

**COUNTRY CLUB HEIGHTS
EROSION CONTROL PROJECT
PHASE 3**

**Preferred Alternative Memorandum
JN 95191**



Environmental Improvement Program (EIP)
Project No. 01.01.01.0021



Prepared By:
County of El Dorado, California
Department of Transportation
Tahoe Engineering
Date: September 2019

ENDORSEMENT

The undersigned members of the Project Development Team representing their respective agencies and organizations do hereby endorse the implementation of the Country Club Heights Phase 3 Erosion Control Project based on this Preferred Alternative Memorandum dated September 2019. If the Agency does not sign this endorsement, the County of El Dorado Department of Transportation (Transportation) will assume that the Agency representative accepts the document and Preferred Alternative as is; therefore Transportation will continue with the Design Phase.

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El Dorado County, Transportation

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Tahoe Regional Planning Agency

Theresa Cody
U.S. Forest Service

Elizabeth vanDiepen
***California Regional Water Quality Control Board
Lahontan Region***

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1.0 Executive Summary

This Preferred Project Alternative Memorandum (PAM) summarizes the work that was done in developing the Project Alternatives for the Country Club Heights Erosion Control Project – Phase 3 (Project) and presents the results of the analysis of those Alternatives. The PAM also includes the selection of the Preferred Alternative, which will be further studied and designed prior to being constructed.

2.0 Introduction

The Project is part of a series of capital improvement projects constructed within the Lake Tahoe Basin by the County of El Dorado, Department of Transportation (Transportation) to improve water quality and provide recreation and access benefits in the Tahoe Basin. Transportation constructed the Country Club Phase 1/2 improvements during the summer of 2018. In May 2019, Transportation held a Project Development Team (PDT) meeting to discuss the scope of the current phase of the project and in August 2019, a public meeting, to discuss the Feasibility Report and proposed Alternatives for the Project. That report identified problem areas, compiled Best Management Practices (BMP) alternatives for mitigating specific problem areas, and presented the evaluation of the alternatives. This PAM presents the preferred alternative based on input from those meetings, correspondence received, and the results of the analyses contained in the Feasibility Report.¹

The Project is located south of South Lake Tahoe within portions of Sections 20 and 21 Township 12 North, Range 18 East, Mount Diablo Meridian. The Project is bounded by Highway 50 to the west, Waverly Drive to the south, Boca Raton to the east, and the Upper Truckee River to the north (Figure 1). This Phase of the Project is approximately 57 acres and encompasses County of El Dorado Right of Way (ROW) as well as County, California Tahoe Conservancy (CTC), United States Forest Service (USFS), and privately owned residential lots. Subdivisions within the Project area include Country Club Heights Unit Nos. 1 and 2.

3.0 Existing Conditions

For a description of the Project area, goals and objectives of the Project, past projects, site topography, soils, hydrologic and hydraulic conditions, land use, storm water quality, soil erosion problems, alternatives, BMPs, and an evaluation of the alternatives, refer to the Country Club Heights Control Project Phase 3 Feasibility Report.²

4.0 Preferred Project Alternative

In order to meet the goals and objectives of the Project, the Feasibility Report outlined three alternatives for consideration by the public and the PDT. Based on the comments received, the professional judgment of Transportation personnel, and the analyses outlined in the Feasibility Report, a modified version of Alternative 2 was selected as the preferred alternative and is presented in Figures 2 and 3.

This project will provide for three threshold areas: improve water quality of stormwater runoff, soil conservation to address previously impacted areas, and enhance recreation opportunities for the area. The proposed improvements to Waverly Drive and the Lower Elks Club area will: 1) provide additional treatment of storm water runoff utilizing publicly owned lands, 2) remove hard coverage to restore previously developed areas within the project area, 3) reconfigure and reconstruct the existing parking lot on the old Elks Lodge property reducing impervious coverage and installing BMPs and 4) construct permanent facilities for ADA access to the Upper

Truckee River and the future Greenway shared-use trail. A more detailed discussion of the preferred alternative is discussed below.

Lower Elks Club Area (Figure 2)

To enhance restoration efforts in the area, old fill material would be removed from the site and an infiltration basin would be constructed between the parking lot and the Boca Raton access road. The extent of the infiltration basin would be limited to the area of current compacted surface north of the parking lot. Two new HDPE pipes would be installed: 1) an 18" HDPE culvert to allow flows from south of Elks Club Drive to be conveyed under Elks Club Drive and under the parking lot to the new infiltration basin and 2) an 18" HDPE under the Boca Raton access road to allow runoff flows to enter the infiltration basin for treatment and wetting of the area. The invert elevations for the pipe under Boca Raton would be set to allow flows to bypass the basin once full. A rock weir would be constructed on the north end of the basin as a backup outfall for excess flows. This configuration would allow for both the restoration of the existing compacted surface and the capture and infiltration of stormwater runoff. The restoration would include removal of non-native fill material (including old concrete), ripping of the subsurface, applying seed and mulch. Two feet plus of excess fill material, east of the force main alignment and west of the basin, would be removed to restore the flood plain. No material would be removed above the existing South Tahoe Public Utility District (STPUD) force main so as to protect the integrity of the existing system. Zig-zag fencing constructed of lodge pole pine would be installed along the boundary of the basin and restoration area in order to protect restoration efforts.

The current parking lot configuration would be reduced in size and reconstructed closer to Elks Club Drive. Reconstructing the parking lot will enable moving the parking lot out of the 100 year flood channel. The parking lot would be reconstructed with a higher finish grade elevation to minimize impacts during flooding events. The reconstructed parking lot would be striped to have up to 47 parking spaces, including 2 ADA spaces. Access from both Elks Club Drive and the Boca Raton stub would be maintained with this configuration. A localized depression would be constructed in the pavement removal area on the west side of the new parking lot to provide capture and treatment of stormwater runoff from the parking lot.

A 10-foot wide asphalt concrete (AC) shared use path would be constructed along the north side of the parking lot, and extended north along the Boca Raton access road stub to the existing gate. A future phase of the Greenway Trail could continue north from this terminus. The west end of the shared use path would connect to a newly constructed permanent user access trail enabling access from the parking lot to areas along the river, including an existing sand bar near the south side of the Upper Truckee River, which has been used as a launch point by recreational users. The trail would be ADA compliant and constructed of compacted decomposed granite (DG) with a new culvert conveying existing flows from Elks Club Drive. Educational signage would be installed to educate users on such items as the Upper Truckee River, past development of the area, and the impact of aquatic invasive species.

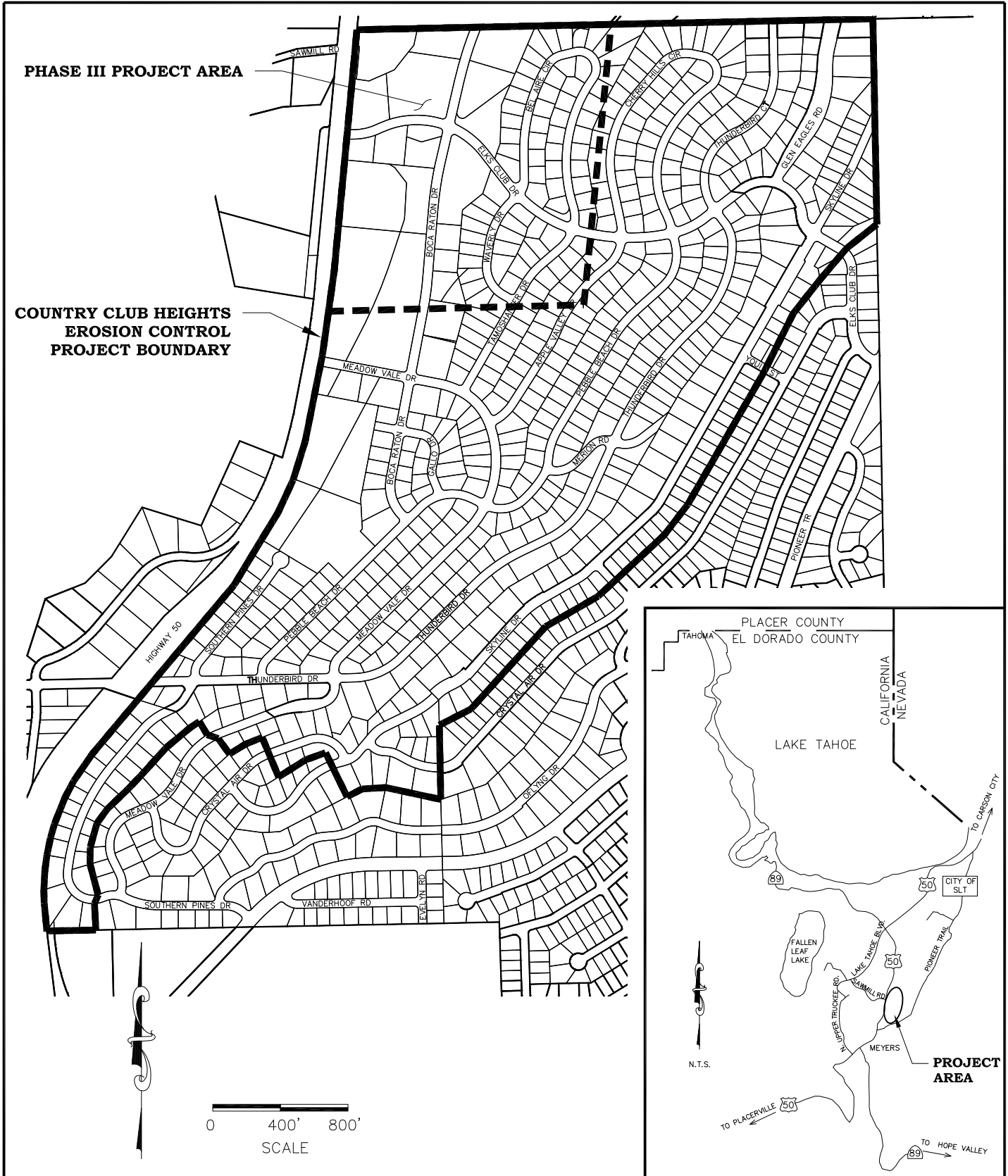
A new 2-unit restroom facility would be constructed on the north edge of the parking lot utilizing existing utility connections (Sewer and Water). A covered use area would be constructed northwest of the parking lot allowing for expanded day use of the area. The reconfigured parking lot and restroom facilities will allow for year round use of the parcel for multiple recreation and access opportunities.


Waverly Drive (Figure 3)

The project proposes to remove the existing asphalt pavement on Waverly Drive where the road abuts CTC owned parcels. A hammer-head bulb would be constructed at the southern end for emergency vehicles turn around. A linear, zero slope, channel would be constructed on the eastern edge of the old road to distribute flows from Elks Club Drive evenly across the rehabilitated area. The existing 18" CMP crossing Waverly Drive would be removed and a shallow swale would be constructed in it's place to convey existing flows in the same general area. STPUD is the only utility with improvements within this section of Waverly Drive. The County will work with STPUD regarding additional needs for access to any infrastructure in the Waverly Drive right of way. Approximately 30 feet of Waverly Drive would be kept on the northern end to allow parking for maintenance equipment during winter plow operations. Gates or boulders would be installed / placed on either end of the rehabilitated section to limit public access with motorized vehicles.

Public Parcels to be utilized

Assesor Numbers	Proposed Improvements
033191004	ADA accessible shared use path (DG), new culvert and channel improvements.
033191005	Reconfigured parking lot, removal of hard coverage, removal of non-native fill material, restoration, infiltration basin, shared use path (AC and DG), restroom facilities, and conveyance improvements.
033191006	Removal of non-native material and infiltration basin outfall improvements.
033192004	New pipe conveyance and inlet improvements.




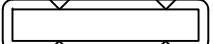
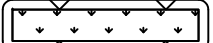

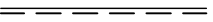
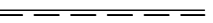
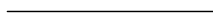






COUNTY OF EL DORADO
 COMMUNITY DEVELOPMENT AGENCY
 TRANSPORTATION DIVISION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT
Phase III
LOCATION MAP

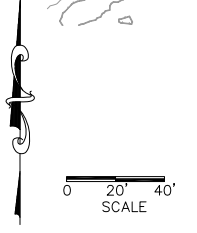
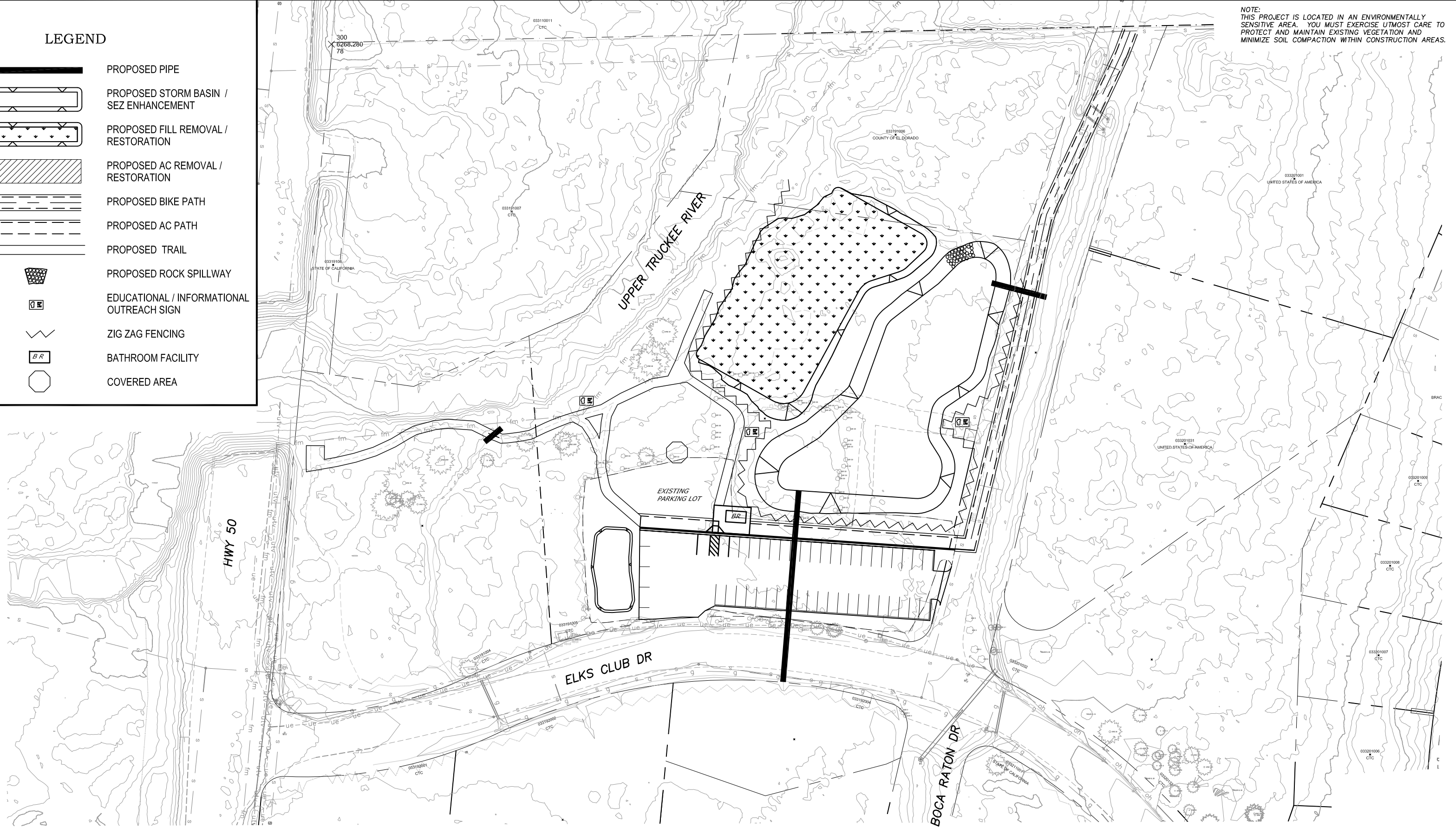
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FIGURE
1

LEGEND

-  PROPOSED PIPE
-  PROPOSED STORM BASIN / SEZ ENHANCEMENT
-  PROPOSED FILL REMOVAL / RESTORATION
-  PROPOSED AC REMOVAL / RESTORATION
-  PROPOSED BIKE PATH
-  PROPOSED AC PATH
-  PROPOSED TRAIL
-  PROPOSED ROCK SPILLWAY
-  EDUCATIONAL / INFORMATIONAL OUTREACH SIGN
-  ZIG ZAG FENCING
-  BATHROOM FACILITY
-  COVERED AREA

NOTE: THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.



COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION

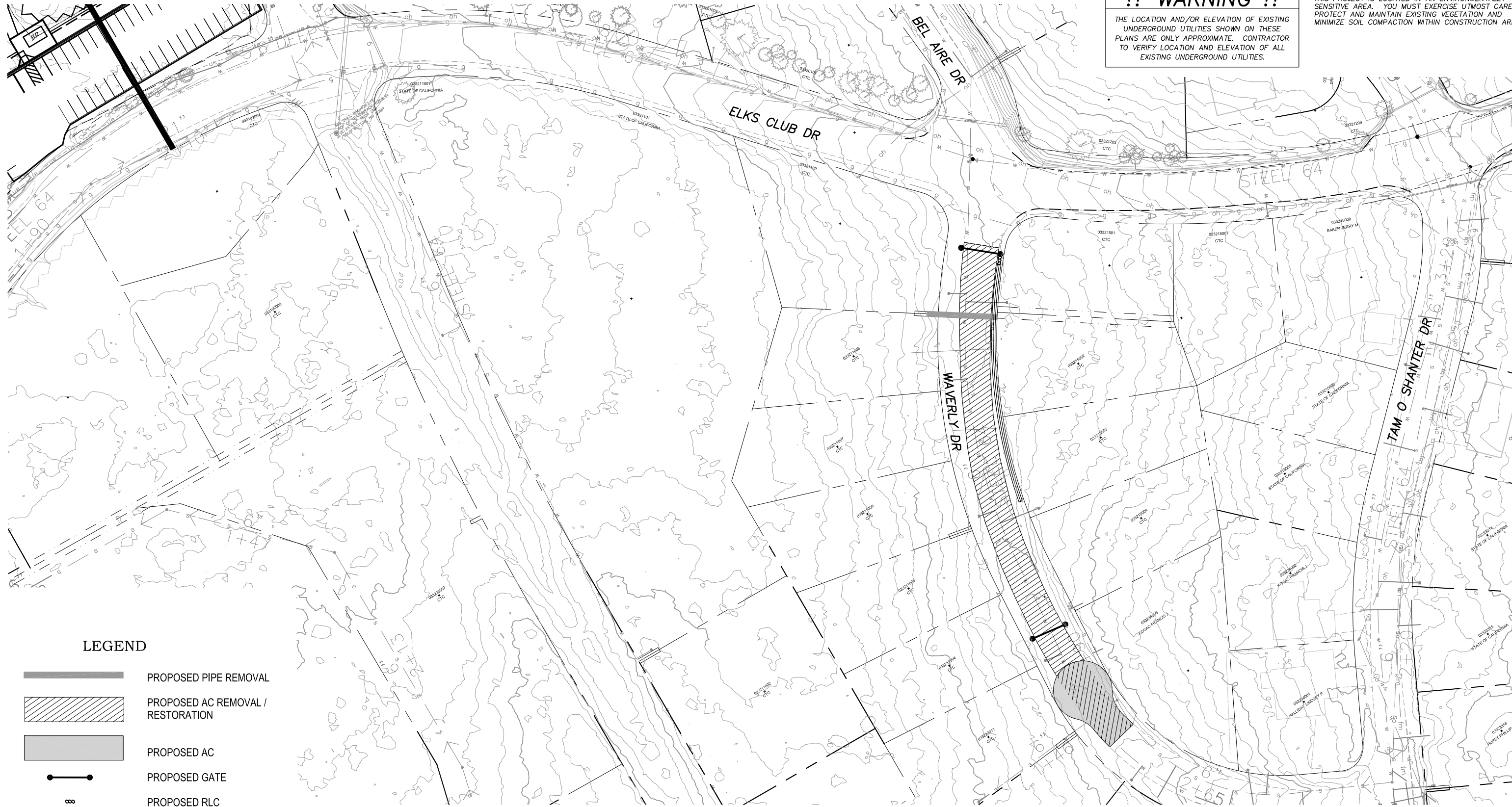
COUNTRY CLUB HEIGHTS
PHASE III
WATER QUALITY PROJECT
PREFERRED ALTERNATIVE - LOWER ELKS CLUB DR

FIGURE
2




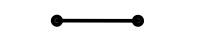
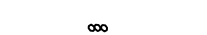

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!! WARNING !!
 THE LOCATION AND/OR ELEVATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE ONLY APPROXIMATE. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF ALL EXISTING UNDERGROUND UTILITIES.

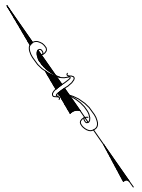
NOTE: THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.




LEGEND

-  PROPOSED PIPE REMOVAL
-  PROPOSED AC REMOVAL / RESTORATION
-  PROPOSED AC
-  PROPOSED GATE
-  PROPOSED RLC
-  PROPOSED BLC

0 20' 40'
SCALE



 <p>COUNTY OF EL DORADO COMMUNITY DEVELOPMENT SERVICES DEPARTMENT OF TRANSPORTATION</p>	<p>COUNTRY CLUB HEIGHTS PHASE III WATER QUALITY PROJECT PREFERRED ALTERNATIVE - WAVERLY DR</p>		<p>FIGURE 3</p>
	DATE: 09/2019	PROJECT NO.: 95191	BY: DMG

5.0 Capital Cost

A Rough Order of Magnitude (ROM) construction cost estimate (Table 1) was prepared for the Preferred Alternative with the quantities based on the proposed improvements. The unit cost for each facility are based on bid summaries from Transportation's recently constructed erosion control and air quality projects within the Lake Tahoe Basin.

Table 1 - Construction Cost Estimate

Threshold ¹	Item No.	Description	Quantity	Unit	Unit Price	Cost
Lower Elks Area						
WQ	1	Mobilization	1	LS	\$ 58,000	\$ 58,000
WQ	2	Traffic Control	1	LS	\$ 10,000	\$ 10,000
WQ	3	Sweeping	20	DAY	\$ 250	\$ 5,000
WQ	4	Install & Maintain Temporary BMPs	1	LS	\$ 30,000	\$ 30,000
WQ	5	Remove Asphalt Concrete Pavement - Parking lot	3,486	SF	\$ 4	\$ 13,944
WQ	6	Elks Club Wet Infiltration Basin	5,612	CY	\$ 60	\$ 336,720
WQ	7	Remove Fill	1,053	CY	\$ 60	\$ 63,180
WQ	8	18" Plastic Pipe	240	LF	\$ 225	\$ 54,000
WQ	9	18" Steel Flared End Section	4	EA	\$ 600	\$ 2,400
WQ	10	Rock Slope Protection	6	CY	\$ 300	\$ 1,667
WQ	11	Revegetation	1	LS	\$ 20,000	\$ 20,000
WQ	12	Zig Zag Fencing	814	LF	\$ 10	\$ 8,140
					WQ Subtotal	\$ 603,051
REC	13	Reconstruct Trail - DG (Trail)	111	CY	\$ 150	\$ 16,667
REC	14	Class 2 Aggregate Base (Bikeway)	248	CY	\$ 125	\$ 30,992
REC	15	Hot Mix Asphalt (Type A) - (Bikeway, AC PATH)	137	TON	\$ 175	\$ 24,052
REC	16	Reconstruct Parking Lot	17,119	SF	\$ 13	\$ 222,547
REC	17	Parking Lot Infiltration Area	46	CY	\$ 100	\$ 4,600
REC	18	Paint Traffic Stripe (1-Coat) - Bike Trail	470	LF	\$ 2	\$ 940
REC	19	Paint Parking Stalls (1-Coat)	327	LF	\$ 2	\$ 653
REC	20	Interpretive Signage	3	EA	\$ 1,000	\$ 3,000
REC	21	Covered Area	1	EA	\$ 5,000	\$ 5,000
REC	22	Bathroom Facility	1	LS	\$ 250,000	\$ 250,000
REC	23	Minor Concrete (Curb and Building Pad)	31	CY	\$ 1,600	\$ 49,931
					REC Subtotal	\$ 608,381
Lower Elks Area Total						\$ 1,211,431

Threshold ¹	Item No.	Description	Quantity	Unit	Unit Price	Cost
Waverly Drive Area						
WQ	1	Mobilization	1	LS	\$ 7,000	\$ 7,000
WQ	2	Traffic Control	1	LS	\$ 10,000	\$ 10,000
WQ	3	Sweeping	10	DAY	\$ 250	\$ 2,500
WQ	4	Install & Maintain Temporary BMPs	1	LS	\$ 10,000	\$ 10,000
WQ	5	Remove Asphalt Concrete Pavement (Waverly)	11,589	SF	\$ 4	\$ 46,356
WQ	6	Roadway Restoration (Waverly)	8,718	SF	\$ 4	\$ 34,872
WQ	7	Remove Existing CMP	66	LF	\$ 10	\$ 660
WQ	8	Class 2 Aggregate Base (Waverly Dead End)	4	CY	\$ 125	\$ 500
WQ	9	Hot Mix Asphalt (Type A) - (Waverly Dead Ends)	58	TON	\$ 200	\$ 11,580
WQ	10	Rock Lined Channel	5	LF	\$ 150	\$ 750
WQ	10	Blanket Lined Channel	135	LF	\$ 75	\$ 10,125
WQ	11	Furnish and Install Gate	2	EA	\$ 10,000	\$ 20,000
Waverly Drive Area Total						\$ 154,343
					Sub Total	\$ 1,365,774
					Contingency (15%)	\$ 204,867
					Total	\$ 1,570,641

1. WQ – Water Quality, REC – Recreation/Access

6.0 Schedule

Table 2 shows the current proposed schedule for the Project. The Anticipated Completion Dates shown are subject to change.

Table 2 – Project Schedule

Project Stage Milestone/Task	Anticipated Completion Date
Alternatives Report Stage	
PDT Project Meeting	May 2019
Project Feasibility Report (Existing Conditions, Project Alternatives Selection and Evaluation)	June 2019
Feasibility Report Public Meeting	August 2019
Complete Preferred Alternative Memorandum (PAM)	Sept 2019
Environmental Assessment Stage	
Environmental Field Surveys	Summer 2019
Draft California Environmental Quality Act (CEQA) IS / MND	December 2019
California Environmental Quality Act/ Mitigated Negative Declaration (CEQA/MND) Approval	March 2020
Pre-Final Plans, Specifications & Reports Stage	
Complete Pre-Final Project Design Plans and Contract Specifications	June 2020
PDT Permit Applications Submittal	June 2020
PDT Pre-Final Project Design Plans, Contract Specifications, and Design Report Meeting	June 2020
Construction	
Notice to Proceed	Summer 2021

7.0 References

¹ County of El Dorado, Country Club Heights Erosion Control Project Phase III, Feasibility Report, June 2019.

² County of El Dorado (June 2019).

Appendix A

CORRESPONDENCES

**Country Club Heights Phase 3 Erosion Control Project
Comments During Development of Feasibility Report**

#	Date	Communication	Comments/Concerns
1	8/6/2019	Comment Letter	<p>Found both alternatives to be appealing</p> <ul style="list-style-type: none"> -Consider path under highway 50 bridge to connect to Sawmill / Meyers bike paths -Consider paving Boca Raton access road to increase appeal for future Greenway Project -Must include year round parking access as area is currently used year round (biking, hiking, boating, dog walking, skiing, snowshoeing, and sledding)
2	7/25/2019	In person	<p><u>Alternative 1</u></p> <ul style="list-style-type: none"> - consider paving Boca Raton when future Greenway comes through <p><u>Alternative 2</u></p> <ul style="list-style-type: none"> - in favor of moving parking lot away from river - prefer shared use path be moved from south of parking lot to north of parking lot - suggest making it a decomposed granite path that could be paved at a future date - look at reinforcing Boca Raton access road if trail is not paved as part of project <p><u>Additional comments</u></p> <ul style="list-style-type: none"> -consider a future connection under the Highway 50 bridge at river enable safe crossing to access the Sawmill Bike Path -consider additional river access locations with easier launch points - consider installing boulders in river to enable stand up wave riders - consider option to have local user groups / County / CTC share maintenance responsibilities of the restroom facilities
3	7/17/2019	CTC / County / Flea Market meeting	<p><u>Past History</u></p> <ul style="list-style-type: none"> - Non-native fill was brought into the area where the flea market operates - Might have been for a baseball field - Was once a rock quarry - Never observed runoff issues during Flea Market operations. Observed good infiltration within the fill area. - Tahoe Flea Market have been good stewards of the land and maintained good relationship with the CTC over the lease agreement period. <p><u>Recreational and Economic comments</u></p> <ul style="list-style-type: none"> - Flea Market can be seen as “recreation”. There is a socio-economic aspect of the event which brings the community together and provides a meeting place for people to enjoy each other and have fun - consider that there is a “land” component and a “people” component – which is more important? - Flea Market provides income for vendors which are largely retirees - The boating community utilizing the parking lot has grown significantly in the last few years <p><u>Possible relocation of Flea Market</u></p> <ul style="list-style-type: none"> -In the past, in coordination with the CTC, Flea Market permittee has performed an exhaustive search to find alternative locations for the flea market. No luck with the search. -Needs approximately 100 stalls which are 9' x 15' and paved parking -Some alternative locations suggested by the county included

**Country Club Heights Phase 3 Erosion Control Project
Comments During Development of Feasibility Report**

#	Date	Communication	Comments/Concerns
4	6/7/2019	Agency Comments	<p>Comments on lower Elks area:</p> <ul style="list-style-type: none"> • Consider including creation of a bathroom facility, using the existing utilities • For Alt 1 and 2, could the proposed trail head north east along the river instead of east towards the proposed basin? Connecting to the existing user trails along the River would make much more sense than a trail ending at the basin. It wouldn't even need to go very far past the existing larger trees. • For Alt 1 and 2, consider adding fencing or other protective barriers around the restoration areas. • Include parking lot spaces to showcase future capacity that is comparable between the alternatives. • For Alt 2, the proposed bike path could connect to the parking lot further south, at the east end of the lot, instead of requiring additional construction. With this option, you could also retain a driveway access to Boca Raton at that end of the lot. • For Alt 2, consider including a pipe under Elks Club Dr. and the parking lot to connect the basin to subwatershed C10, similarly to Alt 1. • consider removal of as much fill as possible towards the streambank and force main to get closer to the opposite bank elevation, in consultation with STPUD. • If it's not addressed, could the report discuss the potential for removal of the concrete pad located near the 'turn' in the force main?
5	6/7/2019	Agency Comments	<p>Draft Feasibility Report Comments</p> <ul style="list-style-type: none"> - include weed survey and eradication measures - elaborate on non-native fill removal
6	4/19/2019	Agency Meeting	<p><u>Erosion Control / Water Quality comments</u></p> <ul style="list-style-type: none"> - consider reducing size of basin to better match maximum treatment volume of first flush explore opportunities to remove more non-native fill - consider using new basin to treat storm water runoff from parking lot <p><u>Floodplain / SEZ comments</u></p> <ul style="list-style-type: none"> - explore removing non-native fill without impacting existing Force Main - consider reducing basing and increasing fill removal limits - identify locations for tree thinning as part of project <p><u>Recreation / Access comments</u></p> <ul style="list-style-type: none"> - future Greenway connection at this location is likely not a priority at this time - consider multi-use trail connecting to the new restroom facilities - consider raising finish grade of parking lot to avoid future flooding impacts