

Appendix G – SMMP Cost Estimates and Individual Project Cost Details

This appendix describes the basis for the development of the SMMP cost estimates. Project component costs and other design details were developed to an appropriate level for planning purposes and will be finalized closer to project implementation. Section G.1 describes how the cost database was developed. Information on the development of capital and maintenance cost is provided in Section G.2 and Section G.3, respectively. Lastly, changes that have occurred since the March 2004 Interim Report are captured in Section G.4. Individual cost estimates for all the SMMP projects are also provided in individual cost tables as part of Appendix G.

G.1 SMMP Cost Database

SMMP cost estimates have been developed using a number of references. References include the City of San Jose Riparian Restoration Action Plan (Jones & Stokes 2000), the San Luis Obispo Waterway Management Plan (San Luis Obispo 2003), and the Livermore Bikeways and Trails Master Plan (Wilbur Smith Associates 2001). Cost information is also based on RMC construction management work on Lower Silver Creek as part of the SCVWD Coyote Program. All cost estimates have been compiled and brought to December 2005 dollars for San Francisco (San Francisco Construction Cost Index (SF CCI) ENR is 8462). The compiled list of cost estimates has been used to develop the capital and maintenance cost databases. Both capital and maintenance cost databases have been classified into five resource areas. The capital and maintenance unit cost databases, including costs and cost references, are presented in Table G-2 and Table G-3, respectively. The classification of project cost by resource area is described in the following section.

G.2 SMMP Capital Cost Estimates

G.2.1 Development of Capital Cost Estimates by Resource Area

The capital unit cost database is classified according to the five resource areas: flood control (which includes erosion and sedimentation); water quality; water supply; habitat; and recreation. The typical components included with each resource area are presented in Table G-1.

Table G-1: Typical Component Associated with SMMP Resource Areas

Resource Area	Examples of Typical Resource Area Component
Flood control; drainage; erosion and sedimentation	Floodwalls; Levees; Excavation/Hauling/Disposal; Bank Stabilization; Concrete Lining; Earth Lining; Sediment Basin; Rock Vanes
Water Quality	Wetland Creation
Water Supply	Turnout Construction
Habitat and Environment	Meander Re-creation; Non-invasive Species Control; Dewatering; Filling Riparian Corridor Gaps (Revegetation)
Recreation	New Multi-Use Trail; Conversion of Service Road to Multi-Use Trail; Pedestrian/Bike Bridge; Major Under-crossing; Indoor Classroom; Kiosk

G.2.2 Contingencies and Allowances

Contingencies and implementation allowance have been added to the baseline construction cost. A summary of applied contingencies and implementation allowance is presented in Table G-4.

Table G-2: Database of SMMP Capital Unit Costs (December 2005 Dollars) ¹

Project Component	Unit of Measurement	Capital Unit Cost	References
Flood Control			
Debris Removal and Disposal	CY	\$ 17.00	Jose Ortiz, Santa Clara Valley Water District
Bridge Demolition	Each	\$ 429,801.00	CALTRANS Contract Item Cost Data, p. 74-76
Bridge Structures	SF	\$ 119.00	Santa Clara Vally Water District - Coyote Program Lower Silver Creek Construction
Bridge Construction	SF of bridge deck	\$ 201.00	San Luis Obispo Waterway Management Plan
Floodwalls	SF	\$ 92.00	San Luis Obispo Waterway Management Plan
Levees	SF	\$ 22.00	Coyote Creek Watershed Program Preliminary Costs (CH2MHILL)
Culvert Modification	Allowance	\$ 540,018.00	Average bid for addition of a 110-feet long, 2 box culvert of 12' * 12 ' to an existing 3-box culvert on Lower Silver Creek at Sunset Avenue (Allowance of \$100,000 from the San Luis Obispo Waterway Management Plan (March 2003) was removed as it referred to reducing the culvert size)
Culvert Replacement	SF	\$ 92.00	San Luis Obispo Waterway Management Plan
Storm Drain Outfall - 12 inch	LF	\$ 38.00	Saylor Publications, Inc. 2003 Current Construction Costs, 40 th Annual Ed. p.38, CSI # 02.5106 011
Storm Drain Outfall - 24 inch	LF	\$ 87.00	Saylor Publications, Inc. 2003 Current Construction Costs, 40 th Annual Ed. p.38, CSI # 02.5106 051
Storm Drain Outfall - 48 inch	LF	\$ 179.00	Saylor Publications, Inc. 2003 Current Construction Costs, 40 th Annual Ed. p.38, CSI # 02.5106 111
Storm Drain Outfall - 60 inch	LF	\$ 218.00	Saylor Publications, Inc. 2003 Current Construction Costs, 40 th Annual Ed. p.38, CSI # 02.5106 131
Instream Erosion Control	LF	\$ 69.00	City of San Jose Riparian Restoration Action Plan
Weirs	Each	\$ 18,590.00	City of San Jose Riparian Restoration Action Plan
Deflector Logs	Each	\$ 12,394.00	City of San Jose Riparian Restoration Action Plan
Rock Vanes	Each	\$ 32,561.00	Jose Ortiz, Santa Clara Valley Water District
Boulder Wing-Deflectors	Each	\$ 18,590.00	City of San Jose Riparian Restoration Action Plan
Joint Plantings	Each	\$ 25.00	City of San Jose Riparian Restoration Action Plan
Tree Revetments	Each	\$ 4,342.00	Jose Ortiz, Santa Clara Valley Water District
Live Fascines	LF	\$ 3.00	City of San Jose Riparian Restoration Action Plan
Bank Shaping and Planting	SF	\$ 2.00	City of San Jose Riparian Restoration Action Plan
Brush Layering	LF	\$ 31.00	City of San Jose Riparian Restoration Action Plan
Live Cribwalls	Each	\$ 32,561.00	Jose Ortiz, SantaClara Valley Water District
Brush Mattresses	LF	\$ 25.00	City of San Jose Riparian Restoration Action Plan
Bank Stabilization Due to Rotational Failure	LF	\$ 750.00	Zone 7 Flood Control Staff's input (01/20/2005)
Bank stabilization	LF	\$ 272.00	Jose Ortiz, Santa Clara Valley Water District
Revegetation	Acre	\$ 379,874.00	Richard Wetzig, ACWD; estimate based on Tule Pond in Fremont.
Interlocking Concrete Blocks	SF	\$ 8.00	Santa Clara Vally Water District - Coyote Program Lower Silver Creek Construction
Concrete Lining	CY	\$ 556.00	Santa Clara Vally Water District - Coyote Program Lower Silver Creek Construction
Sacked Concrete	SF	\$ 27.00	Jose Ortiz, Santa Clara Valley Water District
Earth Lining	CY	\$ 36.00	Santa Clara Vally Water District - Coyote Program Lower Silver Creek Construction
Gabion Lining	CY	\$ 213.00	Santa Clara Vally Water District - Coyote Program Lower Silver Creek Construction
Stacked Block	SF	\$ 24.00	Santa Clara Vally Water District - Coyote Program Lower Silver Creek Construction
Rock Lining	CY	\$ 95.00	Santa Clara Vally Water District - Coyote Program Lower Silver Creek Construction
Creation of Sediment Basins	AF	\$ 64,520.00	Assume Excavation/Hauling/Disposal cost of \$40/CY
Backfill/Compaction	CY	\$ 33.00	Santa Clara Vally Water District - Coyote Program Lower Silver Creek Construction
Clear and Grub	Acre	\$ 7,098.00	Santa Clara Vally Water District - Coyote Program Lower Silver Creek Construction
Building Demolition	Each	\$ 53,973.00	San Luis Obispo Waterway Management Plan
Building Relocation	Each	\$ 161,918.00	San Luis Obispo Waterway Management Plan
Excavation/Hauling/Disposal	CY	\$ 38.00	Santa Clara Vally Water District - Coyote Program Lower Silver Creek Construction
Mitigation	Acre	\$ 259,283.00	Communication with Karen Frye, RMC Water and Environment
Drainage Pump Station	Each	\$ 1,085,630.00	Jose Ortiz, Santa Clara Valley Water District
Habitat			
Recreation of Meanders	LF	\$ 620.00	City of San Jose Riparian Restoration Action Plan
Daylight channels	LF	\$ 620.00	City of San Jose Riparian Restoration Action Plan
Creation or Enhancement of Low Flow Channels	LF	\$ 76.00	Jose Ortiz, SantaClara Valley Water District
Control of Invasive Non Native Species	Acre	\$ 54,268.00	Jose Ortiz, SantaClara Valley Water District
Filling Riparian Corridors Gaps	Acre	\$ 379,874.00	Jose Ortiz, SantaClara Valley Water District
Improving Fish Passage/Barrier Removal	Each	\$ 371,795.00	City of San Jose Riparian Restoration Action Plan
Preventing Fish Stranding	Each	\$ 309,829.00	City of San Jose Riparian Restoration Action Plan
Augmenting Fish Spawning Gravels	CY	\$ 19.00	City of San Jose Riparian Restoration Action Plan
Planting Riparian Vegetation	Acre	\$ 379,874.00	Jose Ortiz, SantaClara Valley Water District
Increasing Shade Over Stream	LF	\$ 2.00	City of San Jose Riparian Restoration Action Plan
Wildlife Nesting Structures	Each	\$ 38.00	City of San Jose Riparian Restoration Action Plan
Enhancement of Adjacent Upland Habitat	Acre	\$ 379,874.00	Jose Ortiz, Santa Clara Valley Water District
Hardscape Removal	LF	\$ 186.00	City of San Jose Riparian Restoration Action Plan
Dewatering	Each	\$ 21,708.00	Jose Ortiz, Santa Clara Valley Water District
Recreation			
New Multi-use Trail	Mile	\$ 568,150.00	Livermore Bikeways and Trails Masterplan
New Service Road	SF	\$ 5.00	Santa Clara Vally Water District - Coyote Program Lower Silver Creek Construction
New Pavement	SF	\$ 6.00	Saylor Publications, p. 47 CSI # 02.6001 041
Elevated Pedestrian Wooden Boardwalk	Mile	\$ 2,640,000.00	Communication with Zone 7 Flood Control Staff
Service Road Multi-use Trail	Mile	\$ 227,260.00	Livermore Bikeways and Trails Masterplan
Bicycle/Pedestrian Shared Path	Mile	\$ 226,374.00	Santa Cruz Depot Site Masterplan
Bike Path	Mile	\$ 181,100.00	Santa Cruz Depot Site Masterplan
Pedestrian Trail	Mile	\$ 49,439.00	LARPD Master Plan
Pedestrian Path	Mile	\$ 150,916.00	Santa Cruz Depot Site Masterplan
Bike Lane - treatment	Mile	\$ 22,726.00	Livermore Bikeways and Trails Masterplan
Bike Lane - restripe	Mile	\$ 45,452.00	Livermore Bikeways and Trails Masterplan
Bike Lane - substitute	Mile	\$ 85,223.00	Livermore Bikeways and Trails Masterplan
Bike Lane - widen road	Mile	\$ 238,623.00	Livermore Bikeways and Trails Masterplan
Bike Route - wide curb lanes	Mile	\$ 85,223.00	Livermore Bikeways and Trails Masterplan
Bike Route - 4' shoulders	Mile	\$ 238,623.00	Livermore Bikeways and Trails Masterplan
Bike Route - local street	Mile	\$ 6,818.00	Livermore Bikeways and Trails Masterplan
Pedestrian/Bike Bridge over Arroyo	Each	\$ 227,260.00	Livermore Bikeways and Trails Masterplan
Major Pedestrian/Bike Over- or Under-crossing	Each	\$ 2,000,000.00	Original Cost Estimates of \$5,000,000 from Livermore Bikeways and Trails Masterplan (05/01) was revised by Zone 7 FC staff
New Traffic Signal	Each	\$ 176,127.00	Livermore Bikeways and Trails Masterplan
Benches	Each	\$ 1,029.00	Santa Cruz Depot Site Masterplan
Picnic Tables & Pads	Each	\$ 1,715.00	Santa Cruz Depot Site Masterplan
Signage	Each	\$ 217.00	NBWA Thompson Creek
Kiosk	Each	\$ 1,085.00	Communication with Dave Lunn, Zone 7
Outdoor Classroom	Each	\$ 542,399.00	Santa Clara Vally Water District - Coyote Program Lower Silver Creek Construction
Indoor Classroom	Each	\$ 557,228.00	Richard Wetzig, ACWD; estimate based on Tule Pond in Fremont.
Fencing/Gates	LF	\$ 18.00	Santa Clara Valley Water District - Coyote Program Lower Silver Construction
Pavement Repair	SF	\$ 4.00	San Luis Obispo Waterway Management Plan
Water Supply			
Turnout	Each	\$ 569,811.00	Communication with Jim Horen, Zone 7
Water Quality			
Wetlands Creation	Acre	\$ 542,700.00	Jose Ortiz, Santa Clara Valley Water District
Right-of-Way (ROW) Acquisition			
ROW Acquisition	Acre	\$ 295,268.00	Special Drainage Area 7-1 Fee Structure Update; Arroyo de la Laguna (B-30 through B-60)
ROW Acquisition	Acre	\$ 308,685.00	Special Drainage Area 7-1 Fee Structure Update; Re-Aligned Las Positas from Patterson Pass Rd. to Greenville Rd (P-1-1)
ROW Acquisition	Acre	\$ 257,237.00	Special Drainage Area 7-1 Fee Structure Update; Arroyo Mocho from Center of Livermore to Tesla Rd. area (T-1)
ROW Acquisition	Acre	\$ 257,237.00	Special Drainage Area 7-1 Fee Structure Update; Clark Canyon Creek near Creekside Drive in Dublin (J5-1)
ROW Acquisition	Acre	\$ 308,685.00	Special Drainage Area 7-1 Fee Structure Update; Livermore Airport area (H-3)
ROW Acquisition	Acre	\$ 285,422.00	Special Drainage Area 7-1 Fee Structure Update; Average
ROW Acquisition	Acre	\$ 23,600.00	Special Drainage Area 7-1 Fee Structure Update; Arroyo Mocho from Mines Road south to County Line (G-70)
ROW Acquisition	Acre	\$ 205,604.00	Special Drainage Area 7-1 Fee Structure Update; Altamont Creek between Vasco Road to laughlin Road (R1-1)
ROW Acquisition	Acre	\$ 21,240.00	Special Drainage Area 7-1 Fee Structure Update; San antonio Creek from Calaveras Creek (A-2)
ROW Acquisition	Acre	\$ 14,160.00	Special Drainage Area 7-1 Fee Structure Update; Eastern Drainage Channels (W, X & Y)
ROW Acquisition	Acre	\$ 102,802.00	Special Drainage Area 7-1 Fee Structure Update; Cayetano creek (N-1)
ROW Acquisition	Acre	\$ 205,604.00	Special Drainage Area 7-1 Fee Structure Update; Collier Creek from I-580 north one-half mile (M-1)
ROW Acquisition	Acre	\$ 616,810.00	Special Drainage Area 7-1 Fee Structure Update; Arroyo del Valle from Stanley Blvd to Shadow Cliffs (E-1)

Notes:

¹ Costs reflect December 2005 dollars.San Francisco CCI ENR for December 2005 is 8462.

Table G-3: Database of SMMP Maintenance Unit Costs (December 2005 Dollars)

Description	Unit of Measurement	O&M Unit Cost (December 2005 \$) ¹	References
Flood Control			
Bank Protection (Minor Repair)	LF	\$9.00	Assumed 3% of capital unit cost
Bank Field Inspection	LF	\$1.00	Jose Ortiz, Watershed Activity Report FY 2004 (SCVWD, 2004)
Levee Maintenance	LF	\$4.00	Stream Maintenance Program Strategic Implementation Plan (SCVWD, April 2003); page 39
Debris Removal	CY	\$143.00	Jose Ortiz, Watershed Activity Report FY 2004 (SCVWD, 2004)
Fence Inspection/Repair	LF	\$59.00	Stream Maintenance Program Strategic Implementation Plan (SCVWD, April 2003); page 39
Sign Inspection/Repair	Per Sign	\$75.00	Stream Maintenance Program Strategic Implementation Plan (SCVWD, April 2003); page 39
Minor maintenance of pump (Assumes 3% of capital)	Each	\$32,544.00	Draft Recycled Water Master Plan Volume 2 Appendix (City & County of San Francisco, October 1992); page J-S3-8
Revegetation/Replanting	Acre	\$752.00	Jose Ortiz, Watershed Activity Report FY 2004 (SCVWD, 2004)
Sediment Removal	CY	\$43.00	Stream Maintenance Program Strategic Implementation Plan (SCVWD, April 2003); page 23
Sediment Characterization & WQ Monitoring Program	CY	\$5.00	Stream Maintenance Program Strategic Implementation Plan (SCVWD, April 2003); page 23
Sediment Field Inspection	LF	\$1.00	Jose Ortiz, Watershed Activity Report FY 2004 (SCVWD, 2004)
Wetland Mitigation for Sediment Removal	Acre	\$259,283.00	Karen Frye conversation with Greg Lyman at Wildlands Inc. (December 7, 2004)
Habitat			
Field Inspection of Vegetation	LF	\$1.00	Jose Ortiz, Watershed Activity Report FY 2004 (SCVWD, 2004)
Vegetation Control - Hand Labour	Acre	\$8,263.00	Mark Wonder (SCVWD) & Jose Ortiz (September 2, 2004 meeting)
Vegetation Control - Mechanical Clearing	Acre	\$517.00	Mark Wonder (SCVWD) & Jose Ortiz (September 2, 2004 meeting)
Vegetation Control - Herbicide Application	Acre	\$930.00	Mark Wonder (SCVWD) & Jose Ortiz (September 2, 2004 meeting)
Pesticide Monitoring Program (WQ Analysis)	Acre	\$35.00	Stream Maintenance Program Strategic Implementation Plan (SCVWD, April 2003); page 30
Biological Surveys	Mile	\$5,186.00	Communication with Jim O'Toole, ESA (September 8th, 2004)
Mitigation for Herbicide Application	Acre	\$259,283.00	Karen Frye conversation with Greg Lyman at Wildlands Inc. (December 7, 2004); Draft EIR and SMP Report for the Multi-Year SMP (SCVWD, March 2001)
Recreation			
Minor Repair of New Trail (AC Surface)	SF	\$1.00	Personal communication with Jim Townsend, EBRPD (September 7, 2004)
Field Inspection of Trail	LF	\$1.00	Jose Ortiz, Watershed Activity Report FY 2004 (SCVWD, 2004)
Outdoor Classroom Maintenance	Per Classroom	\$14,743.00	Annualized replacement cost over a 20-year period with a 6% interest rate
Indoor Classroom Maintenance	Per Classroom	\$15,480.00	Annualized replacement cost over a 20-year period with a 6% interest rate
Sign Inspection/Repair	Per Sign	\$75.00	Stream Maintenance Program Strategic Implementation Plan (SCVWD, April 2003); page 39
Fence Inspection/Repair	LF	\$59.00	Stream Maintenance Program Strategic Implementation Plan (SCVWD, April 2003); page 39
Water Supply			
Field Inspection of Structures	Each	\$415.00	Based on hourly rate for MMWD coordinator (NBWA grant work).
Water Quality			
Routine Maintenance of Stormwater Wetlands	Acre	\$1,825.00	Personal Communication with Richard Wetzig (September 14, 2004)
Annual Field Inspection of Wetlands	LF	\$1.00	Jose Ortiz, Watershed Activity Report FY 2004 (SCVWD, 2004)

	Sinking Fund Factor
A/F ²	0.02718

	Maintenance Mitigation Factor
Sedimentation Basins ³	0.5
Herbicide Application ⁴	0.1
Bank Maintenance ⁵	0.1

Notes:

¹ Costs are in December 2005 dollars. San Francisco CCI ENR for December 2005 is 8462.

² A/F factor assumes a 6% interest rate over 20 years.

³ Mitigation required for desilting of sediment basin. It is assumed that desilting occurs every other year. Mitigation is required for the sediment basin area bi-annually, or half the sediment basin area annually at a 1:1 ratio.

⁴ Mitigation required for herbicide application. It is assumed that herbicide is applied to 10 percent of banks annually. Mitigation is required for the area sprayed annually at a 1:1 ratio.

⁵ Mitigation required in association with minor bank repair. It is assumed that 10 percent of total bank stabilization length is repaired annually. Mitigation is required for the area stabilized annually at a 1:1 ratio.

Table G-4: SMMP Project Cost Contingencies and Allowances

Contingencies and Allowances	Percentage Applied	Description
Contractor Overhead and Profit	25%	Costs for contractor overhead and profit
Contingency	30%	Costs associated with project refinement through final design stage and construction
Implementation (Legal, Engineering, Administration)	30%	Costs associated with engineering, administration, legal issues and permitting

G.2.3 Mitigation

Mitigation is an important cost component of the SMMP. Environmental mitigation is required to mitigate SMMP projects impacts to habitat, including wetlands or other riparian habitat. In the SMMP, mitigation requirements are accounted for in one of two ways. First, specific mitigation costs associated with the following capital flood improvements are included in the SMMP:

- One-time sediment removal
- Construction of sediment basin
- Concrete-lining channels

For the activities listed above, mitigation is accounted for at a ratio of 2:1 (i.e., 2 acres of wetland created for 1 acre of sediment removal/sediment basin/concrete lining).

Then, in addition to the contingencies and implementation allowances described in Table G-4, a 10 percent environmental mitigation allowance has been applied to the overall flood control cost. This environmental mitigation allowance accounts for potential increases to the mitigation requirements assumed in this document.

G.2.4 Land Acquisition

Capital cost estimates include Right-of-Way (ROW) acquisition costs whenever a project occurs in a channel over which Zone 7 does not have an existing easement or complete or partial ownership. A 15 percent contingency for ROW acquisition is also included in the land costs. Unit costs for ROW acquisition are listed in Table G-2, and are based upon ROW acquisition costs developed by Schaaf & Wheeler (S&W 2000).

G.2.5 Chain of Lakes Cost Development

Cost estimates for the Chain of Lakes (i.e. projects R.5-3 and R.6-2) were developed using the same methodology used for other SMMP projects. However, the format of the cost estimates for the Chain of Lakes projects has been customized to capture the complexity of these two projects. For more information on the Chain of Lakes project cost estimates, refer to individual cost spreadsheets presented in this appendix.

G.3 SMMP Maintenance Cost Estimates

For a given SMMP project, maintenance activities associated with capital improvements have been identified and grouped under the appropriate resource area. Project component costs were developed to an

appropriate level for planning purposes and will be finalized closer to project implementation. The maintenance costs have been further divided in three categories:

- Annual Operations and Maintenance (O&M) Cost
- Annual Replacement Cost
- Annual Mitigation Cost

A discussion on each of these categories is provided below.

G.3.1 Annual Maintenance Cost

Annual maintenance costs are associated with routine maintenance activities for each resource area. Maintenance activities in relation to flood control improvements include sediment basin inspection, removal and water quality monitoring, bank inspection and minor repair (it is assumed for the purpose of the SMMP that 10 percent of bank repair will be occurring in any given year), pump and levee maintenance. Maintenance activities associated with habitat improvements include vegetation maintenance, weed and invasive species control, water quality analysis, and biological surveys. Maintenance activities in relation to recreation improvements include trail field inspection and minor repair (it is assumed for the purpose of the SMMP that 10 percent of trail repair will be occurring in any given year), and fence and sign repair. Maintenance activities associated with water supply activities include field inspection of structures while maintenance of water quality improvements includes field inspection and maintenance of wetlands. Additional information on annual maintenance cost is provided in Table G-3.

G.3.2 Annual Replacement Cost

Annual replacement costs for most components, including mechanical components (such as pump stations, gates, etc.) are calculated assuming a 20-year life, and a 6 percent interest rate. Annual replacement costs for components such as structures are calculated assuming a 40-year life, and a 6 percent interest rate. Annual replacement cost is used for the following capital components: bank stabilization, pump, trail, outdoor/indoor classroom, and, turnout. Additional information on annual replacement cost is provided in Table G-3.

G.3.3 Annual Mitigation Cost

It is assumed that mitigation will be required in association with specific maintenance activities including desilting of sediment basins, bank stabilization, and herbicide application for non-native species control. Costs associated with maintenance of wetland habitat created as mitigation for capital improvements is also accounted for. Additional information on annual mitigation costs is provided in Table G-3.

G.4 Changes since Interim Report

Since the release of the Interim Report in March 2004, SMMP projects and the basis for costs have both been refined as follows:

- The costs provided in the Interim Report in August 2003 dollars (San Francisco CCI ENR = 6733) have been updated to December 2005 dollars (SF CCI ENR = 8462).
- SMMP projects have been refined based on stakeholders' comments on the Interim Report, and as a result of additional project refinement work conducted. This refinement work has resulted in updates to some of the project costs and change in the overall program cost.
- The environmental mitigation allowance has been reduced from 30 percent to 10 percent as a result of additional project refinements that increased confidence in the assumptions for mitigation requirements.

- Maintenance costs have been developed to reflect maintenance activities associated with the SMMP program. It is important to note that the maintenance costs estimated for the SMMP are in addition to Zone 7 Flood Control's current maintenance expenditures.

G.5 SMMP Project Cost Tables

The following pages contain the individual project costs that have been developed for each of the SMMP projects.

Project #:
Project Name:
Approximate Total Cost:

R.1-1
Altamont Creek Improvements
\$3,360,000

Flood Control Improvements

Sediment Basins	\$64,520.00		
	AF	0.5	\$32,000
Excavation/Hauling/Disposal	\$38.00		
	CY	350.0	\$13,000
Mitigation	\$259,283.00		
	Acre	1.2	\$320,000
<i>Flood Control Cost</i>			<i>\$365,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$91,250</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$136,875</i>
<i>Total Construction Cost</i>			<i>\$593,125</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$59,313</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost)¹</i>			<i>\$195,731</i>
Acquisition	\$308,685.00		
	Acre	0.5	\$150,000
Land Acquisition Subtotal			\$150,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$22,500
<i>Land Acquisition Cost</i>			<i>\$172,500</i>
Total Flood Control Cost			\$1,020,000

Flood Control Maintenance

Sediment Basins - Annual Field Inspection	\$1.00		
	LF	356.0	\$360
Sediment Basins - Annual Sediment Removal	\$43.00		
	CY	400.0	\$17,000
Sediment Basins - Sediment Characterization & WQ Monitoring	\$5.00		
	CY	400.0	\$2,000
Sediment Basins - Wetland Mitigation (Acreage of Sediment Basin)	\$259,283.00		
	Acre	0.1	\$16,000
Management of Mitigation - (Routine Maintenance of Stormwater Wetlands)	\$1,825.00		
	Acre	1.2	\$2,200
<i>Total Annual Maintenance Cost</i>			<i>\$37,560</i>

Habitat Improvements

Dewatering	\$21,708.00		
	Each (Site)	2.0	\$43,000
<i>Habitat Improvements Cost</i>			<i>\$43,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$10,750</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$16,125</i>
<i>Total Construction Cost</i>			<i>\$69,875</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost)¹</i>			<i>\$20,963</i>
Total Habitat Cost			\$90,000

Habitat Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	1.3	\$740,000
<i>Trails and Recreation Cost</i>			<i>\$740,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$185,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$277,500</i>
<i>Total Construction Cost</i>			<i>\$1,202,500</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost)¹</i>			<i>\$360,750</i>
Acquisition	\$308,685.00		
	Acre	1.9	\$600,000
Land Acquisition Subtotal			\$600,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$90,000
<i>Land Acquisition Cost</i>			<i>\$690,000</i>
Total Trails & Recreation Cost			\$2,250,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00		
	LF	6864.0	\$6,900

Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	9609.6	\$9,600
Trail Maintenance - Annualized Replacement Cost	\$42,489.14		
	Year	1.0	\$42,000
<i>Total Annual Maintenance Cost</i>			\$58,500
Water Supply Improvements			
Total Water Supply Cost			\$0
Water Supply Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Water Quality Improvements			
Total Water Quality Cost			\$0
Water Quality Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Total Capital Project Cost			
			\$3,360,000
Total Annual Maintenance Cost			
Total Annual Mitigation Cost			\$18,000
Total Annual Replacement Cost			\$42,000
Total Annual O&M Cost			\$36,000
<i>Total Annual Maintenance Cost</i>			\$96,000

Project #:
Project Name:
Approximate Total Cost:

R.1-2
Alkali Sink Management
\$4,745,000

Flood Control Improvements

Total Flood Control Cost	\$0
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Flood Control Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Habitat Improvements

Non-native Species Control	\$54,268.00		
	Acre	3.4	\$190,000
Weirs	\$18,590.00		
	Each	1.0	\$19,000
Dewatering	\$21,708.00		
	Each (Site)	1.0	\$22,000
<i>Habitat Improvements Cost</i>			\$231,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$57,750
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$86,625
<i>Total Construction Cost</i>			\$375,375
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$112,613
Acquisition	\$308,685.00		
	Acre	12.0	\$3,700,000
Land Acquisition Subtotal			\$3,700,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$555,000
<i>Land Acquisition Cost</i>			\$4,255,000
Total Habitat Cost			\$4,740,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00		
	LF	2500.0	\$2,500
Invasive Species Control - Herbicide Application	\$930.00		
	Acre	0.3	\$320
Invasive Species Control - Herbicide Monitoring Program (WQ Analysis)	\$35.00		
	Acre	0.3	\$12
Invasive Species Control - Biological Survey	\$5,186.00		
	Mile	0.9	\$4,900
Invasive Species Control - Mitigation for Herbicide Application	\$259,283.00		
	Acre	0.3	\$89,000
<i>Total Annual Maintenance Cost</i>			\$96,732

Trails & Recreation Improvements

Kiosk	\$1,085.00		
	Each	2.0	\$2,200
<i>Trails and Recreation Cost</i>			\$2,200
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$550
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$825
<i>Total Construction Cost</i>			\$3,575
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$1,073
Total Trails & Recreation Cost			\$5,000

Trail Maintenance

Sign Inspection/Repair	\$75.00		
	Each	2.0	\$150
<i>Total Annual Maintenance Cost</i>			\$150

Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

Wetland Management - Routine Maintenance of Stormwater Wetlands	\$1,825.00		
	Acre	12.0	\$22,000
<i>Total Annual Maintenance Cost</i>			\$22,000

Total Capital Project Cost**\$4,745,000****Total Annual Maintenance Cost**

Total Annual Mitigation Cost \$89,000

Total Annual Replacement Cost \$0

Total Annual O&M Cost \$30,000

Total Annual Maintenance Cost **\$119,000**

Project #:
Project Name:
Approximate Total Cost:

R.1-3
Springtown Improvements
\$2,710,000

Flood Control Improvements

Culvert Modification	\$540,018.00		
	Allowance	1.0	\$540,000
Sediment Basins	\$64,520.00		
	AF	2.8	\$180,000
Mitigation	\$259,283.00		
	Acre	1.4	\$360,000
<i>Flood Control Cost</i>			\$1,080,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$270,000
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$405,000
<i>Total Construction Cost</i>			\$1,755,000
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			\$175,500
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			\$579,150
Total Flood Control Cost			\$2,510,000

Flood Control Maintenance

Sediment Basins - Annual Field Inspection	\$1.00		
	LF	1120.0	\$1,100
Sediment Basins - Annual Sediment Removal	\$43.00		
	CY	2222.2	\$96,000
Sediment Basins - Sediment Characterization & WQ Monitoring	\$5.00		
	CY	2218.3	\$11,000
Sediment Basins - Wetland Mitigation (Acreage of Sediment Basin)	\$259,283.00		
	Acre	0.3	\$89,000
Management of Mitigation - (Routine Maintenance of Stormwater Wetlands)	\$1,825.00		
	Acre	1.4	\$2,500
<i>Total Annual Maintenance Cost</i>			\$199,600

Habitat Improvements

Non-native Species Control	\$54,268.00		
	Acre	1.4	\$75,000
Dewatering	\$21,708.00		
	Each (Site)	1.0	\$22,000
<i>Habitat Improvements Cost</i>			\$97,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$24,250
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$36,375
<i>Total Construction Cost</i>			\$157,625
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$47,288
Total Habitat Cost			\$200,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00		
	LF	2000.0	\$2,000
Invasive Species Control - Herbicide Application	\$930.00		
	Acre	0.1	\$130
Invasive Species Control - Herbicide Monitoring Program (WQ Analysis)	\$35.00		
	Acre	0.1	\$5
Invasive Species Control - Biological Survey	\$5,186.00		
	Mile	0.4	\$2,000
Invasive Species Control - Mitigation for Herbicide Application	\$259,283.00		
	Acre	0.1	\$36,000
<i>Total Annual Maintenance Cost</i>			\$40,135

Trails & Recreation Improvements

Total Trails & Recreation Cost	\$0
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Trail Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost		\$0
Water Quality Maintenance		
<i>Total Annual Maintenance Cost</i>		\$0
Total Capital Project Cost		
		\$2,710,000
Total Annual Maintenance Cost		
Total Annual Mitigation Cost		\$128,000
Total Annual Replacement Cost		\$0
Total Annual O&M Cost		\$112,000
<i>Total Annual Maintenance Cost</i>		\$240,000

Project #:
Project Name:
Approximate Total Cost:

R.1-4
Springtown Golf Course Improvements
\$2,170,000

Flood Control Improvements

Pedestrian/Bike Bridge Over Arroyo	\$227,260.00		
	Each	1.0	\$230,000
Excavation/Hauling/Disposal	\$38.00		
	CY	130.0	\$4,900
Flood Control Cost			\$234,900
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$58,725</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$88,088</i>
<i>Total Construction Cost</i>			<i>\$381,713</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$38,171</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost)¹</i>			<i>\$125,965</i>
Acquisition	\$308,685.00		
	Acre	0.0	\$12,000
Land Acquisition Subtotal			\$12,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$1,800
Land Acquisition Cost			\$13,800
Total Flood Control Cost			\$560,000

Flood Control Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Habitat Improvements

Low Flow Channel	\$76.00		
	LF	3750.0	\$290,000
Non-native Species Control	\$54,268.00		
	Acre	4.6	\$250,000
Dewatering	\$21,708.00		
	Each (Site)	1.0	\$22,000
Habitat Improvements Cost			\$562,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$140,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$210,750</i>
<i>Total Construction Cost</i>			<i>\$913,250</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost)¹</i>			<i>\$273,975</i>
Acquisition	\$308,685.00		
	Acre	1.2	\$370,000
Land Acquisition Subtotal			\$370,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$55,500
Land Acquisition Cost			\$425,500
Total Habitat Cost			\$1,610,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00		
	LF	8500.0	\$8,500
Invasive Species Control - Herbicide Application	\$930.00		
	Acre	0.5	\$430
Invasive Species Control - Herbicide Monitoring Program (WQ Analysis)	\$35.00		
	Acre	0.5	\$16
Invasive Species Control - Biological Survey	\$5,186.00		
	Mile	1.6	\$8,300
Invasive Species Control - Mitigation for Herbicide Application	\$259,283.00		
	Acre	0.5	\$120,000
Total Annual Maintenance Cost			\$137,246

Trails & Recreation Improvements

Total Trails & Recreation Cost			\$0
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Trail Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Water Supply Improvements

Total Water Supply Cost			\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Water Quality Improvements

Total Water Quality Cost		\$0
Water Quality Maintenance		
<i>Total Annual Maintenance Cost</i>		\$0
Total Capital Project Cost		
		\$2,170,000
Total Annual Maintenance Cost		
Total Annual Mitigation Cost		\$120,000
Total Annual Replacement Cost		\$0
Total Annual O&M Cost		\$17,000
<i>Total Annual Maintenance Cost</i>		\$137,000

Project #:
Project Name:

R.1-5
Arroyo las Positas Habitat Enhancement and
Recreation Project

Approximate Total Cost:

\$9,120,000

Flood Control Improvements

Bank Stabilization	\$272.00		
	LF	2500.0	\$680,000
<i>Flood Control Cost</i>			<i>\$680,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$170,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$255,000</i>
<i>Total Construction Cost</i>			<i>\$1,105,000</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$110,500</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$364,650</i>
Purchase Undeveloped within City Limits	\$308,685.00		
	Acre	1.7	\$530,000
Land Acquisition Subtotal			\$530,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$79,500
<i>Land Acquisition Cost</i>			<i>\$609,500</i>
Total Flood Control Cost			\$2,190,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	2500.0	\$2,500
Bank Maintenance - Minor Repair	\$9.00		
	LF	250.0	\$2,300
Bank Maintenance - Annualized Replacement Cost	\$42,948.48		
	Year	1.0	\$43,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.2	\$45,000
Management of Mitigation - (Routine Maintenance of Stormwater Wetlands)	\$1,825.00		
	Acre	1.0	\$1,800
<i>Total Annual Maintenance Cost</i>			<i>\$94,600</i>

Habitat Improvements

Filling Riparian Gaps	\$379,874.00		
	Acre	2.8	\$1,000,000
Fencing/Gates	\$18.00		
	LF	1070.0	\$19,000
Enhance Upland Habitat	\$379,874.00		
	Acre	1.0	\$380,000
<i>Habitat Improvements Cost</i>			<i>\$1,399,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$349,750</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$524,625</i>
<i>Total Construction Cost</i>			<i>\$2,273,375</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$682,013</i>
Purchase Undeveloped within City Limits	\$308,685.00		
	Acre	3.8	\$1,200,000
Land Acquisition Subtotal			\$1,200,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$180,000
<i>Land Acquisition Cost</i>			<i>\$1,380,000</i>
Total Habitat Cost			\$4,340,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00		
	LF	4000.0	\$4,000
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00		
	Acre	2.8	\$23,000
Fence Inspection/Repair	\$59.00		
	LF	10.7	\$630
<i>Total Annual Maintenance Cost</i>			<i>\$27,630</i>

Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	0.8	\$450,000
Pedestrian/Bike Bridge Over Arroyo	\$227,260.00		
	Each	2.0	\$450,000

<i>Trails and Recreation Cost</i>			\$900,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$225,000
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$337,500
<i>Total Construction Cost</i>			\$1,462,500
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$438,750
Purchase Undeveloped within City Limits	\$308,685.00		
	Acre	1.9	\$600,000
Land Acquisition Subtotal			\$600,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$90,000
<i>Land Acquisition Cost</i>			\$690,000
Total Trails & Recreation Cost			\$2,590,000
Trail Maintenance			
Trail Maintenance - Field Inspection	\$1.00		
	LF	4224.0	\$4,200
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	5913.6	\$5,900
Trail Maintenance - Annualized Replacement Cost	\$25,837.99		
	Year	1.0	\$26,000
<i>Total Annual Maintenance Cost</i>			\$36,100
Water Supply Improvements			
Total Water Supply Cost			\$0
Water Supply Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Water Quality Improvements			
Total Water Quality Cost			\$0
Water Quality Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Total Capital Project Cost			
			\$9,120,000
Total Annual Maintenance Cost			
Total Annual Mitigation Cost			\$47,000
Total Annual Replacement Cost			\$69,000
Total Annual O&M Cost			\$42,000
<i>Total Annual Maintenance Cost</i>			\$158,000

Project #:
Project Name:
Approximate Total Cost:

R.1-6
Arroyo las Positas Multi-Purpose Project
\$32,110,000

Flood Control Improvements

Rock Vanes	\$32,561.00		
	Each	1.0	\$33,000
Bank Stabilization	\$272.00		
	LF	5050.0	\$1,400,000
Flood Control Cost			\$1,433,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$358,250
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$537,375
Total Construction Cost			\$2,328,625
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			\$232,863
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			\$768,446
Acquisition	\$308,685.00		
	Acre	2.5	\$760,000
Land Acquisition Subtotal			\$760,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$114,000
Land Acquisition Cost			\$874,000
Total Flood Control Cost			\$4,200,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	5050.0	\$5,100
Bank Maintenance - Minor Repair	\$9.00		
	LF	505.0	\$4,500
Bank Maintenance - Annualized Replacement Cost	\$88,423.34		
	Year	1.0	\$88,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.3	\$90,000
Total Annual Maintenance Cost			\$187,600

Habitat Improvements

Dewatering	\$21,708.00		
	Each (Site)	1.0	\$22,000
Habitat Improvements Cost			\$22,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$5,500
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$8,250
Total Construction Cost			\$35,750
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$10,725
Total Habitat Cost			\$50,000

Habitat Maintenance

Total Annual Maintenance Cost			\$0
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Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	0.8	\$430,000
Elevated Pedestrian Wooden Boardwalk	\$2,640,000.00		
	Mile	0.6	\$1,500,000
New Traffic Signal	\$176,127.00		
	Each	1.0	\$180,000
Signage	\$217.00		
	Each	1.0	\$220
Kiosk	\$1,085.00		
	Each	1.0	\$1,100
Trails and Recreation Cost			\$2,111,320
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$527,830

Contingency (30% of Construction Subtotal and Overhead)			\$791,745
Total Construction Cost			\$3,430,895
Engineering, Legal, and Administration (30% of Total Construction Cost) ¹			\$1,029,269
Acquisition	\$308,685.00		
	Acre	0.5	\$140,000
Land Acquisition Subtotal			\$140,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$21,000
Land Acquisition Cost			\$161,000
Total Trails & Recreation Cost			\$4,620,000
Trail Maintenance			
Trail Maintenance - Field Inspection	\$1.00		
	LF	7000.0	\$7,000
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	9800.0	\$9,800
Trail Maintenance - Annualized Replacement Cost	\$110,816.26		
	Year	1.0	\$110,000
Sign Inspection/Repair	\$75.00		
	Each	1.0	\$75
Total Annual Maintenance Cost			\$126,875
Water Supply Improvements			
Total Water Supply Cost			\$0
Water Supply Maintenance			
Total Annual Maintenance Cost			\$0
Water Quality Improvements			
Wetlands	\$542,700.00		
	Acre	20.0	\$11,000,000
Water Quality			\$11,000,000
Contractor Overhead and Profit (25% of Construction Subtotal)			\$2,750,000
Contingency (30% of Construction Subtotal and Overhead)			\$4,125,000
Total Construction Cost			\$17,875,000
Engineering, Legal, and Administration (30% of Total Construction Cost) ¹			\$5,362,500
Total Water Quality Cost			\$23,240,000
Water Quality Maintenance			
Wetland Management - Annual Field Inspection	\$1.00		
	LF	6580.0	\$6,600
Wetland Management - Routine Maintenance of Stormwater Wetlands	\$1,825.00		
	Acre	20.0	\$37,000
Total Annual Maintenance Cost			\$43,600
Total Capital Project Cost			
			\$32,110,000
Total Annual Maintenance Cost			
Total Annual Mitigation Cost			\$90,000
Total Annual Replacement Cost			\$198,000
Total Annual O&M Cost			\$70,000
Total Annual Maintenance Cost			\$358,000

Project #:
Project Name:
Approximate Total Cost:

R.1-7
Capacity Improvement at Arroyo las Positas
\$1,250,000

Flood Control Improvements

Bank Stabilization	\$272.00		
	LF	50.0	\$14,000
Excavation/Hauling/Disposal	\$38.00		
	CY	833.3	\$32,000
Mitigation	\$259,283.00		
	Acre	0.1	\$36,000
<i>Flood Control Cost</i>			<i>\$82,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$20,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$30,750</i>
<i>Total Construction Cost</i>			<i>\$133,250</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$13,325</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$43,973</i>
Purchase Undeveloped within City Limits	\$308,685.00		
	Acre	0.6	\$180,000
Land Acquisition Subtotal			\$180,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$27,000
<i>Land Acquisition Cost</i>			<i>\$207,000</i>
Total Flood Control Cost			\$400,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	50.0	\$50
Bank Maintenance - Minor Repair	\$9.00		
	LF	5.0	\$45
Bank Maintenance - Annualized Replacement Cost	\$884.23		
	Year	1.0	\$880
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.0	\$890
Management of Mitigation - (Routine Maintenance of Stormwater Wetlands)	\$1,825.00		
	Acre	0.6	\$1,200
<i>Total Annual Maintenance Cost</i>			<i>\$3,065</i>

Habitat Improvements

Enhance Upland Habitat	\$379,874.00		
	Acre	0.5	\$190,000
Dewatering	\$21,708.00		
	Each (Site)	1.0	\$22,000
<i>Habitat Improvements Cost</i>			<i>\$212,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$53,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$79,500</i>
<i>Total Construction Cost</i>			<i>\$344,500</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$103,350</i>
Acquisition	\$308,685.00		
	Acre	0.5	\$150,000
Land Acquisition Subtotal			\$150,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$22,500
<i>Land Acquisition Cost</i>			<i>\$172,500</i>
Total Habitat Cost			\$620,000

Habitat Maintenance

<i>Total Annual Maintenance Cost</i>			<i>\$0</i>
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Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	0.2	\$110,000
<i>Trails and Recreation Cost</i>			<i>\$110,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$27,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$41,250</i>
<i>Total Construction Cost</i>			<i>\$178,750</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$53,625</i>
Total Trails & Recreation Cost			\$230,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00		
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Trail Maintenance - Field Inspection	LF	1056.0	\$1,100
	\$1.00		
Trail Maintenance - Minor Repair of New Trail (AC surface)	SF	1478.4	\$1,500
	\$6,315.95		
Trail Maintenance - Annualized Replacement Cost	Year	1.0	\$6,300
<i>Total Annual Maintenance Cost</i>			\$8,900

Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

	\$1,250,000
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Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$2,000
Total Annual Replacement Cost	\$7,000
Total Annual O&M Cost	\$3,000
<i>Total Annual Maintenance Cost</i>	\$12,000

Project #:
Project Name:
Total Capital Cost:

R.2-1
Velocity Control Project
\$19,390,000

Flood Control Improvements

Floodwalls	\$92.00 SF	20800.0	\$1,900,000
Rock Vanes	\$32,561.00 Each	1.0	\$33,000
Excavation/Hauling/Disposal	\$38.00 CY	237.0	\$9,000
<i>Flood Control Cost</i>			\$1,942,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$485,500
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$728,250
<i>Total Construction Cost</i>			\$3,155,750
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			\$315,575
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			\$1,041,398
Total Flood Control Cost			\$4,510,000

Flood Control Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Habitat Improvements

Meander Creation	\$620.00 LF	6500.0	\$4,000,000
Riparian Vegetation	\$379,874.00 Acre	7.2	\$2,700,000
Dewatering	\$21,708.00 Each (Site)	5.0	\$110,000
<i>Habitat Improvements Cost</i>			\$6,810,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$1,702,500
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$2,553,750
<i>Total Construction Cost</i>			\$11,066,250
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$3,319,875
Total Habitat Cost			\$14,390,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00 LF	10400.0	\$10,000
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00 Acre	7.2	\$59,000
<i>Total Annual Maintenance Cost</i>			\$69,000

Trails & Recreation Improvements

Service Road Multi-use Trail	\$227,260.00 Mile	1.0	\$230,000
<i>Trails and Recreation Cost</i>			\$230,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$57,500
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$86,250
<i>Total Construction Cost</i>			\$373,750
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$112,125
Total Trails & Recreation Cost			\$490,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00 LF	5280.0	\$5,300
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00 SF	7392.0	\$7,400
Trail Maintenance - Annualized Replacement Cost	\$13,206.08 Year	1.0	\$13,000
<i>Total Annual Maintenance Cost</i>			\$25,700

Water Supply Improvements

Total Water Supply Cost			\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
Water Quality Maintenance	
<i>Total Annual Maintenance Cost</i>	\$0
Total Capital Project Cost	
	\$19,390,000
Total Annual Maintenance Cost	
Total Annual Mitigation Cost	\$0
Total Annual Replacement Cost	\$13,000
Total Annual O&M Cost	\$82,000
<i>Total Annual Maintenance Cost</i>	\$95,000

Project #:
Project Name:
Total Capital Cost:

R.2-2
Arroyo Seco Improvements
\$3,320,000

Flood Control Improvements

Floodwalls	\$92.00 SF	3310.0	\$300,000
Levees	\$22.00 SF	1500.0	\$33,000
Bank Stabilization	\$272.00 LF	2800.0	\$760,000
<i>Flood Control Cost</i>			\$1,093,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$273,250
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$409,875
<i>Total Construction Cost</i>			\$1,776,125
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			\$177,613
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			\$586,121
Total Flood Control Cost			\$2,540,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00 LF	2800.0	\$2,800
Bank Maintenance - Minor Repair	\$9.00 LF	280.0	\$2,500
Bank Maintenance - Annualized Replacement Cost	\$48,001.24 Year	1.0	\$48,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00 Acre	0.2	\$50,000
Levee Maintenance	\$4.00 LF	1500.0	\$6,000
<i>Total Annual Maintenance Cost</i>			\$109,300

Habitat Improvements

Riparian Vegetation	\$379,874.00 Acre	1.0	\$370,000
<i>Habitat Improvements Cost</i>			\$370,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$92,500
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$138,750
<i>Total Construction Cost</i>			\$601,250
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$180,375
Total Habitat Cost			\$780,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00 LF	1400.0	\$1,400
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00 Acre	1.0	\$8,000
<i>Total Annual Maintenance Cost</i>			\$9,400

Trails & Recreation Improvements

Total Trails & Recreation Cost			\$0
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Trail Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Water Supply Improvements

Total Water Supply Cost			\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Water Quality Improvements

Total Water Quality Cost			\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Total Capital Project Cost

			\$3,320,000
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Total Annual Maintenance Cost

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Total Annual Mitigation Cost	\$50,000
Total Annual Replacement Cost	\$48,000
Total Annual O&M Cost	\$21,000
<i>Total Annual Maintenance Cost</i>	\$119,000

Project #:
Project Name:
Total Capital Cost:

R.2-3
Arroyo Seco Trail Project
\$1,650,000

Flood Control Improvements

Total Flood Control Cost	\$0
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Flood Control Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Habitat Improvements

Total Habitat Cost	\$0
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Habitat Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Trails & Recreation Improvements

Service Road Multi-use Trail	\$227,260.00		
	Mile	1.1	\$260,000
Bike Lane - Treatment	\$22,726.00		
	Mile	0.4	\$8,600
Pedestrian/Bike Bridge Over Arroyo	\$227,260.00		
	Each	2.0	\$450,000
Signage	\$217.00		
	Each	2.0	\$430
<i>Trails and Recreation Cost</i>			\$719,030
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$179,758
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$269,636
<i>Total Construction Cost</i>			\$1,168,424
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$350,527

Acquisition	\$308,685.00		
	Acre	0.4	\$110,000
Land Acquisition Subtotal			\$110,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$16,500
<i>Land Acquisition Cost</i>			\$126,500
Total Trails & Recreation Cost			\$1,650,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00		
	LF	6000.0	\$6,000
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	8400.0	\$8,400
Trail Maintenance - Annualized Replacement Cost	\$14,928.62		
	Year	1.0	\$15,000
Sign Inspection/Repair	\$75.00		
	Each	2.0	\$150
<i>Total Annual Maintenance Cost</i>			\$29,550

Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

\$1,650,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$0
Total Annual Replacement Cost	\$15,000
Total Annual O&M Cost	\$15,000
<i>Total Annual Maintenance Cost</i>	\$30,000

Project #:
Project Name:

R.3-1
South Bay Aqueduct Turnout Construction and Low-
Flow Crossings
\$1,230,000

Approximate Total Cost:

Flood Control Improvements			
Total Flood Control Cost			\$0
Flood Control Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0

Habitat Improvements			
Total Habitat Cost			\$0
Habitat Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0

Trails & Recreation Improvements			
Total Trails & Recreation Cost			\$0
Trail Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0

Water Supply Improvements			
Service Road Multi-use Trail	\$227,260.00		
	Mile	0.1	\$13,000
Turnout	\$569,811.00		
	Each	1.0	\$570,000
<i>Water Supply Cost</i>			\$583,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$145,750
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$218,625
<i>Total Construction Cost</i>			\$947,375
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$284,213
Total Water Supply Cost			\$1,230,000

Water Supply Maintenance			
Minor Maintenance - Field Inspection of Structures	\$415.00		
	Each	1.0	\$420
Trail Maintenance - Field Inspection	\$1.00		
	LF	300.0	\$300
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	510.0	\$510
Trail Maintenance - Annualized Replacement Cost	\$746.43		
	Year	1.0	\$750
Turnout - Annualized Replacement Cost	\$32,728.12		
	Year	1.0	\$33,000
<i>Total Annual Maintenance Cost</i>			\$34,980

Water Quality Improvements			
Total Water Quality Cost			\$0
Water Quality Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0

Total Capital Project Cost			\$1,230,000
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Total Annual Maintenance Cost			
Total Annual Mitigation Cost			\$0
Total Annual Replacement Cost			\$34,000
Total Annual O&M Cost			\$1,000
<i>Total Annual Maintenance Cost</i>			\$35,000

Project #:
Project Name:

R.3-2
Robertson Park Enhancement Project and Levee
Construction

Approximate Total Cost:

\$28,040,000

Flood Control Improvements

Levees	\$22.00		
	SF	13500.0	\$300,000
Bank Stabilization	\$272.00		
	LF	6000.0	\$1,600,000
<i>Flood Control Cost</i>			<i>\$1,900,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$475,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$712,500</i>
<i>Total Construction Cost</i>			<i>\$3,087,500</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$308,750</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost)</i> ¹			<i>\$1,018,875</i>
Acquisition	\$257,237.00		
	Acre	35.0	\$9,000,000
Land Acquisition Subtotal			\$9,000,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$1,350,000
<i>Land Acquisition Cost</i>			<i>\$10,350,000</i>
Total Flood Control Cost			\$14,770,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	6000.0	\$6,000
Bank Maintenance - Minor Repair	\$9.00		
	LF	600.0	\$5,400
Bank Maintenance - Annualized Replacement Cost	\$101,055.24		
	Year	1.0	\$100,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.4	\$110,000
<i>Total Annual Maintenance Cost</i>			<i>\$221,400</i>

Habitat Improvements

Meander Creation	\$620.00		
	LF	750.0	\$470,000
Non-native Species Control	\$54,268.00		
	Acre	8.3	\$450,000
Dewatering	\$21,708.00		
	Each (Site)	1.0	\$22,000
<i>Habitat Improvements Cost</i>			<i>\$942,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$235,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$353,250</i>
<i>Total Construction Cost</i>			<i>\$1,530,750</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost)</i> ¹			<i>\$459,225</i>
Total Habitat Cost			\$1,990,000

Habitat Maintenance

Invasive Species Control - Herbicide Application	\$930.00		
	Acre	0.8	\$770
Invasive Species Control - Herbicide Monitoring Program (WQ Analysis)	\$35.00		
	Acre	0.8	\$29
Invasive Species Control - Biological Survey	\$5,186.00		
	Mile	2.3	\$12,000
Invasive Species Control - Mitigation for Herbicide Application	\$259,283.00		
	Acre	0.8	\$210,000
<i>Total Annual Maintenance Cost</i>			<i>\$222,799</i>

Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	0.4	\$230,000
Elevated Pedestrian Wooden Boardwalk	\$2,640,000.00		
	Mile	0.1	\$250,000
Indoor Classroom	\$557,228.00		
	Each	1.0	\$560,000
<i>Trails and Recreation Cost</i>			<i>\$1,040,000</i>

Contractor Overhead and Profit (25% of Construction Subtotal)			\$260,000
Contingency (30% of Construction Subtotal and Overhead)			\$390,000
Total Construction Cost			\$1,690,000
Engineering, Legal, and Administration (30% of Total Construction Cost) ¹			\$507,000
Total Trails & Recreation Cost			\$2,200,000
Trail Maintenance			
Trail Maintenance - Field Inspection	\$1.00		
	LF	2612.0	\$2,600
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	3656.8	\$3,700
Trail Maintenance - Annualized Replacement Cost	\$27,560.52		
	Year	1.0	\$28,000
Indoor Classroom Maintenance	\$15,480.00		
	Each	1.0	\$15,000
<i>Total Annual Maintenance Cost</i>			\$49,300
Water Supply Improvements			
Total Water Supply Cost			\$0
Water Supply Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Water Quality Improvements			
Wetlands	\$542,700.00		
	Acre	8.0	\$4,300,000
<i>Water Quality</i>			\$4,300,000
Contractor Overhead and Profit (25% of Construction Subtotal)			\$1,075,000
Contingency (30% of Construction Subtotal and Overhead)			\$1,612,500
Total Construction Cost			\$6,987,500
Engineering, Legal, and Administration (30% of Total Construction Cost) ¹			\$2,096,250
Total Water Quality Cost			\$9,080,000
Water Quality Maintenance			
Wetland Management - Annual Field Inspection	\$1.00		
	LF	2394.0	\$2,400
Wetland Management - Routine Maintenance of Stormwater Wetlands	\$1,825.00		
	Acre	8.0	\$15,000
<i>Total Annual Maintenance Cost</i>			\$17,400
Total Capital Project Cost			
			\$28,040,000
Total Annual Maintenance Cost			
Total Annual Mitigation Cost			\$320,000
Total Annual Replacement Cost			\$143,000
Total Annual O&M Cost			\$48,000
<i>Total Annual Maintenance Cost</i>			\$511,000

Project #:
Project Name:

R.3-3
Parks Floodplain Dedication and Levee
Construction

Approximate Total Cost:

\$18,860,000

Flood Control Improvements

New Service Road	\$5.00 SF	62220.0	\$310,000
Levees	\$22.00 SF	21960.0	\$480,000
Bank Stabilization	\$272.00 LF	3660.0	\$1,000,000
<i>Flood Control Cost</i>			<i>\$1,790,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$447,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$671,250</i>
<i>Total Construction Cost</i>			<i>\$2,908,750</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$290,875</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost)¹</i>			<i>\$959,888</i>
Acquisition	\$257,237.00 Acre	36.0	\$9,300,000
Land Acquisition Subtotal			\$9,300,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$1,395,000
<i>Land Acquisition Cost</i>			<i>\$10,695,000</i>
Total Flood Control Cost			\$14,850,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00 LF	3660.0	\$3,700
Bank Maintenance - Minor Repair	\$9.00 LF	366.0	\$3,300
Bank Maintenance - Annualized Replacement Cost	\$63,159.53 Year	1.0	\$63,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00 Acre	0.3	\$65,000
Trail Maintenance - Field Inspection	\$1.00 LF	3660.0	\$3,700
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00 SF	6222.0	\$6,200
Levee Maintenance	\$4.00 LF	7320.0	\$29,000
<i>Total Annual Maintenance Cost</i>			<i>\$173,900</i>

Habitat Improvements

Filling Riparian Gaps	\$379,874.00 Acre	5.0	\$1,900,000
<i>Habitat Improvements Cost</i>			<i>\$1,900,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$475,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$712,500</i>
<i>Total Construction Cost</i>			<i>\$3,087,500</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost)¹</i>			<i>\$926,250</i>
Total Habitat Cost			\$4,010,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00 LF	7320.0	\$7,300
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00 Acre	5.0	\$42,000
<i>Total Annual Maintenance Cost</i>			<i>\$49,300</i>

Trails & Recreation Improvements

Total Trails & Recreation Cost			\$0
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Trail Maintenance

<i>Total Annual Maintenance Cost</i>			<i>\$0</i>
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Water Supply Improvements

Total Water Supply Cost			\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>		\$0
Water Quality Improvements		
Total Water Quality Cost		\$0
Water Quality Maintenance		
<i>Total Annual Maintenance Cost</i>		\$0
Total Capital Project Cost		
		\$18,860,000
Total Annual Maintenance Cost		
Total Annual Mitigation Cost		\$65,000
Total Annual Replacement Cost		\$63,000
Total Annual O&M Cost		\$95,000
<i>Total Annual Maintenance Cost</i>		\$223,000

Project #:
Project Name:

R.3-4
Holmes Street Sedimentation Basin and
Granada/Murrieta Protection and Enhancement
Project

Approximate Total Cost:

\$13,590,000

Flood Control Improvements

Pedestrian/Bike Bridge Over Arroyo	\$227,260.00		
	Each	1.0	\$230,000
Levees	\$22.00		
	SF	20040.0	\$440,000
Sediment Basins	\$64,520.00		
	AF	1.9	\$120,000
Mitigation	\$259,283.00		
	Acre	1.0	\$250,000
Flood Control Cost			\$1,040,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$260,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$390,000</i>
<i>Total Construction Cost</i>			<i>\$1,690,000</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$169,000</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$557,700</i>
Acquisition	\$257,237.00		
	Acre	25.0	\$6,400,000
Land Acquisition Subtotal			\$6,400,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$960,000
<i>Land Acquisition Cost</i>			<i>\$7,360,000</i>
Total Flood Control Cost			\$9,780,000

Flood Control Maintenance

Sediment Basins - Annual Field Inspection	\$1.00		
	LF	800.0	\$800
Sediment Basins - Annual Sediment Removal	\$43.00		
	CY	1500.0	\$65,000
Sediment Basins - Sediment Characterization & WQ Monitoring	\$5.00		
	CY	1500.0	\$7,500
Sediment Basins - Wetland Mitigation (Acreage of Sediment Basin)	\$259,283.00		
	Acre	0.2	\$62,000
Levee Maintenance	\$4.00		
	LF	6680.0	\$27,000
Management of Mitigation - (Routine Maintenance of Stormwater Wetlands)	\$1,825.00		
	Acre	1.0	\$1,700
Total Annual Maintenance Cost			\$164,000

Habitat Improvements

Filling Riparian Gaps	\$379,874.00		
	Acre	4.6	\$1,700,000
Hardscape Removal	\$186.00		
	LF	130.0	\$24,000
Dewatering	\$21,708.00		
	Each (Site)	1.0	\$22,000
Habitat Improvements Cost			\$1,746,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$436,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$654,750</i>
<i>Total Construction Cost</i>			<i>\$2,837,250</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$851,175</i>
Total Habitat Cost			\$3,690,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00		
	LF	6680.0	\$6,700
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00		
	Acre	4.6	\$38,000
Total Annual Maintenance Cost			\$44,700

Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	0.1	\$57,000

<i>Trails and Recreation Cost</i>			\$57,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$14,250
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$21,375
<i>Total Construction Cost</i>			\$92,625
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$27,788
Total Trails & Recreation Cost			\$120,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00		
	LF	528.0	\$530
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	739.2	\$740
Trail Maintenance - Annualized Replacement Cost	\$3,272.81		
	Year	1.0	\$3,300
<i>Total Annual Maintenance Cost</i>			\$4,570

Water Supply Improvements

Total Water Supply Cost			\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Water Quality Improvements

Total Water Quality Cost			\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Total Capital Project Cost

\$13,590,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost			\$64,000
Total Annual Replacement Cost			\$3,000
Total Annual O&M Cost			\$146,000
<i>Total Annual Maintenance Cost</i>			\$213,000

Project #:
Project Name:

R.3-5
Fish Barrier Removal at Stanley Boulevard and
Railroad Overcrossing
\$7,870,000

Approximate Total Cost:

Flood Control Improvements

Total Flood Control Cost	\$0
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Flood Control Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Habitat Improvements

Filling Riparian Gaps	\$379,874.00		
	Acre	8.3	\$3,100,000
Fish Passage/Barrier Removal	\$371,795.00		
	Each	1.0	\$370,000
Dewatering	\$21,708.00		
	Each (Site)	1.0	\$22,000
<i>Habitat Improvements Cost</i>			\$3,492,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$873,000
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$1,309,500
<i>Total Construction Cost</i>			\$5,674,500
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$1,702,350
Total Habitat Cost			\$7,380,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00		
	LF	12000.0	\$12,000
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00		
	Acre	8.3	\$68,000
<i>Total Annual Maintenance Cost</i>			\$80,000

Trails & Recreation Improvements

Pedestrian/Bike Bridge Over Arroyo	\$227,260.00		
	Each	1.0	\$230,000
<i>Trails and Recreation Cost</i>			\$230,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$57,500
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$86,250
<i>Total Construction Cost</i>			\$373,750
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$112,125
Total Trails & Recreation Cost			\$490,000

Trail Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

\$7,870,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$0
Total Annual Replacement Cost	\$0
Total Annual O&M Cost	\$80,000
<i>Total Annual Maintenance Cost</i>	\$80,000

Project #:
Project Name:
Approximate Total Cost:

R.4-1
Sycamore Grove Recharge Bypass Project
\$1,200,000

Flood Control Improvements

Total Flood Control Cost	\$0
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Flood Control Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Habitat Improvements

Total Habitat Cost	\$0
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Habitat Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Trails & Recreation Improvements

Total Trails & Recreation Cost	\$0
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Trail Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Supply Improvements

Turnout	\$569,811.00		
	Each	1.0	\$570,000
<i>Water Supply Cost</i>			\$570,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$142,500
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$213,750
<i>Total Construction Cost</i>			\$926,250
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$277,875
Total Water Supply Cost			\$1,200,000

Water Supply Maintenance

Minor Maintenance - Field Inspection of Structures	\$415.00		
	Each	1.0	\$420
Turnout - Annualized Replacement Cost	\$32,728.12		
	Year	1.0	\$33,000
<i>Total Annual Maintenance Cost</i>			\$33,420

Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

\$1,200,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$0
Total Annual Replacement Cost	\$33,000
Total Annual O&M Cost	\$0
<i>Total Annual Maintenance Cost</i>	\$33,000

Project #:
Project Name:
Approximate Total Cost:

R.4-2
Sycamore Grove Park Trail Connections
\$2,260,000

Flood Control Improvements

Total Flood Control Cost	\$0
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Flood Control Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Habitat Improvements

Total Habitat Cost	\$0
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Habitat Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	0.65	\$370,000
Pedestrian/Bike Bridge Over Arroyo	\$227,260.00		
	Each	3.00	\$680,000
Signage	\$217.00		
	Each	2.00	\$430
<i>Trails and Recreation Cost</i>			\$1,050,430
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$262,608
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$393,911
<i>Total Construction Cost</i>			\$1,706,949
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$512,085

Acquisition	\$23,622.00		
	Acre	1.48	\$35,000
Land Acquisition Subtotal			\$35,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$5,250
<i>Land Acquisition Cost</i>			\$40,250
Total Trails & Recreation Cost			\$2,260,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00		
	LF	3432.0	\$3,400
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	4804.8	\$4,800
Trail Maintenance - Annualized Replacement Cost	\$21,244.57		
	Year	1.00	\$21,000
Sign Inspection/Repair	\$75.00		
	Each	2.00	\$150
<i>Total Annual Maintenance Cost</i>			\$29,350

Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

\$2,260,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$0
Total Annual Replacement Cost	\$21,000
Total Annual O&M Cost	\$8,000
<i>Total Annual Maintenance Cost</i>	\$29,000

Project #:
Project Name:
Approximate Total Cost:

R5-1
North of I-580 Trail System
\$22,390,000

Flood Control Improvements

Total Flood Control Cost	\$0
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Flood Control Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Habitat Improvements

Total Habitat Cost	\$0
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Habitat Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	12.5	\$7,100,000
Major Pedestrian/Bike Over or Undercrossing	\$2,000,000.00		
	Each	1	\$2,000,000
Fencing/Gates	\$18.00		
	LF	1500	\$27,000
<i>Trails and Recreation Cost</i>			\$9,127,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$2,281,750
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$3,422,625
<i>Total Construction Cost</i>			\$14,831,375
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$4,449,413

Acquisition	\$89,502.40		
	Acre	30.30	\$2,700,000
Land Acquisition Subtotal			\$2,700,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$405,000
<i>Land Acquisition Cost</i>			\$3,105,000
Total Trails & Recreation Cost			\$22,390,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00		
	LF	66000.0	\$66,000
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	92400.0	\$92,000
Trail Maintenance - Annualized Replacement Cost	\$407,666.03		
	Year	1	\$410,000
Fence Inspection/Repair	\$59.00		
	LF	15	\$890
<i>Total Annual Maintenance Cost</i>			\$568,890

Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

\$22,390,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$0
Total Annual Replacement Cost	\$410,000
Total Annual O&M Cost	\$159,000
<i>Total Annual Maintenance Cost</i>	\$569,000

Project #:
Project Name:
Approximate Total Cost:

R-5.2
Airway Improvement Project
\$24,960,000

Flood Control Improvements

Levees	\$22.00 SF	20000	\$440,000
Sediment Basins	\$64,520.00 AF	2.8	\$180,000
Excavation/Hauling/Disposal	\$38.00 CY	30,000	\$1,100,000
Mitigation	\$259,283.00 Acre	10.6	\$2,700,000
<i>Flood Control Cost</i>			\$4,420,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$1,105,000
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$1,657,500
<i>Total Construction Cost</i>			\$7,182,500
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			\$718,250
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			\$2,370,225
Drainage or Flood Easement	\$308,685.00 Acre	11.98	\$3,700,000
Land Acquisition Subtotal			\$3,700,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$555,000
<i>Land Acquisition Cost</i>			\$4,255,000
Total Flood Control Cost			\$14,530,000

Flood Control Maintenance

Sediment Basins - Annual Field Inspection	\$1.00 LF	1120	\$1,100
Sediment Basins - Annual Sediment Removal	\$43.00 CY	2200	\$95,000
Sediment Basins - Sediment Characterization & WQ Monitoring	\$5.00 CY	2200	\$11,000
Sediment Basins - Wetland Mitigation (Acreage of Sediment Basin)	\$259,283.00 Acre	0.4	\$91,000
Levee Maintenance	\$4.00 LF	2000	\$8,000
Management of Mitigation - (Routine Maintenance of Stormwater Wetlands)	\$1,825.00 Acre	10.6	\$19,000
<i>Total Annual Maintenance Cost</i>			\$225,100

Habitat Improvements

Filling Riparian Gaps	\$379,874.00 Acre	5.5	\$2,100,000
Dewatering	\$21,708.00 Each (Site)	5	\$110,000
<i>Habitat Improvements Cost</i>			\$2,210,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$552,500
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$828,750
<i>Total Construction Cost</i>			\$3,591,250
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$1,077,375
Total Habitat Cost			\$4,670,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00 LF	8000.00	\$8,000
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00 Acre	5.5	\$46,000
<i>Total Annual Maintenance Cost</i>			\$54,000

Trails & Recreation Improvements

Total Trails & Recreation Cost			\$0
Trail Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0

Water Supply Improvements

Total Water Supply Cost			\$0
Water Supply Maintenance			

<i>Total Annual Maintenance Cost</i>	\$0
Water Quality Improvements	
Total Water Quality Cost	\$0
Water Quality Maintenance	
<i>Total Annual Maintenance Cost</i>	\$0
<i>BART/Freeway interchange Contingency (30% of Subtotal)</i>	\$5,760,000
Total Capital Project Cost	
	\$24,960,000
Total Annual Maintenance Cost	
Total Annual Mitigation Cost	\$110,000
Total Annual Replacement Cost	\$0
Total Annual O&M Cost	\$169,000
<i>Total Annual Maintenance Cost</i>	\$279,000

Project #:
Project Name:
Approximate Total Cost:

R-5.3
Arroyo las Positas Diversion Project
\$148,870,000

Las Positas Diversion Below Golf Course

	Quantity	Unit	Unit Cost	Cost
Overflow Structure@ Positas				
Stream Alteration Permitting	1	Allowance	\$50,000.00	\$50,000.00
Excavation & Hauling	1,000	CY	\$38.00	\$38,000.00
Backfill	500	CY	\$6.00	\$3,000.00
Channel	5,000	CY	\$6.00	\$30,000.00
Dewatering	1	Allowance	\$30,000.00	\$30,000.00
Streambed Mitigation	1	Allowance	\$50,000.00	\$50,000.00
Weir Structure Concrete	500	CY	\$556.00	\$278,000.00
Access Rd	500	LF	\$20.00	\$10,000.00

Flow Control Structure

Site Work	1	Allowance	\$200,000.00	\$200,000.00
Concrete wall	1	Allowance	\$500,000.00	\$500,000.00
Automated gates	15	gate	\$50,000.00	\$750,000.00
Stand-by power	1	Allowance	\$100,000.00	\$100,000.00
Electrical	1	Allowance	\$100,000.00	\$100,000.00

Channel to Lake G and Cope Lake

3500 cfs, 30'w to 80'w(drainback) trapezoidal Channelw/ 2.5:1slope
20' cut, 130-180ft wide @ top, 4,750 lineal ft long

Clearing	687,500	SF	\$1.00	\$34,375.00
Excavation & Hauling	350,500	CY	\$38.00	\$13,319,000.00
Surface preparation	687,500	SF	\$1.00	\$171,875.00

Distribution Channel

Concrete	12,250	CY	\$556.00	\$6,811,000.00
Weir	1	Allowance	\$200,000.00	\$200,000.00
Gates	25	gate	\$25,000.00	\$625,000.00

Box Culvert Under Mocho

180ft w by 20 ft d excavation w/1:1 slope
200 lf long

Stream Alteration Permitting	1	Allowance	\$50,000.00	\$50,000.00
Excavation & Hauling	25,000	CY	\$38.00	\$950,000.00
Backfill	23,000	CY	\$6.00	\$138,000.00
Dewatering	1	Allowance	\$100,000.00	\$100,000.00
Streambed Mitigation	1	Allowance	\$50,000.00	\$50,000.00
Concrete	2,500	CY	\$556.00	\$1,390,000.00
Bridge for Road	1	Allowance	\$750,000.00	\$750,000.00
Pavement and Surface Restoration	1	Allowance	\$300,000.00	\$300,000.00
Drainback Structure	1	Allowance	\$500,000.00	\$500,000.00
Gates on drainback and widened Mocho confluence	5	gate	\$25,000.00	\$125,000.00
Concrete wall	1	Allowance	\$200,000.00	\$200,000.00

Environmental Mitigation

9.18	Acres	\$495,000	\$4,544,100.00
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Flood Control Cost

Contractor Overhead and Profit (25% of Construction Subtotal)	\$32,397,350.00
Contingency (30% of Construction Subtotal and Overhead)	\$8,099,337.50
Total Construction Cost	\$12,149,006.25
Environmental Mitigation (10% of Total Construction Cost)	\$52,645,693.75
Engineering, Legal, and Admin (30% of Total Const. + Env. Mitigation Cost)	\$5,264,569.38
Land Acquisition	\$17,373,078.94
Land	
Land Acquisition Contingency (15%)	\$12,347,400.00
Total Land Acquisition	\$1,852,110.00
SubTotal Flood Control Cost	\$14,199,510.00
	\$89,500,000.00

Widening of Las Positas Through Golf Course

Assumptions:

1. Creek alignment remains the same with some straightening
2. The channel invert is lowered 5 ft deeper
3. The channel is vegetated with grasses with no concrete
4. 10,000 lineal feet from Airway Blvd to west end point
5. Sediment removal at Airway Blvd Bridge
6. Sediment basin (2.8 ac) downstream of confluence of Cottonwood Creek and ALP)

	Quantity	Unit	Unit Cost	Cost
Clearing	1,200,000	SF	\$1.00	\$60,000.00
Excavation & Hauling	350,000	CY	\$38.00	\$13,300,000.00
Surface preparation	1,200,000	SF	\$1.00	\$240,000.00
Seeding	1	Allowance	\$50,000.00	\$50,000.00
Paved Cart paths	20,000	LF	\$50.00	\$1,000,000.00
Pedestrian/cart bridges	5	Each	\$150,000.00	\$750,000.00
Surface grading around channel	1	Allowance	\$300,000.00	\$300,000.00
Lanscaping and trees	1	Allowance	\$400,000.00	\$400,000.00
Fencing	5,000	LF	\$18.00	\$90,000.00
Sediment Removal at Airway Blvd Bridge	500	CY	\$38.00	\$19,000.00
Sediment Basin	3	AF	\$64,520.00	\$180,656.00
Golf Course Mitigation for "down time"				\$5,000,000.00

Flood Control Cost

Contractor Overhead and Profit (25% of Construction Subtotal)	\$21,389,656.00
Contingency (30% of Construction Subtotal and Overhead)	\$5,347,414.00
Total Construction Cost	\$8,021,121.00
Environmental Mitigation (10% of Total Construction Cost)	\$34,758,191.00
Engineering, Legal, and Admin (30% of Total Const. + Env. Mitigation Cost)	\$3,475,819.10
SubTotal Flood Control Cost	\$11,470,203.03
	\$49,704,213.13

Widening of Las Positas Downstream of Diversion

Assumptions:

- 1,500 lineal feet from the diversion structure (60+00) to the improved section above Mocho (45+00)
- Terracing cost include excavation and hauling

	Quantity	Unit	Unit Cost	Cost
Terracing (Excavation/Hauling/Disposal)	27,780	CY	\$38.00	\$1,055,640.00
Revegetation	2	Acre	\$379,874.00	\$653,383.28

Flood Control Cost

\$1,709,023.28

Contractor Overhead and Profit (25% of Construction Subtotal)

\$427,255.82

Contingency (30% of Construction Subtotal and Overhead)

\$640,883.73

Total Construction Cost

\$2,777,162.83

Environmental Mitigation (10% of Total Construction Cost)

\$277,716.28

Engineering, Legal, and Admin (30% of Total Const. + Env. Mitigation Cost)

\$916,463.73

Land Acquisition

Land

16.4

Acre

\$301,810.00

\$4,949,684.00

Land Acquisition Contingency (15%)

\$742,452.60

Total Land Acquisition

\$5,692,136.60

SubTotal Flood Control Cost**\$9,663,479.45****Total Flood Control Cost****\$148,870,000.00**

Total Capital Project Cost**\$148,870,000.00****Total Annual Maintenance cost****Annual Mitigation cost****\$747,000.00****Annual Replacement cost**

Pumps/Gates & Concrete,
Mechanical trapezoidal
Equipment channels
(20-year @ i=6%) Eachr @ i=6%)

Las Positas Diversion Below Golf Course

90,000.00

470,000.00

Widening of Arroyo las Positas through Golf Course

-

320,000.00

Widening of Arroyo las Positas downstream of Golf Course

-

30,000.00

Total Annual Replacement Cost

90,000.00

820,000.00

\$910,000.00**Total Annual O&M Cost**

Pumps/Gates & Concrete,
Mechanical trapezoidal
Equipment channels

Las Positas Diversion Below Golf Course

24,400

50,200.00

Widening of las Positas through Golf Course

-

34,800.00

Widening of las Positas downstream of Golf Course

-

2,800.00

Total Annual O&M Cost

24,400

87,800

\$559,000.00

Total Annual Maintenance Cost**\$2,216,000.00**

Project #:
Project Name:
Approximate Total Cost:

R.6-1
Arroyo Mocho Management Plan
\$11,030,000

Flood Control Improvements

Total Flood Control Cost			\$0
Flood Control Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0

Habitat Improvements

Low Flow Channel	\$76.00 LF	9375.0	\$710,000
Non-native Species Control	\$54,268.00 Acre	6.9	\$370,000
Filling Riparian Gaps	\$379,874.00 Acre	6.9	\$2,600,000
Fish Passage/Barrier Removal	\$371,795.00 Each	2.0	\$740,000
Dewatering	\$21,708.00 Each (Site)	8.0	\$170,000
<i>Habitat Improvements Cost</i>			\$4,590,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$1,147,500
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$1,721,250
<i>Total Construction Cost</i>			\$7,458,750
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$2,237,625
Acquisition	\$23,622.00 Acre	10.3	\$240,000
Land Acquisition Subtotal			\$240,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$36,000
<i>Land Acquisition Cost</i>			\$276,000
Total Habitat Cost			\$9,970,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00 LF	15000.0	\$15,000
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00 Acre	6.9	\$57,000
Invasive Species Control - Herbicide Application	\$930.00 Acre	0.7	\$640
Invasive Species Control - Herbicide Monitoring Program (WQ Analysis)	\$35.00 Acre	0.7	\$24
Invasive Species Control - Biological Survey	\$5,186.00 Mile	2.8	\$15,000
Invasive Species Control - Mitigation for Herbicide Application	\$259,283.00 Acre	0.7	\$180,000
<i>Total Annual Maintenance Cost</i>			\$267,664

Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00 Mile	0.5	\$270,000
Pedestrian/Bike Bridge Over Arroyo	\$227,260.00 Each	1.0	\$230,000
Kiosk	\$1,085.00 Each	1.0	\$1,100
<i>Trails and Recreation Cost</i>			\$501,100
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$125,275
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$187,913
<i>Total Construction Cost</i>			\$814,288
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$244,286
Total Trails & Recreation Cost			\$1,060,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00 LF	2500.0	\$2,500
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00 SF	3500.0	\$3,500
<i>Trail Maintenance - Annualized Replacement Cost</i>			\$15,502.79

Trail Maintenance - Annualized Replacement Cost	Year	1.0	\$16,000
Sign Inspection/Repair	\$75.00		
	Each	1.0	\$75
<i>Total Annual Maintenance Cost</i>			\$22,075
Water Supply Improvements			
Total Water Supply Cost			\$0
Water Supply Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Water Quality Improvements			
Total Water Quality Cost			\$0
Water Quality Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Total Capital Project Cost			
			\$11,030,000
Total Annual Maintenance Cost			
Total Annual Mitigation Cost			\$180,000
Total Annual Replacement Cost			\$16,000
Total Annual O&M Cost			\$94,000
<i>Total Annual Maintenance Cost</i>			\$290,000

Project #:
Project Name:
Approximate Total Cost:

R.6-2
Arroyo Mocho Bypass and Regional Storage at Chain of Lakes
\$129,400,000

Flood Control Improvements

	Quantity	Unit	Unit Cost	Cost
Overflow Structure@ Mocho				
Stream Alteration Permitting	1	Allowance	\$25,000.00	\$25,000
Excavation & Hauling	1,000	CY	\$38.00	\$38,000
Backfill	500	CY	\$6.00	\$3,000
Dewatering	1	Allowance	\$30,000.00	\$30,000
Streambed Mitigation	1	Allowance	\$50,000.00	\$50,000
Weir Structure Concrete	500	CY	\$684.00	\$342,000
Access Rd	500	LF	\$20.00	\$10,000

Channel to Cope Lake (3500 cfs; 20 ft wide trapezoidal Channel w/ 2:1slope; 20 ft cut x 100 ft wide @ top; 11,000 ft long)

Clearing	1,705,000	SF	\$1.00	\$85,250
Excavation and Hauling	750,000	CY	\$38.00	\$28,500,000
Surface preparation	1,705,000	SF	\$1.00	\$426,250

Diversion vs. Storage Gates

Gates across 140' box culvert inlet	18	gate	\$25,000.00	\$450,000
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Widening of Mocho below Cope

\$5,000,000

Cope Lake Pump Station

\$9,400,000

Flood Control Cost

\$44,330,000

Contractor Overhead and Profit (25% of Construction Subtotal)

\$11,082,500

Contingency (30% of Construction Subtotal and Overhead)

\$16,623,750

Total Construction Cost

\$72,036,250

Environmental Mitigation (10% of Total Construction Cost)

\$7,203,625

Engineering, Legal, and Admin (30% of Total Const. + Env. Mitigation Cost)

\$23,771,963

Land Acquisition

Land (200 ft x 7000 ft)	50	Acre	\$308,685.00	\$15,434,250
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Land Acquisition Contingency (15%)

\$2,315,138

Total Land Acquisition

\$17,749,388

Total Flood Control Cost

\$120,800,000

Trails & Recreation Improvements

New Multi-use Trail	4.20	Mile	\$568,150.00	\$2,386,230
Land Acquisition	10.18	Acre	\$23,622.00	\$240,515
Levee Road	4,500	SF	\$22.00	\$99,000
Pedestrian/ Bicycle Bridge	3		\$227,260.00	\$681,780
Fencing	20,000	LF	\$18.00	\$360,000
Signage	1	Allowance	\$25,000.00	\$25,000
Landscaping and trees	1	Allowance	\$300,000.00	\$300,000

Trails & Recreation Cost

\$4,090,000

Contractor Overhead and Profit (25% of Construction Subtotal)

\$1,022,500

Contingency (30% of Construction Subtotal and Overhead)

\$1,533,750

Total Construction Cost

\$6,600,000

Environmental Mitigation (10% of Total Construction Cost)

Engineering, Legal, and Admin (30% of Total Const. + Env. Mitigation Cost)

\$1,980,000

Total Trails & Recreation Cost

\$8,600,000

Total Capital Project Cost

\$129,400,000

Total Annual Maintenance cost

Total Annual Replacement cost

Mocho Diversion to Cope Lake	
Pumps/Gates & Mechanical Equipment	620,000
Concrete, trapezoidal channels	90,000
Trails	140,000

Total Annual Replacement cost

\$850,000

Total Annual O&M Cost

Mocho Diversion to Cope Lake	
Pumps/Gates & Mechanical Equipment	160,100
Concrete, trapezoidal channels	9,400
Trails	29,775

Total Annual O&M cost

\$199,000

Total Annual Maintenance cost

\$1,049,000

Project #:
Project Name:
Approximate Total Cost:

R.7-1
Upper Chain of Lakes Trail Network
\$6,790,000

Flood Control Improvements

Total Flood Control Cost	\$0
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Flood Control Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Habitat Improvements

Total Habitat Cost	\$0
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Habitat Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	3.5	\$2,000,000
Pedestrian/Bike Bridge Over Arroyo	\$227,260.00		
	Each	2.0	\$450,000
New Traffic Signal	\$176,127.00		
	Each	4.0	\$700,000
Signage	\$217.00		
	Each	2.0	\$430
<i>Trails and Recreation Cost</i>			\$3,150,430
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$787,608
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$1,181,411
<i>Total Construction Cost</i>			\$5,119,449
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$1,535,835

Acquisition	\$23,622.00		
	Acre	5.0	\$120,000
Land Acquisition Subtotal			\$120,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$18,000
<i>Land Acquisition Cost</i>			\$138,000
Total Trails & Recreation Cost			\$6,790,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00		
	LF	18298.0	\$18,000
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	25617.2	\$26,000
Trail Maintenance - Annualized Replacement Cost	\$114,835.50		
	Year	1.0	\$110,000
Sign Inspection/Repair	\$75.00		
	Each	2.0	\$150
<i>Total Annual Maintenance Cost</i>			\$154,150

Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

\$6,790,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$0
Total Annual Replacement Cost	\$110,000
Total Annual O&M Cost	\$44,000
<i>Total Annual Maintenance Cost</i>	\$154,000

Project #:
Project Name:
Approximate Total Cost:

R.7-2
EBRPD Trail Connections
\$1,920,000

Flood Control Improvements

Total Flood Control Cost	\$0
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Flood Control Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Habitat Improvements

Total Habitat Cost	\$0
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Habitat Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	1.5	\$860,000
<i>Trails and Recreation Cost</i>			\$860,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$215,000
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$322,500
<i>Total Construction Cost</i>			\$1,397,500
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$419,250
Acquisition	\$23,622.00		
	Acre	3.7	\$87,000
Land Acquisition Subtotal			\$87,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$13,050
<i>Land Acquisition Cost</i>			\$100,050
Total Trails & Recreation Cost			\$1,920,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00		
	LF	8000.0	\$8,000
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	11200.0	\$11,000
Trail Maintenance - Annualized Replacement Cost	\$49,379.27		
	Year	1.0	\$49,000
<i>Total Annual Maintenance Cost</i>			\$68,000

Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

\$1,920,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$0
Total Annual Replacement Cost	\$49,000
Total Annual O&M Cost	\$19,000
<i>Total Annual Maintenance Cost</i>	\$68,000

Project #:
Project Name:

R.7-3
Lower Arroyo del Valle Restoration and
Enhancement Project

Approximate Total Cost:

\$23,750,000

Flood Control Improvements

Rock Vanes	\$32,561.00		
	Each	1.0	\$33,000
<i>Flood Control Cost</i>			<i>\$33,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$8,250</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$12,375</i>
<i>Total Construction Cost</i>			<i>\$53,625</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$5,363</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$17,696</i>
Total Flood Control Cost			\$80,000
Flood Control Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0

Habitat Improvements

Non-native Species Control	\$54,268.00		
	Acre	12.6	\$690,000
Filling Riparian Gaps	\$379,874.00		
	Acre	12.6	\$4,800,000
Fish Passage/Barrier Removal	\$371,795.00		
	Each	4.0	\$1,500,000
Dewatering	\$21,708.00		
	Each (Site)	4.0	\$87,000
<i>Habitat Improvements Cost</i>			<i>\$7,077,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$1,769,250</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$2,653,875</i>
<i>Total Construction Cost</i>			<i>\$11,500,125</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$3,450,038</i>
Acquisition	\$411,579.67		
	Acre	4.2	\$1,700,000
Land Acquisition Subtotal			\$1,700,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$255,000
Land Acquisition Cost			\$1,955,000
Total Habitat Cost			\$16,910,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00		
	LF	11000.0	\$11,000
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00		
	Acre	12.6	\$100,000
Invasive Species Control - Herbicide Application	\$930.00		
	Acre	1.3	\$1,200
Invasive Species Control - Herbicide Monitoring Program (WQ Analysis)	\$35.00		
	Acre	1.3	\$44
Invasive Species Control - Biological Survey	\$5,186.00		
	Mile	1.0	\$5,400
Invasive Species Control - Mitigation for Herbicide Application	\$259,283.00		
	Acre	1.3	\$330,000
<i>Total Annual Maintenance Cost</i>			\$447,644

Trails & Recreation Improvements

Service Road Multi-use Trail	\$227,260.00		
	Mile	0.2	\$34,000
Bike Route - Local Street	\$6,818.00		
	Mile	0.3	\$2,000
Pedestrian/Bike Bridge Over Arroyo	\$227,260.00		
	Each	3.0	\$680,000
Major Pedestrian/Bike Over or Undercrossing	\$2,000,000.00		
	Each	1.0	\$2,000,000
New Traffic Signal	\$176,127.00		
	Each	2.0	\$350,000
Signage	\$217.00		

Signage	Each	1.0	\$220
<i>Trails and Recreation Cost</i>			\$3,066,220
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$766,555
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$1,149,833
<i>Total Construction Cost</i>			\$4,982,608
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$1,494,782
Acquisition	\$308,685.00		
	Acre	0.8	\$250,000
Land Acquisition Subtotal			\$250,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$37,500
<i>Land Acquisition Cost</i>			\$287,500
Total Trails & Recreation Cost			\$6,760,000
Trail Maintenance			
Trail Maintenance - Field Inspection	\$1.00		
	LF	2384.0	\$2,400
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	3337.6	\$3,300
Trail Maintenance - Annualized Replacement Cost	\$2,067.04		
	Year	1.0	\$2,100
Sign Inspection/Repair	\$75.00		
	Each	1.0	\$75
<i>Total Annual Maintenance Cost</i>			\$7,875
Water Supply Improvements			
Total Water Supply Cost			\$0
Water Supply Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Water Quality Improvements			
Total Water Quality Cost			\$0
Water Quality Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Total Capital Project Cost			
			\$23,750,000
Total Annual Maintenance Cost			
Total Annual Mitigation Cost			\$330,000
Total Annual Replacement Cost			\$2,000
Total Annual O&M Cost			\$124,000
<i>Total Annual Maintenance Cost</i>			\$456,000

Project #:
Project Name:
Approximate Total Cost:

R.8-1
Tassajara Creek Improvement Project
\$8,830,000

Flood Control Improvements

Bank Stabilization	\$272.00		
	LF	4000.0	\$1,100,000
Sediment Basins	\$64,520.00		
	AF	1.8	\$120,000
Mitigation	\$259,283.00		
	Acre	0.9	\$240,000
Flood Control Cost			\$1,460,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$365,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$547,500</i>
<i>Total Construction Cost</i>			<i>\$2,372,500</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$237,250</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$782,925</i>
Total Flood Control Cost			\$3,390,000

Flood Control Maintenance

Sediment Basins - Annual Field Inspection	\$1.00		
	LF	1080.0	\$1,100
Sediment Basins - Annual Sediment Removal	\$43.00		
	CY	1500.0	\$65,000
Sediment Basins - Sediment Characterization & WQ Monitoring	\$5.00		
	CY	1500.0	\$7,500
Sediment Basins - Wetland Mitigation (Acreage of Sediment Basin)	\$259,283.00		
	Acre	0.2	\$60,000
Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	4000.0	\$4,000
Bank Maintenance - Minor Repair	\$9.00		
	LF	400.0	\$3,600
Bank Maintenance - Annualized Replacement Cost	\$69,475.48		
	Year	1.0	\$69,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.3	\$71,000
Management of Mitigation - (Routine Maintenance of Stormwater Wetlands)	\$1,825.00		
	Acre	0.9	\$1,700
Total Annual Maintenance Cost			\$282,900

Habitat Improvements

Dewatering	\$21,708.00		
	Each (Site)	1.0	\$22,000
Habitat Improvements Cost			\$22,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$5,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$8,250</i>
<i>Total Construction Cost</i>			<i>\$35,750</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$10,725</i>
Total Habitat Cost			\$50,000

Habitat Maintenance

Total Annual Maintenance Cost			\$0
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Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	1.0	\$550,000
Major Pedestrian/Bike Over or Undercrossing	\$2,000,000.00		
	Each	1.0	\$2,000,000
Trails and Recreation Cost			\$2,550,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$637,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$956,250</i>
<i>Total Construction Cost</i>			<i>\$4,143,750</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$1,243,125</i>
Total Trails & Recreation Cost			\$5,390,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00		
	LF	5100.0	\$5,100
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		

Trail Maintenance - Minor Repair of New Trail (AC Surface)	SF	7140.0	\$7,100
Trail Maintenance - Annualized Replacement Cost	\$31,579.76		
	Year	1.0	\$32,000
<i>Total Annual Maintenance Cost</i>			\$44,200
Water Supply Improvements			
Total Water Supply Cost			\$0
Water Supply Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Water Quality Improvements			
Total Water Quality Cost			\$0
Water Quality Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Total Capital Project Cost			
			\$8,830,000
Total Annual Maintenance Cost			
Total Annual Mitigation Cost			\$133,000
Total Annual Replacement Cost			\$101,000
Total Annual O&M Cost			\$93,000
<i>Total Annual Maintenance Cost</i>			\$327,000

Project #:
Project Name:
Approximate Total Cost:

R.8-2
Chabot Canal Improvement Project
\$18,420,000

Flood Control Improvements

New Service Road	\$5.00 SF	102000.0	\$510,000
Culvert Modification	\$540,018.00 Allowance	6.0	\$3,200,000
Concrete Lining	\$556.00 CY	1951.9	\$1,100,000
Excavation/Hauling/Disposal	\$38.00 CY	41222.2	\$1,600,000
Mitigation	\$259,283.00 Acre	5.4	\$1,400,000
Flood Control Cost			\$7,810,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$1,952,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$2,928,750</i>
<i>Total Construction Cost</i>			<i>\$12,691,250</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$1,269,125</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$4,188,113</i>
Total Flood Control Cost			\$18,150,000

Flood Control Maintenance

Trail Maintenance - Field Inspection	\$1.00 LF	6000.0	\$6,000
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00 SF	10200.0	\$10,000
Trail Maintenance - Annualized Replacement Cost	\$32,211.36 Year	1.0	\$32,000
Management of Mitigation - (Routine Maintenance of Stormwater Wetlands)	\$1,825.00 Acre	5.4	\$9,900
Total Annual Maintenance Cost			\$57,900

Habitat Improvements

Dewatering	\$21,708.00 Each (Site)	6.0	\$130,000
Habitat Improvements Cost			\$130,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$32,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$48,750</i>
<i>Total Construction Cost</i>			<i>\$211,250</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$63,375</i>
Total Habitat Cost			\$270,000

Habitat Maintenance

Total Annual Maintenance Cost			\$0
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Trails & Recreation Improvements

Total Trails & Recreation Cost			\$0
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Trail Maintenance

Total Annual Maintenance Cost			\$0
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Water Supply Improvements

Total Water Supply Cost			\$0
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Water Supply Maintenance

Total Annual Maintenance Cost			\$0
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Water Quality Improvements

Total Water Quality Cost			\$0
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Water Quality Maintenance

Total Annual Maintenance Cost			\$0
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Total Capital Project Cost

			\$18,420,000
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Total Annual Maintenance Cost

Total Annual Mitigation Cost			\$10,000
Total Annual Replacement Cost			\$32,000

Total Annual O&M Cost	\$16,000
<i>Total Annual Maintenance Cost</i>	\$58,000

Project #:
Project Name:
Approximate Total Cost:

R.8-3
Lower Arroyo Mocho Improvement Project
\$29,830,000

Flood Control Improvements

Floodwalls	\$92.00 SF	14000.0	\$1,300,000
Rock Vanes	\$32,561.00 Each	7.0	\$230,000
Bank Stabilization	\$272.00 LF	3400.0	\$920,000
Excavation/Hauling/Disposal	\$38.00 CY	25000.0	\$950,000
Mitigation	\$259,283.00 Acre	8.2	\$2,100,000
Flood Control Cost			\$5,500,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$1,375,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$2,062,500</i>
<i>Total Construction Cost</i>			<i>\$8,937,500</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$893,750</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$2,949,375</i>
Total Flood Control Cost			\$12,780,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00 LF	3400.0	\$3,400
Bank Maintenance - Minor Repair	\$9.00 LF	340.0	\$3,100
Bank Maintenance - Annualized Replacement Cost	\$58,106.76 Year	1.0	\$58,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00 Acre	0.2	\$61,000
Management of Mitigation - (Routine Maintenance of Stormwater Wetlands)	\$1,825.00 Acre	8.2	\$15,000
Total Annual Maintenance Cost			\$140,500

Habitat Improvements

Low Flow Channel	\$76.00 LF	21250.0	\$1,600,000
Fish Passage/Barrier Removal	\$371,795.00 Each	1.0	\$370,000
Riparian Vegetation	\$379,874.00 Acre	15.6	\$5,900,000
Dewatering	\$21,708.00 Each (Site)	9.0	\$200,000
Habitat Improvements Cost			\$8,070,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$2,017,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$3,026,250</i>
<i>Total Construction Cost</i>			<i>\$13,113,750</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$3,934,125</i>
Total Habitat Cost			\$17,050,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00 LF	17000.0	\$17,000
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00 Acre	15.6	\$130,000
Total Annual Maintenance Cost			\$147,000

Trails & Recreation Improvements

Total Trails & Recreation Cost			\$0
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Trail Maintenance

Total Annual Maintenance Cost			\$0
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Water Supply Improvements

Total Water Supply Cost			\$0
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Water Supply Maintenance

Total Annual Maintenance Cost			\$0
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Water Quality Improvements	
Total Water Quality Cost	\$0
Water Quality Maintenance	
<i>Total Annual Maintenance Cost</i>	\$0
Total Capital Project Cost	
	\$29,830,000
Total Annual Maintenance Cost	
Total Annual Mitigation Cost	\$76,000
Total Annual Replacement Cost	\$58,000
Total Annual O&M Cost	\$154,000
<i>Total Annual Maintenance Cost</i>	\$288,000

Project #:
Project Name:

R.8-4
Upper Arroyo de la Laguna (ADLL) Improvement
Project

Approximate Total Cost:

\$50,600,000

Flood Control Improvements

Floodwalls	\$92.00 SF	36000.0	\$3,300,000
New Service Road	\$5.00 SF	85000.0	\$430,000
Bank Stabilization Due to Rotational Failure	\$750.00 LF	10000.0	\$7,500,000
Excavation/Hauling/Disposal	\$38.00 CY	113425.0	\$4,300,000
Mitigation	\$259,283.00 Acre	9.2	\$2,400,000
Drainage Pump Station	\$1,085,630.00 Allowance	1.0	\$1,100,000
Flood Control Cost			\$19,030,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$4,757,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$7,136,250</i>
<i>Total Construction Cost</i>			<i>\$30,923,750</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$3,092,375</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$10,204,838</i>
Total Flood Control Cost			\$44,220,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00 LF	10000.0	\$10,000
Bank Maintenance - Minor Repair	\$9.00 LF	1000.0	\$9,000
Bank Maintenance - Annualized Replacement Cost	\$473,696.44 Year	1.0	\$470,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00 Acre	0.7	\$180,000
Trail Maintenance - Annualized Replacement Cost	\$27,158.60 Year	1.0	\$27,000
Pump Maintenance	\$32,544.00 Each	1.0	\$33,000
Pump - Annualized Replacement Cost	\$69,475.48 Each	1.0	\$69,000
Management of Mitigation - (Routine Maintenance of Stormwater Wetlands)	\$1,825.00 Acre	9.2	\$17,000
Total Annual Maintenance Cost			\$815,000

Habitat Improvements

Low Flow Channel	\$76.00 LF	6250.0	\$480,000
Riparian Vegetation	\$379,874.00 Acre	5.7	\$2,200,000
Dewatering	\$21,708.00 Each (Site)	5.0	\$110,000
Habitat Improvements Cost			\$2,790,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$697,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$1,046,250</i>
<i>Total Construction Cost</i>			<i>\$4,533,750</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$1,360,125</i>
Total Habitat Cost			\$5,890,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00 LF	10000.0	\$10,000
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00 Acre	5.7	\$47,000
Total Annual Maintenance Cost			\$57,000

Trails & Recreation Improvements

Pedestrian/Bike Bridge Over Arroyo	\$227,260.00		
	Each	1.0	\$230,000
Kiosk	\$1,085.00		
	Each	2.0	\$2,200
<i>Trails and Recreation Cost</i>			\$232,200
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$58,050
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$87,075
<i>Total Construction Cost</i>			\$377,325
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$113,198
Total Trails & Recreation Cost			\$490,000
Trail Maintenance			
Sign Inspection/Repair	\$75.00		
	Each	2.0	\$150
<i>Total Annual Maintenance Cost</i>			\$150
Water Supply Improvements			
Total Water Supply Cost			\$0
Water Supply Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Water Quality Improvements			
Total Water Quality Cost			\$0
Water Quality Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Total Capital Project Cost			
			\$50,600,000
Total Annual Maintenance Cost			
Total Annual Mitigation Cost			\$197,000
Total Annual Replacement Cost			\$566,000
Total Annual O&M Cost			\$109,000
<i>Total Annual Maintenance Cost</i>			\$872,000

Project #:
Project Name:

R.9-1
Alamo Canal/South San Ramon Creek Erosion
Control

Approximate Total Cost:

\$11,760,000

Flood Control Improvements

Bank Stabilization	\$272.00		
	LF	9900.0	\$2,700,000
<i>Flood Control Cost</i>			<i>\$2,700,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$675,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$1,012,500</i>
<i>Total Construction Cost</i>			<i>\$4,387,500</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$438,750</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$1,447,875</i>
Total Flood Control Cost			\$6,270,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	9900.0	\$9,900
Bank Maintenance - Minor Repair	\$9.00		
	LF	990.0	\$8,900
Bank Maintenance - Annualized Replacement Cost	\$170,530.72		
	Year	1.0	\$170,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.7	\$180,000
<i>Total Annual Maintenance Cost</i>			\$368,800

Habitat Improvements

Riparian Vegetation	\$379,874.00		
	Acre	6.9	\$2,600,000
<i>Habitat Improvements Cost</i>			<i>\$2,600,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$650,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$975,000</i>
<i>Total Construction Cost</i>			<i>\$4,225,000</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$1,267,500</i>
Total Habitat Cost			\$5,490,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00		
	LF	10000.0	\$10,000
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00		
	Acre	6.9	\$57,000
<i>Total Annual Maintenance Cost</i>			\$67,000

Trails & Recreation Improvements

Total Trails & Recreation Cost	\$0
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Trail Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

\$11,760,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$180,000
Total Annual Replacement Cost	\$170,000
Total Annual O&M Cost	\$86,000
<i>Total Annual Maintenance Cost</i>	\$436,000

Project #:
Project Name:
Approximate Total Cost:

R.9-2
Line F-4 Concrete Lining
\$1,250,000

Flood Control Improvements

Bank Stabilization	\$272.00		
	LF	2000.0	\$540,000
<i>Flood Control Cost</i>			<i>\$540,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$135,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$202,500</i>
<i>Total Construction Cost</i>			<i>\$877,500</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$87,750</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$289,575</i>
Total Flood Control Cost			\$1,250,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	2000.0	\$2,000
Bank Maintenance - Minor Repair	\$9.00		
	LF	200.0	\$1,800
Bank Maintenance - Annualized Replacement Cost	\$34,106.14		
	Year	1.0	\$34,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.1	\$36,000
<i>Total Annual Maintenance Cost</i>			<i>\$73,800</i>

Habitat Improvements

Total Habitat Cost	\$0
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Habitat Maintenance

<i>Total Annual Maintenance Cost</i>	<i>\$0</i>
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Trails & Recreation Improvements

Total Trails & Recreation Cost	\$0
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Trail Maintenance

<i>Total Annual Maintenance Cost</i>	<i>\$0</i>
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Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	<i>\$0</i>
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	<i>\$0</i>
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Total Capital Project Cost

\$1,250,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$36,000
Total Annual Replacement Cost	\$34,000
Total Annual O&M Cost	\$4,000
<i>Total Annual Maintenance Cost</i>	<i>\$74,000</i>

Project #:
Project Name:
Approximate Total Cost:

R.9-3
Line J-1, J-3 and J-5 Improvements
\$8,700,000

Flood Control Improvements

Culvert Modification	\$540,018.00		
	Allowance	5.0	\$2,700,000
Concrete Lining	\$556.00		
	CY	777.8	\$430,000
Mitigation	\$259,283.00		
	Acre	1.9	\$500,000
<i>Flood Control Cost</i>			\$3,630,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$907,500
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$1,361,250
<i>Total Construction Cost</i>			\$5,898,750
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			\$589,875
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost)¹</i>			\$1,946,588
Acquisition	\$ 257,237.00		
	Acre	0.1	\$30,000
Land Acquisition Subtotal			\$30,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$4,500
<i>Land Acquisition Cost</i>			\$34,500
Total Flood Control Cost			\$8,470,000

Flood Control Maintenance

Management of Mitigation - (Routine Maintenance of Stormwater Wetlands)	\$1,825.00		
	Acre	1.9	\$3,500
<i>Total Annual Maintenance Cost</i>			\$3,500

Habitat Improvements

Dewatering	\$21,708.00		
	Each (Site)	5.0	\$110,000
<i>Habitat Improvements Cost</i>			\$110,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$27,500
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$41,250
<i>Total Construction Cost</i>			\$178,750
<i>Engineering, Legal, and Administration (30% of Total Construction Cost)¹</i>			\$53,625
Total Habitat Cost			\$230,000

Habitat Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Trails & Recreation Improvements

Total Trails & Recreation Cost			\$0
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Trail Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Water Supply Improvements

Total Water Supply Cost			\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Water Quality Improvements

Total Water Quality Cost			\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Total Capital Project Cost

			\$8,700,000
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Total Annual Maintenance Cost

Total Annual Mitigation Cost			\$4,000
Total Annual Replacement Cost			\$0
Total Annual O&M Cost			\$0
<i>Total Annual Maintenance Cost</i>			\$4,000

Project #:
Project Name:
Approximate Total Cost:

R.9-4
Line T Crossings Retrofit
\$3,040,000

Flood Control Improvements

Floodwalls	\$92.00 SF	1400.0	\$130,000
Culvert Modification	\$540,018.00 Allowance	2.0	\$1,100,000
<i>Flood Control Cost</i>			<i>\$1,230,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$307,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$461,250</i>
<i>Total Construction Cost</i>			<i>\$1,998,750</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$199,875</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$659,588</i>
Acquisition	\$ 257,237.00 Acre	0.3	\$77,000
Land Acquisition Subtotal			\$77,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$11,550
<i>Land Acquisition Cost</i>			<i>\$88,550</i>
Total Flood Control Cost			\$2,950,000

Flood Control Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Habitat Improvements

Dewatering	\$21,708.00 Each (Site)	2.0	\$43,000
<i>Habitat Improvements Cost</i>			<i>\$43,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$10,750</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$16,125</i>
<i>Total Construction Cost</i>			<i>\$69,875</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$20,963</i>
Total Habitat Cost			\$90,000

Habitat Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Trails & Recreation Improvements

Total Trails & Recreation Cost	\$0
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Trail Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

	\$3,040,000
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Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$0
Total Annual Replacement Cost	\$0
Total Annual O&M Cost	\$0
<i>Total Annual Maintenance Cost</i>	\$0

Project #:
Project Name:
Approximate Total Cost:

R.9-5
I-580 Trail Gap Elimination
\$860,000

Flood Control Improvements

Total Flood Control Cost	\$0
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Flood Control Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Habitat Improvements

Total Habitat Cost	\$0
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Habitat Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	0.1	\$40,000
Floodwalls	\$92.00		
	SF	3700.0	\$340,000
Excavation/Hauling/Disposal	\$38.00		
	CY	685.0	\$26,000
<i>Trails and Recreation Cost</i>			\$406,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$101,500
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$152,250
<i>Total Construction Cost</i>			\$659,750
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$197,925
Total Trails & Recreation Cost			\$860,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00		
	LF	370.0	\$370
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	518.0	\$520
Trail Maintenance - Annualized Replacement Cost	\$2,296.71		
	Year	1.0	\$2,300
<i>Total Annual Maintenance Cost</i>			\$3,190

Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

\$860,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$0
Total Annual Replacement Cost	\$2,000
Total Annual O&M Cost	\$1,000
<i>Total Annual Maintenance Cost</i>	\$3,000

Project #:
Project Name:
Approximate Total Cost:

R.9-6
Line G-1-1 Maintenance Plan
\$2,150,000

Flood Control Improvements

Bank Stabilization	\$272.00		
	LF	120.0	\$33,000
Excavation/Hauling/Disposal	\$38.00		
	CY	450.0	\$17,000
Mitigation	\$259,283.00		
	Acre	0.3	\$74,000
<i>Flood Control Cost</i>			<i>\$124,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$31,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$46,500</i>
<i>Total Construction Cost</i>			<i>\$201,500</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$20,150</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$66,495</i>
Total Flood Control Cost			\$290,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	120.0	\$120
Bank Maintenance - Minor Repair	\$9.00		
	LF	12.0	\$110
Bank Maintenance - Annualized Replacement Cost	\$2,084.26		
	Year	1.0	\$2,100
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.0	\$2,100
Management of Mitigation - (Routine Maintenance of Stormwater Wetlands)	\$1,825.00		
	Acre	0.3	\$520
<i>Total Annual Maintenance Cost</i>			<i>\$4,950</i>

Habitat Improvements

Low Flow Channel	\$76.00		
	LF	9375.0	\$710,000
Dewatering	\$21,708.00		
	Each (Site)	8.0	\$170,000
<i>Habitat Improvements Cost</i>			<i>\$880,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$220,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$330,000</i>
<i>Total Construction Cost</i>			<i>\$1,430,000</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$429,000</i>
Total Habitat Cost			\$1,860,000

Habitat Maintenance

<i>Total Annual Maintenance Cost</i>			<i>\$0</i>
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Trails & Recreation Improvements

Total Trails & Recreation Cost			\$0
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Trail Maintenance

<i>Total Annual Maintenance Cost</i>			<i>\$0</i>
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Water Supply Improvements

Total Water Supply Cost			\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>			<i>\$0</i>
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Water Quality Improvements

Total Water Quality Cost			\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>			<i>\$0</i>
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Total Capital Project Cost

			\$2,150,000
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Total Annual Maintenance Cost

Total Annual Mitigation Cost			\$3,000
Total Annual Replacement Cost			\$2,000

Total Annual O&M Cost	\$0
<i>Total Annual Maintenance Cost</i>	\$5,000

Project #:
Project Name:
Approximate Total Cost:

R.9-7
Alamo Canal Flood Control Program
\$10,860,000

Flood Control Improvements

New Service Road	\$5.00 SF	42500.0	\$210,000
Bank Stabilization	\$272.00 LF	500.0	\$140,000
Excavation/Hauling/Disposal	\$38.00 CY	37592.6	\$1,400,000
Mitigation	\$259,283.00 Acre	7.8	\$2,000,000
Flood Control Cost			\$3,750,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$937,500
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$1,406,250
<i>Total Construction Cost</i>			\$6,093,750
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			\$609,375
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			\$2,010,938
Total Flood Control Cost			\$8,710,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00 LF	500.0	\$500
Bank Maintenance - Minor Repair	\$9.00 LF	50.0	\$450
Bank Maintenance - Annualized Replacement Cost	\$8,842.33 Year	1.0	\$8,800
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00 Acre	0.0	\$8,900
Trail Maintenance - Annualized Replacement Cost	\$13,263.50 Year	1.0	\$13,000
Management of Mitigation - (Routine Maintenance of Stormwater Wetlands)	\$1,825.00 Acre	7.8	\$14,000
Total Annual Maintenance Cost			\$45,650

Habitat Improvements

Filling Riparian Gaps	\$379,874.00 Acre	2.3	\$870,000
Dewatering	\$21,708.00 Each (Site)	7.0	\$150,000
Habitat Improvements Cost			\$1,020,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$255,000
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$382,500
<i>Total Construction Cost</i>			\$1,657,500
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$497,250
Total Habitat Cost			\$2,150,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00 LF	2500.0	\$2,500
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00 Acre	2.3	\$19,000
Total Annual Maintenance Cost			\$21,500

Trails & Recreation Improvements

Total Trails & Recreation Cost			\$0
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Trail Maintenance

Total Annual Maintenance Cost			\$0
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Water Supply Improvements

Total Water Supply Cost			\$0
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Water Supply Maintenance

Total Annual Maintenance Cost			\$0
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Water Quality Improvements

Total Water Quality Cost			\$0
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Water Quality Maintenance

Total Annual Maintenance Cost

\$0

Total Capital Project Cost

\$10,860,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost \$23,000

Total Annual Replacement Cost \$22,000

Total Annual O&M Cost \$22,000

Total Annual Maintenance Cost **\$67,000**

Project #:
Project Name:
Approximate Total Cost:

R.10-1
ADLL Improvement Project 1
\$7,490,000

Flood Control Improvements

Rock Vanes	\$32,561.00		
Each	1.0	\$33,000	
Boulder Wing Deflectors	\$18,590.00		
Each	5.0	\$93,000	
Bank Shaping and Planting	\$2.00		
SF	27500.0	\$55,000	
Bank Stabilization Due to Rotational Failure	\$750.00		
LF	500.0	\$380,000	
Excavation/Hauling/Disposal	\$38.00		
CY	4629.6	\$180,000	
Flood Control Cost			\$741,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$185,250</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$277,875</i>
<i>Total Construction Cost</i>			<i>\$1,204,125</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$120,413</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$397,361</i>
Total Flood Control Cost			\$1,720,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
LF	500.0	\$500	
Bank Maintenance - Minor Repair	\$9.00		
LF	50.0	\$450	
Bank Maintenance - Annualized Replacement Cost	\$27,474.39		
Year	1.0	\$27,000	
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
Acre	0.1	\$15,000	
Total Annual Maintenance Cost			\$42,950

Habitat Improvements

Filling Riparian Gaps	\$379,874.00		
Acre	6.9	\$2,600,000	
Dewatering	\$21,708.00		
Each (Site)	1.0	\$22,000	
Habitat Improvements Cost			\$2,622,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$655,500</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$983,250</i>
<i>Total Construction Cost</i>			<i>\$4,260,750</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$1,278,225</i>
Total Habitat Cost			\$5,540,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00		
LF	6000.0	\$6,000	
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00		
Acre	6.9	\$57,000	
Total Annual Maintenance Cost			\$63,000

Trails & Recreation Improvements

Service Road Multi-use Trail	\$227,260.00		
Mile	0.5	\$110,000	
Signage	\$217.00		
Each	1.0	\$220	
Trails and Recreation Cost			\$110,220
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$27,555</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$41,333</i>
<i>Total Construction Cost</i>			<i>\$179,108</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$53,732</i>
Total Trails & Recreation Cost			\$230,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00		
LF	2500.0	\$2,500	
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		

Trail Maintenance - Minor Repair of New Trail (AC Surface)	SF	3500.0	\$3,500
	\$6,315.95		
Trail Maintenance - Annualized Replacement Cost	Year	1.0	\$6,300
	\$75.00		
Sign Inspection/Repair	Each	1.0	\$75
<i>Total Annual Maintenance Cost</i>			\$12,375

Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

	\$7,490,000
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Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$15,000
Total Annual Replacement Cost	\$33,000
Total Annual O&M Cost	\$70,000
<i>Total Annual Maintenance Cost</i>	\$118,000

Project #:
Project Name:
Approximate Total Cost:

R10-2
ADLL Improvement Project 2
\$4,400,000

Flood Control Improvements

Storm Drain Outfall: 12 inch	\$38.00		
	LF	200.0	\$7,600
Bank Shaping and Planting	\$2.00		
	SF	11000.0	\$22,000
Bank Stabilization	\$272.00		
	LF	200.0	\$54,000
Rock Lining	\$95.00		
	CY	2960.0	\$280,000
Excavation/Hauling/Disposal	\$38.00		
	CY	925.9	\$35,000
<i>Flood Control Cost</i>			\$398,600
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$99,650
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$149,475
<i>Total Construction Cost</i>			\$647,725
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			\$64,773
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			\$213,749
Acquisition	\$295,268.00		
	Acre	0.1	\$34,000
Land Acquisition Subtotal			\$34,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$5,100
<i>Land Acquisition Cost</i>			\$39,100
Total Flood Control Cost			\$970,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	200.0	\$200
Bank Maintenance - Minor Repair	\$9.00		
	LF	20.0	\$180
Bank Maintenance - Annualized Replacement Cost	\$4,800.12		
	Year	1.0	\$4,800
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.0	\$6,000
<i>Total Annual Maintenance Cost</i>			\$11,180

Habitat Improvements

Fish Passage/Barrier Removal	\$371,795.00		
	Each	1.0	\$370,000
Hardscape Removal	\$186.00		
	LF	100.0	\$19,000
Dewatering	\$21,708.00		
	Each (Site)	2.0	\$43,000
<i>Habitat Improvements Cost</i>			\$432,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$108,000
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$162,000
<i>Total Construction Cost</i>			\$702,000
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$210,600
Total Habitat Cost			\$910,000

Habitat Maintenance

<i>Total Annual Maintenance Cost</i>			\$0
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Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	1.0	\$570,000
Pedestrian/Bike Bridge Over Arroyo	\$227,260.00		
	Each	1.0	\$230,000
Kiosk	\$1,085.00		
	Each	1.0	\$1,100
<i>Trails and Recreation Cost</i>			\$801,100
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$200,275
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$300,413
<i>Total Construction Cost</i>			\$1,301,788
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$390,536

Acquisition	\$295,268.00		
	Acre	2.4	\$720,000
Land Acquisition Subtotal			\$720,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$108,000
Land Acquisition Cost			\$828,000
Total Trails & Recreation Cost			\$2,520,000
Trail Maintenance			
Trail Maintenance - Field Inspection	\$1.00		
	LF	5280.0	\$5,300
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	7392.0	\$7,400
Trail Maintenance - Annualized Replacement Cost	\$32,728.12		
	Year	1.0	\$33,000
Sign Inspection/Repair	\$75.00		
	Each	1.0	\$75
<i>Total Annual Maintenance Cost</i>			\$45,775
Water Supply Improvements			
Total Water Supply Cost			\$0
Water Supply Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Water Quality Improvements			
Total Water Quality Cost			\$0
Water Quality Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Total Capital Project Cost			\$4,400,000
Total Annual Maintenance Cost			
Total Annual Mitigation Cost			\$6,000
Total Annual Replacement Cost			\$38,000
Total Annual O&M Cost			\$13,000
<i>Total Annual Maintenance Cost</i>			\$57,000

Project #:
Project Name:
Approximate Total Cost:

R10-3
ADLL Improvement Project 3
\$7,950,000

Flood Control Improvements

Rock Vanes	\$32,561.00		
	Each	2.0	\$65,000
Bank Shaping and Planting	\$2.00		
	SF	120000.0	\$240,000
Bank Stabilization	\$272.00		
	LF	4800.0	\$1,300,000
Excavation/Hauling/Disposal	\$38.00		
	CY	8880.0	\$340,000
<i>Flood Control Cost</i>			<i>\$1,945,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$486,250</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$729,375</i>
<i>Total Construction Cost</i>			<i>\$3,160,625</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$316,063</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$1,043,006</i>
Acquisition	\$295,268.00		
	Acre	5.5	\$1,600,000
Land Acquisition Subtotal			\$1,600,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$240,000
<i>Land Acquisition Cost</i>			<i>\$1,840,000</i>
Total Flood Control Cost			\$6,360,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	4800.0	\$4,800
Bank Maintenance - Minor Repair	\$9.00		
	LF	480.0	\$4,300
Bank Maintenance - Annualized Replacement Cost	\$97,265.67		
	Year	1.0	\$97,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.6	\$140,000
<i>Total Annual Maintenance Cost</i>			<i>\$246,100</i>

Habitat Improvements

Fish Passage/Barrier Removal	\$371,795.00		
	Each	1.0	\$370,000
Dewatering	\$21,708.00		
	Each (Site)	4.0	\$87,000
<i>Habitat Improvements Cost</i>			<i>\$457,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$114,250</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$171,375</i>
<i>Total Construction Cost</i>			<i>\$742,625</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$222,788</i>
Acquisition	\$295,268.00		
	Acre	0.1	\$34,000
Land Acquisition Subtotal			\$34,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$5,100
<i>Land Acquisition Cost</i>			<i>\$39,100</i>
Total Habitat Cost			\$1,000,000

Habitat Maintenance

<i>Total Annual Maintenance Cost</i>			<i>\$0</i>
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Trails & Recreation Improvements

Service Road Multi-use Trail	\$227,260.00		
	Mile	0.5	\$100,000
<i>Trails and Recreation Cost</i>			<i>\$100,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$25,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$37,500</i>
<i>Total Construction Cost</i>			<i>\$162,500</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$48,750</i>
Acquisition	\$295,268.00		
	Acre	1.1	\$330,000
Land Acquisition Subtotal			\$330,000

Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$49,500
Land Acquisition Cost			\$379,500
Total Trails & Recreation Cost			\$590,000
Trail Maintenance			
Trail Maintenance - Field Inspection	\$1.00		
	LF	2400.0	\$2,400
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	3360.0	\$3,400
Trail Maintenance - Annualized Replacement Cost	\$5,741.78		
	Year	1.0	\$5,700
<i>Total Annual Maintenance Cost</i>			\$11,500
Water Supply Improvements			
Total Water Supply Cost			\$0
Water Supply Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Water Quality Improvements			
Total Water Quality Cost			\$0
Water Quality Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Total Capital Project Cost			\$7,950,000
Total Annual Maintenance Cost			
Total Annual Mitigation Cost			\$140,000
Total Annual Replacement Cost			\$103,000
Total Annual O&M Cost			\$15,000
<i>Total Annual Maintenance Cost</i>			\$258,000

Project #:
Project Name:
Approximate Total Cost:

R10-4
ADLL Improvement Project 4
\$5,280,000

Flood Control Improvements

Rock Vanes	\$32,561.00		
	Each	4.0	\$130,000
Bank Shaping and Planting	\$2.00		
	SF	55000.0	\$110,000
Bank Stabilization	\$272.00		
	LF	1000.0	\$270,000
Excavation/Hauling/Disposal	\$38.00		
	CY	9259.3	\$350,000
<i>Flood Control Cost</i>			\$860,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$215,000
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$322,500
<i>Total Construction Cost</i>			\$1,397,500
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			\$139,750
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			\$461,175
Acquisition	\$295,268.00		
	Acre	1.3	\$370,000
Land Acquisition Subtotal			\$370,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$55,500
<i>Land Acquisition Cost</i>			\$425,500
Total Flood Control Cost			\$2,420,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	1000.0	\$1,000
Bank Maintenance - Minor Repair	\$9.00		
	LF	100.0	\$900
Bank Maintenance - Annualized Replacement Cost	\$24,000.62		
	Year	1.0	\$24,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.1	\$30,000
<i>Total Annual Maintenance Cost</i>			\$55,900

Habitat Improvements

Riparian Vegetation	\$379,874.00		
	Acre	1.1	\$440,000
Dewatering	\$21,708.00		
	Each (Site)	4.0	\$87,000
<i>Habitat Improvements Cost</i>			\$527,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$131,750
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$197,625
<i>Total Construction Cost</i>			\$856,375
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$256,913
Total Habitat Cost			\$1,110,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00		
	LF	1000.0	\$1,000
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00		
	Acre	1.1	\$9,500
<i>Total Annual Maintenance Cost</i>			\$10,500

Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	0.9	\$490,000
Signage	\$217.00		
	Each	1.0	\$220
Kiosk	\$1,085.00		
	Each	1.0	\$1,100
<i>Trails and Recreation Cost</i>			\$491,320
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$122,830
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$184,245
<i>Total Construction Cost</i>			\$798,395
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$239,519

Acquisition	\$295,268.00		
	Acre	2.1	\$620,000
Land Acquisition Subtotal			\$620,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$93,000
Land Acquisition Cost			\$713,000
Total Trails & Recreation Cost			\$1,750,000
Trail Maintenance			
Trail Maintenance - Field Inspection	\$1.00		
	LF	4600.0	\$4,600
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	6440.0	\$6,400
Trail Maintenance - Annualized Replacement Cost	\$28,134.70		
	Year	1.0	\$28,000
Sign Inspection/Repair	\$75.00		
	Each	2.0	\$150
<i>Total Annual Maintenance Cost</i>			\$39,150
Water Supply Improvements			
Total Water Supply Cost			\$0
Water Supply Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Water Quality Improvements			
Total Water Quality Cost			\$0
Water Quality Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Total Capital Project Cost			\$5,280,000
Total Annual Maintenance Cost			
Total Annual Mitigation Cost			\$30,000
Total Annual Replacement Cost			\$52,000
Total Annual O&M Cost			\$24,000
<i>Total Annual Maintenance Cost</i>			\$106,000

Project #:
Project Name:
Approximate Total Cost:

R10-5
ADLL Improvement Project 5
\$29,230,000

Flood Control Improvements

Debris Removal and Disposal	\$17.00		
	CY	300.0	\$5,100
Levees	\$22.00		
	SF	5000.0	\$110,000
Rock Vanes	\$32,561.00		
	Each	8.0	\$260,000
Boulder Wing Deflectors	\$18,590.00		
	Each	15.0	\$280,000
Bank Shaping and Planting	\$2.00		
	SF	330000.0	\$660,000
Live Cribwalls	\$32,561.00		
	Each	30.0	\$980,000
Excavation/Hauling/Disposal	\$38.00		
	CY	55555.6	\$2,100,000
Flood Control Cost			\$4,395,100
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$1,098,775</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$1,648,163</i>
<i>Total Construction Cost</i>			<i>\$7,142,038</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$714,204</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$2,356,872</i>
Acquisition	\$295,268.00		
	Acre	7.1	\$2,100,000
Land Acquisition Subtotal			\$2,100,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$315,000
<i>Land Acquisition Cost</i>			<i>\$2,415,000</i>
Total Flood Control Cost			\$12,630,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	6000.0	\$6,000
Bank Maintenance - Minor Repair	\$9.00		
	LF	600.0	\$5,400
Bank Maintenance - Annualized Replacement Cost	\$103,581.62		
	Year	1.0	\$100,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.7	\$180,000
Levee Maintenance	\$4.00		
	LF	5000.0	\$20,000
Total Annual Maintenance Cost			\$311,400

Habitat Improvements

Non-native Species Control	\$54,268.00		
	Acre	20.7	\$1,100,000
Filling Riparian Gaps	\$379,874.00		
	Acre	1.1	\$440,000
Fish Passage/Barrier Removal	\$371,795.00		
	Each	2.0	\$740,000
Dewatering	\$21,708.00		
	Each (Site)	14.0	\$300,000
Habitat Improvements Cost			\$2,580,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$645,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$967,500</i>
<i>Total Construction Cost</i>			<i>\$4,192,500</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$1,257,750</i>
Acquisition	\$295,268.00		
	Acre	14.0	\$4,100,000
Land Acquisition Subtotal			\$4,100,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$615,000
<i>Land Acquisition Cost</i>			<i>\$4,715,000</i>
Total Habitat Cost			\$10,170,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00 LF	1000.0	\$1,000
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00 Acre	1.1	\$9,500
Invasive Species Control - Herbicide Application	\$930.00 Acre	2.1	\$1,900
Invasive Species Control - Herbicide Monitoring Program (WQ Analysis)	\$35.00 Acre	2.1	\$72
Invasive Species Control - Biological Survey	\$5,186.00 Mile	3.4	\$18,000
Invasive Species Control - Mitigation for Herbicide Application	\$259,283.00 Acre	2.1	\$540,000
<i>Total Annual Maintenance Cost</i>			\$570,472
Trails & Recreation Improvements			
New Multi-use Trail	\$568,150.00 Mile	3.7	\$2,100,000
New Traffic Signal	\$176,127.00 Each	1.0	\$180,000
<i>Trails and Recreation Cost</i>			\$2,280,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$570,000
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$855,000
<i>Total Construction Cost</i>			\$3,705,000
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$1,111,500
Acquisition	\$295,268.00 Acre	4.8	\$1,400,000
Land Acquisition Subtotal			\$1,400,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$210,000
<i>Land Acquisition Cost</i>			\$1,610,000
Total Trails & Recreation Cost			\$6,430,000
Trail Maintenance			
Trail Maintenance - Field Inspection	\$1.00 LF	19536.0	\$20,000
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00 SF	27350.4	\$27,000
Trail Maintenance - Annualized Replacement Cost	\$120,577.28 Year	1.0	\$120,000
<i>Total Annual Maintenance Cost</i>			\$167,000
Water Supply Improvements			
Total Water Supply Cost			\$0
Water Supply Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Water Quality Improvements			
Total Water Quality Cost			\$0
Water Quality Maintenance			
<i>Total Annual Maintenance Cost</i>			\$0
Total Capital Project Cost			
			\$29,230,000
Total Annual Maintenance Cost			
Total Annual Mitigation Cost			\$720,000
Total Annual Replacement Cost			\$220,000
Total Annual O&M Cost			\$109,000
<i>Total Annual Maintenance Cost</i>			\$1,049,000

Project #:
Project Name:
Approximate Total Cost:

R.11-1
Alameda Creek Trail
\$3,100,000

Flood Control Improvements

Total Flood Control Cost	\$0
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Flood Control Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Habitat Improvements

Total Habitat Cost	\$0
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Habitat Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Trails & Recreation Improvements

New Multi-use Trail	\$568,150.00		
	Mile	2.4	\$1,400,000
<i>Trails and Recreation Cost</i>			\$1,400,000
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$350,000
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$525,000
<i>Total Construction Cost</i>			\$2,275,000
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$682,500
Acquisition	\$21,260.00		
	Acre	5.8	\$120,000
Land Acquisition Subtotal			\$120,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$18,000
<i>Land Acquisition Cost</i>			\$138,000
Total Trails & Recreation Cost			\$3,100,000

Trail Maintenance

Trail Maintenance - Field Inspection	\$1.00		
	LF	12619.2	\$13,000
Trail Maintenance - Minor Repair of New Trail (AC surface)	\$1.00		
	SF	17666.9	\$18,000
Trail Maintenance - Annualized Replacement Cost	\$80,384.85		
	Year	1.0	\$80,000
<i>Total Annual Maintenance Cost</i>			\$111,000

Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

\$3,100,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$0
Total Annual Replacement Cost	\$80,000
Total Annual O&M Cost	\$31,000
<i>Total Annual Maintenance Cost</i>	\$111,000

Project #:
Project Name:
Approximate Total Cost:

R.11-2
Sinbad Creek Project
\$310,000

Flood Control Improvements

Debris Removal and Disposal	\$17.00		
	CY	370.0	\$6,300
Bank Stabilization	\$272.00		
	LF	80.0	\$22,000
Gabion Lining	\$213.00		
	CY	300.0	\$64,000
<i>Flood Control Cost</i>			<i>\$92,300</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$23,075</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$34,613</i>
<i>Total Construction Cost</i>			<i>\$149,988</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$14,999</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$49,496</i>
Acquisition	\$379,874.00		
	Acre	0.1	\$44,000
Land Acquisition Subtotal			\$44,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$6,600
<i>Land Acquisition Cost</i>			<i>\$50,600</i>
Total Flood Control Cost			\$270,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	80.0	\$80
Bank Maintenance - Minor Repair	\$9.00		
	LF	8.0	\$72
Bank Maintenance - Annualized Replacement Cost	\$1,389.51		
	Year	1.0	\$1,400
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.0	\$1,400
<i>Total Annual Maintenance Cost</i>			<i>\$2,952</i>

Habitat Improvements

Riparian Vegetation	\$379,874.00		
	Acre	0.1	\$21,000
<i>Habitat Improvements Cost</i>			<i>\$21,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$5,250</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$7,875</i>
<i>Total Construction Cost</i>			<i>\$34,125</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$10,238</i>
Total Habitat Cost			\$40,000

Habitat Maintenance

Vegetation Maintenance - Annual Field Inspection	\$1.00		
	LF	80.0	\$80
Weed Control w/ Riparian Plantings - Hand Labor	\$8,263.00		
	Acre	0.1	\$450
<i>Total Annual Maintenance Cost</i>			<i>\$530</i>

Trails & Recreation Improvements

Signage	\$217.00		
	Each	4.0	\$870
<i>Trails and Recreation Cost</i>			<i>\$870</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$218</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$326</i>
<i>Total Construction Cost</i>			<i>\$1,414</i>
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			<i>\$424</i>
Total Trails & Recreation Cost			\$0

Trail Maintenance

Sign Inspection/Repair	\$75.00		
	Each	4.0	\$300
<i>Total Annual Maintenance Cost</i>			<i>\$300</i>

Water Supply Improvements

Total Water Supply Cost			\$0
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Water Supply Maintenance	
<i>Total Annual Maintenance Cost</i>	\$0
Water Quality Improvements	
Total Water Quality Cost	\$0
Water Quality Maintenance	
<i>Total Annual Maintenance Cost</i>	\$0
Total Capital Project Cost	
	\$310,000
Total Annual Maintenance Cost	
Total Annual Mitigation Cost	\$1,000
Total Annual Replacement Cost	\$1,000
Total Annual O&M Cost	\$2,000
<i>Total Annual Maintenance Cost</i>	\$4,000

Project #:
Project Name:
Approximate Total Cost:

R12-1
Patterson Run Enhancement Program
\$820,000

Flood Control Improvements

Debris Removal and Disposal	\$17.00		
	CY	370.0	\$6,300
Bank Shaping and Planting	\$2.00		
	SF	160000.0	\$320,000
<i>Flood Control Cost</i>			\$326,300
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$81,575
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$122,363
<i>Total Construction Cost</i>			\$530,238
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			\$53,024
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			\$174,978
Acquisition	\$14,173.00		
	Acre	3.7	\$52,000
Land Acquisition Subtotal			\$52,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$7,800
Land Acquisition Cost			\$59,800
Total Flood Control Cost			\$820,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	8000.0	\$8,000
Bank Maintenance - Minor Repair	\$9.00		
	LF	800.0	\$7,200
Bank Maintenance - Annualized Replacement Cost	\$20,211.05		
	Year	1.0	\$20,000
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.6	\$140,000
<i>Total Annual Maintenance Cost</i>			\$175,200

Habitat Improvements

Total Habitat Cost	\$0
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Habitat Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Trails & Recreation Improvements

Signage	\$217.00		
	Each	2.0	\$430
<i>Trails and Recreation Cost</i>			\$430
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			\$108
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			\$161
<i>Total Construction Cost</i>			\$699
<i>Engineering, Legal, and Administration (30% of Total Construction Cost) ¹</i>			\$210
Total Trails & Recreation Cost			\$0

Trail Maintenance

Sign Inspection/Repair	\$75.00		
	Each	2.0	\$150
<i>Total Annual Maintenance Cost</i>			\$150

Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	\$0
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Total Capital Project Cost

\$820,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$140,000
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Total Annual Replacement Cost	\$20,000
Total Annual O&M Cost	\$15,000
<i>Total Annual Maintenance Cost</i>	\$175,000

Project #:
Project Name:
Approximate Total Cost:

R12-2
Corral Hollow Creek Landowner Grant Program
\$200,000

Flood Control Improvements

Bank Shaping and Planting	\$2.00		
	SF	40000.0	\$80,000
<i>Flood Control Cost</i>			<i>\$80,000</i>
<i>Contractor Overhead and Profit (25% of Construction Subtotal)</i>			<i>\$20,000</i>
<i>Contingency (30% of Construction Subtotal and Overhead)</i>			<i>\$30,000</i>
<i>Total Construction Cost</i>			<i>\$130,000</i>
<i>Environmental Mitigation (10% of Total Construction Cost)</i>			<i>\$13,000</i>
<i>Engineering, Legal, and Administration (30% of Total Const. + Env. Mitigation Cost) ¹</i>			<i>\$42,900</i>
Acquisition	\$14,173.00		
	Acre	0.9	\$13,000
Land Acquisition Subtotal			\$13,000
Land Acquisition Contingency (15% of Land Acquisition Subtotal)			\$1,950
<i>Land Acquisition Cost</i>			<i>\$14,950</i>
Total Flood Control Cost			\$200,000

Flood Control Maintenance

Bank Maintenance - Annual Field Inspection	\$1.00		
	LF	2000.0	\$2,000
Bank Maintenance - Minor Repair	\$9.00		
	LF	200.0	\$1,800
Bank Maintenance - Annualized Replacement Cost	\$5,052.76		
	Year	1.0	\$5,100
Bank Maintenance- Wetland Mitigation (Acreage of Bank Minor Repair)	\$259,283.00		
	Acre	0.1	\$36,000
<i>Total Annual Maintenance Cost</i>			<i>\$44,900</i>

Habitat Improvements

Total Habitat Cost	\$0
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Habitat Maintenance

<i>Total Annual Maintenance Cost</i>	<i>\$0</i>
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Trails & Recreation Improvements

Total Trails & Recreation Cost	\$0
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Trail Maintenance

<i>Total Annual Maintenance Cost</i>	<i>\$0</i>
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Water Supply Improvements

Total Water Supply Cost	\$0
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Water Supply Maintenance

<i>Total Annual Maintenance Cost</i>	<i>\$0</i>
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Water Quality Improvements

Total Water Quality Cost	\$0
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Water Quality Maintenance

<i>Total Annual Maintenance Cost</i>	<i>\$0</i>
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Total Capital Project Cost

\$200,000

Total Annual Maintenance Cost

Total Annual Mitigation Cost	\$36,000
Total Annual Replacement Cost	\$5,000
Total Annual O&M Cost	\$4,000
<i>Total Annual Maintenance Cost</i>	<i>\$45,000</i>