volumes. In addition, the alternatives include constructing an infiltrating drainage inlet at the southeast corner of Amador Way and Cold Creek Trail, which would drain into a new 12" diameter CMP crossing that discharges to the SEZ on the north side of Cold Creek Trail.

Treatment

The design storm volume of runoff from the Copper North Sub-Watershed is equal to approximately 5,000 cubic feet of on-site runoff and 33% of this volume is equal to 1,700 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed is between 4 and 13 inches per hour (TRCD, 2007).

The Proposed Project includes one infiltrating sediment trap for increased stormwater volume infiltration and fine sediment trapping. The Project also proposes the addition of two infiltrating drainage inlets and a sedimentation/infiltration basin created by check dams in the existing flume ditch line. The feasibility of this treatment alternative will be further evaluated once site specific topography and soil characteristics are available.

Del Norte East Sub-Watershed [Watershed H]

Existing Conditions

The Del Norte East Sub-Watershed includes runoff from on-site sub-watershed 2.5. The contributing area from the County ROW includes the eastern end of Cold Creek Trail and the eastern end of Del Norte Street. There are two pipes within the sub-watershed: pipe 123, a 12" CMP on the northeast corner of Cold Creek Trail and Del Norte Street and pipe 122, an 8" CMP which drains this sub-watershed.

Source Control

Though previously reported as an existing eroding roadside ditch (Stantec, 2006), the slope on the northeast corner of Cold Creek Trail before Del Norte Street is short (approximately 3 feet high) and does not appear to be a large sediment source within the sub-watershed. This slope becomes steeper becoming more of a potential sediment source after it wraps the corner onto Del Norte Street.

The Proposed Project would install top rock and native seed on the slope.

Hydrologic Design

Both pipes are sized correctly for the predicted storm water runoff flows, but undersized per the County Design and Improvement Standards Manual (CDISM). Pipe 123 is located in a relative low spot and may be removed without any adverse impact.

The Proposed Project includes cleaning out the inlet and outlet of pipe 122 and regrading the existing channel to drain. The Project would also include removing pipe 123 and regrading that section of the channel to drain. Rock checks would also be installed below the outlet of pipe 122 to help with volume and velocity reduction.

Treatment

The design storm volume of runoff from the Del Norte East Sub-Watershed is equal to approximately 200 cubic feet of on-site runoff and 33% of this volume is equal to 70 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed is considered slow soils (TRCD, 2007).

The Proposed Project includes infiltration swales at the intersection of Del Norte Street and Cold Creek Trail along with a check dam installed at the outfall to allow for infiltration of the runoff.

Del Norte South Sub-Watershed [Watershed C]

Existing Conditions

The Del Norte South Sub-Watershed includes runoff from on-site sub-watershed 2.6. Runoff from a high point on Cold Creek Trail flows to Del Norte Street where it flows down Del Norte Street to the drainage inlet pipe crossing, pipe 121. This pipe discharges into the ravine between Fortune Way and Del Norte Street. The parcel off of Cold Creek Trail previously identified as having an eroding slope has since had a house built on the parcel.

Source Control

The section of Cold Creek Trail within this sub-watershed has a roadside swale that connects to existing curb and gutter on the north and east side of Del Norte Street. The south and west side of Del Norte Street has existing AC Dike which is in average condition. At one section along the east side of Del Norte Street the slope is sluffing into the existing curb and gutter pan.

The Proposed Project includes a short retaining wall to keep back material in the area where material is sloughing into the curb and gutter. The area at the top of the retaining wall will be revegetated to help keep material in place.

Hydrologic Design

There is only one pipe system in this sub-watershed: Identified as pipe 121 it contains two drainage inlets and two pipes to convey the runoff to an existing channel which drains into the ravine between Fortune Way and Del Norte Street. The Existing Conditions Report identified this system as able to handle predicted stormwater runoff flows. The existing pipe outlet has a flared end and the existing channel is armored. No additional improvements are necessary at this time.

Treatment

The design storm volume of runoff from the Del Norte South Sub-Watershed is equal to approximately 5,500 cubic feet of on-site runoff and 33% of this volume is equal to 1,800 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed is between 4 and 13 inches per hour (TRCD, 2007). Due to the high volume of runoff and the limited land that is available for treatment due to the steep terrain near the downstream limits of the sub-watershed, the alternatives for this sub-watershed will not meet the Project volume reduction or sediment removal goals of 33%. However, the treatment alternatives will be configured to reduce the volume of runoff and treat sediment to the greatest extent feasible.

The Proposed Project includes an increase in the frequency of street sweeping by one more pass per season. The Project also proposes two infiltrating drainage inlets and one infiltrating sedimentation trap. The infiltrating sediment trap would include drainage rock around the can to allow for an increased treatment volume in addition to the storage volume for fine sediment.

Cold Creek South Sub-Watershed [Watershed B]

Existing Conditions

The Cold Creek South Sub-Watershed includes runoff from on-site sub-watersheds 2.7 and 2.8. In addition, the Cold Creek South sub-watershed includes bypassed off-site runoff from sub-watershed 2.8. The section of Cold Creek Trail in this sub-watershed has rolled curb and gutter on the east side of the street between pipe 116 and Cold Creek Court. From Cold Creek Court, south, to the high point of the sub-watershed, the east side of this street is bordered by a slightly vegetated swale. On the west of this street is AC dike that is in average condition.

Source Control

No source control issues currently exist within the Cold Creek South Sub-Watershed. The existing slope identified at APN 025-602-07 now has a house on it, eliminating the eroding slope problem previously reported.

Hydrologic Design

There are two existing pipes that convey runoff from the road and the upper undisturbed watershed: pipes 117 and 107. Both are 12" (undersized per the CDISM) with pipe 117 listed as being in poor condition per the Existing Conditions Report and pipe 107 undersized to handle predicted flows. The pipe 117 outflow discharges into the existing curb and gutter on the east side of Cold Creek Trail, which ultimately flows into the existing drainage ditch due north of pipe 116.

The Proposed Project includes replacing pipe 117 with either the same size CMP or ribbed HDPE (for equivalent Mannings value). Pipe 107 would be increased to an 18" HDPE pipe with a flared end and rock dissipater installed at the outlet. An infiltrating drainage inlet would be constructed in the low spot of the existing curb and gutter on Cold Creek Trail, approximately 90 feet south of pipe 116. The Project also proposes adding flared end sections to both ends of pipe 117. The infiltrating drainage inlet at the low spot of Cold Creek Trail would drain into a new 18" HDPE pipe which would convey the flow to the existing USFS lot across the street (APN 025-595-09) where a sedimentation/infiltration basin would be built (requiring a special use permit).

Treatment

The design storm volume of runoff from the Cold Creek South Sub-Watershed is equal to approximately 2,600 cubic feet of on-site runoff and 33% of this volume is equal to 900 cubic feet. The water table at the location of the proposed treatment facility for this sub-watershed is considered high (TRCD, 2007).

The Proposed Project includes an infiltrating drainage inlet at the low spot of Cold Creek Trail to capture fine sediment. The treatment for this sub-watershed includes a sedimentation/infiltration basin or bermed area sized for 900 cubic feet of runoff at the outlet pipe of the drainage inlet.

Cold Creek North Sub-Watershed [Watershed B]

Existing Conditions

The Cold Creek North Sub-Watershed includes runoff from on-site sub-watersheds 2.8. In addition, the Cold Creek North sub-watershed includes bypassed off-site runoff from sub-watershed 2.8. Runoff from the high point of Alice Lake Road, Talbot Court, and Bernice Lane flows down to Cold Creek Trail and outflows at pipe 116 into sub-watershed 2.9. The conveyances for the roads in this sub-watershed are a combination of shallow swales with minimal vegetation, AC dike, and concrete curb and gutter.

Source Control

The majority of this sub-watershed is undisturbed with the undisturbed flow entering pipe 116 before mixing with County ROW runoff. The source control issues include parking in the areas where the road shoulder is bare and denuded along with the existing roadside swales.

The Proposed Project includes replacing the poorest condition roadside swales on Alice Lake Road with curb and gutter. The Project also proposes installing top rock and native seed to the northeast corner of Talbot Street and Bernice Lane.

Hydrologic Design

There are three existing pipes within the sub-watershed: one is sized correctly, pipe 116, and two are undersized per the CDISM, pipes 113 and 114.

The storm water runoff flows across the intersection of Talbot Street and Bernice Lane as there is no culvert crossing. At the northeast and northwest corners of the intersection the topography is moderately sloped up, with the northeast corner showing signs of erosion. Due to the proximity of the ROW to the existing edge of pavement, there is no space for the inlet or outlet of a cross culvert, without the construction of an infiltrating drainage inlet and storm drain system. The culvert crossing at Bernice Lane and Alice Lake Road is 8" CMP (pipe 113) and is damaged at both ends. The runoff from this pipe is conveyed in an AC swale to an existing 10" CMP (pipe 114) crossing at the intersection of Alice Lake Road and Cold Creek Trail. This pipe is moderately covered with debris at the inlet and outlet. The runoff for this section is then ultimately discharged through the 36"X48" CMP (pipe 116) crossing on Cold Creek Trail.

The Proposed Project includes constructing curb and gutter along the north side of Bernice Lane between Talbot Street and Alice Lake Road. A drainage inlet would be constructed at the inlet of pipe 113 and the pipe would be replaced with a 12" CMP which would discharge to the existing AC swale. The smaller size CMP would enable matching the existing flowline without increasing the depth of the swale, while still meeting County standards for pipe size. In addition catch basins would be installed at the inlet and outlet of pipe 114. A concrete headwall would also be constructed at the outlet of pipe 116. The Project also proposes leaving the asphalt at the intersection as is. Curb and gutter would be constructed from the northeast corner of Talbot Street and Bernice Lane to the northwest corner of Bernice Lane and Alice Lake Road. An infiltrating drainage inlet would be constructed at the inlet side of pipe 113 and the pipe would be replaced with a 12" CMP which would outlet into the existing AC Dike section on the east side of Alice Lake Road.

Pipe 112 would be replaced with an 18" CMP and 36" catch basins would be installed at both the inlet and outlet. In addition the catch basin at the outlet would have a grated lid to allow for water from the east side of Alice Lake Road. The outlet of the catch basin would drain into an armored channel which would convey flows to an infiltrating sediment basin approximately 85 feet south of the intersection before discharging into pipe 116.

Treatment

The design storm volume of runoff from the Cold Creek North Sub-Watershed is equal to approximately 10,000 cubic feet of on-site runoff and 33% of this volume is equal to 3,400 cubic feet. The water table at the location of the proposed treatment facility for this sub-watershed is considered high (TRCD, 2007).

The Proposed Project includes a system of two infiltrating sedimentation traps and one infiltrating drainage inlet. The Project also proposes constructing a sedimentation/infiltration basin or bermed area sized to infiltrate and capture as much runoff and fine sediment as site conditions allow.

Del Norte Sub-Watershed [Watershed B]

Existing Conditions

The Del Norte Sub-Watershed includes runoff from on-site sub-watershed 2.9. In addition, the Del Norte Sub-Watershed includes bypassed off-site runoff from sub-watershed 2.7 and 2.8. Road runoff from sections of Cold Creek Trail and Del Norte Street flow to the outfall for this sub-watershed, pipe 118, which in turn discharges into the ravine between Fortune Way and Del Norte Street.

Source Control

The main issues in this sub-watershed are the bare and eroded shoulders on Cold Creek Trail and Del Norte Street. These areas are primarily in front of publicly owned lots (USFS and CTC). The slopes within this sub-watershed appear to be stable and in no need of protection.

The Proposed Project includes placing boulders spaced 4' apart on the leading edge of the public lots on Cold Creek Trail. In addition the eroding slopes on the southeast corner of Fortune Way and Del Norte Street would be revegetated.

Hydrologic Design

There is existing curb and gutter on Del Norte Street which is in average condition and able to handle the current predicted flows. The Cold Creek Trail section has AC Dike which is also in average condition. At the low spot on Del Norte Street flow from the curb and gutter discharges through both a curb opening and grated inlet into pipe 118, untreated.

The Proposed Project includes constructing infiltration drainage inlets on either side of the low spot of the road to capture road runoff. The drainage inlets would include transverse drains to reduce impacts during winter time conditions. The existing pavement at the outlet of pipe 118 would be removed and replaced with a rock dissipater for velocity reduction and infiltration of runoff. The Project also proposes to locate the infiltrating drainage inlets further apart, with the outlet pipes discharging to the southwest side of Del Norte Street. The infiltrating drainage inlets would be placed to take advantage of the proposed sedimentation/infiltration basins on APN's 025-596-02 and 025-596-01.

Treatment

The design storm volume of runoff from the Del Norte Sub-Watershed is equal to approximately 3,500 cubic feet of on-site runoff and 33% of this volume is equal to 1,200 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed is between 4 and 13 inches per hour (TRCD, 2007).

The Proposed Project includes two drainage inlets for capturing of fine sediment. The Project also proposes two additional sedimentation/infiltration basins or bermed areas sized for 1,200 cubic feet of runoff to allow for fine sediment removal through infiltration of stormwater.

Copper South Sub-Watershed [Watershed E]

Existing Conditions

The Copper South Sub-Watershed includes runoff from on-site sub-watersheds 2.10. The only street contributing to the run-off is Copper Way with the main outfall being pipe 129, a 12" CMP. This pipe discharges into a rock-lined channel filled with sediment and debris for approximately 40 feet before flowing northwest into a man made ditch that trends along contour. The ditch has failed, on the fill side, approximately 140 feet north of pipe 129 allowing runoff to cross private property (APN 025-442-11) following the natural topography to the STPUD access road which borders Cold Creek.

Source Control

An area that was not identified in the Existing Conditions Report (Stantec, 2006) is the eroding ditch on the south side of Copper Way. The ditch starts approximately 150 feet south of the intersection with Humboldt Street and ends approximately 25 feet beyond APN 025-442-08 (privately owned). The worst area of erosion occurs in front of the USFS parcel (APN 025-442-06).

The Proposed Project includes repairing the failed ditch. Due to the small size of the break, this work could be completed by the California Conservation Corp (CCC). The Project also proposes installing top rock with native seed to the existing eroding channel on Copper Way in order to eliminate any further erosion of the channel. A rock-lined channel would be constructed across the USFS parcel to direct the runoff into the existing drainage ditch that is behind the parcel.

Hydrologic Design

The pipe 129 crossing is undersized per the CDISM.

The Proposed Project includes clearing debris and repairing the existing outlet channel. This work could be completed by the CCC's. The Project also proposes to add a flared end to the outlet to keep material from sloughing into the channel.

Treatment

The design storm volume of runoff from the Copper South sub-watershed is equal to approximately 1,600 cubic feet of on-site runoff and 33% of this volume is equal to 600 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed is between 4 and 13 inches per hour (TRCD, 2007).

The primary treatment for this sub-watershed includes the construction of check dams in the existing flume to backup and infiltrate the runoff. This work could be completed by the CCC's.

Del Norte West Sub-Watershed [Watershed I]

Existing Conditions

The Del Norte West Sub-Watershed includes runoff from on-site sub-watershed 2.11. The sub-watershed contains one single pipe (pipe 128). Pipe 128 is a 12" CMP which is sized correctly for the predicted flows, but undersized per the CDISM.

Source Control

The primary source control issue in this sub-watershed is the eroding ditch at the inlet of pipe 128. Both Alternatives include constructing a rock bowl at the inlet to reduce any future scour of the inlet.

Hydrologic Design

The hydrologic design deficiencies within the Del Norte Sub-Watershed are due to the culvert being undersized per the CDISM.

The Proposed Project includes replacing the 12" CMP with an 18" CMP. By increasing the diameter of the pipe and through the updated design, the County will be able to decrease the velocities within and at the end of the pipe. The Project also proposes replacing the existing 12" CMP with an 18" CMP. A sediment trap would be constructed at the outlet with pipes that discharge to the existing channel and an underground infiltration system.

Treatment

The design storm volume of runoff from the Del Norte West Sub-Watershed is equal to approximately 350 cubic feet of on-site runoff and 33% of this volume is equal to 120 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed is between 4 and 13 inches per hour (TRCD, 2007).

The treatment for this sub-watershed includes one infiltrating sedimentation trap installed at the outlet discharging to a smaller underground infiltration system. The system will provide for both infiltration of stormwater runoff and capturing of fine sediment.

Del Norte North Sub-Watershed [Watershed F]

Existing Conditions

The Del Norte North Sub-Watershed includes runoff from on-site sub-watersheds 2.12. The sub-watershed contains two storm drain systems: one system which drains a section of Cold Creek Trail comprised of pipes 105, 124, and 125 and the second which drains the above mentioned in addition to runoff from Del Norte Street comprised of pipes 126 and 127.

Source Control

The source control issues related to off pavement parking exist on sections of Cold Creek Trail and Del Norte Street. The issues related to channel/shoulder erosion due to storm water runoff occur on Del Norte just north of Copper Way.

The Proposed Project would include constructing curb and gutter on both sides of Del Norte Street, with the east side tying into the existing curb and gutter and the west side wrapping the corner at Copper Way to the existing drainage inlet. Top rock with native seed would be installed on the eroding channel/shoulder on Del Norte Street just north of the Fortune Way intersection.

Hydrologic Design

The current systems are sized to handle the existing flows, but not correctly sized per the CDISM. There are also opportunities to redirect a portion of the storm runoff to provide a potential reduction in peak flow and volume.

The Proposed Project includes constructing a rock bowl or dissipater at the inlet of the pipe at the northeast corner of Copper Way and Humboldt Street (pipe 126). The Project also proposes adding an infiltrating drainage inlet to the northwest corner of the Copper Way Del Norte Street intersection which would connect to the existing sediment trap on the southern corner of the intersection. From this sediment trap an underground infiltration chamber would be added. The system will be designed

to convey runoff back into the existing storm drain system when full. A rock bowl would be constructed at the inlet to the section of pipe 126.

Treatment

The design storm volume of runoff from the Del Norte North Sub-Watershed is equal to approximately 5,000 cubic feet of on-site runoff and 33% of this volume is equal to 1,700 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed are between 4 and 13 inches per hour (TRCD, 2007). Due to the high volume of runoff and the limited land that is available for treatment due to the steep terrain near the downstream limits of the sub-watershed, the alternatives for this sub-watershed will not meet the Project volume reduction or sediment removal goals of 33%. However, the treatment alternatives will be configured to reduce the volume of runoff and treat sediment to the greatest extent feasible.

The Proposed Project includes increasing the frequency of street sweeping to one more pass per season. An infiltration sediment trap would also be installed at the end of the storm drain system at the corner of Copper Way and Humboldt Street. The treatment for this sub-watershed includes one infiltrating drainage inlet, an underground infiltration system off of the existing sediment trap at the southern corner of Copper Way and Del Norte Street, and a basin or bermed area on the CTC lot at the northeast corner of Copper Way and Humboldt Street. The systems combined would be sized for approximately 1,000 cubic feet of runoff thus meeting more than half of the Project goal for treatment.

Fortune West Sub-Watershed [Watershed G]

Existing Conditions

The Fortune West Sub-Watershed includes runoff from on-site sub-watershed 2.13. The contributing area from County ROW includes sections of Fortune Way and Del Norte Street. Pipe 130, a 12" CMP, is the only pipe that drains this sub-watershed.

Source Control

The primary problem is the eroding slope on the north, north-east side of Fortune Way. The slope is moderately steep, ranging from approximately 30% to 50%.

The preferred Project alternative would include constructing a 3- foot high retaining wall in front of the eroding areas.

Hydrologic Design

Pipe 130 is sized for the predicted stormwater runoff, but undersized per the CDISM and in "poor" condition per the Existing Conditions report.

The Proposed Project would include replacing the existing pipe with a 12" CMP with a flared end and rock dissipater at the outlet to provide scour protection and to reduce outlet velocities. The Project also proposes installing a 36" infiltrating sediment trap at the inlet for debris capture and volume reduction.

Treatment

The design storm volume of runoff from the Fortune West Sub-Watershed is equal to approximately 1,000 cubic feet of on-site runoff and 33% of this volume is equal to 350 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed are between 4 and 13 inches per hour (TRCD, 2007).

The treatment of runoff from this sub-watershed includes the capturing capacity of the sediment trap.

Fortune East Sub-Watershed [Watershed J]

Existing Conditions

The Fortune East Sub-Watershed includes runoff from on-site sub-watersheds 2.14. Road runoff from Fortune Way flows to the outfall for this sub-watershed, pipe 119, which discharges into the ravine between Fortune Way and Del Norte Street. The pipes in the sub-watershed at the intersection of Fortune Way and Del Norte Street include pipe 119, a 12" CMP in "fair"

condition at the northwest to southwest corners, and pipe 120, a 12" CMP in "poor" condition at the southwest to southeast corners.

Source Control

The main issues in this sub-watershed are the bare and eroded shoulders on Fortune Way. These areas are primarily in front of publicly owned lots (USFS and CTC). The slopes within this sub-watershed along Fortune Way are unstable.

The Proposed Project would be to place boulders in front of the bare shoulders that appear to be the biggest contributors to sediment erosion and to construct a retaining wall along a section of Fortune Way which would include curb and gutter in front of the wall for conveyance.

Hydrologic Design

The existing curb and gutter on Fortune Way between Cold Creek Trail and Del Norte Street is in average condition and able to handle the current predicted flows. At the intersection of Fortune Way and Del Norte Street the existing pipe crossings (pipes 119 and 120) are sized to handle the predicted flows, but undersized per the CDISM. The Existing Conditions Report has pipe 119 listed in "fair" condition and pipe 120 in "Poor" condition.

The Proposed Project includes replacing and increasing the size of pipe 120 to an 18" HDPE and installing a flared end section with a rock dissipater to reduce scour potential. An additional infiltrating sediment trap would also be installed at the end of the inlet of pipe 120. The Project would also construct a grated infiltrating sediment trap at the inlet of pipe 119.

Treatment

The design storm volume of runoff from the Fortune East Sub-Watershed is equal to approximately 1,500 cubic feet of on-site runoff and 33% of this volume is equal to 500 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed are between 4 and 13 inches per hour (TRCD, 2007).

The Proposed Project includes one infiltrating sediment trap near the inlet of pipe 120 and a sedimentation/infiltration basin after the outlet of pipe 120. The primary treatment for this sub-watershed includes an additional infiltrating sedimentation trap at the inlet of pipe 119 and an additional infiltration/sedimentation basin between the outlet of pipe 119 and the inlet of pipe 120 with the combined system sized for 500 cubic feet of runoff.

SUMMARY OF ENVIRONMENTAL ANALYSIS

An Initial Study has been prepared to assess the Project's potential effects on the environment and the significance of those effects. Based on the Initial Study, it has been determined that the Proposed Project will not have any significant environmental impacts with the implementation of the mitigation measures outlined in the Initial Study. El Dorado County (EDOT) will adopt the mitigation measures which are located in the Mitigation Monitoring and Reporting Program. This conclusion is supported by the following findings:

- The Proposed Project will have no adverse impacts in the areas of agricultural resources, cultural resources, land use and planning, mineral resources, population and housing, recreation and public services.
- The Proposed Project will have a less than significant impact in the areas of aesthetics, air quality, biological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, transportation and traffic, utilities and service systems, and greenhouse gas emissions. Discussion on each of these findings is provided below.

Aesthetics: The Project area is not visible from any designated Scenic Highways. The intent of the Project is to improve the quality of the area by stabilizing bare soil areas with native vegetation and by enhancing drainage features and installing infiltration systems that will benefit the environment. While there will be temporary aesthetic impacts due to construction, there will be no long term degradation of aesthetic quality in the Project area and therefore the Project has a less than significant impact.

Air Quality: The Project will have no long term impacts to air quality. Construction equipment may impact air quality for the short term during construction, but impacts are only temporary and will not result in a cumulative increase of criteria pollutants for which the Project region is in non-attainment nor will it expose sensitive receptors to substantial pollutant

concentrations, or create objectionable odors affecting a substantial number of people. Proper Best Management Practices (BMPs), per TRPA's Handbook of BMPs, and construction controls shall be implemented to prevent the Project activities from violating air quality standards.

Biological Resources: Field surveys and assessments were conducted within the Project survey area for special status wildlife species on October 13, 2008. The biological assessment surveys observed no federal or state-listed candidate, or proposed wildlife species in the Project study area. However, potential habitat conditions do exist for one special-status species, the Willow flycatcher, although none were noted during the survey. Due to the late season survey that occurred, protocol surveys (See Bombay, et all 2003) for Willow flycatcher will be conducted by a qualified biologist on parcels 025-597-03 and 025-595-09 between June 1 and July 15, 2010 prior to project construction on those parcels. Botanical surveys also occurred within the Project survey area in mid October and no special status botanical species were observed during the surveys. A noxious weed survey was also conducted within the Project survey area, in which two noxious weed species were identified: cheatgrass (*Bromus tectorum*) and bull thistle (*Cirsium vulgare*). A Noxious Weed Mitigation/Eradication Plan (Plan) will be adopted and implemented by the County as part of the Proposed Project. The Plan implementation shall help decrease habitat vulnerability to or below pre-construction levels. The Plan includes pre-construction elements, such as treatment of existing noxious weed populations identified in the Project area, as well as during- and post-construction elements. Additionally, the County will specify weed-free seed mix and require all construction equipment be certified steam cleaned prior to accessing the site.

Cultural Resources: A cultural resource study, which included a literature search and an archaeological survey/inventory of the Project survey area, was completed. Thirteen previous cultural resources studies have been conducted in the vicinity of the Project area, four of which included portions of the Area of Potential Effects (APE). No cultural resources have been previously recorded within the APE and none were identified within the APE during the pedestrian survey. The APE is considered to have a low sensitivity for the discovery of prehistoric, ethno historic, or historic cultural material, or subsurface deposits. Because of this, no additional cultural resources work for this Project is recommended. However, in the event that cultural resources are discovered during Project implementation, Project personnel shall halt all activities in the immediate area and notify a qualified archaeologist to determine the appropriate course of action.

Geology/Soils: The Proposed Project involves earth-moving activities estimated at approximately 700 cubic yards, which will cause temporary soil erosion in the Project area. County will prepare and require as part of the contract documents a Storm Water Pollution Prevention Plan (SWPPP) and a revegetation Plan that the contractor must adhere to. The contractor shall implement temporary and permanent BMPs per the TRPA Handbook of BMPs prior to and during construction to prevent erosion within the Project area. EDOT will also perform two years of irrigation/vegetation establishment to ensure that the site is restored to pre-project conditions, at a minimum. The SWPPP will also include and require appropriate measures to help sequence construction and minimize soil erosion through the use of approved sound construction practices to a less than significant level.

Hazards/Hazardous Materials: The Project will have no long term impacts from hazards or hazardous materials in the Project area. During construction there is a risk of accidental fuel spills from construction equipment. The contractor will be required to prepare and adhere to a Spill Contingency Plan as part of the SWPPP and shall have spill prevention kits and other approved BMPs and construction controls available to prevent and/or contain any accidental spills.

Hydrology/Water Quality: The primary goal of the Project is to benefit water quality by improving the existing stormwater conveyance system and associated facilities in the Project area; thereby reducing the amount of pollutants entering Cold Creek and ultimately, Lake Tahoe. The Project will have no long term negative impacts on hydrology/water quality. Project construction related activities can pose short term water quality impacts during storm events or accidental fuel spills from construction equipment, however the County will prepare a Temporary Erosion Control Plan, Revegetation Plan, and a Dust Suppression Plan that the contractor must adhere to in order to address short term impacts associated with soil disturbance. At a minimum, this will include containment of the site with proper BMPs, protection of existing storm water facilities, staging and storage of materials, and daily sweeping. To ensure all mitigation measures are addressed and monitored, the contractor will prepare and adhere to a SWPPP in accordance with TRPA and the Lahontan Regional Water Quality Control Board (Lahontan) requirements for storm water pollution prevention.

Noise: Project construction will result in a temporary increase in ambient noise levels due to equipment noise and construction activities. Per TRPA Standard Permit Conditions, operation shall be restricted to the hours of 8:00 am to 6:30 pm. All equipment and vehicles used for Project construction shall have proper muffler devices and be tuned to the manufacturer's specification. County will advise potentially affected residents of the proposed construction activities including duration, schedule of activities, and contacts for filing noise complaints. The County and/or contractor will respond to all noise complaints received within one working day and resolve the issue immediately.

Recreation: The Proposed Project will have no impact on recreation within the Project area, as the Project is an erosion control and water quality project.

Transportation/Traffic: There will be short term construction impacts on traffic from truck and daily work trips to the Project area. Traffic controls will only be implemented during work hours and when it is necessary to perform work, which will be outlined in a Traffic Control Plan prepared by and adhered to by the contractor. At no time will access for local residents, emergency vehicles, school buses, pedestrians, or bicyclists be prohibited, therefore the Project will have a less than significant impact on transportation and traffic.

Utilities and Service Systems: During Project construction, portions of the site may have exposed soil areas that, during a rain or high wind event or utility line breach, could cause minor erosion. Once construction is complete and the erosion control and water quality improvement measures are in place, surface runoff and erosion will be reduced and water quality will be improved. The contractor will prepare and adhere to a SWPPP and a Temporary Erosion Control which will include TRPA approved BMP measures to minimize soil erosion during construction to a less than significant level.

Greenhouse Gas Emissions: Climate change refers to long-term fluctuations in temperature, precipitation, wind, and other elements of Earth's climate system. Natural processes such as solar-irradiance variations, variations in Earth's orbital parameters, and volcanic activity can produce variations in climate. The climate system can also be influenced by changes in the concentration of various gases in the atmosphere, which affect Earth's absorption of radiation.

State law defines greenhouse gases (GHG) to include the following: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (Health and Safety Code, Section 38505(g)). According to the Governor's Office of Planning and Research (OPR), the most common GHG that results from human activity is carbon dioxide, followed by methane and nitrous oxide.

According to California Air Resources Board (CARB) emission inventory estimates, California emitted approximately 480 million metric tons of carbon dioxide equivalents (CO2eq) in 2004. The California EPA Climate Action Team stated in its March 2006 report that the composition of gross climate change pollutant emissions in California in 2002 (expressed in terms of CO2eq) was as follows:

- Carbon dioxide (CO2) accounted for 83.3 percent;
- Methane (CH4) accounted for 6.4 percent;
- Nitrous oxide (N2O) accounted for 6.8 percent; and
- Fluorinated gases (HFCs, PFC, and SF6) accounted for 3.5 percent.

CARB estimates that transportation is the source of approximately 38 percent of California's GHG emissions in 2004, followed by electricity generation (both in-state and out-of-state) at 23 percent, and industrial sources at 20 percent. The remaining sources of GHG emissions are residential and commercial activities at 9 percent, agriculture at 6 percent, high global warming potential (GWP) gases accounting for 3 percent, and recycling and waste at 1 percent.

Regulatory Setting

Global Warming Solutions (AB 32)

The Global Warming Solutions Act of 2006 (AB 32) codifies California's goal of reducing statewide emissions of GHGs to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased-in starting in 2012 to achieve maximum technologically feasible and cost-effective GHG reductions. In order to effectively implement the cap, AB 32 directs CARB to develop appropriate regulations and establish a mandatory reporting system to track and monitor GHG emissions.

Executive Order S-3-05

On June 1, 2005 Governor Arnold Schwarzenegger signed S-3-05 (Order) which established GHG emission reduction targets as follows: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Senate Bill 97

Pursuant to Senate Bill 97 (Chapter 185, 2007) the OPR is in the process of developing CEQA guidelines "for the mitigation of GHGs or the effects of GHGs." OPR is required to prepare and transmit the guidelines to the Resources Agency on or before July 1, 2009. The Resources Agency must certify and adopt the guidelines on or before January 1, 2010. Although

the GHG guidelines have not yet been adopted, where relevant, the Attorney General had mandated that GHG analyses be included in EIRs and Negative Declarations.

Senate Bill 375

California Senate Bill 375 (SB 375) aims to reduce GHG emissions by curbing sprawl because the largest sources of GHG emissions in California are passenger vehicles and light trucks. SB 375 provides emission reduction goals for which regions can plan, integrates disjointed planning activities, and provides incentives for local governments and developers to follow new conscientiously-planned growth patterns.

Senate Bill 1368

California Senate Bill 1368 (SB 1368) adds sections 8340 and 8341 to the Public Utilities Code (effective January 1, 2007) with the intent "to prevent long-term investments in power plants with GHG in excess of those produced by a combined-cycle natural gas power plant with the aim of "reducing emissions of greenhouse gases from the state's electricity consumption, not just the state's electricity production." The bill provides a mechanism for reducing the greenhouse gas emissions of electricity providers, both in-state and out-of-state, thereby assisting CARB in meeting its mandate under AB 32, the Global Warming Solutions Act of 2006.

Significance Criteria

CARB has proposed that different GHG thresholds of significance may apply to projects in different sectors, e.g., industrial, commercial, residential. Two primary reasons that sector-specific thresholds are appropriate are: 1) some sectors contribute more substantially to the problem, and therefore should have a greater obligation for emissions reductions, and, 2) there are differing levels of emissions reductions expected from different sectors in order to meet California's objectives under AB 32. Different types of thresholds – quantitative, qualitative, and performance-based – can apply to different sectors under the premise that the sectors can and must be treated separately given the state of the science and data. The sector-specific approach is consistent with CARB's Proposed Scoping Plan.

Working with CARB in 2008, the OPR drafted amendments to the CEQA Guidelines for GHG emissions as required by SB 97. In January 2009, OPR held workshops in Los Angeles and Sacramento to present the preliminary draft amendments and obtain input from the public. The workshops included a presentation by OPR and the Resources Agency staff, an overview of the preliminary draft CEQA Guideline amendments, and the process for adopting the regulations by 2010. On April 13, 2009, OPR submitted to the Secretary for Natural Resources its proposed amendments to the state CEQA Guidelines. The proposed CEQA Guideline amendments would provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The Natural Resources Agency will conduct formal rulemaking later in 2009, prior to certifying and adopting the amendments, as required by Senate Bill 97 (Chapter 185, 2007).

Impacts

Construction Emissions

Project construction would generate temporary and one-time GHG emissions mainly from diesel-powered construction equipment and on-road trucks, with a small amount from workers' personal vehicles during the construction of the Project. Greenhouse gases emitted during the combustion of diesel fuel in off-road construction equipment and on-road vehicles would consist mainly of carbon dioxide, along with small amounts of methane and nitrous oxide during the construction period. Construction emissions would be intermittent, and short-term, during one summer construction season. Construction emissions would permanently cease at the end of the Project. Over the long-term, these temporary emissions would be offset or mitigated by the establishment of native vegetation at designated areas. The revegetation work, including trees, grasses, and shrubs would be maintained over the life of the Project, up-taking carbon dioxide for decades.

There currently is no federal, state, or local regulatory guidance for determining whether a project advances or hinders California's GHG reduction goals and no promulgated thresholds of significance for GHG impacts have been established. For purposes of this analysis, per the draft amendments to the CEQA Guidelines, an impact could be considered significant if the Project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

During construction, the Project would temporarily cause direct GHG emissions from the combustion of fossil fuels used to run construction equipment and vehicles, both onsite and offsite. These GHG emissions would be temporary and one-time emissions during the construction of the Project only. Over its lifetime, the Project would directly and indirectly cause negligible GHG emissions from occasional maintenance and personal vehicle use. Therefore, this analysis focuses on construction impacts estimated using the County's past project implementation database and the U.S. Environmental Protection Agency (USEPA) GHG emission factors for diesel fuel and gasoline combustion in construction equipment. The County has reviewed past construction project logs for projects equivalent in size and scope to the proposed Project, to determine the typical number and type of vehicles that are actively working to construct the project each day. Based on this analysis, the County has formulated the following assumptions:

- Fifteen workers per day, driving five vehicles to work an average of 40 miles roundtrip per day
- Vehicles average 20 miles per gallon
- Twelve pieces of construction machinery per day
- Crews work eight hours per day with machinery running half that time (4 hours)
- Machinery burns an average of two gallons of diesel fuel per hour
- Diesel fuel contributes approximately 22.5 lbs CO_2/gallon
- Gasoline contributes approximately 20 lbs CO_2/gallon
- The Project will be completed in 65 working days

Based on these assumptions, the Proposed Project would emit approximately 77 tons of CO_2 equivalents.

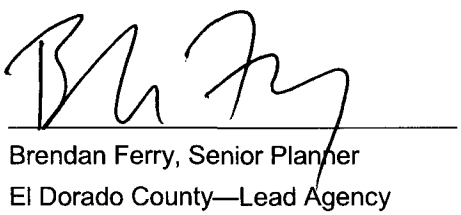
This estimated amount is negligible in comparison to the statewide inventory of 480,000,000 metric tons discussed above (0.0000002 percent). The generation of direct onsite and offsite GHG emissions would terminate following completion of construction work.

PUBLIC NOTICE

The comment period for this document closes on November 5, 2009. A copy of the Initial Study/Proposed Mitigated Negative Declaration is available for public review at the El Dorado County Department of Transportation – Tahoe Engineering Unit at 924 B Emerald Bay Road, South Lake Tahoe, CA 96150 between the hours of 8:00 am and 5:00 pm. The document is also available for review at the El Dorado County Library – South Lake Tahoe Branch at 1000 Rufus Allen Blvd., South Lake Tahoe, CA 96150 between the hours of 10:00 am and 8:00 pm Tuesday and Wednesday and 10:00 am and 5:00 pm Thursday through Saturday. The Library is closed on Sunday and Monday.

All parties providing written comments during this timeframe will be notified of the upcoming hearing before the Board of Supervisors. Additional information may be obtained by contacting the El Dorado County Department of Transportation – Tahoe Engineering Division at 530-573-7900 or 924 B Emerald Bay Road, South Lake Tahoe, CA 96150.

If you wish to appeal the appropriateness or adequacy of this document, address your written comments to our finding that the Project will not have a significant adverse effect on the environment: (1) identify the environmental effect(s), why they would occur, and why they would be significant, and (2) suggest any mitigation measures which you believe would eliminate or reduce the effect to an acceptable level. Regarding item (1) above, explain the basis for your comments and submit any supporting data or references.



Brendan Ferry, Senior Planner
El Dorado County—Lead Agency

Recorder's Certification

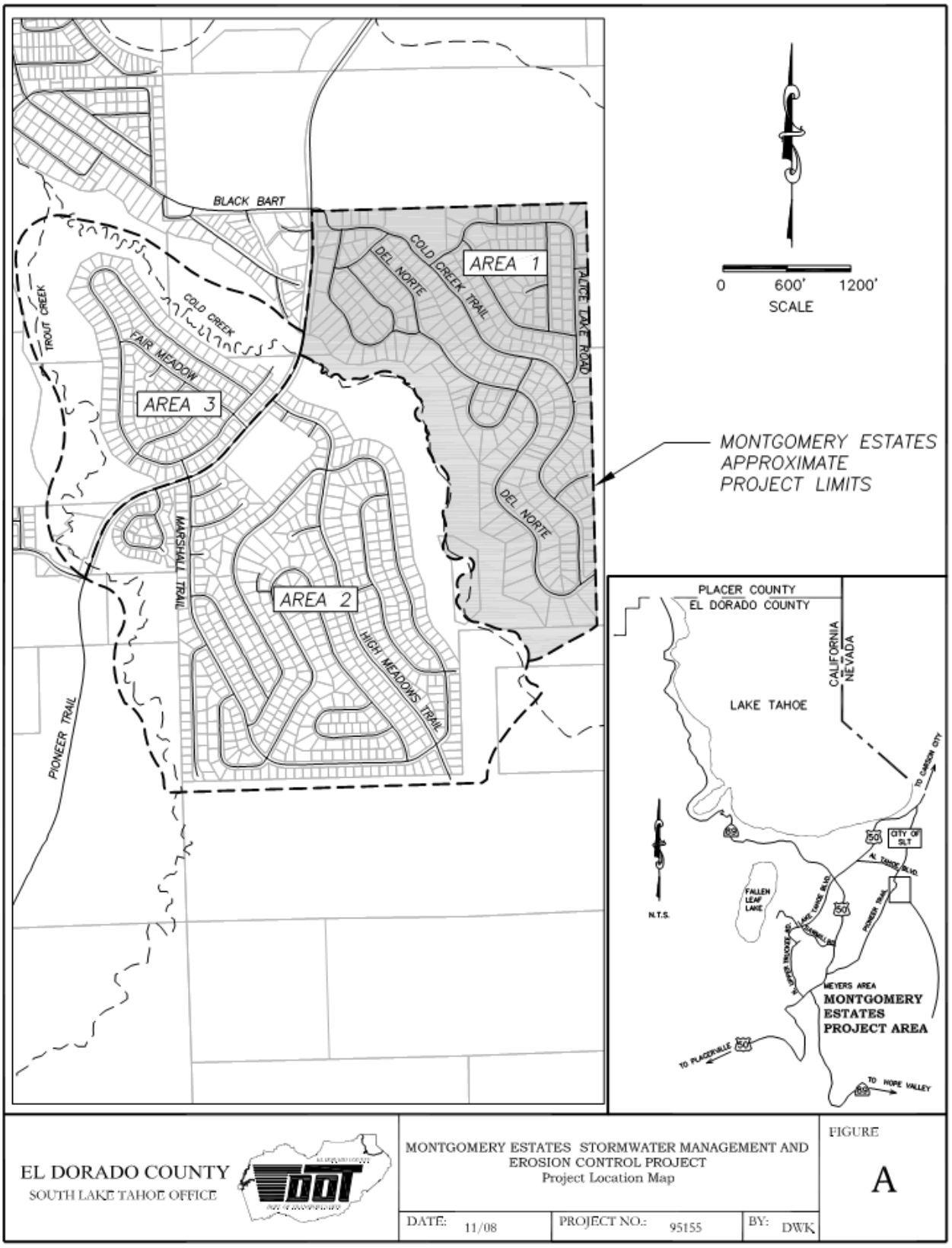

BLACK BART
AREA 1
DEL NORTE
COLD CREEK TRAIL
TALICE LAKE ROAD
TROUT CREEK
COLD CREEK
FAIR MEADOW
AREA 3
MARSHALL TRAIL
AREA 2
HIGH MEADOWS TRAIL
PIONEER TRAIL
DEL NORTE
0 600' 1200'
SCALE
MONTGOMERY ESTATES
APPROXIMATE
PROJECT LIMITS
PLACER COUNTY
EL DORADO COUNTY
CALIFORNIA
NEVADA
LAKE TAHOE
TO CARSON CITY
CITY OF SLT
FALLEN LEAF LAKE
N.T.S.
MEYERS AREA
MONTGOMERY ESTATES PROJECT AREA
TO PLACERVILLE
TO HOPE VALLEY
EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE
DOT
MONTGOMERY ESTATES STORMWATER MANAGEMENT AND EROSION CONTROL PROJECT
Project Location Map
FIGURE
A
DATE: 11/08
PROJECT NO.: 95155
BY: DWK

FIGURE A

CEQA
FINAL INITIAL STUDY/
PROPOSED MITIGATED NEGATIVE DECLARATION

MONTGOMERY ESTATES AREA 1
EROSION CONTROL PROJECT
EIP PROJECT # 701
JN 95155

STATE CLEARINGHOUSE # 2009102017

Prepared by:

County of El Dorado
Department of Transportation
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South Lake Tahoe, CA 96150

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Stantec
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Sacramento, CA 95833

FINAL
November 2009

TABLE OF CONTENTS

FIGURES

APPENDICES

1.0 INTRODUCTION

This Draft Initial Study has been prepared to identify and assess the anticipated environmental impacts of the following described Project. The document may rely on previous environmental documents and site-specific studies prepared to address in detail the effects or impacts associated with the Project. This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.), the State CEQA Guidelines (14 CCR 15000 et seq.), and the California Tahoe Conservancy (CTC) grant funding requirements. CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects.

The Draft Initial Study is a public document used by the decision making lead agency to determine whether a project may have a significant effect on the environment. If the lead agency finds substantial evidence that any aspect of the Project, either individually or cumulatively, may have a significant effect on the environment, regardless of whether the overall effect of the Project is adverse or beneficial, the lead agency is required to prepare an Environmental Impact Report (EIR), use a previously-prepared EIR and supplement that EIR, or prepare a Subsequent EIR to analyze the Project at hand. If the agency finds no substantial evidence that the Project or any of its aspects may cause a significant effect on the environment, a Negative Declaration shall be prepared. If in the course of analysis, the agency recognizes that the Project may have a significant impact on the environment, but that by incorporating specific mitigation measures the impact will be reduced to a less than significant effect, a Mitigated Negative Declaration shall be prepared.

El Dorado County Department of Transportation-Tahoe Engineering Division (EDOT) has reviewed the proposed Project and determined that the Project, with mitigation measures, as identified in this document, will not have a significant effect on the environment. Therefore, a Mitigated Negative Declaration will meet the requirements of CEQA and the CTC.

A CEQA Checklist (Appendix A) has been completed based on the Project Alternatives Evaluation Report; however, should significant impacts or new mitigation measures result from the CEQA review process, the County will recirculate the document for public review. The public review period for the Draft Initial Study/Proposed Mitigated Negative Declaration shall begin on October 5, 2009 and end on November 5, 2009. Comments received after 5:00 pm on November 5, 2009 will not be considered. Written responses should be sent to Brendan Ferry, Senior Planner, at the following address:

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CEQA Compliance
924 B Emerald Bay Road
South Lake Tahoe, CA 96150
(530) 573-7900
brendan.ferry@edcgov.us

2.0 PROJECT DESCRIPTION AND LOCATION

In 1997, the Tahoe Regional Planning Agency (TRPA) developed a Basin-wide Environmental Improvement Program (EIP) that defined various projects which, once implemented, would assist in attaining and maintaining TRPA Environmental Threshold Carrying Capacities (ETCC) as well as meet other federal and state enviromental goals. TRPA has established thresholds for air quality, water quality, soil conservation, vegetation, noise, scenic resources, recreation, fisheries, and wildlife to address public health and safety of residents and visitors as well as the scenic, recreation, education, scientific, and natural values of the Lake Tahoe Basin. The Montgomery Estates Area 1 Erosion Control Project (Project) is defined in the TRPA EIP as Project # 701. El Dorado County Department of Transportation (EDOT) proposes to initiate implementation of the Project during the 2010/2011 construction seasons to assist with meeting the goals of the EIP. This Project is being designed and constructed with financial assistance from the California Tahoe Conservancy (CTC), United States Forest Service - Lake Tahoe Basin Management Unit (USFS-LTBMU), and TRPA mitigation funds.

The Project area is located in eastern El Dorado County, California within the Lake Tahoe Basin. The site is located in South Lake Tahoe, east of Pioneer Trail and north of Cold Creek; off of Hwy 50. The Project area encompasses El Dorado County road rights-of-way within the Montgomery Estates at Lake Christopher Unit Nos. 1 and 2 (Area 1) (Figure A).

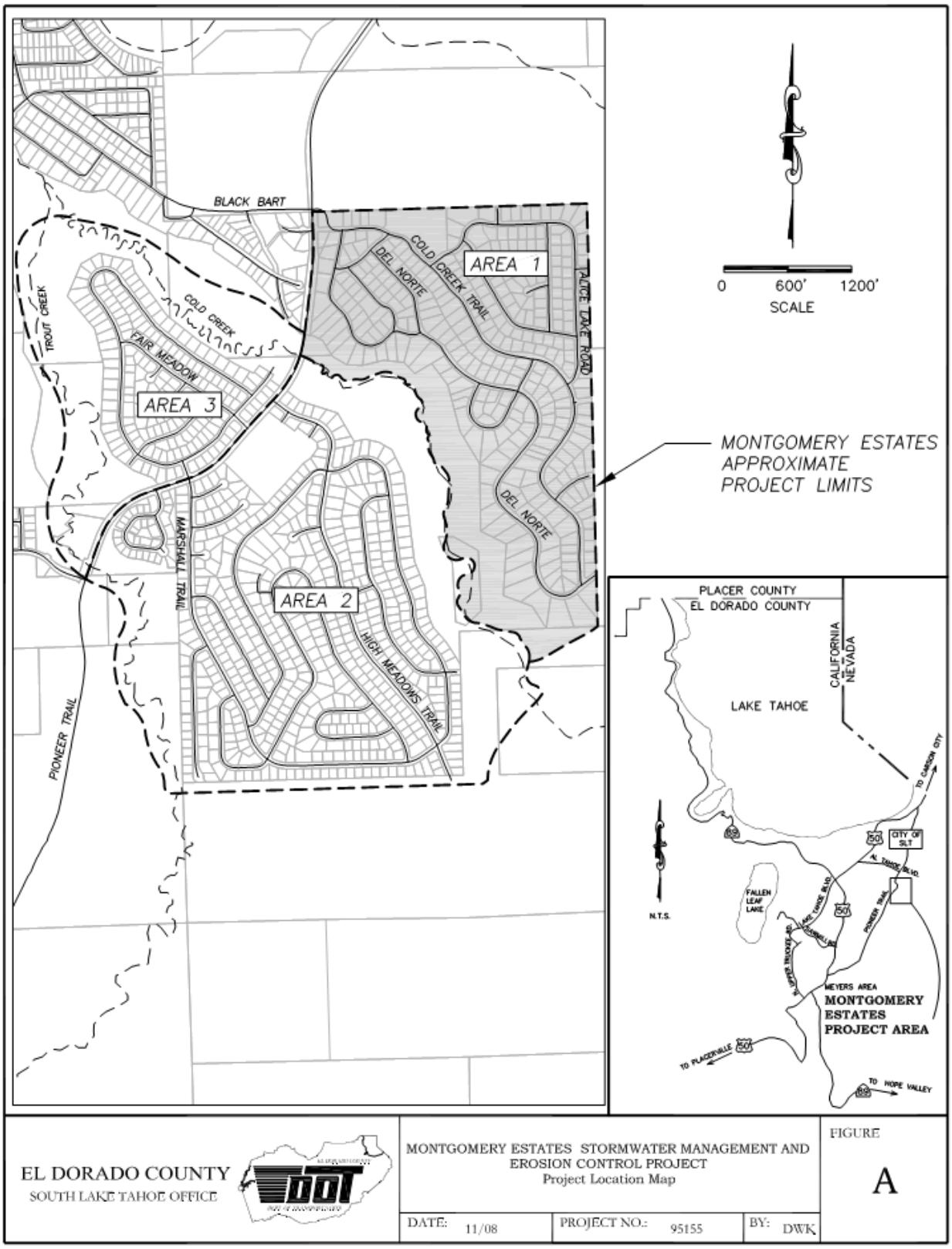
BLACK BART
AREA 1
DEL NORTE
COLD CREEK TRAIL
TAHOE KEYS BLVD
COLD CREEK
TROUT CREEK
FAIR MEADOW
AREA 3
MARSHALL TRAIL
AREA 2
HIGH MEADOWS TRAIL
PIONEER TRAIL
DEL NORTE
0 600' 1200'
SCALE
MONTGOMERY ESTATES
APPROXIMATE
PROJECT LIMITS
PLACER COUNTY
EL DORADO COUNTY
CALIFORNIA
NEVADA
LAKE TAHOE
TO CARSON CITY
CITY OF SLT
FALLEN LEAF LAKE
N.T.S.
MEYERS AREA
MONTGOMERY
ESTATES
PROJECT AREA
TO PLACERVILLE
TO HOPE VALLEY
EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE
MONTGOMERY ESTATES STORMWATER MANAGEMENT AND
EROSION CONTROL PROJECT
Project Location Map
FIGURE
A
DATE: 11/08
PROJECT NO.: 95155
BY: DWK

Figure A

The Project is intended to improve water quality by reducing erosion and treating storm water runoff from the existing roadway infrastructure within the Project corridor by installing appropriate Best Management Practices. Figure 3 outlines the Proposed Project alternative, and can be found at the end of this Initial Study.

2.1 Project Need

Pursuant to the requirements of Section 208 of the Clean Water Act, the TRPA prepared a Water Quality Management Plan for the Lake Tahoe Basin (208 Plan). This plan identified erosion, runoff and disturbance resulting from developments, such as subdivision roads, in the Lake Tahoe Basin as major causes of the decline of Lake Tahoe's water quality and clarity. The 208 Plan also mandates that capital improvement projects such as the Montgomery Estates Area 1 Erosion Control Project be implemented to bring all County of El Dorado (County) roads into compliance with Best Management Practices (BMP) requirements. Additionally, the TRPA developed the EIP to assist in attaining and maintaining TRPA's Environmental Thresholds. The EIP identified the need to improve the quality of water entering Lake Tahoe by controlling upstream pollutant sources. Pollutant sources primarily include fine sediment and nutrients like nitrogen and phosphorus.

Source erosion, water quality, and drainage/infrastructure problems have been identified within the Project area. The problems within the Project area are typical of those found within older residential subdivisions and commercially developed areas in the Tahoe Basin. The problems were evaluated during site inspections by EDOT, TRPA, USFS-LTBMU, and CTC staff. The problem areas the Project intends to address are listed below.

Source Erosion

- Eroding Slopes
- Eroding Roadside Shoulders
- Compacted Parking Areas

Water Quality

- Road Sand and Cinder Accumulation
- Sediment Deposition and Tracking
- Concentration of Stormwater Flows
- Discharge of Untreated Stormwater

Drainage and Infrastructure

- Eroding Drainage Ditches and Channels
- Undersized and Damaged Culverts
- Undersized or Nonexistent Roadside Ditches
- Undersized or Inadequate Basins

2.2 Project Approach

The Project utilized the Lake Tahoe Basin Stormwater Quality Improvement Committee's (SWQIC) Formulating and Evaluating Alternatives for Water Quality Improvement Projects document for guidance in moving towards the selection of a preferred Project alternative. The Project Development Team (PDT) investigated a range of possibilities for the water quality improvements in the Project area. The process of evaluating and selecting a preferred alternative for this Project included the production and analysis of the following documents:

- Existing Conditions Report (Stantec 2006)
- Formulating Alternatives Memorandum (Stantec 2007)
- Draft/Final Project Alternatives Evaluation Report (EDOT 2008)
- Final Preferred Alternative Report (EDOT 2008)

In January 2006, the County completed an Existing Conditions Report (ECR) for Montgomery Estates that identified problem areas within the Project boundary for three separate areas for phasing project implementation (Stantec, 2006). From this ECR the PDT identified Area 1 as having the highest rating for water quality and erosion control improvements. The location of the Montgomery Estates Area 1 Project is shown in Figure 1. In November 2007, the County completed a Formulating Alternatives Memorandum (FAM) which compiled BMP alternatives for mitigating specific problem areas within Area 1 (Stantec, 2007). Finally, in August 2008, the Project Alternatives Evaluation Report (PAER) was completed which included a presentation of the evaluation of

the alternatives that were presented in the FAM with respect to water quality improvements and erosion control mitigation measures for Area 1 (EDOT, 2008). This Preferred Alternatives Report (PAR) presents the preferred alternative (Proposed Project) based on PDT and public input and the results of the analyses contained in the PAER.

The above documents are available through EDOT. Below is a synopsis of alternatives that were evaluated as part of the planning process.

2.3 Concept Alternatives

In order to develop the Project alternatives, EDOT presented two feasible alternatives for the erosion control and water quality aspects of the Project. Each had pros and cons that were outlined and analyzed in the PAER. Each alternative was weighted using an evaluation matrix consisting of several factors that affected the feasibility and effectiveness of each alternative. These were factors like: cost, affects to sensitive species and cultural sites, safety, scenic issues, permittability, fundability, etc. Once each alternative was scored, the PDT and public had a chance to weigh in and decide on the preferred Project alternative.

EDOT utilized a comprehensive watershed-based approach to develop BMP alternatives for each watershed within the Project area. This strategy helped to identify the existing storm water flow paths, sources of sediment and hydrologic and hydraulic characteristics in a very practical fashion and assists to identify how to properly address the erosion and water quality issues. The Project design focuses mainly on capturing and treating storm water and fine sediment. The BMP alternatives were designed for each problem area and were analyzed at the Project site for effectiveness at solving the water quality issue in a cost effective, easily maintainable manner. The BMP alternatives were developed using proven erosion source control, hydrologic design, and treatment of runoff strategies.

The two Project alternatives that were considered are presented below, along with the existing watershed conditions. Figure 1 outlines existing conditions and known problem areas within the Project area. Figure 2 presents the configuration of the Project area and the location of each sub-watershed within the Project area. Figure 3 identifies the locations and extent of the proposed improvements for the preferred Project alternative (proposed Project), which is described in further detail below in Section 2.4.

Bernice Sub-Watershed [Watershed A]

Source Control

Both Alternatives: include the replacement of the failed retaining wall on Alice Lake Road. Top rock with a native seed mixture would be added to the existing eroding slope on Alice Lake Road.

Alternative 1: includes the proposed top rock tying into the top of the existing AC swale. Additional top rock and native seed would also be added to the area on Bernice Lane.

Alternative 2: includes removing a section of the existing AC swale on Alice Lake Road and constructing rolled concrete curb and gutter in its place. Since the top of curb would be at a higher elevation than the edge of the existing ac swale, it would help to keep the slope from sloughing into the flowline. The proposed top rock would tie into the proposed rolled concrete curb and gutter.

Hydrologic Design

The existing pipes within the sub-watershed are sized to handle peak runoff generated by the 10-year, 25-year, and 100-year rain events where the storm duration is dependent on the time of concentration for each watershed. The problem occurs with current sediment deposition that has reduced the capacity of the existing system and in some cases, diverted the flows outside of the existing drainage easement.

NORTHERN AREA

Both Alternatives: require maintenance of the existing infrastructure to allow the pipes to flow at their full capacity. Infiltrating drainage inlets would also be constructed at the intersection of Clipper Court and Alice Lake Road on the northwest and northeast corners. These drainage inlets will reduce the surface volume which discharges through a curb opening near the outlet of pipes 103 and 104.

Alternative 1: includes an infiltrating sediment trap with window openings for the roadside ditch flow at Pipe 102. At the intersection of Clipper Court and Alice Lake Road, the outfall pipes of the Clipper Court infiltrating drainage

inlets would drain into a pipe system with the outlet pipe discharging approximately 100 feet west into double infiltrating sediment traps which would discharge into a rock-lined channel on APN 025-692-02 owned by USFS (requiring a special use permit). These infiltrating sediment traps will provide an additional reduction in stormwater volume.

Alternative 2: includes constructing a rock bowl at the inlet of pipe 102. At the intersection of Clipper Court and Alice Lake Road, the outfall pipes of the infiltrating drainage inlets would drain into a new pipe to convey the water across Alice Lake Road to APN's 025-693-03/04, both owned by the USFS (requiring a special use permit). A vegetated channel would be constructed to convey the water to pipe 104. This would require obtaining a drainage easement across APN 025-693-02 and APN 025-635-05, both privately owned. If Alternative 2 were chosen, the proposed double infiltrating sediment cans would be eliminated due to a lower expected runoff volume. Any reduction in volume for this Alternative would be attributed to an increased flow path length.

MID AREA

Both alternatives: include curb & gutter in the cul-de-sac with a curb opening outfall which will drain into the drainage easement and newly constructed channel. The channel would be reconstructed and armored due to the steepness of the slope (approximately 8%). The channel would have an increased roughness which will reduce the velocity

Alternative 1: includes an infiltrating drainage inlet in the flow line of the curb opening allowing for some sediment capture and volume reduction. Before the existing channel leaves the easement and flows across the private parcel, a new grass-lined channel would be built along contour and across the USFS parcel (APN 025-644-04) to enable additional infiltration and volume reduction of the stormwater runoff. A new drainage easement would need to be acquired to include the existing river rock lined portion of the channel.

Alternative 2: The channel would be relocated to the current drainage easement between the parcels that front Bernice Lane. A temporary construction easement would need to be acquired in order to fill the old channel.

SOUTHERN AREA

Both alternatives: include constructing curb and gutter on the northeast side of Bernice Lane. The curb and gutter would drain to a series of infiltrating drainage inlets to reduce the stormwater volume and remove sediment from the flow, with the drainage inlets then connected to a storm drain system for conveyance.

Alternative 1: The proposed storm drain system would discharge into the channel that feeds into pipe 103. An infiltrating sediment can would be installed at the outlet of pipe 103 to act as a flow splitter, sending the first flush of a storm event into a constructed sedimentation/infiltration basin while bypassing runoff from higher flow events. This basin would enable a reduction in stormwater volume and removal of fine sediments through infiltration. The bypassed flow path would have a series of rock checks constructed within it to reduce the velocity and infiltrate additional runoff, further reducing the stormwater volume. Pipe 104 would be left in place, but a rock bowl would be constructed at the inlet to allow for additional volume retention.

Alternative 2: The proposed storm drain system would continue to pipe 104 where a manhole would be added. No changes would be done at the outlet of this system.

Treatment

Both Alternatives: include six infiltrating drainage inlets and one sedimentation/infiltration basin sized for 3,500 cubic feet of runoff near the outfalls on Alice Lake Road. These improvements would allow for a reduction of stormwater volume and storage for fine sediment capturing and removal.

Alternative 1: includes a system of (2) 3-foot and (2) 4-foot diameter sedimentation/infiltration traps, a series of biologs and rock checks at the outfall for flow spreading.

Alternative 2: would consist of an additional sedimentation/infiltration basin, with the two basins sized for a combined volume of 3,500 cubic feet of runoff and fine sediment storage near the outfalls on Alice Lake Road. The feasibility of these treatment alternatives will be further evaluated once site specific groundwater and soil characteristics are available.

Alice Lake Sub-Watershed [Watershed A]

Source Control

Both Alternatives: include stabilizing the slopes on the east side of Alice Lake Road by applying erosion control blanket and a seed mix to the slope. No improvements are planned for the bare shoulders on Cold Creek Trail due south of Alice Lake Road since they are located at a relative high location on Cold Creek Trail where minimal runoff is expected.

*Alternative 1: f*or Alice Lake Road it would include slope stabilization by installing top rock to the native seed mix. This would be done in the areas where the slopes are steeper than 3:1, the maximum slope for erosion control blanket only applications. For steeper areas the top rock could be replaced with rock slope protection. For Cold Creek Trail rolled concrete curb and gutter would be constructed along the east side of the road, ending at the inlet of pipe 106.

Alternative 2: No additional improvements.

Hydrologic Design

Both alternatives: include replacing pipe 106 with an 18" CMP and constructing a sedimentation/infiltration basin near the outlet of pipe 106 to provide for a reduction in stormwater volume.

Alternative 1: includes constructing an infiltrating drainage inlet at the southeast corner of Cold Creek Tail and Alice Lake Road.

Alternative 2: includes installing a 36" infiltrating sediment trap at the inlet of pipe 106. The outlet pipe for the infiltrating drainage inlet would drain to the same location as pipe 106.

Treatment

Both Alternatives: include a basin at the outlet of the pipe which will provide for both stormwater volume and sediment reduction through infiltration.

Alternative 1: includes an infiltrating drainage inlet.

Alternative 2: includes a 3-foot diameter infiltrating sedimentation trap.

Amador Sub-Watershed [Watershed A]

Source Control

Both Alternatives: include installing curb and gutter along the north side of Cold Creek Trail along with two infiltrating drainage inlets/sediment trap pairs to capture sediment. Two curb openings would be installed below each infiltrating drainage inlet to divert the remaining flow into the SEZ for further treatment. An additional 190 feet of curb and gutter would be installed on the north side of Copper Way near the intersection of Cold Creek Trail. The curb would end at an infiltrating sediment trap with the stormwater discharging to an armored channel. This same curb and gutter would continue around the corner of Cold Creek Trail to a proposed infiltrating sediment trap.

Alternative 1: includes constructing a retaining wall on Alice Lake Road near the intersection with Bernice Lane. Top rock with native seed would be added to the shoulder on the north side of Amador Way to reduce further erosion of the roadside shoulder. In addition the travel way would be realigned at the intersection of Amador Way and Copper Way by removing asphalt on the north side of Amador Way while adding asphalt to the south side of the intersection. shallow, vegetated swales would be constructed at the radius to convey the water from Amador Way to Copper Way.

Alternative 2: includes extending the curb and gutter on Cold Creek Trail around Copper Way to an infiltrating drainage inlet before discharging into APN 025-452-05. No improvements would be constructed at the intersection of Amador Way and Copper Way.

Hydrologic Design

Both Alternatives: include replacement of pipe 108 with a 24" CMP for increased capacity. A sediment trap junction structure would be built at the outlet to decrease velocities before discharging.

Alternative 1: includes removing pipe 108 and realigning the replacement pipe to discharge into the existing drainage easement. Pipe 109 would be replaced with a 24" CMP, lowering the invert, necessitating the need for additional rock protection at the inlet.

Alternative 2: includes replacement of pipe 108 with a 24" pipe using the same alignment, necessitating a drainage easement from the owner of APN 025-452-01. Pipe 109 would be replaced with two 18" pipes, to keep the inlet invert elevations from being any lower.

Treatment

Both Alternatives: include an increase in the frequency of street sweeping to one additional pass per season for the Amador sub-watershed in addition to (3) 4-foot diameter infiltrating sedimentation traps, (2) infiltrating drainage inlets, and flow spreading to the publicly owned parcels.

Alternative 1: includes an additional (3) 4-foot diameter infiltrating sedimentation traps and flow spreading to publicly owned undeveloped parcels.

Alternative 2: includes one additional infiltrating drainage inlet.

Copper North Sub-Watershed [Watershed D]

Source Control

Both Alternatives: include installing erosion control blanket with native seed on the eroding slope at the corner of Amador Way and Del Norte Street.

Alternative 1: includes construction of curb and gutter from the high point of Cold Creek Trail down Cold Creek Trail, to the east side of Amador Way, and then on the north side of Del Norte Street to its high point (within this sub-watershed). Additional curb and gutter would be constructed near the high point of Humboldt Street on the south side, ending at the intersection with Amador Way.

Alternative 2: would be to apply top rock and native seed to only the areas where the identified eroding slopes are steeper than 3:1. The existing conveyance would be left the same.

Hydrologic Design

Both Alternatives: include replacing and increasing the existing pipes to 18" diameter CMP and to add an infiltrating sediment trap at the pipe 112 outlet to act as a flow splitter sending low flows to a retention area and high flows to the existing basin between Pioneer Trail and Copper Way. Additional check dams would be added to the ditch to reduce velocities and help backup and infiltrate additional runoff volumes. In addition, the alternatives include constructing an infiltrating drainage inlet at the southeast corner of Amador Way and Cold Creek Trail, which would drain into a new 12" diameter CMP crossing that discharges to the SEZ on the north side of Cold Creek Trail.

Alternative 1: no additions to the above.

Alternative 2: includes infiltrating sediment traps at the inlets of the existing pipes on Amador Way and Copper Way.

Treatment

Both Alternatives: include one 4-foot diameter infiltrating sediment trap for increased stormwater volume infiltration and fine sediment trapping.

Alternative 1: includes the addition of two infiltrating drainage inlets and a sedimentation/infiltration basin created by check dams in the existing flume ditch line. The feasibility of this treatment alternative will be further evaluated once site specific topography and soil characteristics are available.

Alternative 2: would rely on an additional two 3-foot diameter sediment traps for treatment.

Del Norte East Sub-Watershed [Watershed H]

Source Control

Alternative 1: would be to install top rock and native seed on the slope.

Alternative 2: no additional improvements.

Hydrologic Design

Both Alternatives: include cleaning out the inlet and outlet of pipe 122 and regrading the existing channel to drain.

Alternative 1: would include removing pipe 123 and regrading that section of the channel to drain. Rock checks would also be installed below the outlet of pipe 122 to help with volume and velocity reduction.

*Alternative 2: p*ipe 122 would be removed and replaced with an 18" HDPE.

Treatment

Alternative 1: includes infiltration swales at the intersection of Del Norte Street and Cold Creek Trail along with a check dam installed at the outfall to allow for infiltration of the runoff.

Alternative 2: nothing is proposed due to the relatively small volume of runoff from this sub-watershed and the slow infiltration rate of the soils near the location of the proposed treatment.

Del Norte South Sub-Watershed [Watershed C]

Source Control

Alternative 1: includes a short retaining wall to keep back material in the area where material is sluffing into the curb and gutter. The area at the top of the retaining wall will be revegetated to help keep material in place.

Alternative 2: instead, includes rock slope protection keyed into the existing curb and gutter. The rock slope protection is better suited for this slope due to its steepness.

Hydrologic Design

There is only one pipe system in this sub-watershed: Identified as pipe 121 it contains two drainage inlets and two pipes to convey the runoff to an existing channel which drains into the ravine between Fortune Way and Del Norte Street. The Existing Conditions Report identified this system as able to handle predicted stormwater runoff flows. The existing pipe outlet has a flared end and the existing channel is armored. No additional improvements are necessary at this time.

Treatment

Both Alternatives: include an increase in the frequency of street sweeping by one more pass per season.

Alternative 1: includes one infiltrating drainage inlet and one 4-foot diameter infiltrating sedimentation trap. The infiltrating sediment trap would include drainage rock around the can to allow for an increased treatment volume in addition to the storage volume for fine sediment.

Alternative 2: no additional improvements.

Cold Creek South Sub-Watershed [Watershed B]

Source Control

No source control issues currently exist within the Cold Creek South sub-watershed. The existing slope identified at APN 025-602-07 now has a house on it, eliminating the eroding slope problem previously reported.

Hydrologic Design

Both Alternatives: include replacing pipe 117 with either the same size CMP or ribbed HDPE (for equivalent Mannings value). pipe 107 would be increased to an 18" HDPE pipe with a flared end and rock dissipater installed at the outlet. An infiltrating drainage inlet would be constructed in the low spot of the existing curb and gutter on Cold Creek Trail, approximately 90 feet south of pipe 116.

Alternative 1: includes adding flared end sections to both ends of pipe 117. The infiltrating drainage inlet at the low spot of Cold Creek Trail would drain into a new 18" HDPE pipe which would convey the flow to the existing USFS lot across the street (APN 025-595-09) where a sedimentation/infiltration basin would be built (requiring a special use permit).

Alternative 2: would be to remove a short section of the existing curb so that pipe 117 would drain into the current curb and gutter pan. The infiltrating drainage inlet at the low spot of Cold Creek Trail would drain into a new 18" HDPE pipe that would convey the flow to behind the curb and gutter into the inlet of pipe 107.

Treatment

Both Alternatives: include an infiltrating drainage inlet at the low spot of Cold Creek Trail to capture fine sediment.

Alternative 1: the treatment for this sub-watershed includes a sedimentation/infiltration basin sized for 900 cubic feet of runoff at the outlet pipe of the drainage inlet.

Alternative 2: as an alternative means of treatment, flow from this sub-watershed could be combined with Cold Creek North sub-watershed which is equal to 10,000 cubic feet of on-site runoff and 33% of this volume is equal to 3,400 cubic feet. Therefore the combined runoff is equal to approximately 12,600 cubic feet of on-site runoff and 33% of this volume is equal to 4,200 cubic feet. The sedimentation/infiltration basin would be upsized to 4,200 cubic feet of runoff and could be relocated to either the east or west side of Cold Creek Trail. However, due to site constraints, groundwater table, and topography the more feasible basin location includes the publicly owned parcel on the west side of Cold Creek Trail.

Cold Creek North Sub-Watershed [Watershed B]

Source Control

Both Alternatives: include replacing the poorest condition roadside swales on Alice Lake Road with curb and gutter.

Alternative 1: includes installing top rock and native seed to the northeast corner of Talbot Street and Bernice Lane.

Alternative 2: no additional improvements.

Hydrologic Design

Both Alternatives: include constructing curb and gutter along the north side of Bernice Lane between Talbot Street and Alice Lake Road. A drainage inlet would be constructed at the inlet of pipe 113 and the pipe would be replaced with a 12" CMP which would discharge to the existing AC swale. The smaller size CMP would enable matching the existing flowline without increasing the depth of the swale, while still meeting County standards for pipe size. In addition catch basins would be installed at the inlet and outlet of pipe 114. A concrete headwall would also be constructed at the outlet of pipe 116.

Alternative 1: includes leaving the asphalt at the intersection as is. Curb and gutter would be constructed from the northeast corner of Talbot Street and Bernice Lane to the northwest corner of Bernice Lane and Alice Lake Road. An infiltrating drainage inlet would be constructed at the inlet side of pipe 113 and the pipe would be replaced with a 12" CMP which would outlet into the existing AC Dike section on the east side of Alice Lake Road.

Pipe 112 would be replaced with an 18" CMP and 36" catch basins would be installed at both the inlet and outlet. In addition the catch basin at the outlet would have a grated lid to allow for water from the east side of Alice Lake Road. The outlet of the catch basin would drain into an armored channel which would convey flows to an infiltrating sediment basin approximately 85 feet south of the intersection before discharging into pipe 116.

A concrete headwall would be constructed at the inlet of pipe 116

Alternative 2: includes adding a concrete valley gutter across the Talbot Street and Bernice Lane intersection to convey the runoff to the proposed curb and gutter along Bernice Lane. At the intersection of Alice Lake Road and Cold Creek Trail, the two catch basins would connect to a new storm drain system that would outlet to the proposed sedimentation/infiltration basin outlined in section 2.7.

Treatment

Both Alternatives: include a system of two 3-foot diameter infiltrating sedimentation traps and one infiltrating drainage inlet.

Alternative 1: includes constructing a sedimentation/infiltration basin sized to infiltrate and capture as much runoff and fine sediment as site conditions allow.

Alternative 2: an alternative treatment for this sub-watershed includes a sedimentation/infiltration basin sized for 3,400 cubic feet of runoff. The sedimentation/infiltration basin could be located on the east or west side of Cold Creek Trail, however due to site constraints, groundwater table, and topography the more feasible basin location includes the publicly owned parcel on the west side of Cold Creek Trail. Additional flow from this sub-watershed could be combined with the Cold Creek South sub-watershed.

Del Norte Sub-Watershed [Watershed B]

Source Control

Both alternatives: include placing boulders spaced 4' apart on the leading edge of the public lots on Cold Creek Trail. In addition the eroding slopes on the southeast corner of Fortune Way and Del Norte Street would be revegetated.

Alternatives 1 and 2: no additional Improvements.

Hydrologic Design

Both Alternatives: include constructing infiltration drainage inlets on either side of the low spot of the road to capture road runoff. The drainage inlets would include transverse drains to reduce impacts during winter time conditions. The existing pavement at the outlet of pipe 118 would be removed and replaced with a rock dissipater for velocity reduction and infiltration of runoff.

Alternative 1: would be to locate the infiltrating drainage inlets further apart, with the outlet pipes discharging to the southwest side of Del Norte. The infiltrating drainage inlets would be placed to take advantage of the proposed sedimentation/infiltration basins on APN's 025-596-02 and 025-596-01.

Alternative 2: would be to locate the infiltrating drainage inlets on either side of the curb opening, with both discharging runoff behind curb to the inlet of pipe 118.

Treatment

Both Alternatives: include two drainage inlets for capturing of fine sediment.

Alternative 1: includes 2 additional sedimentation/infiltration basins or bermed sedimentation/infiltration basins sized for 1,200 cubic feet of runoff to allow for fine sediment removal through infiltration of stormwater.

Alternative 2: No additional improvements.

Copper South Sub-Watershed [Watershed E]

Source Control

Both Alternatives: include repairing the failed ditch. Due to the small size of the break, this work could be completed by the CCC's.

Alternative 1: include installing top rock with native seed to the existing eroding channel on Copper Way in order to eliminate any further erosion of the channel. A rock-lined channel would be constructed across the USFS parcel to direct the runoff into the existing drainage ditch that is behind the parcel.

Alternative 2: would instead include constructing curb and gutter on the south side of Copper Way. A rock lined channel would be constructed at the western end connecting the curb and gutter to the existing drainage channel behind parcel APN 025-442-08.

Hydrologic Design

Both Alternatives: include clearing debris and repairing the existing outlet channel. This work could be completed by the CCC's.

Alternative 1: would be to add a flared end to the outlet to keep material from sloughing into the channel.

Alternative 2: no additional improvements.

Treatment

Alternative 1: the primary treatment for this sub-watershed includes the construction of check dams in the existing flume to backup and infiltrate the runoff. This work could be completed by the CCC's.

Alternative 2: the drainage ditch would be cleared of sediment and debris at the northwestern end to connect to the treatments discussed for section 2.4. In its existing condition, after the break has been repaired, it is expected that the ditch will be able to treat the design runoff volume in addition to capturing fine sediment through infiltration of stormwater runoff.

Del Norte West Sub-Watershed [Watershed I]

Source Control

The primary source control issue in this sub-watershed is the eroding ditch at the inlet of pipe 128. Both Alternatives include constructing a rock bowl at the inlet to reduce any future scour of the inlet.

Hydrologic Design

Both Alternatives: include replacing the 12" CMP with an 18" CMP. By increasing the diameter of the pipe and through the updated design, the County will be able to decrease the velocities within and at the end of the pipe.

Alternative 1: includes replacing the existing 12" CMP with an 18" CMP. A sediment trap would be constructed at the outlet with pipes that discharge to the existing channel and an underground infiltration system.

Alternative 2: includes constructing check dams at the outlet of the pipe to reduce velocities and increase infiltration.

Treatment

Alternative 1: the treatment for this sub-watershed includes one 4-foot diameter infiltrating sedimentation trap installed at the outlet discharging to a smaller underground infiltration system. The system will provide for both infiltration of stormwater runoff and capturing of fine sediment.

Alternative 2: an alternative treatment could include a sedimentation/infiltration basin sized for approximately 120 cubic feet of runoff and sediment constructed at the outlet on APN 025-442-04 (County owned). Check dams would be constructed in the existing outlet channel to enable additional infiltration of the runoff volume.

Del Norte North Sub-Watershed [Watershed F]

Source Control

Alternative 1: would include constructing curb and gutter on both sides of Del Norte Street, with the east side tying into the existing curb and gutter and the west side wrapping the corner at Copper Way to the existing drainage inlet. Top rock with native seed would be installed on the eroding channel/shoulder on Del Norte Street just north of the Fortune Way intersection (Figure 11A).

Alternative 2: would instead include the installation of top rock and native seed along the southwest corner of Copper Way and Del Norte Street in addition to the northeast side of Del Norte Street on the eroding slopes previously identified (Figure 11B).

Hydrologic Design

Both Alternatives: include constructing a rock bowl or dissipater at the inlet of the pipe at the northeast corner of Copper Way and Humboldt Street (pipe 126).

Alternative 1: would include adding an infiltrating drainage inlet to the northwest corner of the Copper Way/Del Norte Street intersection which would connect to the existing sediment trap on the southern corner of the intersection. From this sediment trap an underground infiltration chamber would be added. The system will be designed to convey runoff back into the existing storm drain system when full. A rock bowl would be constructed at the inlet to the section of pipe 126. A new drainage easement would be needed on APN 025-442-03 for the current stormwater outfall.

Alternative 2: would include an additional outlet pipe from the existing junction structure at the southern corner of Del Norte Street and Copper Way. The new outlet pipe would match the existing outlet pipe invert elevation which drains to the west, down Del Norte Street, to enable splitting the flows. The new pipe would discharge to a rock-lined channel that would end at a newly constructed basin off the STPUD access road. A new drainage easement would be needed on APN 025-442-01 for discharge from the proposed rock lined channel. Pipe 126 would be upsized from 12" to an 18" CMP to enable larger flows and debris to make it into the storm drain system.

Treatment

Both Alternatives: include increasing the frequency of street sweeping to one more pass per season. A 4-foot diameter infiltration sediment trap would also be installed at the end of the storm drain system at the corner of Copper Way and Humboldt Street.

Alternative 1: the treatment for this sub-watershed includes one infiltrating drainage inlet and an underground infiltration system off of the existing sediment trap at the southern corner of Copper Way and Del Norte Street.

Both systems combined would be sized for approximately 1,000 cubic feet of runoff thus meeting more than half of the Project goal for treatment

Alternative 2: An alternative treatment could include replacing the proposed underground infiltration system with a rock-lined channel that would lead to a sedimentation/infiltration basin off of the STPUD access road. In addition, the alternative would include constructing a series of rock checks at the outlet of the existing storm drain system to allow for additional infiltration of the runoff volume.

Fortune West Sub-Watershed [Watershed G]

Source Control

Alternative 1: would include constructing a 3- foot high retaining wall in front of the eroding areas. A permeable AC Swale would be constructed in front of the retaining wall.

Alternative 2: would include installation of top rock and native seed in the areas of the eroding slope. If the slope required it, the top rock would be substituted with rock slope protection. Curb and gutter would be constructed in front of the top rock instead of the permeable AC swale.

Hydrologic Design

Both Alternatives: would include replacing the existing pipe with an 18" HDPE with a flared end and rock dissipator at the outlet to provide scour protection and to reduce outlet velocities. In addition an easement across APN 025-593-03 would be required to convey existing storm water runoff from the watershed outfall.

Alternative 1: includes installing a 36" infiltrating sediment trap at the inlet for debris capture.

Alternative 2: would be to construct an infiltrating drainage inlet at the pipe inlet instead of the sediment trap.

Treatment

Alternative 1: the treatment of runoff from this sub-watershed includes diverting runoff towards the permeable AC swale along Fortune Way and allowing the design volume of runoff to infiltrate into the ground. It would also include the capturing capacity of the sediment trap.

Alternative 2: includes the fine sediment capturing capacity of the drainage inlet.

Fortune East Sub-Watershed [Watershed J]

Source Control

Alternative 1: would be to place boulders in front of the bare shoulders that appear to be the biggest contributors to sediment erosion and to construct a retaining wall along a section of Fortune Way which would include permeable AC swale in front of the wall for conveyance.

Alternative 2: would be to instead post a sign on each street and notify property owners that the County elected to use No Parking signage instead of boulders, requesting that the owners honor the No Parking signs. It would also include constructing rolled curb and gutter along the above mentioned section of Fortune Way instead of the permeable AC swale.

Hydrologic Design

Both Alternatives: include replacing and increasing the size of pipe 120 to an 18" HDPE and installing a flared end section with a rock dissipater to reduce scour potential. An additional infiltrating sediment trap would also be installed at the end of the proposed AC swale on Fortune Way before it discharges into pipe 120.

Alternative 1: would be to construct a grated infiltrating sediment trap at the inlet of pipe 119.

Alternative 2: no additional improvements.

Treatment

Both Alternatives: include one 4-foot infiltrating sediment trap near the inlet of pipe 120 and a sedimentation/infiltration basin after the outlet of pipe 120.

*Alternative 1: t*he primary treatment for this sub-watershed includes an additional 3-foot diameter infiltrating sedimentation trap at the inlet of pipe 119 and a section of permeable AC swale from Fortune Way to the inlet of pipe 120 with the combined system sized for 500 cubic feet of runoff.

*Alternative 2: a*n alternative treatment would include adding rock checks to the outlet of pipe 120 to enable additional infiltration of runoff and sediment capture.

2.4 Detailed Site Conditions and Proposed Project

The Proposed Project was selected by the PDT and is described in further detail below (outlined on Figure 3) and is a compilation of the most comprehensive design ideas for each street within the Project area which meets the goals and objectives of the EIP and the Project. All proposed measures will be in compliance with applicable laws TRPA and Lahontan regulations, including following the Basin Plan and Chapters 25 and 81 of TRPA's Code of Ordinances.

Bernice Sub-Watershed [Watershed A]

Existing Conditions

The Bernice Sub-Watershed includes runoff from on-site sub-watersheds 2.1 and a portion of 2.2. In addition, the Bernice Sub-Watershed includes bypassed off-site runoff from sub-watershed 2.1. The outfalls for this watershed are pipes 103 and 104 which are 36" and 18", respectively. They combine to drain into the Amador Sub-Watershed.

Source Control

Alice Lake Road has three areas where there are source control problems due to eroding slopes. Approximately 200 feet east of Clipper Court, the problem is due to a failed retaining wall; 200 feet north of Quartz Street it is due to steeper, less stable slopes; and 250 feet south of Talbot Street on Bernice Lane the erosion appears to be due to lack of vegetation.

The Proposed Project includes the replacement of the failed retaining wall on Alice Lake Road. Top rock with a native seed mixture would be added to the existing eroding slope on Alice Lake Road. It also includes the proposed top rock tying into the top of the existing AC swale. Additional top rock and native seed would also be added to the area on Bernice Lane.

Hydrologic Design

The existing pipes within the watershed are sized to handle peak runoff generated by the 10-year, 25-year, and 100-year rain events where the storm duration is dependent on the time of concentration for each watershed. The problem occurs with current sediment deposition that has reduced the capacity of the existing system and in some cases, diverted the flows outside of the existing drainage easement.

Northern Area

On the north side of the Bernice Sub-Watershed there is a junction structure for pipe 101 that is covered with debris making its condition unknown at this time. The outlet for pipes 101 and 102 are partially buried and the inlet for 102 is approximately 90% buried.

The Proposed Project requires maintenance of the existing infrastructure to allow the pipes to flow at their full capacity. Infiltrating drainage inlets would also be constructed west of the intersection of Clipper Court and Alice Lake Road on the north and south side of Alice Lake Road. These drainage inlets will reduce the surface volume which currently discharges through a curb opening near the outlet of pipes 103 and 104. The outfall pipes of the infiltrating drainage inlets would instead drain into sediment traps and then into a rock-lined channel on APN 025-692-02 owned by USFS (requiring a special use permit). These infiltrating sediment traps will provide an additional reduction in stormwater volume. The preferred alternative also includes installing an infiltrating sediment trap with window openings for the roadside ditch flow at pipe 102.

Mid Area

In the mid area of this sub-watershed on the southwest side of the Talbot Place Cul-de-sac there is an existing drainage easement. The drainage channel within the easement is not well defined and has excess material blocking the inlet. The channel follows the localized low in the topography as it passes through the parcels that front Talbot Place and the parcels that front Bernice Lane. The topographic low occurs outside of the existing drainage easement between the parcels that front Bernice Lane, conveying stormwater runoff across a private parcel. The channel in this stretch has been lined with river cobble and appears to be stable.

The Proposed Project includes curb & gutter in the cul-de-sac with a curb opening outfall which will drain into the drainage easement and newly constructed channel. The channel would be reconstructed and armored due to the steepness of the slope (approximately 8%). The channel would have an increased roughness which will reduce the velocity. Additionally, it includes an infiltrating drainage inlet in the flow line of the curb opening allowing for some sediment capture and volume reduction. The rock lined channel constructed in the existing County drainage easement would continue to Bernice Lane. Before discharging from the easement, a new channel would be built along contour and across the USFS parcel (APN 025-644-04) to enable additional infiltration and volume reduction of the stormwater runoff.

Southern Area

In the southern area of the sub-watershed the primary stormwater runoff will be coming from the channel identified in the mid area. This flow co-mingles with the flow from the high point of Bernice Lane.

The Proposed Project includes constructing curb and gutter on the northeast side of Bernice Lane. The curb and gutter would drain to a series of infiltrating drainage inlets to reduce the stormwater volume and remove sediment from the flow, with the drainage inlets then connected to a storm drain system for conveyance. The proposed storm drain system would discharge into the channel that feeds into pipe 103. A drainage inlet and bypass infiltration sediment trap will be constructed at the low spot on Alice Lake Road. Low flows would be directed to a basin to enable a reduction in stormwater volume and removal of fine sediments through infiltration. The bypassed flow path would have a series of rock checks constructed within it to reduce the velocity and infiltrate additional runoff, further reducing the stormwater volume. Pipe 104 would be left in place, but a rock bowl would be constructed at the inlet to allow for additional volume retention.

Treatment

The 25-year 1-hour design storm volume of runoff from the Bernice Sub-Watershed is equal to approximately 11,000 cubic feet of on-site runoff and 33% of this volume is equal to approximately 3,500 cubic feet. The water table at the location of the proposed treatment facility for this sub-watershed (outlet of pipes 103 and 104) is considered high (TRCD, 2007). Due to the presence of off-site runoff and the existing stormwater system in this sub-watershed, mixing of off-site and on-site runoff can not be avoided. However, considering that the off-site sub-watershed has a greater time of concentration than the on-site sub-watershed, operating the treatment BMPs for first flush should primarily provide for volumetric and sediment treatment of the on-site sub-watershed.

The Proposed Project includes six infiltrating drainage inlets and two sedimentation/infiltration basin or bermed area sized for 3,500 cubic feet of runoff near the outfalls on Alice Lake Road. These improvements would allow for a reduction of stormwater volume and storage for fine sediment capturing and removal. The alternative includes a system of four sedimentation/infiltration traps, a series of biologs, and rock checks at the outfall for flow spreading.

Alice Lake Sub-Watershed [Watershed A]

Existing Conditions

The Alice Lake Sub-Watershed includes runoff from on-site sub-watershed 2.2. The outfall from this sub-watershed drains into one 12” pipe (pipe 106) that flows into sub-watershed 2.3. Alice Lake Road and Cold Creek Trail border the southwest and northwest sides of the sub-watershed. The road shoulder on the eastern side of Alice Lake Road is bare and abuts to a slope that is eroding and averages a 3:1 grade. The Cold Creek Trail portion has an area with bare shoulders approximately 75 feet in length.

Source Control

The Proposed Project includes stabilizing the slopes on the east side of Alice Lake Road by applying erosion control blanket and a seed mix to the slope. No improvements are planned for the bare shoulders on Cold Creek Trail due south of Alice Lake Road since they are located at a relative high location on Cold Creek Trail where minimal runoff is expected. For Alice Lake Road it would include slope stabilization by installing top rock to the native seed mix. This would be done in the areas where the slopes are steeper than 3:1, the maximum slope for erosion control blanket only applications. For steeper areas the top rock could be replaced with rock slope protection. For Cold Creek Trail rolled concrete curb and gutter would be constructed along the east side of the road, ending at the inlet of pipe 106.

Hydrologic Design

The only pipe draining this sub-watershed is a 12 inch CMP (pipe 106) and it is approximately 50% buried at the inlet and outlet.

The Proposed Project includes replacing pipe 106 with an 18" CMP and constructing a sedimentation/infiltration basin or bermed area near the outlet of pipe 106 to provide for a reduction in stormwater volume. The Project also includes constructing an infiltrating drainage inlet at the southeast corner of Cold Creek Tail and Alice Lake Road.

Treatment

The design storm volume of runoff from the Alice Lake Sub-Watershed is equal to approximately 1,200 cubic feet of on-site runoff and 33% of this volume is equal to 400 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed is between 4 and 13 inches per hour (TRCD, 2007).

The Proposed Project includes a basin at the outlet of the pipe which will provide for both stormwater volume and sediment reduction through infiltration. The Project also proposes an infiltrating drainage inlet and sediment trap.

Amador Sub-Watershed [Watershed A]

Existing Conditions

The Amador Sub-Watershed includes runoff from the lower portion of on-site sub-watershed 2.3 in addition to bypassed off-site runoff from sub-watershed 2.1 and the Alice Lake and Bernice sub-watersheds. The drainage from the lower portion of 2.3 comes through an existing 18" CMP which crosses Cold Creek Trail (pipe 108), the inlet and outlet are partially buried with debris. The outlet discharges onto APN 025-452-01 which is privately owned. The outfall for this watershed is pipe 109, an 18" CMP that is clear of debris.

Source Control

The problem areas in this sub-watershed are the bare and eroding shoulders, primarily on Cold Creek Trail, Amador Way, and Copper Way. At the intersection of Amador Way and Copper Way the existing travel way is misaligned in the ROW such that there is minimal space for conveyance of flows down the north side of Amador Way.

The Proposed Project includes installing curb and gutter along the north side of Cold Creek Trail along with two infiltrating drainage inlets/sediment trap pairs to capture sediment. Two curb openings would be installed below each infiltrating drainage inlet to divert the remaining flow into the SEZ for further treatment. An additional 190 feet of curb and gutter would be installed on the north side of Amador Way near the intersection of Cold Creek Trail. The curb would end at an infiltrating sediment trap with the stormwater discharging to an armored channel. This same curb and gutter would continue around the corner of Cold Creek Trail to a proposed infiltrating sediment trap. The Project also proposes constructing a retaining wall on Alice Lake Road near the intersection with Bernice Lane. Top rock with native seed would be added to the shoulder on the north side of Amador Way to reduce further erosion of the roadside shoulder. In addition the travel way would be realigned at the intersection of Amador Way and Copper Way by removing asphalt on the north side of Amador Way. A shallow swale would be constructed at the radius to convey the water from Amador Way to Copper Way.

Hydrologic Design

There are two pipes currently in this sub-watershed, pipe 108 on Cold Creek Trail and 109 on Copper Way. Both pipes are undersized per the County requirement of a Headwater to Depth ratio of no greater than 1.0 for a 10 year storm.

The Proposed Project includes replacement of pipe 108 with a 24" CMP for increased capacity. A sediment trap junction structure would be built at the outlet to decrease velocities before discharging. The Project also proposes removing pipe 108 and realigning the replacement pipe to discharge into the existing drainage easement. Pipe 109 would be replaced with two 18" CMPs.

Treatment

The design storm volume of runoff from the Amador sub-watershed is equal to approximately 3,000 cubic feet of on-site runoff and 33% of this volume is equal to approximately 1,000 cubic feet. The water table at the location of the proposed treatment facility for this sub-watershed is considered high (TRCD, 2007). Due to the presence of off-site runoff, high water table, the topography of the publicly owned parcels, and EDOT ROW, the alternatives

for this sub-watershed will not meet the Project volume reduction or sediment removal goals of 33%. However, the treatment alternatives will be configured to reduce the volume of runoff and treat sediment to the greatest extent feasible.

The proposed Project includes an increase in the frequency of street sweeping to one additional pass per season for the Amador sub-watershed in addition to (3) infiltrating sedimentation traps, (3) infiltrating drainage inlets, and flow spreading to the publicly owned parcels. The Project also proposes an additional (3) infiltrating sedimentation traps and flow spreading to publicly owned undeveloped parcels.

Copper North Sub-Watershed [Watershed D]

Existing Conditions

The Copper North Sub-Watershed includes runoff from on-site sub-watersheds 2.4. This includes street runoff from sections of Cold Creek Trail, Del Norte Street, Humboldt Street, and Copper Way. There are no sections of curb and gutter currently in the ROW for this sub-watershed. The conveyance system consists of road side swales and areas where sheet flow occurs. The discharge pipe for this sub-watershed is pipe 112, a 12" diameter CMP on Copper Way. The pipe discharges to a manmade ditch which was designed to drain to the basin to the north between Pioneer Trail and Copper Way. Currently the channel is filled with sediment and debris causing the water to back flow south in the ditch.

Source Control

Sections along each of the above mentioned streets are bare and eroded with evidence of sediment making it into the travel way. See section 2.3.2 for a discussion of the realignment alternative for Amador Way. The south side of Amador Way was identified as an eroding channel (Stantec, 2006) and after further investigation it was determined to be an AC swale covered with sediment. Sections of the north side of Del Norte Street have eroding slopes and exposed road shoulders.

The Proposed Project includes installing erosion control blanket with native seed on the eroding slope at the corner of Amador Way and Del Norte Street. The Project also proposes construction of curb and gutter from the high point of Cold Creek Trail down Cold Creek Trail, to the east side of Amador Way, and then on the north side of Del Norte Street to its high point (within this sub-watershed). Additional curb and gutter would be constructed near the high point of Humboldt Street on the south side, ending at the intersection with Amador Way.

Hydrologic Design

There are three culverts within this sub-watershed: pipes 110, 111, and 112, with the last one being the main discharge point. All three pipes are undersized per the Existing Conditions Report and pipes 110 and 111 are listed as being in "Poor" condition (Stantec, 2006).

The Proposed Project includes replacing and increasing the existing pipes to 18" diameter CMP and to add an infiltrating sediment trap at the pipe 112 outlet to act as a flow splitter sending low flows to a retention area and high flows to the existing basin between Pioneer Trail and Copper Way. Additional check dams would be added to the ditch to reduce velocities and help backup and infiltrate additional runoff volumes. In addition, the alternatives include constructing an infiltrating drainage inlet at the southeast corner of Amador Way and Cold Creek Trail, which would drain into a new 12" diameter CMP crossing that discharges to the SEZ on the north side of Cold Creek Trail.

Treatment

The design storm volume of runoff from the Copper North Sub-Watershed is equal to approximately 5,000 cubic feet of on-site runoff and 33% of this volume is equal to 1,700 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed is between 4 and 13 inches per hour (TRCD, 2007).

The Proposed Project includes one infiltrating sediment trap for increased stormwater volume infiltration and fine sediment trapping. The Project also proposes the addition of two infiltrating drainage inlets and a sedimentation/infiltration basin created by check dams in the existing flume ditch line. The feasibility of this treatment alternative will be further evaluated once site specific topography and soil characteristics are available.

Del Norte East Sub-Watershed [Watershed H]

Existing Conditions

The Del Norte East Sub-Watershed includes runoff from on-site sub-watershed 2.5. The contributing area from the County ROW includes the eastern end of Cold Creek Trail and the eastern end of Del Norte Street. There are two pipes within the sub-watershed: pipe 123, a 12" CMP on the northeast corner of Cold Creek Trail and Del Norte Street and pipe 122, an 8" CMP which drains this sub-watershed.

Source Control

Though previously reported as an existing eroding roadside ditch (Stantec, 2006), the slope on the northeast corner of Cold Creek Trail before Del Norte Street is short (approximately 3 feet high) and does not appear to be a large sediment source within the sub-watershed. This slope becomes steeper becoming more of a potential sediment source after it wraps the corner onto Del Norte Street.

The Proposed Project would install top rock and native seed on the slope.

Hydrologic Design

Both pipes are sized correctly for the predicted stormwater runoff flows, but undersized per the County Design and Improvement Standards Manual (CDISM). Pipe 123 is located in a relative low spot and may be removed without any adverse impact.

The Proposed Project includes cleaning out the inlet and outlet of pipe 122 and regrading the existing channel to drain. The Project would also include removing pipe 123 and regrading that section of the channel to drain. Rock checks would also be installed below the outlet of pipe 122 to help with volume and velocity reduction.

Treatment

The design storm volume of runoff from the Del Norte East Sub-Watershed is equal to approximately 200 cubic feet of on-site runoff and 33% of this volume is equal to 70 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed is considered slow soils (TRCD, 2007).

The Proposed Project includes infiltration swales at the intersection of Del Norte Street and Cold Creek Trail along with a check dam installed at the outfall to allow for infiltration of the runoff.

Del Norte South Sub-Watershed [Watershed C]

Existing Conditions

The Del Norte South Sub-Watershed includes runoff from on-site sub-watershed 2.6. Runoff from a high point on Cold Creek Trail flows to Del Norte Street where it flows down Del Norte Street to the drainage inlet pipe crossing, pipe 121. This pipe discharges into the ravine between Fortune Way and Del Norte Street. The parcel off of Cold Creek Trail previously identified as having an eroding slope has since had a house built on the parcel.

Source Control

The section of Cold Creek Trail within this sub-watershed has a roadside swale that connects to existing curb and gutter on the north and east side of Del Norte Street. The south and west side of Del Norte Street has existing AC dike which is in average condition. At one section along the east side of Del Norte Street the slope is sloughing into the existing curb and gutter pan.

The Proposed Project includes a short retaining wall to keep back material in the area where material is sloughing into the curb and gutter. The area at the top of the retaining wall will be revegetated to help keep material in place.

Hydrologic Design

There is only one pipe system in this sub-watershed: identified as pipe 121 it contains two drainage inlets and two pipes to convey the runoff to an existing channel which drains into the ravine between Fortune Way and Del Norte Street. The Existing Conditions Report identified this system as able to handle predicted stormwater runoff flows. The existing pipe outlet has a flared end and the existing channel is armored. No additional improvements are necessary at this time.

Treatment

The design storm volume of runoff from the Del Norte South Sub-Watershed is equal to approximately 5,500 cubic feet of on-site runoff and 33% of this volume is equal to 1,800 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed is between 4 and 13 inches per hour (TRCD, 2007). Due to the high volume of runoff and the limited land that is available for treatment due to the steep terrain near the downstream limits of the sub-watershed, the alternatives for this sub-watershed will not meet the Project volume reduction or sediment removal goals of 33%. However, the treatment alternatives will be configured to reduce the volume of runoff and treat sediment to the greatest extent feasible.

The Proposed Project includes an increase in the frequency of street sweeping by one more pass per season. The Project also proposes two infiltrating drainage inlets and one infiltrating sedimentation trap. The infiltrating sediment trap would include drainage rock around the can to allow for an increased treatment volume in addition to the storage volume for fine sediment.

Cold Creek South Sub-Watershed [Watershed B]

Existing Conditions

The Cold Creek South Sub-Watershed includes runoff from on-site sub-watersheds 2.7 and 2.8. In addition, the Cold Creek South Sub-Watershed includes bypassed off-site runoff from sub-watershed 2.8. The section of Cold Creek Trail in this sub watershed has rolled curb and gutter on the east side of the street between pipe 116 and Cold Creek Court. From Cold Creek Court, south, to the high point of the sub-watershed, the east side of this street is bordered by a slightly vegetated swale. On the west of this street is AC dike that is in average condition.

Source Control

No source control issues currently exist within the Cold Creek South Sub-Watershed. The existing slope identified at APN 025-602-07 now has a house on it, eliminating the eroding slope problem previously reported.

Hydrologic Design

There are two existing pipes that convey runoff from the road and the upper undisturbed watershed: pipes 117 and 107. Both are 12” (undersized per the CDISM) with pipe 117 listed as being in poor condition per the Existing Conditions Report and pipe 107 undersized to handle predicted flows. The pipe 117 outflow discharges into the existing curb and gutter on the east side of Cold Creek Trail, which ultimately flows into the existing drainage ditch due north of pipe 116.

The Proposed Project includes replacing pipe 117 with either the same size CMP or ribbed HDPE (for equivalent Mannings value). Pipe 107 would be increased to an 18” HDPE pipe with a flared end and rock dissipater installed at the outlet. An infiltrating drainage inlet would be constructed in the low spot of the existing curb and gutter on Cold Creek Trail, approximately 90 feet south of pipe 116. The Project also proposes adding flared end sections to both ends of pipe 117. The infiltrating drainage inlet at the low spot of Cold Creek Trail would drain into a new 18” HDPE pipe which would convey the flow to the existing USFS lot across the street (APN 025-595-09) where a sedimentation/infiltration basin would be built (requiring a special use permit).

Treatment

The design storm volume of runoff from the Cold Creek South Sub-Watershed is equal to approximately 2,600 cubic feet of on-site runoff and 33% of this volume is equal to 900 cubic feet. The water table at the location of the proposed treatment facility for this sub-watershed is considered high (TRCD, 2007).

The Proposed Project includes an infiltrating drainage inlet at the low spot of Cold Creek Trail to capture fine sediment. The treatment for this sub-watershed includes a sedimentation/infiltration basin or bermed area sized for 900 cubic feet of runoff at the outlet pipe of the drainage inlet.

Cold Creek North Sub-Watershed [Watershed B]

Existing Conditions

The Cold Creek North Sub-Watershed includes runoff from on-site sub-watersheds 2.8. In addition, the Cold Creek North Sub-Watershed includes bypassed off-site runoff from sub-watershed 2.8. Runoff from the high point of Alice Lake Road, Talbot Court, and Bernice Lane flows down to Cold Creek Trail and outflows at pipe 116 into sub-watershed 2.9. The conveyances for the roads in this sub-watershed are a combination of shallow swales with minimal vegetation, ac dike, and concrete curb and gutter.

Source Control

The majority of this watershed is undisturbed with the undisturbed flow entering pipe 116 before mixing with County ROW runoff. The source control issues include parking in the areas where the road shoulder is bare and denuded along with the existing roadside swales.

The Proposed Project includes replacing the poorest condition roadside swales on Alice Lake Road with curb and gutter. The Project also proposes installing top rock and native seed to the northeast corner of Talbot Street and Bernice Lane.

Hydrologic Design

There are three existing pipes within the sub-watershed: one is sized correctly, pipe 116, and two are undersized per the CDISM, pipes 113 and 114.

The stormwater runoff flows across the intersection of Talbot Street and Bernice Lane as there is no culvert crossing. At the northeast and northwest corners of the intersection the topography is moderately sloped up, with the northeast corner showing signs of erosion. Due to the proximity of the ROW to the existing edge of pavement, there is no space for the inlet or outlet of a cross culvert, without the construction of an infiltrating drainage inlet and storm drain system. The culvert crossing at Bernice Lane and Alice Lake Road is 8" CMP (pipe 113) and is damaged at both ends. The runoff from this pipe is conveyed in an AC swale to an existing 10" CMP (pipe 114) crossing at the intersection of Alice Lake Road and Cold Creek Trail. This pipe is moderately covered with debris at the inlet and outlet. The runoff for this section is then ultimately discharged through the 36"X48" CMP (pipe 116) crossing on Cold Creek Trail.

The Proposed Project includes constructing curb and gutter along the north side of Bernice Lane between Talbot Street and Alice Lake Road. A drainage inlet would be constructed at the inlet of pipe 113 and the pipe would be replaced with a 12" CMP which would discharge to the existing AC swale. The smaller size CMP would enable matching the existing flowline without increasing the depth of the swale, while still meeting County standards for pipe size. In addition catch basins would be installed at the inlet and outlet of pipe 114. A concrete headwall would also be constructed at the outlet of pipe 116. The Project also proposes leaving the asphalt at the intersection as is. Curb and gutter would be constructed from the northeast corner of Talbot Street and Bernice Lane to the northwest corner of Bernice Lane and Alice Lake Road. An infiltrating drainage inlet would be constructed at the inlet side of pipe 113 and the pipe would be replaced with a 12" CMP which would outlet into the existing AC dike section on the east side of Alice Lake Road.

Pipe 112 would be replaced with an 18" CMP and 36" catch basins would be installed at both the inlet and outlet. In addition the catch basin at the outlet would have a grated lid to allow for water from the east side of Alice Lake Road. The outlet of the catch basin would drain into an armored channel which would convey flows to an infiltrating sediment basin approximately 85 feet south of the intersection before discharging into pipe 116.

Treatment

The design storm volume of runoff from the Cold Creek North Sub-Watershed is equal to approximately 10,000 cubic feet of on-site runoff and 33% of this volume is equal to 3,400 cubic feet. The water table at the location of the proposed treatment facility for this sub-watershed is considered high (TRCD, 2007).

The Proposed Project includes a system of two infiltrating sedimentation traps and one infiltrating drainage inlet. The Project also proposes constructing a sedimentation/infiltration basin or bermed area sized to infiltrate and capture as much runoff and fine sediment as site conditions allow.

Del Norte Sub-Watershed [Watershed B]

Existing Conditions

The Del Norte Sub-Watershed includes runoff from on-site sub-watershed 2.9. In addition, the Del Norte Sub-Watershed includes bypassed off-site runoff from sub-watersheds 2.7 and 2.8. Road runoff from sections of Cold Creek Trail and Del Norte Street flow to the outfall for this sub-watershed, pipe 118, which in turn discharges into the ravine between Fortune Way and Del Norte Street.

Source Control

The main issues in this sub-watershed are the bare and eroded shoulders on Cold Creek Trail and Del Norte Street. These areas are primarily in front of publicly owned lots (USFS and CTC). The slopes within this sub-watershed appear to be stable and in no need of protection.

The Proposed Project includes placing boulders spaced 4' apart on the leading edge of the public lots on Cold Creek Trail. In addition the eroding slopes on the southeast corner of Fortune Way and Del Norte Street would be revegetated.

Hydrologic Design

There is existing curb and gutter on Del Norte Street which is in average condition and able to handle the current predicted flows. The Cold Creek Trail section has AC dike which is also in average condition. At the low spot on Del Norte Street flow from the curb and gutter discharges through both a curb opening and grated inlet into pipe 118, untreated.

The Proposed Project includes constructing infiltration drainage inlets on either side of the low spot of the road to capture road runoff. The drainage inlets would include transverse drains to reduce impacts during winter time conditions. The existing pavement at the outlet of pipe 118 would be removed and replaced with a rock dissipater for velocity reduction and infiltration of runoff. The Project also proposes to locate the infiltrating drainage inlets further apart, with the outlet pipes discharging to the southwest side of Del Norte. The infiltrating drainage inlets would be placed to take advantage of the proposed sedimentation/infiltration basins on APN's 025-596-02 and 025-596-01.

Treatment

The design storm volume of runoff from the Del Norte Sub-Watershed is equal to approximately 3,500 cubic feet of on-site runoff and 33% of this volume is equal to 1,200 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed is between 4 and 13 inches per hour (TRCD, 2007).

The Proposed Project includes two drainage inlets for capturing of fine sediment. The Project also proposes two additional sedimentation/infiltration basins or bermed areas sized for 1,200 cubic feet of runoff to allow for fine sediment removal through infiltration of stormwater.

Copper South Sub-Watershed [Watershed E]

Existing Conditions

The Copper South Sub-Watershed includes runoff from on-site sub-watersheds 2.10. The only street contributing to the run-off is Copper Way with the main outfall being pipe 129, a 12" CMP. This pipe discharges into a rock lined channel filled with sediment and debris for approximately 40 feet before flowing northwest into a man made ditch that trends along contour. The ditch has failed, on the fill side, approximately 140 feet north of pipe 129 allowing runoff to cross private property (APN 025-442-11) following the natural topography to the STPUD access road which borders Cold Creek.

Source Control

An area that was not identified in the Existing Conditions Report (Stantec, 2006) is the eroding ditch on the south side of Copper Way. The ditch starts approximately 150 feet south of the intersection with Humboldt Street and ends approximately 25 feet beyond APN 025-442-08 (privately owned). The worst area of erosion occurs in front of the USFS parcel (APN 025-442-06).

The Proposed Project includes repairing the failed ditch. Due to the small size of the break, this work could be completed by the CCC's. The Project also proposes installing top rock with native seed to the existing eroding channel on Copper Way in order to eliminate any further erosion of the channel. A rock-lined channel would be constructed across the USFS parcel to direct the runoff into the existing drainage ditch that is behind the parcel.

Hydrologic Design

The pipe 129 crossing is undersized per the CDISM.

The Proposed Project includes clearing debris and repairing the existing outlet channel. This work could be completed by the CCC's. The Project also proposes to add a flared end to the outlet to keep material from sloughing into the channel.

Treatment

The design storm volume of runoff from the Copper South Sub-Watershed is equal to approximately 1,600 cubic feet of on-site runoff and 33% of this volume is equal to 600 cubic feet. The saturated hydrologic conductivity of

the soils at the location of the proposed treatment facility for this sub-watershed is between 4 and 13 inches per hour (TRCD, 2007).

The primary treatment for this subwatershed includes the construction of check dams in the existing flume to backup and infiltrate the runoff. This work could be completed by the CCC's.

Del Norte West Sub-Watershed [Watershed I]

Existing Conditions

The Del Norte West Sub-Watershed includes runoff from on-site sub-watershed 2.11. The sub-watershed contains one single pipe (pipe 128). Pipe 128 is a 12" CMP which is sized correctly for the predicted flows, but undersized per the CDISM.

Source Control

The primary source control issue in this sub-watershed is the eroding ditch at the inlet of pipe 128. Both Alternatives include constructing a rock bowl at the inlet to reduce any future scour of the inlet.

Hydrologic Design

The hydrologic design deficiencies within the Del Norte Sub-Watershed are due to the culvert being undersized per the CDISM.

The Proposed Project includes replacing the 12" CMP with an 18" CMP. By increasing the diameter of the pipe and through the updated design, the County will be able to decrease the velocities within and at the end of the pipe. The Project also proposes replacing the existing 12" CMP with an 18" CMP. A sediment trap would be constructed at the outlet with pipes that discharge to the existing channel and an underground infiltration system.

Treatment

The design storm volume of runoff from the Del Norte West Sub-Watershed is equal to approximately 350 cubic feet of on-site runoff and 33% of this volume is equal to 120 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed is between 4 and 13 inches per hour (TRCD, 2007).

The treatment for this sub-watershed includes one infiltrating sedimentation trap installed at the outlet discharging to a smaller underground infiltration system. The system will provide for both infiltration of stormwater runoff and capturing of fine sediment.

Del Norte North Sub-Watershed [Watershed F]

Existing Conditions

The Del Norte North Sub-Watershed includes runoff from on-site sub-watersheds 2.12. The sub-watershed contains two storm drain systems: one system which drains a section of Cold Creek Trail comprised of pipes 105, 124, and 125 and the second which drains the above mentioned in addition to runoff from Del Norte Street comprised of pipes 126 and 127.

Source Control

The source control issues related to off pavement parking exist on sections of Cold Creek Trail and Del Norte Street. The issues related to channel/shoulder erosion due to stormwater runoff occur on Del Norte Street just north of Copper Way.

The Proposed Project would include constructing curb and gutter on both sides of Del Norte, with the east side tying into the existing curb and gutter and the west side wrapping the corner at Copper Way to the existing drainage inlet. Top rock with native seed would be installed on the eroding channel/shoulder on Del Norte Street just north of the Fortune Way intersection.

Hydrologic Design

The current systems are sized to handle the existing flows, but not correctly sized per the CDISM. There are also opportunities to redirect a portion of the storm runoff to provide a potential reduction in peak flow and volume.

The Proposed Project includes constructing a rock bowl or dissipater at the inlet of the pipe at the northeast corner of Copper Way and Humboldt Street (pipe 126). The Project also proposes adding an infiltrating drainage inlet to the northwest corner of the Copper Way/Del Norte Street intersection which would connect to the existing

sediment trap on the southern corner of the intersection. From this sediment trap an underground infiltration chamber would be added. The system will be designed to convey runoff back into the existing storm drain system when full. A rock bowl would be constructed at the inlet to the section of pipe 126.

Treatment

The design storm volume of runoff from the Del Norte North Sub-Watershed is equal to approximately 5,000 cubic feet of on-site runoff and 33% of this volume is equal to 1,700 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed are between 4 and 13 inches per hour (TRCD, 2007). Due to the high volume of runoff and the limited land that is available for treatment due to the steep terrain near the downstream limits of the sub-watershed, the alternatives for this sub-watershed will not meet the Project volume reduction or sediment removal goals of 33%. However, the treatment alternatives will be configured to reduce the volume of runoff and treat sediment to the greatest extent feasible.

The Proposed Project includes increasing the frequency of street sweeping to one more pass per season. An infiltration sediment trap would also be installed at the end of the storm drain system at the corner of Copper Way and Humboldt Street. The treatment for this sub-watershed includes one infiltrating drainage inlet, an underground infiltration system off of the existing sediment trap at the southern corner of Copper Way and Del Norte street, and a basin or bermed area on the CTC lot at the northeast corner of Copper Way and Humboldt Street. The systems combined would be sized for approximately 1,000 cubic feet of runoff thus meeting more than half of the Project goal for treatment.

Fortune West Sub-Watershed [Watershed G]

Existing Conditions

The Fortune West Sub-Watershed includes runoff from on-site sub-watershed 2.13. The contributing area from County ROW includes sections of Fortune Way and Del Norte Street. Pipe 130, a 12" CMP, is the only pipe that drains this sub-watershed.

Source Control

The primary problem is the eroding slope on the north, north-east side of Fortune Way. The slope is moderately steep, ranging from approximately 30% to 50%.

The preferred Project alternative would include constructing a 3- foot high retaining wall in front of the eroding areas.

Hydrologic Design

Pipe 130 is sized for the predicted stormwater runoff, but undersized per the CDISM and in "poor" condition per the Existing Conditions report.

The Proposed Project would include replacing the existing pipe with a 12" CMP with a flared end and rock dissipater at the outlet to provide scour protection and to reduce outlet velocities. The Project also proposes installing a 36" infiltrating sediment trap at the inlet for debris capture and volume reduction.

Treatment

The design storm volume of runoff from the Fortune West Sub-Watershed is equal to approximately 1,000 cubic feet of on-site runoff and 33% of this volume is equal to 350 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed are between 4 and 13 inches per hour (TRCD, 2007).

The treatment of runoff from this sub-watershed includes the capturing capacity of the sediment trap.

Fortune East Sub-Watershed [Watershed J]

Existing Conditions

The Fortune East Sub-Watershed includes runoff from on-site sub-watersheds 2.14. Road runoff from Fortune Way flows to the outfall for this sub-watershed, pipe 119, which discharges into the ravine between Fortune Way and Del Norte Street. The pipes in the sub-watershed at the intersection of Fortune Way and Del Norte Street include pipe 119, a 12" CMP in fair condition at the northwest to southwest corners, and pipe 120, a 12" CMP in poor condition at the southwest to southeast corners.

Source Control

The main issues in this sub-watershed are the bare and eroded shoulders on Fortune Way. These areas are primarily in front of publicly owned lots (USFS and CTC). The slopes within this sub-watershed along Fortune Way are unstable.

The Proposed Project would be to place boulders in front of the bare shoulders that appear to be the biggest contributors to sediment erosion and to construct a retaining wall along a section of Fortune Way which would include curb and gutter in front of the wall for conveyance.

Hydrologic Design

The existing curb and gutter on Fortune Way between Cold Creek Trail and Del Norte Street is in average condition and able to handle the current predicted flows. At the intersection of Fortune Way and Del Norte Street the existing pipe crossings (pipe 119 and 120) are sized to handle the predicted flows, but undersized per the CDISM. The Existing Conditions Report has pipe 119 listed in "Fair" condition and pipe 120 in "Poor" condition.

The Proposed Project includes replacing and increasing the size of pipe 120 to an 18" HDPE and installing a flared end section with a rock dissipater to reduce scour potential. An additional infiltrating sediment trap would also be installed at the end of the inlet of pipe 120. The Project would also construct a grated infiltrating sediment trap at the inlet of pipe 119.

Treatment

The design storm volume of runoff from the Fortune East Sub-Watershed is equal to approximately 1,500 cubic feet of on-site runoff and 33% of this volume is equal to 500 cubic feet. The saturated hydrologic conductivity of the soils at the location of the proposed treatment facility for this sub-watershed are between 4 and 13 inches per hour (TRCD, 2007).

The Proposed Project includes one infiltrating sediment trap near the inlet of pipe 120 and a sedimentation/infiltration basin after the outlet of pipe 120. The primary treatment for this sub-watershed includes an additional infiltrating sedimentation trap at the inlet of pipe 119 and an additional infiltration/sedimentation basin between the outlet of pipe 119 and the inlet of pipe 120 with the combined system sized for 500 cubic feet of runoff.

2.5 Project Benefits

The following *Project goals* were recommended by the PDT to guide the project and decisions regarding design, formulating alternatives, and planning of improvements:

The main goals of this Project are related to improving the water quality of runoff to Cold Creek by reducing erosion and sediment flow originating from the Project area. The *Project goals* are as follows:

1. Reduce the amount of very fine, fine, and coarse inorganic sediment from the urbanized watershed bounded by the Project boundary by 33% or to the maximum extent practicable prior to discharging into Cold Creek. Very fine sediment is defined as particles with a diameter of 20 microns or less (<20 µm), fine sediment is defined as particles which pass a #200 sieve (<74 µm), and coarse sediment is defined as particles retained on or greater than the #200 sieve (>74 µm).
2. Reduce the 25- year, 1- hour storm surface water volume from the urbanized watershed bounded by the Project boundary by 33% or to the maximum extent practicable prior to discharging into Cold Creek.
3. Reduce the 25- year, 1- hour storm surface water peak flow from the urbanized watershed bounded by the Project boundary by 33% or to the maximum extent practicable prior to discharging into Cold Creek.
4. Complete a comprehensive BMP Retrofit Watershed Master Plan which will include the private BMP development as part of the Project Delivery Process (PDP). Achieve 25% participation with the private homeowners within the limits of the Project.

The following goal has been added to this Project due to recent discussions with fire safety staff, however, current Project funding only supports the coordination efforts.

5. Participate in coordination on a comprehensive forest health and defensible space master plan for the Project area.

The Project objectives represent physical conditions that can be measured to assess the success of the Project in achieving the Project goals. The Project will conform to the Preferred Design Approach as detailed in the SWQIC process.

Goal # 1 Objectives

1. Stabilize eroding slopes with County approved slope stabilization (Source Control) BMPs.
2. Stabilize eroding channels/ditches with County approved channel or road treatment source control BMPs.
3. Utilize various County approved sediment trapping BMPs (Sediment Traps, Infiltration, Sedimentation/Infiltration Basins, etc.) to capture sediment from impervious surfaces and eroding areas.
4. Capture de-icing abrasives to prevent discharge to watercourses.
5. Define and maximize the sweeping frequency within the Right-of-Way (ROW) as funding and resources are available. Current County sweeping frequency is approximately twice per year.
6. Utilize various media filters and other treatment techniques to remove very fine particles from runoff effluent.

Goal # 2 Objectives

1. Utilize County ROW and publicly owned parcels to capture, store, and infiltrate a portion of the 25-year, 1-hour storm water volume, which are at main discharge points within the watersheds.
2. Utilize various County approved infiltration and storage BMPs prior to discharging into Cold Creek.

Goal # 3 Objectives

1. Utilize County ROW and publicly owned parcels to detain, spread, and infiltrate the stormwater within the watershed prior to discharging into Cold Creek without violating drainage laws.
2. Utilize various storm water drainage systems, which increase the time of concentration and reduce the peak discharge to the main discharge points into Cold Creek.

Goal # 4 Objectives

1. Utilize the Tahoe Regional Planning Agency (TRPA) Home Landscaping Guide for evaluating and developing BMP solutions for each driveway within the limits of the Project area.
2. Coordinate the private BMPs design within ROW by designs with the Tahoe Resource Conservation District (TRCD)/National Resources Conservation Service (NRCS).

Goal # 5 Objectives

1. Develop guidelines and criteria for evaluating and improving the forest health within the Project area.
2. Coordinate forest health initiatives with the homeowners within the Project area, Fire Safe Council, and other Public Agencies that own land within the Project area.

3.0 ENVIRONMENTAL SETTING AND SITE CHARACTERISITCS

The Project area is located in eastern El Dorado County, California within the Lake Tahoe Basin. The site is located in South Lake Tahoe, east of Pioneer Trail and north of Cold Creek; off of Hwy 50. The Project area encompasses El Dorado County road rights-of-way within the Montgomery Estates at Lake Christopher Unit Nos. 1 and 2 (Area 1). See Figure 1.

Topography: In general, the topography of the Project area subdivisions ranges in elevation from 6,350 to 6,600 feet in Area 1. The topography varies within the Project area with many slopes exceeding 20%. Area 1 has the steepest terrain of the three areas. In Area 1, 67% of the terrain exceeds 10-30% slope.

Hydrology: The USGS has divided the Lake Tahoe Basin into 63 watersheds, all of which feed into Lake Tahoe. The Project area lies within the Upper Truckee River Watershed, which is the largest watershed in the Tahoe Basin. The Upper Truckee River Watershed is comprised of 80 individually numbered subwatersheds, one of which encompasses the Project site. The Project area was further subdivided into 10 smaller watersheds for

planning and design purposes. Numerous ephemeral drainages flow through the Project area from the mountainous area above toward Cold Creek and the Upper Truckee River. Conveyance systems within the subdivision help direct stormwater runoff through the Project area. Limited facilities are in place for capturing and treating this runoff, however they require enhancement.

The Federal Emergency Management Agency (FEMA) has determined floodplain limits associated with Cold Creek as Zones A, B, and C. Zone A designates areas within the 100-year flood limit. Zone B designates areas between the 100-year and 500-year flood limits. Zone C designates areas of minimal flooding. The entire Project area is within Zone C.

Groundwater/Wetlands: Area 1 primarily includes land capability classes 1b and 4. The 1b classification corresponds to the stream environment zone (SEZ) associated with Cold Creek. Soils in the Project area are generally well drained and for the majority of the year, groundwater is not near the ground surface in the Project area. The exception to this is in the sensitive wetland and SEZs as outlined by TRPA and the wetland delineation report, which will be submitted to the USACOE for approval. These soil types are poorly drained and have a much higher groundwater level than the rest of the Project area. These areas are primarily closer to Cold Creek and the adjacent meadow system, which is primarily down slope from the proposed improvements. In some instances improvements are proposed within SEZ areas and appropriate avoidance and/or mitigation measures are proposed so as not to impact groundwater and wetlands.

Geology/Soils: The geology of the Project area primarily consists of Pleistocene age Quaternary alluvial and fluvial deposits forming glacial moraines. The alluvium is composed of very poorly sorted, sandy small pebble gravel that has been deposited on an erosion surface cut on granodiorite. The runoff from the Project corridor flows into floodplain and lacustrine deposits that border Cold Creek and then flow south into the Upper Truckee River.

The Soil Conservation Service's (SCS) current *Soil Survey for the Tahoe Basin Area: California and Nevada* (1974) was used to determine the distribution of soil types in the Project area. Area 1 is comprised mainly of soil types CaD (39%) and CaE (26%). Based on the soil characteristics, Area 1 has a relatively high erosion hazard.

Land Use: The Project area falls in TRPA's Plan Area Statement Area 106, which is zoned single family residential, thus the area consists of mostly private parcels that have been developed with single-family homes. The public parcels that exist are owned primarily by the CTC, the County of El Dorado, the US Forest Service, and the City of South Lake Tahoe. Publicly owned parcels represent potential areas for treatment BMPs. Area 1 is comprised of 17% publicly owned parcels. The publicly owned parcels located adjacent to drainage outfalls provide an excellent opportunity for potential BMPs.

Cultural Resources: A cultural resource study, which included a literature search and an archaeological survey/inventory of the Project survey area, was completed. Thirteen previous cultural resources studies have been conducted in the vicinity of the Project area, four of which included portions of the Area of Potential Effects (APE). No cultural resources have been previously recorded within the APE and none were identified within the APE during the pedestrian survey. The APE is considered to have a low sensitivity for the discovery of prehistoric, ethno historic, or historic cultural material or subsurface deposits. Because of this, no additional cultural resources work for this Project is recommended. However, in the event that cultural resources are discovered during project implementation, project personnel shall halt all activities in the immediate area and notify a qualified archaeologist to determine the appropriate course of action.

Botanical Resources: Botanical surveys occurred within the Project survey area in mid October and no special status botanical species were observed during the surveys. A noxious weed survey was also conducted within the Project/survey area, in which two noxious weed species were identified: cheatgrass (*Bromus tectorum*) and bull thistle (*Cirsium vulgare*). A Noxious Weed Mitigation/Eradication Plan (Plan) will be adopted and implemented by the County as part of the proposed Project. The Plan implementation shall help decrease habitat vulnerability to or below pre-construction levels. The Plan includes pre-construction elements, such as treatment of existing noxious weed populations identified in the Project area, as well as during- and post-construction elements. Additionally, the County will specify weed-free seed mix and require all construction equipment be certified steam cleaned prior to accessing the site.

The Project area is composed mainly of Jeffrey Pine, Upper Montane Mixed Chaparral, Annual Grass-Forb Alliance vegetation types, with a very small area mapped as Wet Meadows Alliance vegetation. Plant communities were initially identified through the use of CALVEG (Classification and Assessment with Landsat of Visible Ecological Groupings) data searches and then verified during ground level field surveys. Plant communities found in and adjacent to the Project area are typical of those found in the Lake Tahoe Basin. See Table 1 in Appendix C.

Wildlife Resources: Field surveys and assessments were conducted within the Project survey area for special status wildlife species on October 13, 2008. The biological assessment surveys observed no federal or state-listed candidate, or proposed wildlife species in the Project study area. However, potential habitat conditions do exist for one special-status species, the Willow flycatcher, although none were noted during the survey. Due to the late season survey that occurred, protocol surveys (See Bombay, et all 2003) for Willow flycatcher will be conducted by a qualified biologist on parcels 025-597-03 and 025-595-09 between June 1 and July 15, 2010 prior to Project construction on those parcels.

Greenhouse Gas Emissions: Climate change refers to long-term fluctuations in temperature, precipitation, wind, and other elements of Earth's climate system. Natural processes such as solar-irradiance variations, variations in Earth's orbital parameters, and volcanic activity can produce variations in climate. The climate system can also be influenced by changes in the concentration of various gases in the atmosphere, which affect Earth's absorption of radiation.

State law defines greenhouse gases (GHG) to include the following: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (Health and Safety Code, Section 38505(g)). According to the Governor's Office of Planning and Research (OPR), the most common GHG that results from human activity is carbon dioxide, followed by methane and nitrous oxide.

According to California Air Resources Board (CARB) emission inventory estimates, California emitted approximately 480 million metric tons of carbon dioxide equivalents (CO2eq) in 2004. The California EPA Climate Action Team stated in its March 2006 report that the composition of gross climate change pollutant emissions in California in 2002 (expressed in terms of CO2eq) was as follows:

- Carbon dioxide (CO2) accounted for 83.3 percent;
- Methane (CH4) accounted for 6.4 percent;
- Nitrous oxide (N2O) accounted for 6.8 percent; and
- Fluorinated gases (HFCs, PFC, and SF6) accounted for 3.5 percent.

CARB estimates that transportation is the source of approximately 38 percent of California's GHG emissions in 2004, followed by electricity generation (both in-state and out-of-state) at 23 percent, and industrial sources at 20 percent. The remaining sources of GHG emissions are residential and commercial activities at 9 percent, agriculture at 6 percent, high global warming potential (GWP) gases accounting for 3 percent, and recycling and waste at 1 percent.

Regulatory Setting

Global Warming Solutions (AB 32)

The Global Warming Solutions Act of 2006 (AB 32) codifies California's goal of reducing statewide emissions of GHGs to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased-in starting in 2012 to achieve maximum technologically feasible and cost-effective GHG reductions. In order to effectively implement the cap, AB 32 directs the CARB to develop appropriate regulations and establish a mandatory reporting system to track and monitor GHG emissions.

Executive Order S-3-05

On June 1, 2005 Governor Arnold Schwarzenegger signed S-3-05 (Order) which established GHG emission reduction targets as follows: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Senate Bill 97

Pursuant to Senate Bill 97 (Chapter 185, 2007) the OPR is in the process of developing CEQA guidelines "for the mitigation of GHGs or the effects of GHGs." OPR is required to prepare and transmit the guidelines to the Resources Agency on or before July 1, 2009. The Resources Agency must certify and adopt the guidelines on or before January 1, 2010. Although the GHG guidelines have not yet been adopted, where relevant, the Attorney General had mandated that GHG analyses be included in EIRs and Negative Declarations.

Senate Bill 375

California Senate Bill 375 (SB=375) aims to reduce GHG emissions by curbing sprawl because the largest sources of GHG emissions in California are passenger vehicles and light trucks. SB 375 provides emission reduction goals for which regions can plan, integrates disjointed planning activities, and provides incentives for local governments and developers to follow new conscientiously-planned growth patterns.

Senate Bill 1368

California Senate Bill 1368 (SB 1368) adds sections 8340 and 8341 to the Public Utilities Code (effective January 1, 2007) with the intent "to prevent long-term investments in power plants with GHG in excess of those produced by a combined-cycle natural gas power plant" with the aim of "reducing emissions of greenhouse gases from the state's electricity consumption, not just the state's electricity production." The bill provides a mechanism for reducing the greenhouse gas emissions of electricity providers, both in-state and out-of-state, thereby assisting CARB in meeting its mandate under AB 32, the Global Warming Solutions Act of 2006.

Significance Criteria

CARB has proposed that different GHG thresholds of significance may apply to projects in different sectors, e.g., industrial, commercial, residential. Two primary reasons that sector-specific thresholds are appropriate are: 1) some sectors contribute more substantially to the problem, and therefore should have a greater obligation for emissions reductions, and, 2) there are differing levels of emissions reductions expected from different sectors in order to meet California's objectives under AB 32. Different types of thresholds – quantitative, qualitative, and performance-based – can apply to different sectors under the premise that the sectors can and must be treated separately given the state of the science and data. The sector-specific approach is consistent with CARB's Proposed Scoping Plan.

Working with CARB in 2008, the OPR drafted amendments to the CEQA Guidelines for GHG emissions as required by SB 97. In January 2009, OPR held workshops in Los Angeles and Sacramento to present the preliminary draft amendments and obtain input from the public. The workshops included a presentation by OPR and the Resources Agency staff, an overview of the preliminary draft CEQA Guideline amendments, and the process for adopting the regulations by 2010. On April 13, 2009, OPR submitted to the Secretary for Natural Resources its proposed amendments to the state CEQA Guidelines. The proposed CEQA Guideline amendments would provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The Natural Resources Agency will conduct formal rulemaking later in 2009, prior to certifying and adopting the amendments, as required by Senate Bill 97 (Chapter 185, 2007).

Impacts

Construction Emissions

Project construction would generate temporary and one-time GHG emissions mainly from diesel-powered construction equipment and on-road trucks, with a small amount from workers' personal vehicles during the construction of the Project. Greenhouse gases emitted during the combustion of diesel fuel in off-road construction equipment and on-road vehicles would consist mainly of carbon dioxide, along with small amounts of methane and nitrous oxide during the construction period. Construction emissions would be intermittent, and short-term, during one summer construction season. Construction emissions would permanently cease at the end of the Project. Over the long-term, these temporary emissions would be offset or mitigated by the establishment of native vegetation at designated areas. The revegetation work, including trees, grasses, and shrubs would be maintained over the life of the Project, up-taking carbon dioxide for decades.

There currently is no federal, state, or local regulatory guidance for determining whether a project advances or hinders California's GHG reduction goals and no promulgated thresholds of significance for GHG impacts have been established. For purposes of this analysis, per the draft amendments to the CEQA Guidelines, an impact could be considered significant if the Project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

During construction, the Project would temporarily cause direct GHG emissions from the combustion of fossil fuels used to run construction equipment and vehicles, both onsite and offsite. These GHG emissions would be temporary and one-time emissions during the construction of the Project only. Over its lifetime, the Project would directly and indirectly cause negligible GHG emissions from occasional maintenance and personal vehicle use. Therefore, this analysis focuses on construction impacts estimated using the County's past project implementation database and the U.S. Environmental Protection Agency (USEPA) GHG emission factors for diesel fuel and gasoline combustion in construction equipment. The County has reviewed past construction project logs for projects equivalent in size and scope to the proposed Project, to determine the typical number and type of vehicles that are actively working to construct the project each day. Based on this analysis, the County has formulated the following assumptions:

- Fifteen workers per day, driving five vehicles to work an average of 40 miles roundtrip per day
- Vehicles average 20 miles per gallon
- Twelve pieces of construction machinery per day
- Crews work eight hours per day with machinery running half that time (4 hours)
- Machinery burns an average of two gallons of diesel fuel per hour
- Diesel fuel contributes approximately 22.5 lbs CO_2/gallon
- Gasoline contributes approximately 20 lbs CO_2/gallon
- The Project will be completed in 65 working days

Based on these assumptions, the Proposed Project would emit approximately 77 tons of CO_2 equivalents.

This estimated amount is negligible in comparison to the statewide inventory of 480,000,000 metric tons discussed above (0.0000002 percent). The generation of direct onsite and offsite GHG emissions would terminate following completion of construction work.

4.0 PUBLIC INPUT AND PDT COORDINATION

The public involvement process for the Project included two public meetings, which were held on November 10, 2005 and July 29, 2008. At the first public meeting, EDOT provided the public with information on the existing conditions, existing problem areas and draft conceptual alternatives and asked the public to express their concerns on the Project related to environmental impacts. The public was also invited to identify opportunities and constraints in the Project area, which included visual documenting proposed locations for the erosion control features. Public notices for both meetings were mailed to all property owners within a 300 foot radius of the Project boundary. A second public meeting on the Project was held to discuss the proposed Project/preferred alternative.

EDOT met with the PDT during the Project development process to identify problems and to develop and refine Project alternatives. The PDT consists of resource agency representatives in the Lake Tahoe Basin, including, but not limited to, the Tahoe Regional Planning Agency, USFS-Lake Tahoe Basin Management Unit, California Tahoe Conservancy, Tahoe Resource Conservation District, and Lahontan Regional Water Quality Control Board. The initial PDT meeting on the Project was held in January 2005. At this meeting the PDT reviewed and endorsed the Project. After the development of the Project goals and objectives, an Existing Conditions Report was produced which was provided to the PDT and the public in April 2006. EDOT then produced a Draft and Final Project Alternatives Evaluation Report based on comments received from the PDT and public at the scoping meeting. These documents were provided to the PDT and public in July 2008. A Final Preferred Alternative

Report was then developed based on those recommendations and was provided to the PDT and public in August 2008.

5.0 RIGHT OF WAY REQUIREMENTS

Every effort has been made to locate proposed improvements within the County right of way or on publicly owned parcels; however EDOT will potentially require easements, permits, or agreements on the following list of public and/or private parcels for either permanent improvements or for temporary construction access.

	APN	Owner	Improvement	Location
1	025-452-05	USFS	Existing Channel Work (grass and rock)	South and West sides of parcel
2	025-452-06	USFS	New and Existing Channel Work (grass and rock)	South and East sides of Parcel
3	025-452-02	USFS	New Channel Work (grass or rock)	Center of parcel, south to north
4	025-451-01	USFS	Pipe and Existing Channel Work (grass and rock)	South side of Parcel, closest to Cold Creek Trail
5	025-520-02	USFS	Basin/Berm, Sediment Traps, Pipes, and New Channel Work	Southeast side of Parcel on Alice Lake Road and Southwest side of Parcel on Cold Creek Trail
6	025-692-03	USFS	Basins/Berms, Flow Splitter, and existing Channel Work	East side of parcel on Alice Lake Road
7	025-692-02	USFS	Basins/Berms and New Channel Work	Southeast side of Parcel on Alice Lake Road
8	025-442-02	USFS	Infiltration Gallery	North side of Parcel
9	025-594-01	CTC	Infiltrating Basin and Existing Channel Work	Northeast corner of Parcel at Del Norte Street and Fortune Way
10	025-596-02	USFS	New Channel Work (grass or rock) and Basin/Berm	Entire Parcel
11	025-596-01	USFS	New and Existing Channel (grass or rock) and Basin/Berm	Entire Parcel
12	025-595-09	USFS	Basin/Berm and New Channel Work	Entire Parcel
13	025-597-03	USFS	Basin/Berm, Existing Channel Work, and Inlet Work	West and south side of parcel on Cold Creek Trail
14	025-621-03	CTC	Perforated Sediment Trap, Pipe, and Rock Mulch	North side of Parcel on Del Norte Street
15	080-020-09	USFS	Existing Culvert and Existing Inlet/Outlet Channel Work	West side of parcel where Del Norte Street terminates on its eastern end.
16	025-442-06	USFS	New Channel Work w/Rock Checks	north side of Parcel on Copper Way
17	025-644-04	USFS	New Infiltrating Channel Work	across parcel on Bernice Lane
18	025-433-08	CTC	Basin/Berm and New Channel Work	Southwest corner of parcel at intersection of Humboldt Street and Copper Way

PRIVATE EASEMENTS - TEMPORARY CONSTRUCTION

A	025-644-03	SCHMIDT, Michael Allen	Channel Construction
B	025-644-08	FRAME, William Tr	Channel Construction
C	025-592-07	HELMAN, Dale A	Sediment Trap Installation

D	025-433-09	LEUNG, Mark	AC Pavement Removal, Fill Behind Curb

6.0 COVERAGE AND PERMIT ISSUES

Clean Water Act Section 404

The fieldwork was conducted for the Delineation of Waters of the U.S., including wetlands, as defined by Section 404 of the Clean Water Act. That fieldwork determined that jurisdictional waters and wetlands are present within the Project area. Thus, a wetland delineation report will be prepared that includes maps that identify the type, location, and size of all Waters of the U.S. within the Project boundary and a Section 404 Permit will be obtained prior to Project construction.

Clean Water Act Section 401

If the Proposed Project involves the discharge to surface waters, which includes Waters of the U.S., Waters of the State, and all other surface waters, a 401 Water Quality Certification will be required from the Lahontan Regional Water Quality Control Board (RWQCB). A 401 Water Quality Certification application will be prepared and submitted to the Lahontan RWQCB based on the final Project design and its potential to discharge to surface waters.

Lahontan RWQCB NPDES Permit and Basin Plan

Any disturbance of a Stream Environmental Zone (SEZ) requires consultation with and potentially a permit from Lahontan RWQCB. If one acre or more of overall disturbance is slated to occur during construction, which is anticipated, compliance with the NPDES General Construction Permit will be required.

Tahoe Regional Planning Agency General Permit and Stream Environment Zones (SEZ)

A TRPA General Permit will be obtained prior to construction. A Land Capability Verification has been completed by the TRPA. The Proposed Project requires disturbance within sensitive Land Capability District 1b lands (SEZ), and thus EDOT will work with TRPA to develop and implement appropriate SEZ mitigation credits to ensure compliance with TRPA throughout the permitting process.

United States Forest Service - Lake Tahoe Basin Management Unit Special Use Permit

A USFS-LTBMU Special Use Permit will be obtained prior to construction of the Project.

7.0 MITIGATION AND MONITORING

Mitigation measures are described in the attached Mitigation Monitoring and Reporting Program (Appendix B). EDOT staff and/or their contractor will conduct on-site monitoring to ensure that mitigation measures are implemented as proposed. A full time construction inspector provided by EDOT and/or contractor will monitor proposed mitigation measures for potential temporary impacts associated with construction. The inspector will ensure that the contractor strictly adheres to all temporary erosion control requirements and other environmental protection requirements. In addition to County inspections, regulatory agencies will review project plans and specifications to ensure compliance with local, state, and federal requirements. Any additional mitigation measures required by regulatory agencies as a condition of approval will be monitored in the same manner. Throughout the construction of the Project, the agencies will be invited to weekly “tailgate” meetings and will conduct periodic visits to the Project site to enforce the implementation of BMPs and ensure compliance with all other mitigation measures.

The maintenance and monitoring of the Project improvements will continue for 20 years after construction completion. Revegetation monitoring and establishment will continue for a minimum of two years following construction. Plant establishment will include irrigation and replanting, if necessary. EDOT will inspect all Project improvements during the spring and fall of each year during the twenty-year maintenance period as required by CTC Erosion Control Grant Guidelines. EDOT engineering staff will direct maintenance staff to provide maintenance of new facilities based on results of the inspections. Photographs will be taken before and after

construction for a period of two years, and following significant storm events to monitor project improvement performance.

8.0 REFERENCES

El Dorado County Department of Transportation (EDOT). 2008. Montgomery Estates Area 1 Erosion Control Project Draft Project Alternatives Evaluation Report.

El Dorado County Department of Transportation (EDOT). 2008. Montgomery Estates Area 1 Erosion Control Project Final Project Alternatives Evaluation Report.

El Dorado County Department of Transportation (EDOT). 2008. Montgomery Estates Area 1 Erosion Control Project Final Preferred Alternative Report.

El Dorado County Department of Transportation (EDOT). 2004. El Dorado County General Plan: A Plan for Managed Growth and Open Roads; A Plan for Quality Neighborhoods and Traffic Relief. Internet Website: http://www.co.el-dorado.ca.us/generalplan/Exhibits/59_5.pdf. Accessed November 16, 2004.

Natural Resources Conservation Service (NRCS). 1974. Soil Survey, Tahoe Basin Area, California and Nevada. U.S. Department of Agriculture, Soil Conservation Service and U.S. Forest Service in cooperation with UC Agricultural Experiment Station and NV Agricultural Experiment Station.

Stantec Consulting Inc. 2006. Montgomery Estates Area 1 Erosion Control Project Existing Conditions Report.

Stantec Consulting Inc. 2007. Montgomery Estates Area 1Erosion Control Project Formulating Alternatives Memorandum.

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Stantec Consulting Inc.

State Water Resources Control Board (SWRCB). 1994. State Water Resources Control Board, Stream Environment Zones.

SWCA Environmental Consultants. 2008. Cultural Resources Inventory for the Montgomery Estates Area 1 Erosion Control Project, El Dorado County, California.

Tahoe Regional Planning Agency (TRPA). 2002. TRPA Plan Area Statements (PAS).

Tahoe Resource Conservation District (TRCD). (October 2007). Soil Characteristics Survey.

Western Botanical Services, Inc. 2008. Biological BA/BE and Noxious Weed Assessment. Montgomery Estates Erosion Control Project.

Western Botanical Services, Inc. 2008. Wetlands Delineation. Montgomery Estates Erosion Control Project.

FIGURES

09-1202.B.54

LEGEND

EXISTING CONDITIONS

- EXISTING ERODING CHANNEL
- EXISTING ERODING ROADSIDE DITCH OR SHOULDER
- EXISTING VEGETATION ACCUMULATION
- EXISTING ERODING SLOPE
- EXISTING CULVERT & FLOW DIRECTION
- EXISTING FLOW PATH
- PROJECT BOUNDARY
- EXISTING BUILDING
- EXISTING CONTOUR
- USFS PARCEL/ CTC PARCEL / COUNTY PARCEL
- EXISTING RIGHT-OF-WAY
- EXISTING PROPERTY LINE
- EXISTING DRAINAGE OR PUBLIC UTILITY EASEMENT
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB / AC DIKE
- ● OR ■ EXISTING DRAIN INLET
- P42/18/25.0 EXISTING PIPE ID/SIZE/PEAK Q 20-YEAR
- EXISTING WATERSHED BOUNDARY

0' 150' 300'

SCALE

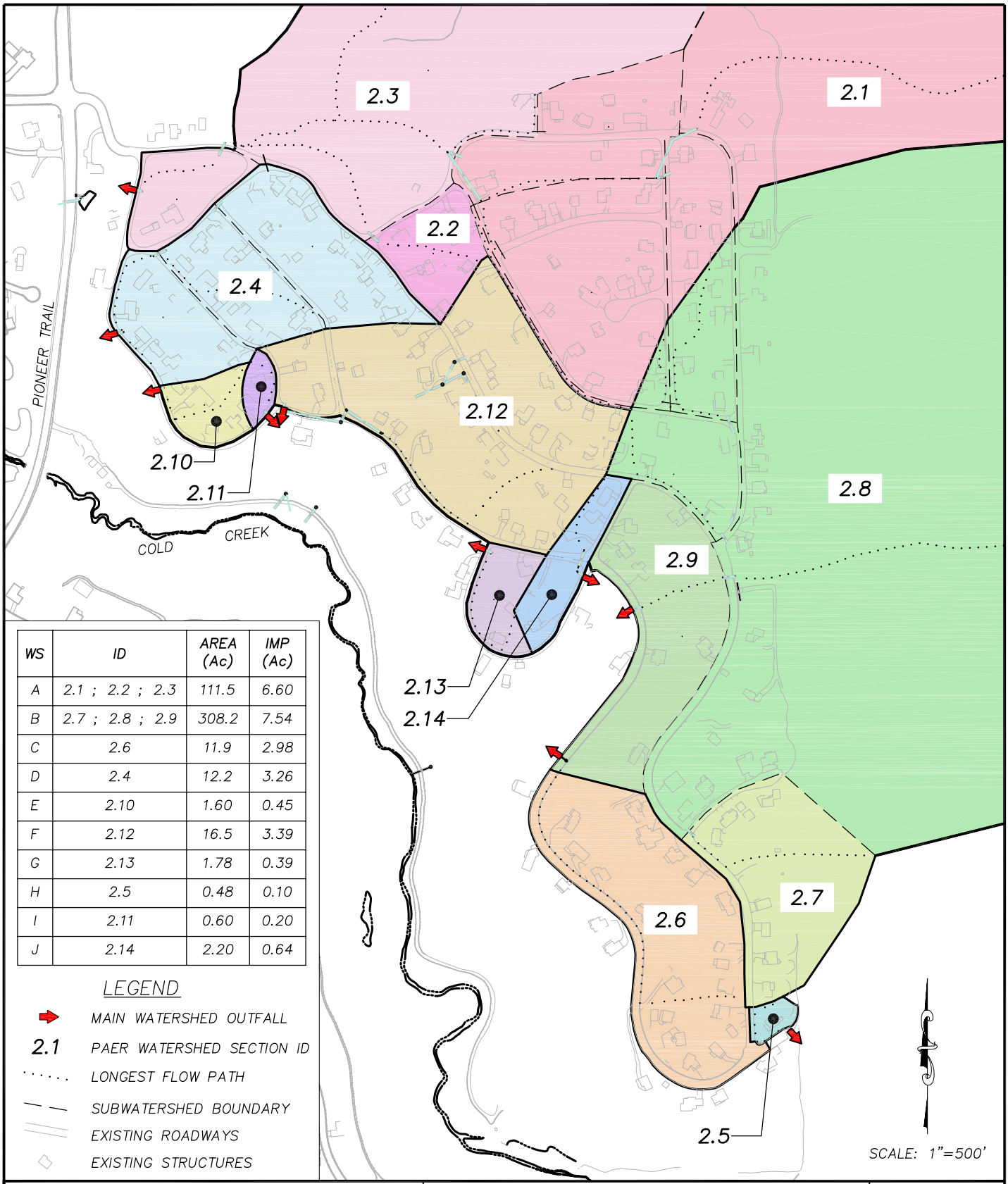
EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE

EL DORADO COUNTY DOT DEPT OF TRANSPORTATION

MONTGOMERY ESTATES – AREA 1 ECP
EXISTING CONDITIONS

DATE:	PROJECT NO.:	BY:
08/2009	95155	DWK

1



WS	ID	AREA (Ac)	IMP (Ac)
A	2.1 ; 2.2 ; 2.3	111.5	6.60
B	2.7 ; 2.8 ; 2.9	308.2	7.54
C	2.6	11.9	2.98
D	2.4	12.2	3.26
E	2.10	1.60	0.45
F	2.12	16.5	3.39
G	2.13	1.78	0.39
H	2.5	0.48	0.10
I	2.11	0.60	0.20
J	2.14	2.20	0.64

LEGEND

- MAIN WATERSHED OUTFALL
- 2.1 PAER WATERSHED SECTION ID
- LONGEST FLOW PATH
- SUBWATERSHED BOUNDARY
- EXISTING ROADWAYS
- EXISTING STRUCTURES

EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE

MONTGOMERY ESTATES 1 ECP
PROJECT ALTERNATIVES
EVALUATION REPORT
ALTERNATIVES WATERSHED INDEX MAP

FIGURE 2

DATE: 08/2008 | PROJECT NO.: 95155 | BY: DWK

09-1202.B.55

09-1202.B.56

LEGEND

EXISTING CONDITIONS

- EXISTING ERODING CHANNEL
- EXISTING ERODING ROADSIDE DITCH OR SHOULDER
- EXISTING VEGETATION ACCUMULATION
- EXISTING ERODING SLOPE
- EXISTING CULVERT & FLOW DIRECTION
- EXISTING FLOW PATH
- PROJECT BOUNDARY
- EXISTING BUILDING
- EXISTING CONTOUR
- USFS PARCEL/ CTC PARCEL / COUNTY PARCEL
- EXISTING RIGHT-OF-WAY
- EXISTING PROPERTY LINE
- EXISTING DRAINAGE OR PUBLIC UTILITY EASEMENT
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB / AC DIKE
- ● OR ■ EXISTING DRAIN INLET
- P42/18/25.0 EXISTING PIPE ID/SIZE/PEAK Q 20-YEAR
- EXISTING WATERSHED BOUNDARY

PROPOSED ALTERNATIVES

- PROPOSED CURB & GUTTER
- PROPOSED AC SWALE (SOLID / POROUS PAVEMENT)
- PROPOSED ARMORED CHANNEL
- PROPOSED RETAINING WALL
- PROPOSED TOP ROCK/REVEGETATION
- PROPOSED GRASS-LINED SWALE
- PROPOSED PARKING TREATMENT (BASE/PP/BOULDER)
- PROPOSED SEDIMENT TRAP / STORM DRAIN MANHOLE
- PROPOSED DRAINAGE INLET
- PROPOSED ROCK DISSIPATOR
- PROPOSED CULVERT
- PROPOSED BASIN (OR REGIONAL TREATMENT)
- PROPOSED FLARED END SECTION
- PROPOSED CULVERT REMOVAL
- PROPOSED CULVERT HEADWALL
- PROPOSED ROCK BOWL
- PROPOSED UNDERGROUND TREATMENT
- PROPOSED BIOLOG / CHECK DAM
- PROPOSED REMOVE AC / ADD AC
- PROPOSED EASEMENT

0' 150' 300'

SCALE

EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE

EL DORADO COUNTY DOT DEPT OF TRANSPORTATION

MONTGOMERY ESTATES – AREA 1 ECP
PROPOSED PROJECT ALTERNATIVE

DATE:	PROJECT NO.:	BY:
08/2009	95155	DWK

3

APPENDIX A:
CEQA CHECKLIST

COUNTY OF EL DORADO **DEPARTMENT OF TRANSPORTATION**

TAHOE ENGINEERING
924B Emerald Bay Road
South Lake Tahoe, CA 96150
Phone: (530) 573-7900
Fax: (530) 541-7049

JAMES WARE, P. E.
Director of Transportation
Internet Web Site:
http://co.el-dorado.ca.us/dot

MAIN OFFICE
2850 Fairlane Court
Placerville CA 95667
Phone: (530) 621-5900
Fax: (530) 626-0387

CEQA Checklist

Title: Montgomery Estates Area 1 Erosion Control Project (JN 95155)	
Description: Construction of erosion control and water quality improvement facilities.	
Location: The project area is located in eastern El Dorado County, California within the Lake Tahoe Basin. The site is located in South Lake Tahoe, east of Pioneer Trail and north of Cold Creek; off of Hwy 50. The Project encompasses El Dorado County road rights-of-way within the Montgomery Estates at Lake Christopher Unit Nos. 1 and 2 (Area 1).	
Owner/Applicant: El Dorado County Department of Transportation – Tahoe Engineering Division	
Lead Agency: El Dorado County Department of Transportation – Tahoe Engineering Division	
County Contact: Brendan Ferry, Senior Planner	**Phone:** 530-573-7900
Address: 924 B Emerald Bay Road, South Lake Tahoe, CA 96150	

The CEQA Checklist recommended by the State of California Environmental Quality Act (CEQA) Guidelines is used to determine potential impacts of the Proposed Project on the physical environment. The checklist provides a list of questions concerning a comprehensive array of environmental issue areas potentially affected by the project. An evaluation of impacts for each resource follows:

a) A brief explanation is required for all answers except No Impact answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A No Impact answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A No Impact answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

b) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

c) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. A potentially significant impact is appropriate if there is substantial evidence that an effect may be significant. If there are one or more potentially significant impact entries when the determination is made, an EIR is required.

d) Negative Declaration: Less than significant with mitigation incorporated applies where the incorporation of mitigation measures has reduced an effect from a potentially significant impact to a less than significant impact. The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, Earlier Analyses, may be cross-referenced).

e) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:

   i. **Earlier Analysis Used.** Identify and state where they are available for review.

   ii. **Impacts Adequately Addressed.** Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards,

and state whether such effects were addressed by mitigation measures based on the earlier analysis.

iii. **Mitigation Measures.** For effects that are less than significant with mitigation measures incorporated, describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

f) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

g) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

h) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

i) The explanation of each issue should identify:

i. The significance criteria or threshold, if any, used to evaluate each question.

ii. The mitigation measure identified, if any, to reduce the impact to less than significant.

I. AESTHETICS – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Item I-B Discussion: The Proposed Project will remove a small number of trees; however the Project area is not along a scenic highway. No rock outcroppings or historic buildings will be damaged in construction of the Proposed Project; therefore, the Project will have a less than significant impact.

Item I-C Discussion: The Proposed Project will implement new erosion control and water quality protection measures in the subdivision, however, care will be taken in the design and construction of the improvements to integrate them into the natural surroundings. The Proposed Project will restore degraded channels and bare soil areas within the County right of way and specified parcels. These erosion control and water quality improvement measures will increase the visual character and quality of the site. While construction activities may affect the scenic resources during construction, these impacts will be temporary. The Proposed Project will not substantially degrade the existing visual character or quality of the site or its surroundings; therefore, the Project will have a less than significant impact.

II. AGRICULTURAL RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

Category II Discussion: The Project area does not contain any lands used for agriculture nor do the plan area statements that encompass the Project area allow for agriculture. Therefore, the Proposed Project will have no impact on agriculture.

III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Item III-B Discussion: The Proposed Project will involve excavation and grading. The El Dorado County Air Quality Management District (EDCAQMD) Rule 223 Fugitive Dust General Requirements states that "visible emissions shall not exceed 20% opacity at point-of-origin and shall not extend more than 50 feet from point-of-origin, or cross the Project boundary line, whichever is less." The contractor will comply with the Air Quality Plan and EDCAQMD regulations by implementing the Best Management Practices (BMPs) related to air quality from the TRPA Handbook of Best Management Practices and practices as outlined in the EDCAQMD Rule 223 to address fugitive dust. Compliance with the TRPA Air Quality Plan will lead to the attainment of the TRPA threshold standards and, therefore, federal and state air quality standards.

The Project will have no long term impacts to air quality. Compliance with EDCAQMD and TRPA regulations through the permitting process will ensure that the Project will not conflict with or obstruct implementation of the air quality plans, will not violate any air quality standard or contribute substantially to an existing or projected air quality violation, and will not result in a cumulatively considerable net increase of any criteria for which the Project region is in non-attainment. With the implementation of the mitigation measures outlined below in *Item III-B Mitigation Measures*, the Proposed Project will not violate any air quality standard or contribute substantially to an existing or projected air quality violation; therefore, the Project will have a less than significant impact.

Item III-B Mitigation Measures:

Mitigation Measure AQ-1: The construction contractor shall implement Best Management Practices as they relate to air quality from the TRPA Code of Ordinances and Handbook of Best Management Practices.

Mitigation Measures AQ-2: The construction contractor shall water exposed soil twice daily, or as needed, to control wind borne dust. All haul/dump truckloads shall be covered securely.

Mitigation Measure AQ-3: The contractor shall sweep the Project site a minimum of once daily to remove all dirt and mud which has been generated from or deposited on roadways by construction equipment going to and from the construction site.

Mitigation Measure AQ-4: On-site vehicle speed shall be limited to 15 miles per hour on unpaved surfaces.

Mitigation Measure AQ-5: Construction activities shall comply with EDCAQMD Rule 223-Fugitive Dust, so that emissions do not exceed hourly levels. The contractor will use approved BMPs as outlined in the TRPA Handbook of Best Management Practices and the EDCAQMD Rule 223 to address fugitive dust. Dust mitigation measures and dust control BMPs will include, but are not limited to, stabilization of unpaved areas subject to vehicular traffic, stabilization of storage piles and disturbed areas, dust suppression through watering of areas to be disturbed, cleaning of all construction vehicles leaving the site, mulching of bare soil areas, and suspension of grading and earth moving activities when wind speeds are high enough to result in dust emissions crossing the Project boundary.

Mitigation Measure AQ-6: Construction equipment idling shall be restricted to 5 minutes when not in use.

Mitigation Measure AQ-7: The construction contractor shall post a publicly visible sign on the Project site during construction operations that specifies the telephone number and person/agency to contact for complaints and/or inquiries on dust generation and other air quality problems resulting from Project construction.

Item III-C Discussion: Construction activities may impact air quality, but the impacts will be well below established significance levels since the activity is temporary and there will not be any long-term impacts. The Proposed Project will not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment; therefore, the Project will have a less than significant impact.

Item III-D Discussion: Construction activities may impact air quality, but the impacts will be well below established significance levels since the activity is temporary and there will not be any long-term impacts. The Proposed Project will not expose sensitive receptors to substantial pollutant concentrations; therefore, the Project will have a less than significant impact.

Item III-E Discussion: Construction activities may impact air quality, but the impacts will be well below established significance levels since the activity is temporary and there will not be any long-term impacts. The Proposed Project will not create objectionable odors affecting a substantial number of people; therefore, the Project will have a less than significant impact.

IV. BIOLOGICAL RESOURCES – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐

d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Item IV-A Discussion: A *Wildlife Biological Assessment and Biological Evaluation (BABE)* was performed for the Proposed Project. The biological assessment surveys observed no federal or state-listed candidate, or proposed wildlife species in the Project study area. However, potential habitat conditions do exist for one special-status species, the Willow flycatcher, although none were noted during the survey. Due to the late season survey that occurred, protocol surveys (See Bombay, et all 2003) for Willow flycatcher will be conducted by a qualified biologist on parcels 025-597-03 and 025-595-09 between June 1 and July 15, 2010 prior to Project construction on those parcels. This determination was based on a thorough data review and a survey of the Project area. The primary purpose of the field survey was to identify and determine the occurrence of, or the suitability of, habitat for special status wildlife species within the Project site.

A *Botanical Biological Assessment and Biological Evaluation (BABE)* was also performed for the Proposed Project. Potential or modeled habitat was identified for a total of 13 special status species in the Project area; however, none of these species were found during surveys.

A *Noxious Weed Risk Assessment (NWRA)* was performed for the Proposed Project. The surveys indicated that two noxious weed species were known to exist within the Project area. These species include bull thistle (*Cirsium vulgare*) and cheatgrass (*Bromus tectorum*). Ten occurrences of cheatgrass and three occurrences of bull thistle were documents, with the largest populations in the wetland system along Cold Creek Trail. These locations are documented in the NWRA.

With the implementation of the mitigation measures outlined below in *Item IV-A Mitigation Measures*, the Proposed Project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish & Game (CDFG) or U.S. Fish & Wildlife Service (USFWS); therefore, the Project will have a less than significant impact.

Item IV-A Mitigation Measures:

Mitigation Measure B-1: Protocol surveys (See Bombay, et all 2003) for Willow flycatcher shall be conducted by a qualified biologist within the Project area on parcels 025-597-03 and 025-595-09 between June 1 and July 15, 2010 prior to Project construction on those parcels. If Willow flycatcher presence is noted during the follow up surveys, construction elements will be deleted from those parcels, or modified to a less than significant level as determined by USFS-LTBMU and/or CA Fish & Wildlife Service Project managers. If Willow flycatcher presence is not noted during the follow up surveys, approval will be obtained from TRPA, Lahontan, USFS-LTBMU and the CA Fish & Wildlife service to proceed with construction as designed.

Mitigation Measure B-2: Prior to construction, the County will confirm if any new special status species have been identified by the USFS-LTBMU or the CA Fish & Wildlife Service (via the California Natural Diversity Database - *CNDDB*) within, or immediately adjacent to, the Project area. If new activity or occurrences have been identified, appropriate limited operating periods (LOP) will be observed.

Mitigation Measure B-3: If special status plant species are found prior to or during construction, these populations will be identified and protected with appropriate measures per TRPA and the USFS-LTBMU.

Mitigation Measure B-4: The County will adopt, implement and require the contractor to adhere to a Noxious Weed Mitigation Plan (Plan) to decrease habitat vulnerability to or below pre-construction levels. The Plan includes pre-construction elements such as treatment methodologies of existing noxious weed populations identified in the Project area, as well as operating procedures for both during and post-construction. Recommended BMPs will include, but are not limited to, the hand removal of existing weeds prior to going to seed, cleaning equipment prior to use, minimizing the areas of disturbance, covering the disturbed ground immediately upon completion of construction with mulch or other means, utilizing certified weed-free mulch and other materials, and revegetating disturbed areas with native plants as soon as construction is completed.

Item IV-B Discussion: A Land Capability Verification, which delineated sensitive Class 1B (stream environment zone (SEZ)) lands within the Project area, was completed and certified by the TRPA. The Project has been designed to avoid SEZs in all possible instances; however, in order to construct some key elements of the Proposed Project, as determined by the PDT, some improvements will encroach into SEZs. This is primarily due to the fact that these areas are depressed areas, where stormwater flows are currently directed. Additionally, fieldwork has been completed to delineate Waters of the U.S., including wetlands. Using the data, a wetland delineation report will be prepared and submitted as part of the Section 404 permit application to the U.S. Army Corps of Engineers (USACOE) to make a formal determination. With the implementation of the mitigation measures outlined below in *Item IV-B Mitigation Measures,* the Proposed Project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service; therefore, the Project will have a less than significant impact.

Item IV-B Mitigation Measures:

Mitigation Measure B-5: Construction limit fencing, per TRPA's Code of Ordinances Chapter 65 and the Handbook of BMPs, shall be designed and implemented by the contractor to limit SEZ disturbance to an area not to exceed five feet outside of the disturbance zone of the water quality and erosion control improvements. All disturbed areas will be stabilized and revegetated with compost, native seed and mulch. All revegetated areas will be irrigated for a minimum of two years following construction. Construction measures will include, but are not limited to, the use of hand or low impact equipment and the implementation of temporary BMPs such as filter fencing, coir logs, gravel bags, tree protection, and construction limit fencing to minimize disturbance. Although groundwater is not expected to be encountered during construction, if groundwater is encountered and the excavated area requires dewatering to complete the work, TRPA and the Lahontan Regional Water Quality Control Board shall be notified immediately to determine the appropriate course of action. The SWPPP for the Project will include a Dewatering Contingency Plan (Item VI-B Mitigation Measures) that the contractor shall follow.

Mitigation Measure B-6: Stormwater facilities will be designed per TRPA and Lahontan to improve the water quality of stormwater entering SEZs, as compared to the pre-project conditions. The erosion control aspects of the Project will enhance hydrology, soils, and vegetation.

Mitigation Measure B-7: Upon completion of the wetland delineation report, the Project design will be modified, as needed, to avoid or minimize impacts to wetlands and/or other WOUS. The County will also obtain a 404 Permit and a 401 Water Quality Certification and will implement the required mitigation measures. The County will obtain a TRPA EIP Project Permit and will implement the required mitigation measures. Approximately 1,281 square feet of SEZ will be disturbed in the construction of the improvements. Per TRPA Code of Ordinances Chapter 20, SEZ disturbance must be mitigated at 1.5:1. EDOT will utilize SEZ Mitigation Credits that are stored from pervious County restoration Projects, primarily the Angora SEZ Enhancement Project, in order to mitigate the new SEZ disturbance and comply with this ordinance.

Item IV-C Discussion: A Land Capability Verification, which delineated sensitive Class 1B (stream environment zone (SEZ)) lands within the Project area, was completed and certified by the TRPA. The Project has been designed to avoid SEZs in all possible instances; however, in order to construct some key elements of the Proposed Project, as determined by the PDT, some improvements will encroach into SEZs. This is primarily due to the fact that these areas are depressed areas, where stormwater flows are currently directed. Additionally, fieldwork has been completed to delineate Waters of the U.S., including wetlands. Using the data, a wetland delineation report will be prepared and submitted as part of the Section 404 permit application to the U.S. Army

Corps of Engineers (USACOE) to make a formal determination. With the implementation of the mitigation measures outlined above in *Item IV-B Mitigation Measures* and below in *Item IV-C Mitigation Measures,* the Proposed Project will not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act; therefore, the project will have a less than significant impact.

Item IV-C Mitigation Measures:

Mitigation Measure B-8: Should any construction work be required in or adjacent to wetlands, it shall be conducted from existing pavement and/or confined to the smallest area possible to complete the work by restricting the contractor's access with equipment through the use of construction limit fencing per TRPA Code Chapter 65.

Mitigation Measure B-9: All excavated material not required to complete the construction work shall be immediately removed from the wetland areas and be contained by BMP measures per TRPA's Handbook of Best Management Practices.

Item IV-D Discussion: With the implementation of Mitigation Measures B-1 - B-4 found in Section IV above, the Proposed Project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; therefore, the Project will have a less than significant impact.

V. CULTURAL RESOURCES – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique Paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Category V Discussion: A cultural resources study, which included a literature search and an archaeological survey/inventory of the Project survey area, was completed. Thirteen previous cultural resources studies have been conducted in the vicinity of the Project area, four of which included portions of the Area of Potential Effects (APE). No cultural resources have been previously recorded within the APE and none were identified within the APE during the pedestrian survey. The APE is considered to have a low sensitivity for the discovery of prehistoric, ethno historic, or historic cultural material or subsurface deposits. Because of this, no additional cultural resources work for this Project is recommended. However, in the event that cultural resources are discovered during Project implementation, Project personnel shall halt all activities in the immediate area and notify a qualified archaeologist to determine the appropriate course of action. Therefore, the Project will have no impact on cultural resources.

VI. GEOLOGY & SOILS – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
i. Strong seismic ground shaking?	☐	☐	☐	☒
ii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iii. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Item VI-B Discussion: The intent of the Proposed Project is to implement erosion control and water quality improvements within the Project area that will assist in stabilizing bare soils and improving stormwater quality. During construction, portions of the site will have exposed soil areas that may, during a rain storm, high wind event or utility line breach, erode and pose a threat to water quality. Once Project construction is complete, there will be an overall decrease of erosion in the Project area. With the implementation of the mitigation measures outlined below in *Item VI-B Mitigation Measures,* the Proposed Project will not result in any significant increase in wind or water erosion of soils, either on or off the site; therefore, the Project will have a less than significant impact.

Item VI-B Mitigation Measures:

Mitigation Measure G-1: The contractor shall prepare, submit and adhere to a Storm Water Pollution Prevention Plan (SWPPP) to the County, Lahontan Regional Water Quality Control Board (Lahontan), and TRPA prior to construction. The SWPPP shall be in accordance with TRPA and Lahontan requirements for stormwater pollution prevention in the Tahoe Basin. As part of the SWPPP, the contractor will be required to prepare and adhere to a Temporary BMP Plan, a Spill Contingency Plan, and a Dewatering Plan.

The Temporary BMP Plan will include design and specifications that detail the required construction BMPs that shall be installed prior to and during construction to prevent any erosion that may occur during a rain or wind event. All temporary BMPs shall be installed and maintained per TRPA's Handbook of Best Management Practices. Temporary BMPs will include, but are not limited to: gravel bags, silt fencing, tree protection fencing, construction limit fencing, coir logs, visqueen, and gravel construction access. Prior to construction, all storage,

access, and staging areas shall be secured by the contractor and approved by EDOT, Lahontan, and TRPA. No staging or storage will occur in Stream Environment Zones (SEZs). The contractor shall be responsible for maintenance of mobilization sites, including placement and maintenance of BMPs. All equipment, vehicles, and materials shall be stored on paved or previously disturbed surfaces only; in locations approved by the County, Lahontan, and TRPA.

The contractor shall limit the areas to be disturbed to the area within the boundary of the construction limit fencing, which shall be designed and installed prior to commencement of construction. The boundary of the construction limit fencing shall be displayed on the EC Sheets of the construction plans and shall be set to the minimum size required to construct proposed improvements, per the Projects plans and specifications. All disturbed areas shall be restored to a better than pre-construction condition. The contractor shall meet the permit requirements for BMPs, staging areas, revegetation, grading season restrictions, and all other permitting agency approval conditions. Construction will take place within the Lake Tahoe construction season (between May 1st and October 15th).

The Spill Contingency Plan, which the contractor shall adhere to, shall outline how to properly handle accidental construction related spills and must include the requirement for spill prevention kits to be available on site to contain and properly clean any accidental spills. The Spill Contingency Plan will help the contractor to minimize the potential for and effects from spills of hazardous, toxic, or petroleum based substances during construction activities. The Spill Prevention Kit will contain, but is not limited to, absorbent pads, plastic bags, containment devices, drain seals, and drip pans. This plan will also outline who to call if utility lines are damaged during construction.

The Dewatering Plan, which the contractor shall adhere to, will outline the process that will be required of the contractor if groundwater is intercepted during construction. The Dewatering Plan shall be prepared and submitted for approval by EDOT, Lahontan, and TRPA prior to commencement of construction. Construction sequencing shall be designed to avoid and minimize the potential of encountering groundwater during construction, however if groundwater is encountered and the excavated area requires dewatering to complete the work, construction shall immediately cease and TRPA, Lahontan, and the County shall be notified immediately to observe the construction work to ensure that the approved dewatering plan is being adhered to and that dewatering effluent is properly contained and disposed of. Based on the results of the Soils/Hydrology Analysis, which is performed by TRPA prior to construction, dewatering areas will be better identified to avoid and reduce the potential of groundwater interception.

Mitigation Measure G-2: The contractor shall attend the TRPA pre-grade onsite inspection meeting to ensure that proper BMPs are in place per the SWPPP and that all permit conditions have been met prior to commencement of construction.

Mitigation Measure G-3: EDOT shall conduct daily inspections of BMP measures to ensure they are properly placed and maintained for maximum water quality benefit. As part of this process, EDOT and/or the contractor will complete formal inspection forms for submittal to regulatory agencies to demonstrate deficiencies and that corrective action has been immediately taken.

VII. HAZARDS & HAZARDOUS MATERIALS – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Item VII-A Discussion: During Project construction, there exists a risk of accidental fuel spills from construction equipment. With the implementation of Mitigation Measures G-1, G-2 and G-3 found in Section VI above, the Proposed Project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; therefore, the Project will have a less than significant impact.

Item VII-B Discussion: During Project construction, there exists a risk of accidental fuel spills from construction equipment. With the implementation of Mitigation Measures G-1, G-2 and G-3 found in Section VI above, the Proposed Project will not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; therefore, the Project will have a less than significant impact.

VIII. HYDROLOGY & WATER QUALITY – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Item VIII-A Discussion: During construction, grading and excavation will take place that may have the potential to cause erosion. During Project construction, there exists a risk of accidental fuel spills from construction equipment. Once construction is complete and the erosion control and water quality improvement measures are in place, water quality in the area will be improved. With the implementation of Mitigation Measures G-1, G-2 and G-3 found in Section VI above, the Proposed Project will not violate any water quality standards; therefore, the Proposed Project will have a less than significant impact.

Item VIII-C Discussion: One of the goals of the Proposed Project is to reduce peak flows and volumes while providing treatment for the pollutants of primary concern. The Project will slightly affect drainage patterns in order to improve hydraulic and hydrologic connectivity of the site and move stormwater to where it can be infiltrated. As a result, flow rates and volumes at the Project outflow locations will likely be decreased due to the infiltration components of this Project. The Proposed Project will not substantially alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation on- or off-site; therefore, the Proposed Project will have a less than significant impact.

Item VIII-D Discussion: One of the goals of the Proposed Project is to reduce peak flows and volumes while providing treatment for the pollutants of primary concern. The Project will affect drainage patterns in order to improve hydraulic and hydrologic connectivity of the site and move stormwater to where it can be infiltrated. As a result, flow rates and volumes at the Project outflow locations will likely be decreased due to the infiltration components of this Project. The Proposed Project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site; therefore, the Proposed Project will have a less than significant impact.

Item VIII-E Discussion: During construction of the Proposed Project, grading and excavation will take place that may have a potential to cause increased surface runoff. Once construction is complete and the erosion control and water quality improvement measures are in place, surface flows and volumes will likely be reduced from their existing condition and an improved stormwater system will be in place. With the implementation of Mitigation Measures G-1, G-2 and G-3 found in Section VI above, the Proposed Project will not create or contribute runoff

water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; therefore, the Project will have a less than significant impact.

Item VIII-F Discussion: During construction of the Proposed Project, grading and excavation will take place that may have a potential to cause increased surface runoff and minor erosion. Once construction is complete and the erosion control and water quality improvement measures are in place, surface runoff and erosion will be reduced and water quality will be improved. With the implementation of Mitigation Measures G-1, G-2 and G-3 found in Section VI above, the Proposed Project will not otherwise substantially degrade water quality; therefore, the Project will have a less than significant impact.

IX. LAND USE & PLANNING – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Category IX Discussion: The Proposed Project will not physically divide an established community; conflict with any applicable land use plan, policy, or regulation; or conflict with any applicable habitat conservation plan or natural community conservation plan. The Project area is located in an unincorporated area of El Dorado County within the Tahoe Basin. Land use policies for the Project area are discussed in the El Dorado County General Plan, the TRPA Regional Plan, and the TRPA Plan Area Statements (PAS). The Project lies within PAS 106, Montgomery Estates and has a land use classification of "Residential", with a maximum density of one single family dwelling per parcel. The Proposed Project will not impact the land use of the area and is consistent with the existing allowed uses; therefore, the Proposed Project will have no impact on land use or planning.

X. MINERAL RESOURCES – Would the project result in:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Category X Discussion: There are no known mineral resources that would be of value to the region or the state in the Project area. Therefore, the Proposed Project will have no impact on mineral resources.

XI. NOISE – Would the project result in:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Item XI-A Discussion: Standard construction equipment shall be used to construct the improvements associated with the Proposed Project. The equipment will increase noise levels over that of regular levels in the neighborhood, but the noise levels will be within allowable noise decibel standards imposed by County and the TRPA. The TRPA Code of Ordinances (Chapter 23.8) states that TRPA-approved construction projects are exempt from the quantitative limits contained in the Noise Ordinance and Community Plan if construction activities take place between the hours of 8:00 a.m. and 6:30 p.m. With the implementation of the mitigation measures outlined below in *Item XI-A Mitigation Measures,* the Proposed Project may result in a temporary or periodic exposure to or generation of noise levels in excess of standards established in the local General Plan, Community Plan, or Noise Ordinance, but it will be temporary and is allowable under local ordinances. Therefore, the Project will have a less than significant impact.

Item XI-A Mitigation Measures:

Mitigation Measure N-1: In order to mitigate the impacts of temporarily increased ambient noise levels, construction noise emanating from all construction activities shall only occur between the hours of 8:00 a.m. and 6:30 p.m. per TRPA Code and the County's General Plan, unless other hours are approved by TRPA.

Mitigation Measure N-2: All construction equipment and vehicles used for Project construction shall be fitted with the factory installed muffling devices and will be maintained in good working order. EDOT will advise potentially affected residents of the proposed construction activities including duration, schedule of activities, and contacts for filing noise complaints. EDOT staff and/or contractor shall respond to all noise complaints received within one working day and resolve the issue within two working days.

Item XI-B Discussion: Standard construction equipment will be used to construct the proposed improvements. The equipment will create groundborne vibrations and noise levels over that of regular levels in the neighborhood, but the groundborne vibrations and noise levels will be within acceptable noise decibel standards imposed by County and the TRPA. The Proposed Project will not result in exposure of persons to or generation of groundborne vibration or noise levels in excess of standards established in the local General Plan, Community

Plan, or Noise Ordinance, or applicable standards of other agencies; therefore, the Project will have a less than significant impact.

Item XI-D Discussion: Refer to the information stated in the *Item XI-A Discussion*. With the implementation of Mitigation Measures N-1 and N-2 found in Section XI above, the Proposed Project may result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project, but it will be temporary and is allowable under local ordinances. Therefore, the Project will have a less than significant impact.

XII. POPULATION & HOUSING – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Category XII Discussion: The Proposed Project will not directly or indirectly induce or displace existing or future housing. Therefore, the Proposed Project will have no impact on population and housing.

XIII. PUBLIC SERVICES – Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services, including:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Fire protection?	☐	☐	☐	☒
b) Police protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

Category XIII Discussion: The Proposed Project will have no impact on fire protection, police protection, schools, parks, or other public facilities. Improvements are designed and located to ensure that regular access and maintenance can take place. The Proposed Project will not result in substantial adverse physical impacts associated with the new or altered facilities; therefore, the Project will have no impact on public services.

XIV. RECREATION – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Item XIV-A Discussion: The Proposed Project will not affect the recreational components of the Project area; therefore the Project will have no impact.

XV. TRANSPORTATION & TRAFFIC – Would the project result in:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☒	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☒	☐	☐
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

Item XV-A Discussion: At some locations, temporary lane closures may be necessary to facilitate Project construction; however, at no time would access for local residents, school buses, or emergency vehicles be prohibited. Increased vehicle trips are expected during construction as a result of construction vehicles mobilizing to and from the Project site. Traffic controls will only be implemented during work hours and when it is necessary to perform work. With the implementation of the mitigation measures outlined below in *Item XV-A Mitigation Measures,* the Proposed Project will not cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system; therefore, the Project will have a less than significant impact.

Item XV-A Mitigation Measures:

Mitigation Measure T-1: The contractor will be required to prepare and adhere to a Traffic Control Plan for TRPA and County review and approval. Elements of the plan will include appropriate use of signage, flaggers, traffic calming, and alternative routes to accommodate local and through traffic. In addition, EDOT will advise local residents regarding schedules for construction traffic detours through signage, press releases, and distribution of flyers in area neighborhoods well in advance of construction initiation. Access will not be prohibited, at any time, for local residents, school buses or emergency vehicles.

Item XV-E Discussion: At some locations, temporary lane closures may be necessary to facilitate construction; however, at no time would access for local residents, school buses, or emergency vehicles be prohibited. With the implementation of Mitigation Measure T-1, found in Section XV above, the Proposed Project will not result in inadequate emergency access; therefore, the Project will have a less than significant impact.

XVI. UTILITIES & SERVICE SYSTEMS – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☒	☐	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Item XVI-C Discussion: The Proposed Project will implement erosion control and water quality improvement measures that will reduce the discharge of sediment and pollutants to Lake Tahoe from the County rights of way. The Proposed Project will install new storm water drainage and treatment facilities to supplement and improve the existing storm water infrastructure. All newly proposed stormwater facilities will be installed within existing drainage areas. This Project is identified in the Lake Tahoe Environmental Improvement Program and is intended to improve the environment by addressing stormwater deficiencies, erosion, and water quality problems. The Proposed Project will require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, however with the implementation of Mitigation Measures G-1, G-2 and G-3 found in Section VI above, the construction will not cause significant environmental effects; therefore, the Project will have a less than significant impact.

XVII. GREENHOUSE GAS EMISSIONS – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Item XVII-A Discussion: Project construction would generate temporary and one-time GHG emissions mainly from diesel-powered construction equipment and on-road trucks, with a small amount from workers' personal vehicles during the construction of the Project. Greenhouse gases emitted during the combustion of diesel fuel in off-road construction equipment and on-road vehicles would consist mainly of carbon dioxide, along with small amounts of methane and nitrous oxide during the construction period. Construction emissions would be intermittent, and short-term, during one summer construction season. Construction emissions would permanently cease at the end of the Project. Over the long-term, these temporary emissions would be offset or mitigated by the establishment of native vegetation at designated areas. The revegetation work, including trees, grasses, and shrubs would be maintained over the life of the Project, up-taking carbon dioxide for decades.

There currently is no federal, state, or local regulatory guidance for determining whether a project advances or hinders California's GHG reduction goals and no promulgated thresholds of significance for GHG impacts have been established. Therefore, this analysis focuses on construction impacts estimated using the County's past project implementation database and the U.S. Environmental Protection Agency (USEPA) GHG emission factors for diesel fuel and gasoline combustion in construction equipment. The County has reviewed past construction project logs for projects equivalent in size and scope to the proposed Project, to determine the typical number and type of vehicles that are actively working to construct the project each day. Based on this analysis, the County has formulated the following assumptions:

- Fifteen workers per day, driving five vehicles to work an average of 40 miles roundtrip per day
- Vehicles average 20 miles per gallon
- Twelve pieces of construction machinery per day
- Crews work eight hours per day with machinery running half that time (4 hours)
- Machinery burns an average of two gallons of diesel fuel per hour
- Diesel fuel contributes approximately 22.5 lbs CO_2/gallon
- Gasoline contributes approximately 20 lbs CO_2/gallon
- The Project will be completed in 65 working days

Based on these assumptions, the Proposed Project would emit approximately 77 tons of CO_2 equivalents.

This estimated amount is negligible in comparison to the statewide inventory of 480,000,000 metric tons discussed above (0.0000002 percent). The generation of direct onsite and offsite GHG emissions would terminate following completion of construction work. Therefore, due to the intent of the Project and with the implementation of Mitigation Measures AQ-1 - AQ-7 found in Section III above, the Proposed Project will not create a substantial amount of greenhouse gas emissions; therefore, the Project will have a less than significant impact.

MANDATORY FINDINGS OF SIGNIFICANCE

Environmental Issue	Yes	No
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒
b) Does the project have impacts that are individually limited, but cumulatively considerable? (Cumulatively considerable means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒

OTHER RESPONSIBLE AND TRUSTEE AGENCIES (whose approval is required)

☒ California Department of Fish and Game	☐ Local Agency Formation Commission (LAFCO)
☐ California Department of Forestry	☐ National Marine Fisheries Service
☐ California Department of Health Services	☒ Tahoe Regional Planning Agency
☐ California Department of Toxic Substances	☒ U.S. Army Corps of Engineers
☐ California Department of Transportation (Caltrans)	☒ U.S. Fish and Wildlife Service
☐ California Integrated Waste Management Board	☒ USFS - LTBMU
☒ California Regional Water Quality Control Board	☒ California Tahoe Conservancy

LIST OF PREPARERS

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DETERMINATION – The Environmental Review Committee finds that (choose one):

☐	I find that the Proposed Project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
☒	I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. **A MITIGATED NEGATIVE DECLARATION** will be prepared.
☐	I find that the Proposed Project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
☐	I find that the Proposed Project **MAY** have a potentially significant impact or potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
☐	I find that although the Proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Proposed Project, **nothing further is required**.

Signature _____ Date Nov. 6, 2009

Brendan Ferry, El Dorado County

APPENDIX B:
MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

PROJECT NAME: MONTGOMERY ESTATES AREA 1 EROSION CONTROL PROJECT

MITIGATED NEGATIVE DECLARATION #: ***2009102017***

REGULATORY BACKGROUND

This Mitigation Monitoring and Reporting Plan (MMRP) was prepared to comply with Section 21081.6 of the Public Resources Code, which requires the following:

> "The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation."

This MMRP is intended to ensure the effective implementation of mitigation measures that are within the authority of El Dorado County (County) to implement (including monitoring where identified) throughout all phases of the development and operation of the Montgomery Estates Area 1 Erosion Control Project (Proposed Project). Monitoring of such mitigation measures may extend through project permitting, construction, and project operations, as necessary.

The required monitoring and reporting shall be accomplished through the County's Standard Mitigation Monitoring Program and/or the Project Specific Mitigation Monitoring and Reporting Program as defined in the El Dorado County Code.

PROGRAM IMPLEMENTATION

The MMRP Checklist (Table C-1) lists all mitigation measures identified in the *CEQA Checklist* for the Proposed Project. In general, monitoring becomes effective at the time the action is taken on the Project. Timing of monitoring is organized as follows:

- Prior to Construction: The monitoring activity consists of ensuring that a particular mitigation action has taken place prior to the beginning of any construction or grading activities.
- During Construction: The monitoring activity consists of active monitoring while grading or construction is occurring on the Project site.
- Prior to Operation: The monitoring activity consists of active monitoring after initial site grading and facility construction has occurred, but prior to the initiation of project operations.
- Ongoing: The monitoring activity consists of monitoring after the grading and construction phase of the project has been completed, and relates to ongoing operation of the Project.

The mitigation measures listed in Table C-1 are numbered as they are described in the *CEQA Checklist*. El Dorado County staff will be responsible for implementing and/or ensuring that the mitigation measures listed in the MMRP are undertaken for this Project, to the extent such mitigation measures apply to the Project within El Dorado County. Implementation includes ensuring that any required actions are included in bid documents and contracts as part of the design/build process for the Project, and ensuring that the contractor(s) include specified mitigation activities in plans and specifications for construction.

County staff responsibility includes designation of certain mitigation measure responsibility to, and continued oversight of, the contractor(s) and consultant(s).

APPENDIX C:
TABLES

TABLE C-1. MITIGATION MONITORING AND REPORTING PROGRAM FOR THE MONTGOMERY ESTATES AREA 1 ECP

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
AESTHETICS				
No mitigation measures required.				
AGRICULTURAL RESOURCES				
No mitigation measures required.				
AIR QUALITY- Item III-B				
Mitigation Measure AQ-1: The construction contractor shall implement Best Management Practices as they related to air quality from the TRPA Code of Ordinances and Handbook of Best Management Practices.	DOT or its Contractor	DOT	Prior to and During Construction	
Mitigation Measures AQ-2: The construction contractor shall water exposed soil twice daily, or as needed, to control wind borne dust. All haul/dump truckloads shall be covered securely.	DOT or its Contractor	DOT	Prior to and During Construction	
Mitigation Measure AQ-3: The contractor shall sweep the Project site a minimum of once daily to remove all dirt and mud which has been generated from or deposited on roadways by construction equipment going to and from the construction site.	DOT or its Contractor	DOT	Prior to and During Construction	
Mitigation Measure AQ-4: On-site vehicle speed shall be limited to 15 miles per hour on unpaved surfaces.	DOT or its Contractor	DOT	Prior to and During Construction	
Mitigation Measure AQ-5: Construction activities shall comply with EDCAQMD Rule 223-Fugitive Dust, so that emissions do not exceed hourly levels. The contractor will use approved BMP practices as outlined in the TRPA Handbook of Best Management Practices and the EDCAQMD Rule 223 to address fugitive dust. Dust mitigation measures and dust control BMPs will include, but are not limited to, stabilization of unpaved areas subject to vehicular traffic, stabilization of storage piles and disturbed areas, dust suppression through watering of areas to be disturbed, cleaning of all construction vehicles leaving the site, mulching of bare soil areas, and suspension of grading and earth moving activities when wind speeds are high enough to result in dust emissions crossing the Project boundary.	DOT or its Contractor	DOT	Prior to and During Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
Mitigation Measure AQ-6: Construction equipment idling shall be restricted to 5 minutes when not in use.	DOT or its Contractor	DOT	Prior to and During Construction	
Mitigation Measure AQ-7: The construction contractor shall post a publicly visible sign on the Project site during construction operations that specify the telephone number and person/agency to contact for complaints and/or inquiries on dust generation and other air quality problems resulting from Project construction.	DOT or its Contractor	DOT	Prior to and During Construction	
BIOLOGICAL RESOURCES- Item IV-A				
Mitigation Measure B-1: Protocol surveys (See Bombay, et all 2003) for Willow flycatcher shall be conducted by a qualified biologist within the Project area on parcels 025-597-03 and 025-595-09 between June 1 and July 15, 2010 prior to Project construction on those parcels. If Willow flycatcher presence is noted during the follow up surveys, construction elements will be deleted from those parcels, or modified to a less than significant level as determined by USFS-LTBMU and/or CA Fish & Wildlife Service Project managers. If Willow flycatcher presence is not noted during the follow up surveys, approval will be obtained from TRPA, Lahontan, the USFS-LTBMU and the CA Fish & Wildlife service to proceed with construction as designed.	DOT or its Consultant	DOT	Prior to Construction	
Mitigation Measure B-2: Prior to construction, the County will confirm if any new special status species have been identified by the USFS-LTBMU or the CA Fish & Wildlife Service (via the California Natural Diversity Database - *CNDDB*) within, or immediately adjacent to, the Project area. If new activity or occurrences have been identified, appropriate limited operating periods (LOP) will be observed.	DOT or its Consultant	DOT	Prior to Construction	
Mitigation Measure B-3: If special status plant species are found prior to or during construction, these populations will be identified and protected with appropriate measures per TRPA and the USFS-LTBMU.	DOT or its Consultant	DOT	Prior to Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
Mitigation Measure B-4: The County will adopt, implement and require the contractor to adhere to a Noxious Weed Mitigation Plan (Plan) to decrease habitat vulnerability to or below pre-construction levels. The Plan includes pre-construction elements such as treatment methodologies of existing noxious weed populations identified in the Project area, as well as operating procedures for both during and post-construction. Recommended BMPs will include, but are not limited to, the hand removal of existing weeds prior to going to seed, cleaning equipment prior to use, minimizing the areas of disturbance, covering the disturbed ground immediately upon completion of construction with mulch or other means, utilizing certified weed-free mulch and other materials, and revegetating disturbed areas with native plants as soon as construction is completed.	DOT or its Consultant	DOT	Prior to and During Construction	
BIOLOGICAL RESOURCES - ITEM IV-B				
Mitigation Measure B-5: Construction limit fencing, per TRPA's Code of Ordinances Chapter 65 and the Handbook of BMPs, shall be designed and implemented by the contractor to limit SEZ disturbance to an area not to exceed five feet outside of the disturbance zone of the water quality and erosion control improvements. All disturbed areas will be stabilized and revegetated with compost, native seed and mulch. All revegetated areas will be irrigated for a minimum of two years following construction. Construction measures will include, but are not limited to, the use of hand or low impact equipment and the implementation of temporary BMPs such as filter fencing, coir logs, gravel bags, tree protection and construction limit fencing to minimize disturbance. Although groundwater is not expected to be encountered during construction, if groundwater is encountered and the excavated area requires dewatering to complete the work, TRPA and the Lahontan Regional Water Quality Control Board shall be notified immediately to determine the appropriate course of action. The SWPPP for the Project will include a Dewatering Contingency Plan (Item VI-B Mitigation Measures) that the contractor shall follow.	DOT or its Consultant	DOT	Prior to and During Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
Mitigation Measure B-6: Stormwater facilities will be designed per TRPA and Lahontan criteria to improve the water quality of storm water entering SEZs, as compared to the pre-Project conditions. The erosion control aspects of the Project will enhance hydrology, soils, and vegetation.	DOT or its Consultant	DOT	Prior to and During Construction	
Mitigation Measure B-7: Upon completion of the wetland delineation report, the Project design will be modified, as needed, to avoid or minimize impacts to wetlands and/or other WOUS. The County will also obtain a 404 Permit and a 401 Water Quality Certification and will implement the required mitigation measures. The County will obtain a TRPA EIP Project Permit and will implement the required mitigation measures. Approximately 1,281 square feet of SEZ will be disturbed in the construction of the improvements. Per TRPA Code of Ordinances Chapter 20, SEZ disturbance must be mitigated at 1.5:1. EDOT will utilize SEZ Mitigation Credits that are stored from pervious County restoration Projects, primarily the Angora SEZ Enhancement Project, in order to mitigate the new SEZ disturbance and comply with this ordinance.	DOT or its Consultant	DOT	Prior to and During Construction	
BIOLOGICAL RESOURCES - Item IV-C				
Mitigation Measure B-8: Should any construction work be required in or adjacent to wetlands, it shall be conducted from existing pavement and/or confined to the smallest area possible to complete the work by restricting the contractor's access with equipment through the use of construction limit fencing per TRPA Code Chapter 65.	DOT or its Consultant	DOT	Prior to and During Construction	
Mitigation Measure B-9: All excavated material not required to complete the construction work shall be immediately removed from the wetland areas and be contained by BMP measures per TRPA's Handbook of Best Management Practices.	DOT or its Consultant	DOT	Prior to Construction	
CULTURAL RESOURCES				
No mitigation measures required.				

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
GEOLOGY AND SOILS - Item VI-B				
Mitigation Measure G-1: The contractor shall prepare, submit and adhere to a Storm Water Pollution Prevention Plan (SWPPP) to the County, Lahontan Regional Water Quality Control Board (Lahontan), and TRPA prior to construction. The SWPPP shall be in accordance with the TRPA and Lahontan requirements for storm water pollution prevention in the Tahoe Basin. As part of the SWPPP, the contractor will be required to prepare and adhere to a Temporary BMP Plan, a Spill Contingency Plan, and a Dewatering Plan. The Temporary BMP Plan will include design and specifications that detail the required construction BMPs that shall be installed prior to and during construction to prevent any erosion that may occur during a rain or wind event. All temporary BMPs shall be installed and maintained per TRPA's Handbook of Best Management Practices. Temporary BMPs will include, but are not limited to: gravel bags, silt fencing, tree protection fencing, construction limit fencing, coir logs, visqueen and gravel construction access. Prior to construction, all storage, access, and staging areas shall be secured by the contractor and approved by EDOT, Lahontan and TRPA. No staging or storage will occur in Stream Environment Zones (SEZs). The contractor shall be responsible for maintenance of mobilization sites, including placement and maintenance of BMPs. All equipment, vehicles, and materials shall be stored on paved or previously disturbed surfaces only; in locations approved by the County, Lahontan and TRPA. The contractor shall limit the areas to be disturbed to the area within the boundary of the construction limit fencing, which shall be designed and installed prior to commencement of construction. The boundary of the construction limit fencing shall be displayed on the EC Sheets of the construction plans and shall be set to the minimum size required to construct proposed improvements, per the Projects plans and specifications. All temporary BMPs shall be maintained during construction and shall be monitored daily by the construction site inspector. All disturbed areas shall be restored to a better than pre-construction condition.	DOT and its Contractor	DOT	Prior to and During Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
Mitigation Measure G-1 (Continued): The contractor shall meet the permit requirements for BMPs, staging areas, revegetation, grading season restrictions, and all other permitting agency approval conditions. Construction will take place within the Lake Tahoe construction season (between May 1st and October 15th). The Spill Contingency Plan, which the contractor shall adhere to, shall outline how to properly handle accidental construction related spills and must include the requirement for spill prevention kits to be available on site to contain and properly clean any accidental spills. The Spill Contingency Plan will help the contractor to minimize the potential for and effects from spills of hazardous, toxic, or petroleum based substances during construction activities. The Spill Prevention Kit will contain, but is not limited to, sorbent pads, plastic bags, containment devices, drain seals, and drip pans. This plan will also outline who to call if utility lines are damaged during construction. The Dewatering Plan, which the contractor shall adhere to, will outline the process that will be required of the contractor if groundwater is intercepted during construction. The Dewatering Plan shall be prepared and submitted for approval by EDOT, Lahontan and TRPA prior to commencement of construction. Construction sequencing shall be designed to avoid and minimize the potential of encountering groundwater during construction, however if groundwater is encountered and the excavated area requires dewatering to complete the work, construction shall immediately cease and TRPA, Lahontan and the County shall be notified immediately to observe the construction work to ensure that the approved dewatering plan is being adhere to and that dewatering effluent is properly contained and disposed of. Based on the results of the Soils/Hydrology Analysis, which is performed by TRPA prior to construction, dewatering areas will be better identified to avoid and reduce the potential of groundwater interception.	DOT and its Contractor	DOT	Prior to And During Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
Mitigation Measure G-2: The contractor shall attend the TRPA pre-grade onsite inspection meeting to ensure that proper BMPs are in place per the SWPPP and that all permit conditions have been met prior to commencement of construction.	DOT and its Contractor	DOT	Prior to and During Construction	
Mitigation Measure G-3: EDOT shall conduct daily inspections of BMP measures to ensure they are properly placed and maintained for maximum water quality benefit. As part of this process, EDOT and/or the contractor will complete formal inspection forms for submittal to regulatory agencies to demonstrate deficiencies and that corrective action has been immediately taken.	DOT and its Contractor	DOT	Prior to and During Construction	
HAZARDS AND HAZARDOUS MATERIALS - Item VII-A and Item VII-B				
Mitigation Measure: Implement Mitigation Measures identified under Item VI-B Mitigation Measures.	DOT or its Contractor	DOT	Prior to and During Construction	
HYDROLOGY AND WATER QUALITY - Item VIII-A, Item VIII-E and Item VIII-F				
Mitigation Measure: Implement Mitigation Measures identified under Item VI-B Mitigation Measures.	DOT or its Contractor	DOT	Prior to and During Construction	
LAND USE AND PLANNING				
No mitigation measures required.				
MINERAL RESOURCES				
No mitigation measures required.				
NOISE - Item XI-A and Item XI-D				
Mitigation Measure N-1: In order to mitigate the impacts of temporarily increased ambient noise levels, construction noise emanating from all construction activities shall only occur between the hours of 8:00 a.m. and 6:30 p.m. per TRPA Code and the County's General Plan, unless other hours are approved by TRPA.	DOT or its Contractor	DOT	During Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
Mitigation Measure N-2: All construction equipment and vehicles used for Project construction shall be fitted with the factory installed muffling devices and will be maintained in good working order. EDOT will advise potentially affected residents of the proposed construction activities including duration, schedule of activities, and contacts for filing noise complaints. EDOT staff and/or contractor shall respond to all noise complaints received within one working day and resolve the issue within two working days.	DOT or its Contractor	DOT	Prior to and During Construction	
POPULATION AND HOUSING				
No mitigation measures required.				
PUBLIC SERVICES				
No mitigation measures required.				
RECREATION				
No mitigation measures required.				
TRANSPORTATION AND TRAFFIC - Item XV-A & Item XV-E				
Mitigation Measure T-1: The contractor will be required to prepare and adhere to a Traffic Control Plan for TRPA and El Dorado County review and approval. Elements of the plan will include appropriate use of signage, flaggers, traffic calming, and alternative routes to accommodate local and through traffic. In addition, EDOT will advise local residents regarding schedules for construction traffic detours through signage, press releases and distribution of flyers in area neighborhoods well in advance of construction initiation. Access will not be prohibited, at any time, for local residents, school buses or emergency vehicles.	DOT	DOT	Prior to and During Construction	
UTILITIES AND SERVICE SYSTEMS - Item XVI-C				
Mitigation Measure: Implement Mitigation Measures identified under Item VI-B Mitigation Measures.	DOT or its Contractor	DOT	Prior to and During Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
GREENHOUSE GAS EMISSIONS - Item XVII-A				
Mitigation Measure: Implement Mitigation Measures identified under Item III-B Mitigation Measures.	DOT or its Contractor	DOT	Prior to and During Construction	

[1] The department listed in the Implementing Responsibility column is the department responsible for conducting the mitigation measure.
[2] The department listed in the Monitoring Responsibility column is responsible for verifying that compliance with the mitigation measure occurs and that all monitoring and reporting is completed.
[3] Responsible Entity: DOT-Department of Transportation

Table 1. Montgomery Estates Area 1 Erosion Control Project - Plant Species List

FAMILY	SCIENTIFIC NAME	COMMON NAME
Apocynaceae	*Apocynum androsaemifolium*	spreading dogbane
Asteraceae	*Achillea millefolium*	Yarrow
	Artemisia tridentata var. vaseyana	mountain sagebrush
	Chyrsothamnus nauseosus	Rabbitbrush
	Cirsium andersonii	Anderson's thistle
	Cirsium vulgare	bull thistle
	Ericameria bloomeri	Bloomer goldenbush
	Erigeron breweri	Brewer's daisy
	Tragopogon dubius	oyster plant
	Wyethia mollis	mule's ears
Betulcaceae	*Alnus incana ssp tenuifolia*	thinleaf alder
Brassicaceae	*Arabis holboellii*	Holboell's rockcress
	Lepidium densiflorum	peppergrass
Caprifolicaeae	*Symphoricarpos mollis*	creeping snowberry
Cornaceae	*Cornus sericea*	creek dogwood
Cupresaceae	*Calocedrus decurrens*	incense cedar
Cyperaceae	*Carex athrostachya*	slenderbeak sedge
	Carex paucicostata	sedge
	Carex praegracilis	slender sedge
	Carex spp.	sedges
	Scirpus microcarpus	panicled bullrush
Equisetaceae	*Equisetum arvense*	field horsetail
Ericaceae	*Arctostaphylos patula*	Green-leaf Manzanita
	Pterospora andromeda	Pine drops
Fabaceae	*Lupinus andersonii*	Anderson's lupine
	Lupinus breweri	Brewer's lupine
	Lupinus polyphyllus	Tahoe lupine
	Trifolium (microcephalum).	Small-headed clover
	Vicia americana	American vetch
Grossulariaceae	*Ribes nevadense*	Sierra current
Hydrophyllaceae	*Phacelia hastata*	Phacelia
Juncaceae	*Juncus balticus*	Baltic rush
	Juncus ensifolius	equitant rush
Liliaceae	*Allium sp*	onion
	Smilacina stellata	false Solomon's seal
	Veratrum caifornicum	corn lily
Malvaceae	*Sidalcea oregana*	bog mallow
Onagraceae	*Epilobium angustifolium*	fire weed
	Gayophytum diffusum	ground smoke
Pinaceae	*Abies concolor*	white fir
	Pinus contorta var. *murrayana*	lodgepole pine
	Pinus jeffreyi	Jeffrey pine
Plantaginaceae	*Plantago lanceolata*	plantain
Poaceae	*Agrostis stolonifera*	Creeping bentgrass
	Bromus carinatus	California brome
	Bromus inermis	smooth brome
	Bromus tectorum	cheatgrass
	Dactylis glomerata	orchard grass
	Calamagrostis canadensis	bluejoint reedgrass
	Elymus elymoides var. *elymoides*	Squirreltail

Table 1. Special Status Plant Species List and Habitat Analysis (cont.)

FAMILY	SCIENTIFIC NAME	COMMON NAME
	Elymus glaucus	Blue wildrye
	Elytrigia intermedia var. *intermedia*	Intermediate wheatgrass
	Festuca arundinacea	tall fescue
	Glyceria elata	tall mannagrass
	Hordeum bracyantherum	meadow barley
	Poa pratensis	Kentucky bluegrass
	Poa secunda	Sandberg bluegrass, 'Sherman'
Polemoniaceae	*Phlox diffusa*	Phlox
Polygonaceae	*Eriogonum nudum*	naked buckwheat
	Eriogonum umbellatum	sulfur buckwheat
	Eriogonum wrightii	Wright's buckwheat
	Rumex acetosella	common sheep sorrel
	Rumex crispus	curley Dock
Rhamnaceae	*Ceanothus cordulatus.*	whitethorn
	Ceanothus prostratus	Squawcarpet
Ranunculaceae	*Thalictrum fendleri*	meadow rue
Rosaceae	*Amelanchier utahensis*	Serviceberry
	Cercocarpus ledifolius	mountain mahogany
	Fragaria virginiana	wild strawberry
	Geum macrophyllum	big-leaved avens
	Potentilla glandulosa	sticky cinquefoil
	Potentillla gracilis	Cinquefoil
	Purshia tridentanta	Bitterbrush
	Rosa woodsii var. *ultramontana*	Interior rose
Rubiaceae	*Galium sp.*	Bedstraw
Salicaceae	*Populus tremuloides*	quaking aspen l
	Poplulus trichocarpa	black cottonwood
	Salix lemmonii	Lemmon's willow
Scrophulariaceae	*Castilleja applegatei*	Indian paintbrush
	Pedicularis semibarbata	pine-wood lousewort

Table 2. Invasive weed locations

Occurrence	Species	Coordinates	Quantities
1.	*Bromus tectorum*	11 S 0243304 UTM 4310990	10 ft²
2.		11 S 0243496 UTM 4310866	50 ft²
3.		11 S 0243599 UTM 4310747	10 ft²
4.		11 S 0243790 UTM 4310773	200 ft²
5.		11 S 0243772 UTM 4310735	100 ft²
6.		11 S 0243733 UTM 4310822	10 ft²
7.		11 S 0243871 UTM 4311197	2 ft²
8.		11 S 0243845 UTM 4310887	100 ft²
9.		11 S 0243878 UTM 4310872	100 ft²
10.		11 S 0243344 UTM 4311181	20 ft²
TOTAL			602 ft²
1.	*Cirsium vulgare*	11 S 0243298 UTM 4311170	1
2.		11 S 0243472 UTM 4311165	30 plus scattered
3.		11 S 0243888 UTM 4310667	1
TOTAL			32 plus plants

Table 2. Montgomery Estates Area 1 Erosion Control Project - Federally Threatened and Endangered Species List and Habitat Analysis

Species Evaluated Table
Montgomery Estates Sediment Control Project
El Dorado County, CA

Special Status Species/Common Name	Federal Status	State Status	Source	Habitat Requirements	Potential to Occur in the PSA
Invertebrates					
Capnia lacustra Lake Tahoe benthic stonefly	None	SSC	CNDDB	Mountain streams	No-No habitat in PSA
Helisoma newberryi Great Basin ramshorn	None	None	CNDDB	Aquatic; lakes and ponds	No-No habitat in PSA
Fish					
Oncorhychus clarkia henshawi Lahontan cutthroat trout	T	None	USFWS, CNDDB	Streams	No-No habitat in PSA
Amphibians					
Bufo canorus-Yosemite toad	C	None	USFWS	Meadow edges	No-PSA not within known range.
Rana sierrae (*R. mucosa*)-Sierra Nevada yellow-legged frog	C	None	USFWS, CNDDB	Shallow streams with rocky margins	No-No suitable aquatic habitat in PSA.
Birds					
Haeliateetus leucocephalus Bald eagle	None	E	CNDDB	Large water bodies, large trees.	No-Habitat in PSA degraded by human activity
Pandion haeliatus Osprey	None	None	CNDDB	Large water bodies, large trees.	No-Habitat in PSA degraded by human activity
Accipiter gentiles Northern goshawk	None	SSC	CNDDB	Mature coniferous forest habitat	No-Habitat in PSA degraded by human activity
Xanthocephalus xanthocephalus Yellow-headed blackbird	None	SSC	CNDDB	Marshes	No-No habitat in PSA
Mammals					
Martes Americana sierrae Sierra marten	None	None	CNDDB	Coniferous forests	No-Habitat in PSA degraded by human activity
Martes pennanti (pacifica) Pacific fisher	C	None	USFWS	Lower elevation coniferous forests	No-Habitat in PSA degraded by human activity
Gulo gulo California wolverine	None	T	CNDDB	Coniferous forest/barren habitats at high elevations	No-Habitat in PSA degraded by human activity
Plants					
Meesia uliginosa broad-leaved hump moss	None	None	CNDDB	Bogs and fens	No-No habitat in PSA
Potomageton filiformia slender-leaved pondweed	None	None	CNDDB	Marshes and swamps	No-No habitat in PSA

E=Endangered, T=Threatened, c=Candidate, SSC=Species of Special Concern; 1-USFWS Species List, 2-CNDDB Amador County List