

## Attachment 4

# Budget



# San Diego Integrated Regional Water Management

## Implementation Grant Proposal – Round 2

### Budget

Attachment 4 consists of the following items:

- 1. Proposal Budget(s).** The Summary Budget (Table 4-1) provides a budget estimate for each project within this Implementation Grant Proposal, as well as summary budget for the entire proposal. Each section following includes the proposed budget for each individual project in this proposal.

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The proposal budget provides detailed budget documentation to support each cost shown in the tables below under the section entitled Detailed Proposal Work Item Budgets. Please note that for many of the budget categories shown in Tables 4-2 – 4-67, there may be several tasks and sub-tasks.

Tables 4-2 – 4-67 also present the proposed funding match for each project within the Proposal, including information that describes how each project will contribute to the overall funding match. Although each individual project may not contribute a full 25%, the proposal as a whole far exceeds the Department of Water Resources (DWR) funding match criteria of 25%. As a whole, this proposal contains a 60% funding match. None of the seven projects will apply for a funding match waiver, even those projects that are addressing critical water supply and/or water quality issues for a disadvantaged community (DAC).

### Total Proposal Cost Estimate

As described in Attachment 3, the *San Diego IRWM Implementation Grant Proposal – Round 2* involves implementation of seven projects to meet the region’s water management needs. These projects are:

- 1) North San Diego County Regional Recycled Water Project – Phase II
- 2) Turf Replacement and Agricultural Irrigation Efficiency Program
- 3) Rural Disadvantaged Community (DAC) Partnership Program
- 4) Failsafe Potable Reuse at the Advanced Water Treatment Facility
- 5) Sustaining Healthy Tributaries to the Upper San Diego River
- 6) Chollas Creek Integration Project – Phase II
- 7) Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II

The total budget for this proposal is \$31,886,921. Of this amount, \$10,511,225 (33% percent) is being requested from DWR through the IRWM Grant Program, \$19,050,289 (60% percent) is being provided through non-State funding sources (funding match), and \$1,943,610 is being provided through other State funds and is not being used towards the Proposal’s funding match.

Table 4-1 presents the overall cost of proposal implementation. Detailed cost estimates for each project contained in the proposal follow. The specific work items outlined in Attachment 3 are reflected in the detailed cost estimates.

**Table 4-1: Summary Budget (PSP Table 8)**

<b>Proposal Title: San Diego IRWM Implementation Grant Proposal – Round 2</b>						
<b>Individual Project Title</b>		<b>(a)</b>	<b>(b)</b>	<b>(c)</b>	<b>(d)</b>	<b>(e)</b>
		<b>Requested Grant Amount</b>	<b>Cost Share: Non-State Fund Source (Funding Match)</b>	<b>Cost Share: Other State Fund Source</b>	<b>Total Cost</b>	<b>% Funding Match</b>
(1)	North San Diego County Regional Recycled Water Project – Phase II	\$3,555,560	\$15,594,668	\$0	\$19,150,228	81%
(2)	Turf Replacement and Agricultural Irrigation Efficiency Program	\$592,760	\$191,831	\$0	\$784,591	24%
(3)	Rural Disadvantaged Community (DAC) Partnership Project – Phase II	\$1,943,610	\$1,550,271	\$2,325,407	\$5,819,288	27%
(4)	Failsafe Potable Reuse at the Advanced Water Purification Facility	\$2,176,390	\$975,313	\$0	\$3,151,703	31%
(5)	Sustaining Healthy Tributaries to the Upper San Diego River and Protecting Local Water Supplies	\$536,630	\$175,224	\$0	\$711,854	25%
(6)	Chollas Creek Integration Project – Phase II	\$515,000	\$163,723	\$0	\$678,723	24%
(7)	Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II	\$1,191,275	\$399,259	\$0	\$1,590,534	25%
<b>Proposal Total</b>		<b>\$10,511,225</b>	<b>\$19,050,289</b>	<b>\$2,325,407</b>	<b>\$31,886,921</b>	<b>60%</b>
<b>DAC Funding Match Waiver Total</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>N/A</b>
<b>Grand Total</b>		<b>\$10,511,225</b>	<b>\$19,050,289</b>	<b>\$2,325,407</b>	<b>\$31,886,921</b>	<b>60%</b>

Note that due to rounding, the total costs presented herein are not necessarily equal to the hourly wage multiplied by the number of hours. As the hourly wages and total costs are fixed, the hours expended will be adjusted as necessary to account for rounding discrepancies.

### Grant Administration

During project selection, the San Diego IRWM Regional Advisory Committee (RAC) recommended that approximately 3% of the entire grant request be allocated for grant administration. This recommendation was based on the Region's experience from *Proposition 50 Implementation Grant* and *Proposition 84 Implementation Grant – Round 1* contracting. As such, \$300,855 was distributed proportionally across all seven proposed projects. As the region's grant administrator, San Diego County Water Authority (Water Authority) staff will manage the grant contract.

The Water Authority's Grant Administrator will manage the grant contract, amendment requests, and reporting requirements, along with communications with DWR staff. The Water Authority's Assistant Management Analyst will receive and reconcile the invoices for both grant reimbursables and funding match from the project sponsors, and compile them into an overall regional grant invoice for DWR. Costs are based on the Grant Administrator working 3,175 hours (~53 hours per month) and the Assistant Management Analyst working 1,908 (~32 hours per month) over five years (2013 – 2017), as shown in Table 4-2. Even with 3% of the grant request allocated to grant administration and individual project administration costs, administration costs to be reimbursed by the grant remain well under the 5% of total proposal cost limit set by DWR.

As described above, the grant administration costs are distributed proportionately across the seven proposed projects; see the individual Detailed Proposal Work Item Budgets below.

**Table 4-2: Row (GA) Overall Grant Administration Costs**

Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
Grant Administrator	\$71.15	3,175	\$225,901	\$225,901	\$0
Assistance Management Analyst	\$39.29	1,908	\$74,954	\$74,954	\$0
<b>Row (GA) Total for Proposal</b>			<b>\$300,855</b>	<b>\$300,855</b>	<b>\$0</b>

## Interregional Project

The *Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II* project included in this funding application is an interregional project being implemented jointly by the San Diego IRWM and Upper Santa Margarita IRWM regions. Although the Upper Santa Margarita IRWM region is a full partner and benefits will accrue across watershed boundaries to both regions, the entire project work plan, budget, and benefits for the project have been included in this funding application in order to simplify project administration and contracting.

The San Diego Funding Area maintains the Tri-County FACC, an agreement among the three Regional Water Management Groups (RWMGs) to equitably allocate the Funding Area’s Proposition 84 funds. Consequently, the Upper Santa Margarita RWMG has committed both grant funds (per the aforementioned agreement) and matching funds to support this interregional project. Please refer to Appendix 3-1 in Attachment 3 for a letter of support for the interregional project from our San Diego IRWM Program Manager.

## Detailed Proposal Work Item Budgets

Detailed budgets for each of the projects included within this proposal, including a summary budget and supporting cost information are provided in the following sections.

### ***Project 1: North San Diego County Regional Recycled Water Project – Phase II***

The *North San Diego County Regional Recycled Water Project (NSDCRRWP) – Phase II* will provide for a comprehensive recycled water program by consolidating and interconnecting North San Diego recycled water purveyors with regional customers across jurisdictional boundaries. The project provides a sustainable, reliable, water resource for North San Diego County by connecting existing demand with available supply. Funding for this project is primarily for construction activities.

Table 4-3 provides an overview of the ten project components and the volume of recycled water produced and distributed by each component.

**Table 4-3: Recycled Water Distributed Via NSDCRRWP-Phase II Components**

NSDCRRWP-Phase II Component	Recycled Water (AFY)
Component 1-1: LWD Regional System Connection	250
Component 1-2: VWD Pump Improvements	300
Component 1-3: VID Golf Course Recycled Water	200
Component 1-4: RMWD Northwest Recycled Water Expansion	16
Component 1-5: OMWD Conversion of Distribution Facilities to Recycled Water	350
Component 1-6: SFID Onsite Recycled Water Irrigation System Improvements	50
Component 1-7: Carlsbad MWD Recycled Water Pipeline Expansion	454
Component 1-8: Escondido Recycled Water Easterly Main Extension	4,570
Component 1-9: Oceanside Reclaimed Water Main Extension	600
Component 1-10: SEJPA Conversion of Existing Tanks to Recycled Water Storage	*
<b>Total</b>	<b>6,790</b>
* Provides 350 AFY storage for Component 1-5	

The total cost associated with the *North San Diego County Regional Recycled Water Project – Phase II* is \$19,150,228. Of these total costs, \$3,555,560 is being requested for grant funding through the IRWM Grant Program. The remaining \$15,594,668 will be funded through the Capital Improvement Programs (CIPs) of the participating project partners. In total, the non-State share of the total project cost (funding match) is 81% for this project.

Table 4-4 below provides a more detailed break-down of the total project budget.

**Table 4-4: Total Project Budget  
North San Diego County Regional Recycled Water Project – Phase II**

<b>Proposal Title: San Diego IRWM Implementation Grant Proposal – Round 2</b> <b>Project Title: North San Diego County Regional Recycled Water Project – Phase II</b>					
Project serves a need of a DAC?:		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Funding Match Waiver request?:		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Category		(a) Requested Grant Amount	(b) Cost Share: Non-State Fund Source* (Funding Match)	(c) Cost Share: Other State Fund Sources*	(d) Total
(GA)	Grant Administration	\$103,560	\$0	\$0	\$103,560
(a)	Direct Project Administration	\$69,000	\$0	\$0	\$69,000
(b)	Land Purchase/ Easement	\$0	\$0	\$0	\$0
(c)	Planning/ Design/ Engineering/ Environmental Documentation	\$96,000	\$32,000	\$0	\$128,000
(d)	Construction/ Implementation	\$3,287,000	\$15,562,668	\$0	\$18,849,668
(e)	Environmental Compliance/ Mitigation/ Enhancement	\$0	\$0	\$0	\$0
(f)	Construction Administration	\$0	\$0	\$0	\$0
(g)	Other Costs	\$0	\$0	\$0	\$0
(h)	Construction/ Implementation Contingency	\$0	\$0	\$0	\$0
(i)	<b>Grand Total</b>	<b>\$3,555,560</b>	<b>\$15,594,668</b>	<b>\$0</b>	<b>\$19,150,228</b>

This Implementation Grant Proposal is requesting funding for two project tasks identified within the *North San Diego County Regional Recycled Water Project – Phase II* work plan (refer to Attachment 3).

The sections below provide detailed descriptions of each of the row and task budgets (where applicable). In addition, each description below describes how cost estimates for each of the tasks or rows were calculated.

**(GA) Grant Administration**

As part of this proposal, each project has agreed to allocate an amount equivalent to 3% of their grant request to pay for the cost for grant administration by the Water Authority. The *North San Diego County Regional Recycled Water Project – Phase II* project’s contribution will be \$103,560 to this effort.

**Row (a) Direct Project Administration Costs**

Total direct project administration costs included in the proposed budget for *North San Diego County Regional Recycled Water Project – Phase II* are \$69,000, as shown in Table 4-5

**Task 1: Project Administration**

Not applicable.

**Task 2: Labor Compliance Program**

Not applicable.

**Task 3: Reporting**

This task includes the costs associated with preparing invoice work summaries, quarterly progress reports, and final reports for submittal to the Water Authority and DWR. This is based on the estimate that approximately 35 hours will be spent by OMWD’s Analyst on a quarterly basis, for a total of 690 hours over the five-year grant contract.

**Table 4-5: Row (a) Direct Project Administration  
*North San Diego County Regional Recycled Water Project – Phase II***

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 3: Reporting</b>						
OMWD Reporting for Grant Contract (2%)	Analyst	\$100	690	\$69,000	\$69,000	\$0
<b>Task 3 Total</b>				<b>\$69,000</b>	<b>\$69,000</b>	<b>\$0</b>
<b>Row (a) Total</b>				<b>\$69,000</b>	<b>\$69,000</b>	<b>\$0</b>

**Row (b) Land Purchase/ Easement**

Not applicable.

**Row (c) Planning/ Design/ Engineering/ Environmental Documentation**

The project will not require planning, design, engineering or environmental documentation for nine of the ten project components. *Component 1-6: SFID’s Onsite Recycled Water Irrigation System Improvements* will require final design work, at a cost of \$128,000. Table 4-6 provides a summary of Row (c) costs.

**Task 4: Assessment and Evaluation**

Not applicable.

**Task 5: Final Design**

Final design for *Component 1-6: SFID’s Onsite Recycled Water Irrigation System Improvements* will include costs for a design consultant to complete preliminary concept (30%), draft final (90%), and final (100%) design drawings and specifications. This cost is based on SFID’s experience with recycled water retrofit design and construction. Approximately \$96,000 is being requested from the IRWM Grant Program, while \$32,000 will be provided by SFID as funding match.

**Task 6: Environmental Documentation**

Not applicable.

**Task 7: Permitting**

Not applicable.

**Table 4-6: Row (c) Planning/ Design/ Engineering/ Environmental Documentation  
North San Diego County Regional Recycled Water Project – Phase II**

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 5: Final Design</b>						
<b>Component 1-6: SFID On-site Recycled Water Irrigation System Improvements Project</b>						
Preliminary Concept Drawings and Specifications (30 % Design)	Design Consultants	\$160.00	320	\$51,200	\$38,400	\$12,800
Draft Final Drawings and Specifications (90% Design)	Design Consultants	\$160.00	320	\$51,200	\$38,400	\$12,800
Final Drawings and Specifications with DEH Approvals (100%)	Design Consultants	\$160.00	160	\$25,600	\$19,200	\$6,400
<b>Task 5 Total</b>				<b>\$128,000</b>	<b>\$96,000</b>	<b>\$32,000</b>
<b>Row (c) Total</b>				<b>\$128,000</b>	<b>\$96,000</b>	<b>\$32,000</b>

**Row (d) Construction/ Implementation**

Construction costs for this project are estimated to be \$18,849,668. Table 4-7 provides a summary of all applicable costs. Details of each subproject’s construction budget are provided in Tables 4-7-1 through 4-7-10.

**Task 8: Construction Contracting:** Construction contracting will be implemented by each partner agency independently; those costs have not been included in this budget.

**Task 9: Construction:** Implementation costs for this project are divided between three categories: materials, equipment, and labor. These costs, which are summarized below, will support construction of the *North San Diego County Regional Recycled Water Project – Phase II* infrastructure described within Task 9 of the work plan (refer to Attachment 3).

- **Materials:** Materials for the project include various retrofit-related materials, pipeline and tank materials, various construction materials, education and training materials, technical resources, and marketing and outreach materials.
- **Equipment:** Equipment for the project includes various construction equipment necessary for retrofits, pump and pipeline installations, tank repair and replacement, and associated supporting equipment.
- **Labor:** Labor required to fulfill the construction task includes construction and installation foremen, laborers, operators, and inspectors.

**Table 4-7: Row (d) Construction/ Implementation Summary  
North San Diego County Regional Recycled Water Project – Phase II**

Component	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 9: Construction/ Implementation</b>					
<b>Component 1-1LWD Regional System Connection Project</b>					
Materials	See Table 4-8		\$738,060	\$338,300	\$399,760
Equipment	See Table 4-8		\$124,380	\$0	\$124,380
Labor	See Table 4-8		\$1,137,560	\$0	\$1,137,560
Component 1-1 Total			\$2,000,000	\$338,300	\$1,661,700
<b>Component 1-2VWD Pump Improvements</b>					
Materials	See Table 4-9		\$319,200	\$239,400	\$79,800
Equipment	See Table 4-9		\$26,887	\$20,198	\$6,689
Labor	See Table 4-9		\$104,936	\$78,702	\$26,234
Component 1-2 Total			\$451,023	\$338,300	\$112,723
<b>Component 1-3VID Golf Course Recycled Water Project</b>					
Materials	See Table 4-10		\$608,200	\$195,200	\$413,000
Equipment	See Table 4-10		\$47,400	\$35,550	\$11,850
Labor	See Table 4-10		\$143,400	\$107,550	\$35,850
Component 1-3 Total			\$799,000	\$338,300	\$460,700
<b>Component 1-4RMWD Northwest Recycled Water Expansion Project</b>					
Materials	See Table 4-11		\$129,316	\$76,348	\$52,968
Equipment	See Table 4-11		\$188,895	\$111,524	\$77,371
Labor	See Table 4-11		\$254,595	\$150,428	\$104,167
Component 1-4 Total			\$572,806	\$338,300	\$234,506
<b>Component 1-5OMWD Conversion of Distribution Facilities to Recycled Water</b>					
Materials	See Table 4-12		\$883,500	\$51,615	\$831,885
Equipment	See Table 4-12		\$1,222,305	\$65,137	\$1,157,168
Labor	See Table 4-12		\$2,211,995	\$221,548	\$1,990,447
Component 1-5 Total			\$4,317,800	\$338,300	\$3,979,500
<b>Component 1-6SFID Onsite Recycled Water Irrigation System Improvements Project</b>					
Materials	See Table 4-13		\$161,500	\$108,000	\$53,500
Equipment	See Table 4-13		\$56,400	\$41,900	\$14,500
Labor	See Table 4-13		\$129,600	\$92,400	\$37,200
Component 1-6 Total			\$347,500	\$242,300	\$105,200
<b>Component 1-7Carlsbad MWD Recycled Water Pipeline Expansion Project</b>					
Materials	See Table 4-14		\$403,321	\$201,961	\$201,361
Equipment	See Table 4-14		\$1,240,696	\$0	\$1,240,696
Labor	See Table 4-14		\$1,639,854	\$136,340	\$1,503,515
Component 1-7 Total			\$3,283,871	\$338,300	\$2,945,571
<b>Component 1-8Escondido Recycled Water Easterly Main Extension Project</b>					
Materials	See Table 4-15		\$1,955,600	\$147,371	\$1,808,229
Equipment	See Table 4-15		\$727,600	\$54,831	\$672,769
Labor	See Table 4-15		\$1,806,000	\$136,098	\$1,669,902
Component 1-8 Total			\$4,489,200	\$338,300	\$4,150,900
<b>Component 1-9Oceanside Reclaimed Water Main Extension Project</b>					
Materials	See Table 4-16		\$511,129	\$81,436	\$429,692
Equipment	See Table 4-16		\$428,742	\$68,599	\$360,143
Labor	See Table 4-16		\$1,176,656	\$188,265	\$988,391
Component 1-9 Total			\$2,116,527	\$338,300	\$1,778,227
<b>Component 1-10SEJPA Conversion of Existing Tanks to Recycled Water Storage Project</b>					
Materials	See Table 4-17		\$280,293	\$188,819	\$91,474
Equipment	See Table 4-17		\$56,240	\$43,867	\$12,373
Labor	See Table 4-17		\$135,408	\$105,614	\$29,794
Component 1-10 Total			\$471,941	\$338,300	\$133,641
<b>Task 9 Total</b>			<b>\$18,849,668</b>	<b>\$15,562,668</b>	<b>\$3,287,000</b>
<b>Row (d) Total</b>			<b>\$18,849,668</b>	<b>\$15,562,668</b>	<b>\$3,287,000</b>

Construction costs for each of the ten project components are described below, along with a breakdown of these costs.

**Component 1-1: LWD Regional System Connection Project**

Quotes from material suppliers were used as the foundation of the estimate of materials, equipment, and labor needed to complete the project. The labor and equipment needed to install the quantities of identified items is also included in the engineer’s estimate of construction cost. Construction of a new pump station wet well will be required and quantities of materials were estimated for excavation, backfill, and construction of concrete. Total estimated construction costs are \$2,000,000 as shown in Table 4-8 below.

**Table 4-8: Row (d) Construction/ Implementation – Details for 1-1  
North San Diego County Regional Recycled Water Project – Phase II  
Component 1-1: LWD Regional System Connection Project**

Materials						
Activity or Deliverable	Units	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Bonds and Insurance - 5%	Each	\$100,000.00	1	\$100,000	\$0	\$100,000
Field Office with Utilities For Duration	Each	\$40,000.00	1	\$40,000	\$0	\$40,000
Prepare & Submit Detailed Schedule & Schedule of Values	Each	\$2,500.00	1	\$2,500	\$0	\$2,500
Traffic Control Plans, Encroachment Permit, Signage, K-Rail	Each	\$2,500.00	1	\$2,500	\$0	\$2,500
Groundwater Testing & Discharge Permit	Each	\$2,500.00	1	\$2,500	\$0	\$2,500
Storm Water Pollution Prevention Plan - Silt Fence, straw waddles, stakes, sand bags	Each	\$4,500.00	1	\$4,500	\$0	\$4,500
Mobilize Equipment and Crews	Each	\$250.00	1	\$260	\$0	\$260
Subtotals				\$152,260	\$0	\$152,260
<i>Subtask 9.2 Project Construction</i>						
16" DIP Transmission Pipe	LF	\$42.88	200	\$8,575	\$8,575	\$0
16" Pipe Fittings and Valves	Each	\$9,068.76	1	\$9,069	\$9,069	\$0
12" PVC Transmission Pipe	LF	\$21.02	1,000	\$21,017	\$21,017	\$0
12" Pipe Fittings and Valves	Each	\$17,095.63	1	\$17,096	\$17,096	\$0
Excavation and Recompaction	CY	\$40.00	1,200	\$48,000	\$0	\$48,000
Paving	SF	\$10.00	6,000	\$60,000	\$0	\$60,000
Concrete & Reinforcing Steel	CY	\$750.00	120	\$90,000	\$0	\$90,000
125 Horsepower Pumps and Motors	Each	\$81,000.00	2	\$162,000	\$162,000	\$0
Variable Frequency Drives	Each	\$40,500.00	2	\$81,000	\$81,000	\$0
Motor Control Center Expansion	Each	\$32,400.00	1	\$32,400	\$32,400	\$0
Conduit & Wire, Lock-Out Switch - Materials	Each	\$21,600.00	1	\$7,144	\$7,144	\$0
SCADA, SCADA Integration, Telephone Telemetry	Each	\$30,000.00	1	\$30,000	\$0	\$30,000
Subtotals				\$566,300	\$338,300	\$228,000

Materials						
Activity or Deliverable	Units	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Soil & Concrete Testing	Each	\$5,000.00	1	\$5,000	\$0	\$5,000
Horsepower, Flow, & Pressure Testing	Each	\$2,500.00	3	\$7,500	\$0	\$7,500
Operating Manuals	Each	\$200.00	10	\$2,000	\$0	\$2,000
Demobilize Equipment and Crews	Each	\$5,000.00	1	\$5,000	\$0	\$5,000
Subtotals				\$19,500	\$0	\$19,500
<b>Materials Total</b>				<b>\$738,060</b>	<b>\$338,300</b>	<b>\$399,760</b>
Equipment						
Activity or Deliverable	Units	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Installation of Construction Office - Truck Tractor	Hour	\$45.00	24	\$1,080	\$0	\$1,080
Pick-Up Trucks	Hour	\$20.00	160	\$3,200	\$0	\$3,200
			Subtotal	\$4,280	\$0	\$4,280
<i>Subtask 9.2 Project Construction</i>						
Pipeline & Structure Excavation/Backfill - Excavator - 1 cu yd bucket	Hour	\$39.00	480	\$18,720	\$0	\$18,720
Pipeline & Structure Excavation/Backfill - Dump Trucks - 8 cu yd	Hour	\$35.00	480	\$16,800	\$0	\$16,800
Pipe Installation, Set Forms, Place Concrete - Crane	Hour	\$95.00	300	\$28,500	\$0	\$28,500
Concrete Pumper Truck	Hour	\$45.00	40	\$1,800	\$0	\$1,800
Across All Activities- Pick-Up Trucks	Hour	\$20.00	2,500	\$50,000	\$0	\$50,000
Subtotal				\$115,820	\$0	\$115,820
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Remove Construction Office - Truck Tractor	Hour	\$45.00	24	\$1,080	\$0	\$1,080
Across All Activities - Pick-Up Trucks	Hour	\$20.00	160	\$3,200	\$0	\$3,200
Subtotal				\$4,280	\$0	\$4,280
<b>Equipment Total</b>				<b>\$124,380</b>	<b>\$0</b>	<b>\$124,380</b>

Labor						
Activity or Deliverable	Units	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Project Manager	Hour	\$120.00	40	\$4,800	\$0	\$4,800
Superintendent	Hour	\$90.00	40	\$3,600	\$0	\$3,600
Land Surveying - Surveyor Crew	Hour	\$160.00	32	\$5,120	\$0	\$5,120
Traffic Control Implementation - Laborers	Hour	\$44.00	160	\$7,040	\$0	\$7,040
Mobilize Equipment and Crews	Hour	\$45.00	40	\$1,800	\$0	\$1,800
Subtotal				\$22,360	\$0	\$22,360

Labor						
Activity or Deliverable	Units	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.2 Project Construction</i>						
Operating Engineers For All Equipment inc Pickups	Hour	\$60.00	1,430	\$85,800	\$0	\$85,800
Laborers	Hour	\$44.00	10,900	\$479,600	\$0	\$479,600
Cement Masons - Engineering Construction	Hour	\$43.00	1,300	\$55,900	\$0	\$55,900
Carpenters	Hour	\$50.00	4,150	\$207,500	\$0	\$207,500
Superintendent	Hour	\$90.00	2,300	\$207,000	\$0	\$207,000
Contractors Office Engineering Support	Hour	\$120.00	320	\$38,400	\$0	\$38,400
Subtotal				\$1,074,200	\$0	\$1,074,200
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Construction Inspector	Hour	\$60.00	120	\$7,200	\$0	\$7,200
Soils and Material Tester	Hour	\$60.00	480	\$28,800	\$0	\$28,800
Concrete Site and Lab Techs	Hour	\$5,000.00	1	\$5,000	\$0	\$5,000
Subtotal				\$41,000	\$0	\$41,000
<b>Labor Total</b>				<b>\$1,137,560</b>	<b>\$0</b>	<b>\$1,137,560</b>
<b>Component 1-1 Total</b>				<b>\$2,000,000</b>	<b>\$338,300</b>	<b>\$1,661,700</b>

### Component 1-2: VWD Pump Improvements

Estimated materials costs were based on pricing from previous construction contracts and cost figures commonly used in the water and wastewater industry. Equipment rates were taken from the U.S. Department of Homeland Security Federal Emergency Management Agency's *2010 Schedule of Equipment Rates*. Labor costs were taken from the *San Diego Prevailing Wage List*. Total estimated construction costs are \$451,023 as shown in Table 4-9 below.

**Table 4-9: Row (d) Construction/Implementation– Details for 1-2  
North San Diego County Regional Recycled Water Project – Phase II:  
Component 1-2: VWD Pump Improvements**

Materials						
Activity or Deliverable	Units	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Mobilize Equipment and Crews	Each	\$12,000.00	1	\$12,000	\$9,000	\$3,000
Insurance and Bonds	Each	\$17,000.00	1	\$17,000	\$12,750	\$4,250
Permits and Safety Plan	Each	\$1,500.00	1	\$1,500	\$1,125	\$375
Subtotal				\$30,500	\$22,875	\$7,625
<i>Subtask 9.2 Project Construction</i>						
2,000 GPM Pump and 125 HP Motor	EA	\$74,000.00	1	\$74,000	\$55,500	\$18,500
VFD/MCC, Instrumentation and Wiring	EA	\$33,000.00	1	\$33,000	\$24,750	\$8,250
10" DIP and Fittings	LF	\$70.00	30	\$2,100	\$1,575	\$525
12" DIP and Fittings	LF	\$100.00	20	\$2,000	\$1,500	\$500
16" DIP and Fittings	LF	\$150.00	60	\$9,000	\$6,750	\$2,250
8" Check Valve	Each	\$6,500.00	1	\$6,500	\$4,875	\$1,625
8" Gate Valve	Each	\$5,500.00	2	\$11,000	\$8,250	\$2,750
16" Gate Valve	Each	\$12,500.00	2	\$25,000	\$18,750	\$6,250

Materials						
Activity or Deliverable	Units	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
16" Flow Meter	Each	\$11,500.00	1	\$11,500	\$8,625	\$2,875
Reinforced Concrete Pump Base	Each	\$2,000.00	1	\$2,000	\$1,500	\$500
Pre-Cast Concrete Vault	Each	\$9,800.00	1	\$9,800	\$7,350	\$2,450
Electrical Service Enclosure	SF	\$180.00	40	\$7,200	\$5,400	\$1,800
Electrical Service and Auto Transfer Switch	Each	\$36,000.00	1	\$36,000	\$27,000	\$9,000
Electrical Conduit and Wiring	Each	\$8,500.00	1	\$8,500	\$6,375	\$2,125
Overhead Crane Structural Reinforcement	Each	\$35,000.00	1	\$35,000	\$26,250	\$8,750
Asphalt Concrete Paving	Each	\$12.00	300	\$3,600	\$2,700	\$900
Landscape Restoration	Each	\$2,500.00	1	\$2,500	\$1,875	\$625
Subtotal				\$278,700	\$209,025	\$69,675
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Soil & Concrete Testing	Each	\$2,000.00	1	\$2,000	\$1,500	\$500
Horsepower, Flow, & Pressure Testing	Each	\$1,000.00	1	\$1,000	\$750	\$250
Operating Manuals	Each	\$200.00	5	\$1,000	\$750	\$250
Demobilize Equipment and Crews	Each	\$6,000.00	1	\$6,000	\$4,500	\$1,500
Subtotal				\$10,000	\$7,500	\$2,500
<b>Materials Total</b>				<b>\$319,200</b>	<b>\$239,400</b>	<b>\$79,800</b>

Equipment						
Activity or Deliverable	Units	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Breaker, Pavement - 70 hp	Hour	\$31.25	20	\$625	\$469	\$156
Compactor - 10 hp	Hour	\$11.00	20	\$220	\$165	\$55
Compactor, Vib. Drum - 75 hp	Hour	\$25.00	20	\$500	\$375	\$125
Loader-Backhoe, Wheel - 1 cy	Hour	\$23.50	20	\$470	\$353	\$118
Mixer, Concrete, Trailer Mntd.	Hour	\$15.25	20	\$305	\$229	\$76
Trailer, Equip - 30 ton	Hour	\$10.25	20	\$205	\$154	\$51
Truck, Dump - 8 cy	Hour	\$35.00	20	\$700	\$525	\$175
Subtotal				\$3,025	\$2,269	\$756
<i>Subtask 9.2 Project Construction</i>						
Air Compressor - 30 hp	Hour	\$7.00	120	\$840	\$630	\$210
Breaker, Pavement - 70 hp	Hour	\$31.25	16	\$500	\$375	\$125
Compactor - 10 hp	Hour	\$11.00	60	\$660	\$495	\$165
Compactor, Vib. Drum - 75 hp	Hour	\$25.00	16	\$400	\$300	\$100
Generator - 10 hp	Hour	\$3.25	160	\$520	\$390	\$130
Jackhammer (Dry) - 45 lb	Hour	\$1.00	40	\$40	\$30	\$10
Loader-Backhoe, Wheel - 1 cy	Hour	\$23.50	120	\$2,820	\$2,115	\$705
Mixer, Concrete, Trailer Mntd.	Hour	\$15.25	40	\$610	\$490	\$120
Pick-up, Asphalt - 200 hp	Hour	\$110.00	40	\$4,400	\$3,300	\$1,100
Saw, Concrete - 26 in. blade	Hour	\$13.50	40	\$540	\$405	\$135
Trailer, Equip - 30 ton	Hour	\$10.25	80	\$820	\$615	\$205
Truck, Dump - 8 cy	Hour	\$35.00	32	\$1,120	\$840	\$280
Truck, Pick-up - 1 ton	Hour	\$20.00	380	\$7,600	\$5,700	\$1,900

Equipment						
Activity or Deliverable	Units	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
Welder, Portable - 34 hp	Hour	\$11.50	64	\$736	\$552	\$184
Subtotal				\$21,606	\$16,237	\$5,369
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Breaker, Pavement - 70 hp	Hour	\$31.25	5	\$156	\$117	\$39
Compactor - 10 hp	Hour	\$11.00	5	\$55	\$41	\$14
Compactor, Vib. Drum - 75 hp	Hour	\$25.00	5	\$125	\$94	\$31
Loader-Backhoe, Wheel - 1 cy	Hour	\$23.50	5	\$118	\$88	\$29
Mixer, Concrete, Trailer Mntd.	Hour	\$15.25	5	\$76	\$57	\$19
Trailer, Equip - 30 ton	Hour	\$10.25	5	\$51	\$38	\$13
Truck, Dump - 8 cy	Hour	\$35.00	5	\$175	\$131	\$44
Pump & Pressure Testing, Disinfection Equipment	Lump Sum	\$1,500.00	1	\$1,500	\$1,125	\$375
Subtotal				\$2,256	\$1,692	\$564
<b>Equipment Total</b>				<b>\$26,887</b>	<b>\$20,198</b>	<b>\$6,689</b>

Labor						
Activity or Deliverable	Units	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Project Manager	Hour	\$120.00	8	\$960	\$720	\$240
Superintendent	Hour	\$90.00	40	\$3,600	\$2,700	\$900
Land Surveying - Surveyor Crew	Hour	\$160.00	20	\$3,200	\$2,400	\$800
Operating Engineer	Hour	\$60.00	80	\$4,800	\$3,600	\$1,200
Laborer - Pipeline	Hour	\$45.00	40	\$1,800	\$1,350	\$450
Mobilize Equipment and Crews	Hour	\$45.00	32	\$1,440	\$1,080	\$360
Subtotal				\$15,800	\$11,850	\$3,950
<i>Subtask 9.2 Project Construction</i>						
Cement Mason - Engr. Construction	Hour	\$43.00	120	\$5,160	\$3,870	\$1,290
Laborer - Pump Installation	Hour	\$45.00	64	\$2,880	\$2,160	\$720
Laborer - Pipeline	Hour	\$45.00	120	\$5,400	\$4,050	\$1,350
Laborer - Electrical	Hour	\$45.00	120	\$5,400	\$4,050	\$1,350
Project Manager	Hour	\$120.00	120	\$14,400	\$10,800	\$3,600
Superintendent	Hour	\$90.00	140	\$12,600	\$9,450	\$3,150
Contractors Office Engr. Support	Hour	\$120.00	80	\$9,600	\$7,200	\$2,400
Operating Engineer	Hour	\$60.00	120	\$7,200	\$5,400	\$1,800
Laborer - Landscape/Irrigation	Hour	\$42.00	60	\$2,520	\$1,890	\$630
Welder - Overhead Crane and Piping Modifications	Hour	\$46.50	64	\$2,976	\$2,232	\$744
Laborer - Paving	Hour	\$45.00	40	\$1,800	\$1,350	\$450
Construction Inspector	Hour	\$60.00	160	\$9,600	\$7,200	\$2,400
Materials Tester	Hour	\$60.00	40	\$2,400	\$1,800	\$600
Subtotal				\$81,936	\$61,452	\$20,484
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Laborer	Hour	\$45.00	32	\$1,440	\$1,080	\$360
Project Manager	Hour	\$120.00	16	\$1,920	\$1,440	\$480
Superintendent	Hour	\$90.00	16	\$1,440	\$1,080	\$360

Labor						
Activity or Deliverable	Units	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
Construction Inspector	Hour	\$60.00	16	\$960	\$720	\$240
Demobilize Equipment and Crews	Hour	\$45.00	32	\$1,440	\$1,080	\$360
Subtotal				\$7,200	\$5,400	\$1,800
<b>Labor Total</b>				<b>\$104,936</b>	<b>\$78,702</b>	<b>\$26,234</b>
<b>Component 1-2 Total</b>				<b>\$451,023</b>	<b>\$338,300</b>	<b>\$112,723</b>

**Component 1-3: VID Golf Course Recycled Water**

The budget for this project was developed using a combination of prior experience and knowledge by VID engineering and construction staff, as well as information on file from a private contractor currently providing similar work for the District. Labor and equipment rates were estimated using information supplied by a private contractor as part of a time and materials work breakdown for similar work. An average labor rate for all of the trades utilized in the work was calculated to be \$85 per hour (including a 40.25% labor surcharge and a 30% markup). An average equipment rate of \$40 per hour was calculated from the type and number of hours the equipment was used to complete the time and materials work. Equipment included back hoe, track hoe, crew truck, water truck and compactor. Additionally, the time and materials work breaks down to be approximately 50% labor, 15% equipment and 35% materials. Using this information and prior experience from VID engineering and construction staff, the budget estimate was estimated to generally reflect this distribution of labor, equipment and materials. Total estimated construction costs are \$799,000 as shown in Table 4-10 below.

**Table 4-10: Row (d) Construction/ Implementation– Details for 1-3  
North San Diego County Regional Recycled Water Project – Phase II:  
Component 1-3: VID Golf Course Recycled Water**

Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Staging site, staking, potholing, saw cutting, etc	Fencing, stakes, asphalt	\$2,000.00	LS	\$2,000	\$1,500	\$500
Acquisition of the failsafe pipeline from City of Vista	Purchase depreciated value of existing 14" & 16" pipeline	\$500,000.00	LS	\$500,000	\$114,050	\$385,950
Subtotal				\$502,000	\$115,550	\$386,450
<i>Subtask 9.2 Project Construction</i>						
Metered Connection to CMWD	10" water meter	\$8,000.00	1	\$8,000	\$6,000	\$2,000
	Concrete vault	\$15,000.00	1	\$15,000	\$11,250	\$3,750
	12" gate valve & tapping saddle	\$4,500.00	1	\$4,500	\$3,375	\$1,125
	12" PVC pipe	\$15.00	100	\$1,500	\$1,125	\$375
	Backfill import/export (cu yd)	\$15.00	60	\$900	\$675	\$225

Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
	Asphalt (sq ft)	\$10.00	250	\$2,500	\$1,875	\$625
	SCADA (Telemetry)	\$5,000.00	LS	\$5,000	\$3,750	\$1,250
400 feet of 8-inch Pipeline & Connection to Existing Pipes	8" PVC pipe (feet)	\$10.00	400	\$4,000	\$3,000	\$1,000
	8" gate valve & tapping sleeve	\$2,000.00	1	\$2,000	\$1,500	\$500
	Backfill import/export (cu yd)	\$15.00	240	\$3,600	\$2,700	\$900
	Asphalt (sq ft)	\$10.00	1000	\$10,000	\$7,500	\$2,500
	16"x8" adapters, thrust blocks, etc	\$15,000.00	LS	\$15,000	\$11,250	\$3,750
	Restrain Joints on Existing Failsafe Pipeline	Concrete (cu yd)	\$120.00	60	\$7,200	\$5,400
Install 4" Potable Water Meter	4" water meter	\$6,000.00	1	\$6,000	\$4,500	\$1,500
	4" lateral, valve, paving, traffic control, etc	\$100.00	100	\$10,000	\$7,500	\$2,500
	Concrete vault	\$10,000.00	1	\$10,000	\$7,500	\$2,500
Subtotal				\$105,200	\$78,900	\$26,300
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Flush and Pressure Test Pipelines	Water, etc	\$1,000.00	LS	\$1,000	\$750	\$250
Subtotal				\$1,000	\$750	\$250
<b>Materials Total</b>				<b>\$608,200</b>	<b>\$195,200</b>	<b>\$413,000</b>
Equipment						
Activity or Deliverable	Equipment Used	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Staging site, staking, potholing, saw cutting, etc	Backhoe, sawcutter, survey equip	\$40.00	40	\$1,600	\$1,200	\$400
Subtotal				\$1,600	\$1,200	\$400
<i>Subtask 9.2 Project Construction</i>						
Metered Connection to CMWD	Backhoe, front loader, dump truck, compactor	\$40.00	375	\$15,000	\$11,250	\$3,750

Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
400 feet of 8-inch Pipeline & Connection to Existing Pipes	Backhoe, front loader, dump truck, compactor	\$40.00	370	\$14,800	\$11,100	\$3,700
Restrain Joints on Existing Failsafe Pipeline	Backhoe, front loader, dump truck, compactor	\$40.00	275	\$11,000	\$8,250	\$2,750
Install 4" Potable Water Meter	Backhoe, dump truck, compactor	\$40.00	100	\$4,000	\$3,000	\$1,000
Subtotal			\$1,120	\$44,800	\$33,600	\$11,200
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Flush and Pressure Test Pipelines	Fire hose, gauges, water truck	\$1,000.00	LS	\$1,000	\$750	\$250
Subtotal				\$1,000	\$750	\$250
<b>Equipment Total</b>				<b>\$47,400</b>	<b>\$35,550</b>	<b>\$11,850</b>
Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Staging site, staking, potholing, saw cutting, etc	Foreman/Labor	\$100.00	40	\$4,000	\$3,000	\$1,000
Subtotal				\$4,000	\$3,000	\$1,000
<i>Subtask 9.2 Project Construction</i>						
Metered Connection to CMWD	Operator/Labor	\$85.00	550	\$46,750	\$35,063	\$11,688
400 feet of 8-inch Pipeline & Connection to Existing Pipes	Operator/Labor	\$85.00	600	\$51,000	\$38,250	\$12,750
Restrain Joints on Existing Failsafe Pipeline	Operator/Labor	\$85.00	300	\$25,500	\$19,125	\$6,375
Install 4" Potable Water Meter	Operator/Labor	\$85.00	150	\$12,750	\$9,563	\$3,188
Subtotal				\$136,000	\$102,000	\$34,000
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Flush and Pressure Test Pipelines	Operator/Labor	\$85.00	40	\$3,400	\$2,550	\$850
Subtotal				\$3,400	\$2,550	\$850
<b>Labor Total</b>				<b>\$143,400</b>	<b>\$107,550</b>	<b>\$35,850</b>
<b>Component 1-3 Total</b>				<b>\$799,000</b>	<b>\$338,300</b>	<b>\$460,700</b>

**Component 1-4: RMWD Northwest Recycled Water Extension**

A consultant prepared the cost estimate based on the 90% complete design. The estimate is based on the quantities and unit price models developed from the design, quotations from general contractors and site conditions. The estimate includes direct labor costs, bulk purchased materials, construction

equipment, and indirect costs (sales tax and transportation). This original estimate has labor and equipment combined based on material quantities. To separate the labor component, costs were calculated based on estimated crew hours and prevailing wages. Total estimated construction costs are \$572,806 as shown in Table 4-11 below.

**Table 4-11: Row (d) Construction/ Implementation– Details for 1-4  
North San Diego County Regional Recycled Water Project – Phase II:  
Component 1-4: RMWD Northwest Recycled Water Extension**

Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
N/A						
<i>Subtask 9.2 Project Construction</i>						
AC Sawcut and Removal (SY)				\$0	\$0	\$0
AC Pavement Replacement (SY)	Asphalt	\$27.00	636	\$17,172	\$10,138	\$7,034
Grading (SY)			128	\$0	\$0	\$0
Fencing (LF)	Chain Link	\$7.00	26	\$182	\$107	\$75
Remove Fencing (LF)			41	\$0	\$0	\$0
Equipment Pad (CY)	Cement	\$405.00	3	\$1,215	\$717	\$498
Curb (LF)	Cement	\$6.00	67	\$402	\$237	\$165
Stormdrain Wingwall (EA)	Cement	\$1,400.00	1	\$1,400	\$827	\$573
4" C900 Installation (LF)	PVC	\$9.75	2100	\$20,475	\$12,088	\$8,387
6" DI Installation (LF)	Ductile Iron	\$28.00	50	\$1,400	\$827	\$573
6" C900 Installation (LF)	PVC	\$16.50	1400	\$23,100	\$13,638	\$9,462
24" C905 SD Installation (LF)	PVC	\$13.50	20	\$270	\$159	\$111
Laterals and Meters (EA)	Copper Pipe	\$1,100.00	4	\$4,400	\$2,598	\$1,802
1" Air Valve (EA)	Copper Pipe	\$1,100.00	2	\$2,200	\$1,299	\$901
2" Blowoff (EA)	Copper Pipe	\$1,100.00	1	\$1,100	\$649	\$451
Fittings and Specials (EA)	Misc	\$14,000.00	4	\$56,000	\$33,062	\$22,938
Subtotal				\$129,316	\$76,348	\$52,968
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
N/A						
<b>Materials Total</b>				<b>\$129,316</b>	<b>\$76,348</b>	<b>\$52,968</b>

Equipment						
Activity or Deliverable	Equipment Used	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Mobilization (LS)		\$1,840.00	1	\$1,840	\$1,086	\$754
Surveying (LS)		\$420.00	1	\$420	\$248	\$172
Traffic Control (LS)	Signs / Cones	\$5,690.00	1	\$5,690	\$3,359	\$2,331
Subtotal				\$7,950	\$4,694	\$3,256
<i>Subtask 9.2 Project Construction</i>						
AC Sawcut and Removal (SY)	Saw, Excavator	\$6.70	585	\$3,920	\$2,314	\$1,606

Equipment						
Activity or Deliverable	Equipment Used	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
AC Pavement Replacement (SY)	Paver	\$17.31	636	\$11,010	\$6,500	\$4,510
Grading (SY)	Excavator	\$56.88	128	\$7,280	\$4,298	\$2,982
4" C900 Installation (LF)	Excavator	\$36.81	2100	\$77,300	\$45,638	\$31,662
6" DI Installation (LF)	Excavator	\$38.60	50	\$1,930	\$1,139	\$791
6" C900 Installation (LF)	Excavator	\$31.39	1400	\$43,940	\$25,942	\$17,998
24" C905 SD Installation (LF)	Excavator	\$33.50	20	\$670	\$396	\$274
Laterals and Meters (EA)	Excavator	\$340.00	4	\$1,360	\$803	\$557
1" Air Valve (EA)	Excavator	\$485.00	2	\$970	\$573	\$397
2" Blowoff (EA)	Excavator	\$485.00	1	\$485	\$286	\$199
Fittings and Specials (EA)	Excavator	\$6,250.00	4	\$25,000	\$14,760	\$10,240
Subtotal				\$173,865	\$102,650	\$71,215
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Demobilization (LS)		\$1,840.00	1	\$1,840	\$1,086	\$754
Cleanup and Disposal (LS)	Sweeper, Dump Truck	\$2,240.00	1	\$2,240	\$1,322	\$918
Testing (LS)	Samples	\$3,000.00	1	\$3,000	\$1,771	\$1,229
Subtotal				\$7,080	\$4,180	\$2,900
<b>Equipment Total</b>				<b>\$188,895</b>	<b>\$111,524</b>	<b>\$77,371</b>
Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Mobilization	(1)Foreman, (5)Operator/Laborer	\$285.00	10	\$2,850	\$1,683	\$1,167
Surveying	2 Man Survey Crew	\$225.00	16	\$3,600	\$2,125	\$1,475
Traffic Control	(2)Operator/Laborer	\$90.00	26	\$2,340	\$1,382	\$958
Subtotal				\$8,790	\$5,190	\$3,600
<i>Subtask 9.2 Project Construction</i>						
AC Sawcut and Removal	(1)Foreman, (3)Operator/Laborer	\$195.00	12	\$2,340	\$1,382	\$958
AC Pavement Replacement	(1)Foreman, (4)Operator/Laborer	\$240.00	64	\$15,360	\$9,069	\$6,291
Grading	(1)Foreman, (1)Operator	\$105.00	110	\$11,550	\$6,819	\$4,731
Fencing	(3)Operator/Laborer	\$135.00	14	\$1,890	\$1,116	\$774
Remove Fencing	(3)Operator/Laborer	\$135.00	8	\$1,080	\$638	\$442
Equipment Pad	(3)Operator/Laborer	\$135.00	20	\$2,700	\$1,594	\$1,106
Curb	(3)Operator/Laborer	\$135.00	6	\$810	\$478	\$332

Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
Stormdrain Wingwall	(3)Operator/ Laborer	\$135.00	20	\$2,700	\$1,594	\$1,106
4" C900 Installation	(1)Foreman, (5)Operator/ Laborer	\$285.00	320	\$91,200	\$53,844	\$37,356
6" DI Installation	(1)Foreman, (5)Operator/ Laborer	\$285.00	12	\$3,420	\$2,019	\$1,401
6" C900 Installation	(1)Foreman, (5)Operator/ Laborer	\$285.00	240	\$68,400	\$40,383	\$28,017
24" C905 SD Installation	(1)Foreman, (3)Operator/ Laborer	\$195.00	4	\$780	\$461	\$319
Laterals and Meters	(1)Foreman, (5)Operator/ Laborer	\$285.00	14	\$3,990	\$2,356	\$1,634
1" Air Valve	(1)Foreman, (5)Operator/ Laborer	\$285.00	6	\$1,710	\$1,010	\$700
2" Blowoff	(1)Foreman, (5)Operator/ Laborer	\$285.00	3	\$855	\$505	\$350
Fittings and Specials	(1)Foreman, (5)Operator/ Laborer	\$285.00	100	\$28,500	\$16,826	\$11,674
Subtotal				\$237,285	\$140,093	\$97,192
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Demobilization	(1)Foreman, (5)Operator/ Laborer	\$285.00	10	\$2,850	\$1,683	\$1,167
Cleanup and Disposal	(3)Operator/ Laborer	\$135.00	28	\$3,780	\$2,232	\$1,548
Testing	(3)Operator/ Laborer	\$135.00	14	\$1,890	\$1,231	\$659
Subtotal				\$8,520	\$5,146	\$3,374
<b>Labor Total</b>				<b>\$254,595</b>	<b>\$150,428</b>	<b>\$104,167</b>
<b>Component 1-4 Total</b>				<b>\$572,806</b>	<b>\$338,300</b>	<b>\$234,506</b>

**Component 1-5: OMWD Conversion of Distribution Facilities to Recycled Water**

The budget for this project was developed based upon data and figures contained the update of the *Potable and Recycled Water Master Plan Capital Improvement Program, Northwest Quadrant/Village Park Recycled Water Study, Study of Recycled Water Supply Options for the Northwest Quadrant*, and the preliminary design report for the *Northwest Quadrant Recycled Water Facilities Phase II*. Total estimated construction costs are \$4,317,800 as shown in Table 4-12 below.

**Table 4-12: Row (d) Construction/Implementation– Details for 1-5  
 North San Diego County Regional Recycled Water Project – Phase II:  
 Component 1-5: OMWD Conversion of Distribution Facilities to Recycled Water**

Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Pump Stations	Staging site, staking, potholing, saw cutting	\$5,250.00	1	\$5,250	\$5,250	\$0
Village Park	Staging site, staking, potholing, saw cutting	\$24,850.00	1	\$24,850	\$24,850	\$0
Subtotal				\$30,100	\$30,100	\$0
<i>Subtask 9.2 Project Construction</i>						
Pump Stations	Pump Stations, prefabricated by EFI	\$250,000.00	2	\$500,000	\$12,799	\$487,201
Village Park	12-inch PVC pipeline in Gardenview	\$10.00	6,500	\$65,000	\$1,664	\$63,336
	12-inch gate valves	\$1,500.00	5	\$7,500	\$192	\$7,308
	8-inch PVC pipeline in Village Park	\$7.50	20,000	\$150,000	\$3,840	\$146,160
	8-inch gate valves	\$1,200.00	10	\$12,000	\$307	\$11,693
	asphalt (26,500 LF x 4 ft wide trench)	\$106,000.00	1	\$106,000	\$2,713	\$103,287
Subtotal				\$840,500	\$21,515	\$818,985
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Pump Stations	test pipeline, demobilization	\$2,250.00	1	\$2,250	\$0	\$2,250
Village Park	test pipeline, demobilization	\$10,650.00	1	\$10,650	\$0	\$10,650
Subtotal				\$12,900	\$0	\$12,900
<b>Materials Total</b>				<b>\$883,500</b>	<b>\$51,615</b>	<b>\$831,885</b>
Equipment						
Activity or Deliverable	Equipment Used	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Pump Stations	Backhoe, sawcutter, survey equip	\$3,000.00	1	\$3,000	\$3,000	\$0
Village Park	Backhoe, sawcutter, survey equip	\$31,950.00	1	\$31,950	\$31,950	\$0
Subtotal				\$34,950	\$34,950	\$0

Equipment						
Activity or Deliverable	Equipment Used	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.2 Project Construction</i>						
Pump Stations	Crane	\$4,002.50	2	\$8,005	\$205	\$7,800
Village Park	12-inch install-Backhoe, front loader, dump truck, compactor	\$40.00	6,500	\$260,000	\$6,655	\$253,345
	8-inch install-Backhoe, front loader, dump truck, compactor	\$40.00	20,000	\$800,000	\$20,478	\$779,522
	Misc. equipment - Gardenview	\$5.00	6,500	\$32,500	\$832	\$31,668
	Misc. equipment -Village Park	\$2.50	20,000	\$50,000	\$1,280	\$48,720
	Traffic sign boards (2x12 mo)	\$1,200.00	24	\$28,800	\$737	\$28,063
Subtotal				\$1,179,305	\$30,187	\$1,149,118
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Pump Stations	Fire hose, gauges	\$4,500.00	1	\$4,500	\$0	\$4,500
Village Park	Fire hose, gauges	\$3,550.00	1	\$3,550	\$0	\$3,550
Subtotal				\$8,050	\$0	\$8,050
<b>Equipment Total</b>				<b>\$1,222,305</b>	<b>\$65,137</b>	<b>\$1,157,168</b>
Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Pump Stations	Foreman	\$60.00	100	\$6,000	\$6,000	\$0
	Operator/Laborer	\$45.00	533	\$23,985	\$23,985	\$0
Village Park	Foreman	\$60.00	475	\$28,500	\$28,500	\$0
	Operator/Laborer	\$45.00	2,525	\$113,625	\$113,625	\$0
Subtotal				\$172,110	\$172,110	\$0
<i>Subtask 9.2 Project Construction</i>						
Pump Stations	Foreman	\$60.00	500	\$30,000	\$768	\$29,232
	Operator/Laborer	\$45.00	2,666	\$119,970	\$3,071	\$116,899
	Inspection (1/8 Time 4 Mo.)	\$100.00	80	\$8,000	\$205	\$7,795

Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
Village Park	12-inch PL Foreman	\$60.00	1,358	\$81,480	\$2,086	\$79,394
	12-inch PL Operator/Laborer	\$45.00	7,244	\$325,980	\$8,344	\$317,636
	8-inch PL Foreman	\$60.00	4,207	\$252,420	\$6,461	\$245,959
	8-inch PL Operator/Laborer	\$45.00	22,435	\$1,009,575	\$25,842	\$983,733
	Inspection (1/2 Time 12 mo.)	\$100.00	1,040	\$104,000	\$2,661	\$101,339
	Construction Administration	\$80.00	281	\$22,480	\$0	\$22,480
Subtotal				\$1,953,905	\$49,438	\$1,904,467
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Pump Stations	Foreman	\$60.00	50	\$3,000	\$0	\$3,000
	Operator/Laborer	\$45.00	266	\$11,970	\$0	\$11,970
Village Park	Foreman	\$60.00	237	\$14,220	\$0	\$14,220
	Operator/Laborer	\$45.00	1,262	\$56,790	\$0	\$56,790
Subtotal				\$85,980	\$0	\$85,980
<b>Labor Total</b>				<b>\$2,211,995</b>	<b>\$221,548</b>	<b>\$1,990,447</b>
<b>Component 1-5 Total</b>				<b>\$4,317,800</b>	<b>\$338,300</b>	<b>\$3,979,500</b>

**Component 1-6: SFID Onsite Recycled Water Irrigation System Improvements**

The material, equipment, and labor costs are based on *RS Means 2012 Catalog*. Materials estimates are based on Section 328423.10- Sprinkler Irrigation System. Equipment estimates are based on Section 01543320 for equipment rental costs. Labor estimates are based on Crew B9 and 10 in the *RS Means 2012 Catalog*. Total estimated construction costs are \$347,500 as shown in Table 4-13 below.

**Table 4-13: Row (d) Construction/Implementation – Details for 1-6  
North San Diego County Regional Recycled Water Project – Phase II:  
Component 1-6: SFID Onsite Recycled Water Irrigation System Improvements**

Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Mobilization	Temp. Irrigation Pipe	\$5.00 / L.F.	100	\$500	\$0	\$500
Subtotal				\$500	\$0	\$500
<i>Subtask 9.2 Project Construction</i>						
Install Proper Recycled Water Identification	Tags/Labels, Valve Boxes, Signs	\$20.00 / tag	500	\$10,000	\$7,000	\$3,000
Replace Sprinkler Heads	Sprinkler Heads, Quick Coupler Valves, Drinking Fountains	\$52.00 / head	500	\$26,000	\$19,000	\$7,000

Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
Install New Small Diameter Recycled Water Irrigation	1" / 2" IRR Pipe, Control Valves, Bedding/ Backfill	\$5.00 / L.F.	5000	\$25,000	\$18,000	\$7,000
Install Backflow Devices	Backflow Prevention Devices	\$500.00 / RPPD	5	\$2,500	\$1,000	\$1,500
Install Small Skid Mounted On-Site Booster Pumps	Booster Pumps, Electrical Service	\$20,000.00 / BPS	3	\$60,000	\$35,000	\$25,000
Install Recycled Water Service	Meter/Meter Box, Service Conn./Corp, Service Piping, Bedding/Backfill	\$7,500.00 / service	5	\$37,500	\$28,000	\$9,500
Subtotal				\$161,000	\$108,000	\$53,000
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Demobilization	N/A					
<b>Materials Total</b>				<b>\$161,500</b>	<b>\$108,000</b>	<b>\$53,500</b>
Equipment						
Activity or Deliverable	Equipment Used	Costs (\$)	Number of Units/ Days	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Mobilization	Flat-bed truck, Loader	\$1,000.00 / day	2.5	\$2,500	\$2,000	\$500
Subtotal				\$2,500	\$2,000	\$500
<i>Subtask 9.2 Project Construction</i>						
Install Proper Recycled Water Identification	Crew-truck w/ Hand-held irrigation tools	\$400.00 / day	10	\$4,000	\$3,000	\$1,000
Replace Sprinkler Heads	Crew truck w/ Hand-held irrigation tools	\$400.00 / day	10	\$4,000	\$3,000	\$1,000
Install New Small Diameter Recycled Water Irrigation	Trencher, Back-hoe with bucket, Crew truck w/ Hand-held irrigation tools	\$1,400.00 / day	15	\$21,000	\$15,000	\$6,000
Install Backflow Devices	Back-hoe with bucket, Crew truck	\$1,000.00 / day	5	\$5,000	\$4,000	\$1,000
Install Small Skid Mounted On-Site Booster Pumps	Truck mounted Crane, Back-hoe with bucket, Front-end loader, Crew truck	\$3,100.00 / day	3	\$9,300	\$7,000	\$2,300

Equipment						
Activity or Deliverable	Equipment Used	Costs (\$)	Number of Units/ Days	Total (\$)	Grant Request	Funding Match
Install Recycled Water Service	Back-hoe with bucket, Front-end loader, Crew truck	\$2,000.00 / day	5	\$10,000	\$7,500	\$2,500
Subtotal				\$53,300	\$39,500	\$13,800
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Demobilization	Flat-bed truck, Loader	\$200.00 / day	3	\$600	\$400	\$200
Subtotal				\$600	\$400	\$200
<b>Equipment Total</b>				<b>\$56,400</b>	<b>\$41,900</b>	<b>\$14,500</b>
Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Mobilization	Operators (3), Laborers (2), Foremen (1)	\$325.00 / Crew-Hours	20	\$6,500	\$4,000	\$2,500
Subtotal				\$6,500	\$4,000	\$2,500
<i>Subtask 9.2 Project Construction</i>						
Install Proper Recycled Water Identification	Laborers (3), Foremen (1)	\$220.00 / Crew-Hours	80	\$17,600	\$13,000	\$4,600
Replace Sprinkler Heads	Laborers (3), Foremen (1)	\$220.00 / Crew-Hours	80	\$17,600	\$13,000	\$4,600
Install New Small Diameter Recycled Water Irrigation	Operator (1), Labors (2), Foremen (1)	\$220.00 / Crew-Hours	120	\$26,400	\$19,000	\$7,400
Install Backflow Devices	Operator (1), Laborers (2), Foremen (1)	\$220.00 / Crew-Hours	40	\$18,000	\$13,000	\$5,000
Install Small Skid Mounted On-Site Booster Pumps	Operators (3), Laborers (2), Foremen (1)	\$325.00 / Crew-Hours	80	\$26,000	\$19,000	\$7,000
Install Recycled Water Service	Operators (2), Laborers (2), Foremen (1)	\$275.00 / Crew-Hours	40	\$11,000	\$8,000	\$3,000
Subtotal				\$116,600	\$85,000	\$31,600
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Demobilization	Operators (3), Laborers (2), Foremen (1)	\$325.00 / Crew-Hours	20	\$6,500	\$3,400	\$3,100
Subtotal				\$6,500	\$3,400	\$3,100
<b>Labor Total</b>				<b>\$129,600</b>	<b>\$92,400</b>	<b>\$37,200</b>
<b>Component 1-6 Total</b>				<b>\$347,500</b>	<b>\$242,300</b>	<b>\$105,200</b>

**Component 1-7: Carlsbad MWD Recycled Water Pipeline Expansion**

The *Phase III Feasibility Report* project description includes 43,330 linear feet of pipeline for the Expansion Segment 5. A local pipe supplier provided a detailed cost estimate for the pipeline material. The equipment and labor rates are from the *2012 General Prevailing Wage Rates*. The number of hours estimated for equipment and labor were based on 75 feet a day production, which is a total of 578 days or 4,622 hours. The values in the grant request only include the pipe excavation, installation, and backfill which will all occur simultaneously. Total estimated construction costs are \$3,283,871 as shown in Table 4-14 below.

**Table 4-14: Row (d) Construction/ Implementation – Details for 1-7  
North San Diego County Regional Recycled Water Project – Phase II:  
Component 1-7: Carlsbad MWD Recycled Water Pipeline Expansion**

Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
N/A						
<i>Subtask 9.2 Project Construction</i>						
4-inch C-900 PVC Pipe	6,300	\$3.17	LF	\$19,971	\$9,986	\$9,986
6-inch C-900 PVC Pipe	6,700	\$6.31	LF	\$42,277	\$21,139	\$21,139
8-inch C-900 PVC Pipe	30,300	\$10.91	LF	\$330,573	\$165,287	\$165,287
2-inch Water Service	21	\$500.00	Ea	\$10,500	\$5,550	\$4,950
Subtotal				\$403,321	\$201,961	\$201,361
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
N/A						
<b>Materials Total</b>				<b>\$403,321</b>	<b>\$201,961</b>	<b>\$201,361</b>
Equipment						
Activity or Deliverable	Equipment Used	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
N/A						
<i>Subtask 9.2 Project Construction</i>						
Pipeline Installation	Excavator 195Hp	\$120.00	4622	\$554,640	\$0	\$554,640
	Loader Wheel	\$52.00	4622	\$240,344	\$0	\$240,344
	Truck, Dump 10cy	\$45.00	4622	\$207,990	\$0	\$207,990
	Truck, Water	\$31.00	4622	\$143,282	\$0	\$143,282
	Truck, Pickup	\$20.00	4622	\$92,440	\$0	\$92,440
Subtotal				\$1,238,696	\$0	\$1,238,696
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Pressure testing and staging area restoration	Truck, Pickup	\$20.00	100	\$2,000	\$0	\$2,000
Subtotal				\$2,000	\$0	\$2,000
<b>Equipment Total</b>				<b>\$1,240,696</b>	<b>\$0</b>	<b>\$1,240,696</b>

Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Staging Area	Laborer	\$43.27	100	\$4,327	\$0	\$4,327
	Forman	\$63.40	100	\$6,340	\$0	\$6,340
Subtotal				\$10,667	\$0	\$10,667
<i>Subtask 9.2 Project Construction</i>						
Pipeline Installation	Laborer	\$43.27	4622	\$199,994	\$33,640	\$166,354
	Pipelaye	\$45.46	4622	\$210,116	\$35,400	\$174,716
	Backhoe Operator	\$61.78	4622	\$285,547	\$43,300	\$242,247
	Loader Operator	\$61.78	4622	\$285,547	\$24,000	\$261,547
	Forman	\$63.40	4622	\$293,035	\$0	\$293,035
	Superintendent	\$72.91	4622	\$336,990	\$0	\$336,990
Subtotal				\$1,611,229	\$136,340	\$1,474,890
<i>Subtask 9.3: Performance Testing and Demobilization</i>						
Pressure testing and staging area restoration	Laborer	\$43.27	100	\$4,327	\$0	\$4,327
	Forman	\$63.40	100	\$6,340	\$0	\$6,340
	Superintendent	\$72.91	100	\$7,291	\$0	\$7,291
Subtotal				\$17,958	\$0	\$17,958
<b>Labor Total</b>				<b>\$1,639,854</b>	<b>\$136,340</b>	<b>\$1,503,515</b>
<b>Component 1-7 Total</b>				<b>\$3,283,871</b>	<b>\$338,300</b>	<b>\$2,945,571</b>

**Component 1-8: Escondido Recycled Water Easterly Main Extension**

Estimated costs have been derived from actual construction costs and public bids for similar pipeline projects within the City of Escondido where the work will be done, along with design specifics from the City of Escondido's *Easterly Recycled Water Main Extension Preliminary Design Report*. Total estimated construction costs are \$4,489,200 as shown in Table 4-15 below.

**Table 4-15: Row (d) Construction/ Implementation – Details for 1-8  
North San Diego County Regional Recycled Water Project – Phase II:  
Component 1-8: Escondido Recycled Water Easterly Main Extension**

Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
N/A						
<i>Subtask 9.2 Project Construction</i>						
24" HDPE Pipe	HDPE	\$55.00	25300	\$1,391,500	\$104,862	\$1,286,638
Bore Casing	Steel	\$242.00	800	\$193,600	\$14,589	\$179,011
Fittings	HDPE	\$1,325.00	40	\$53,000	\$3,994	\$49,006
Isolation Valves	Valve	\$7,500.00	25	\$187,500	\$14,130	\$173,370
Combination Air Valves	Valve	\$4,500.00	13	\$58,500	\$4,408	\$54,092
Blowoff/Drain	HDPE	\$5,500.00	13	\$71,500	\$5,388	\$66,112
Subtotal				\$1,955,600	\$147,371	\$1,808,229
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
N/A						
<b>Materials Total</b>				<b>\$1,955,600</b>	<b>\$147,371</b>	<b>\$1,808,229</b>

Equipment						
Activity or Deliverable	Equipment Used	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Truck, Pickup		\$21.00	1000	\$21,000	\$1,583	\$19,417
Subtotal				\$21,000	\$1,583	\$19,417
<i>Subtask 9.2 Project Construction</i>						
Backhoe-Loader, Wheeled	1.5 cy	\$33.00	3000	\$99,000	\$7,461	\$91,539
Compactor, Pneumatic wheeled	Wheeled	\$30.00	2000	\$60,000	\$4,522	\$55,478
Compactor, Pneumatic wheeled	Wheeled	\$30.00	2000	\$60,000	\$4,522	\$55,478
Loader, Wheeled	Bucket, 2.0 cy	\$30.00	4000	\$120,000	\$9,043	\$110,957
Paver, Asphalt		\$115.00	1200	\$138,000	\$10,399	\$127,601
Trailer, Equipment	12 ton	\$25.00	3570	\$89,250	\$6,726	\$82,524
Truck, Dump	18 cy	\$35.00	3410	\$119,350	\$8,994	\$110,356
Subtotal				\$685,600	\$51,666	\$633,934
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Truck, Pickup		\$21.00	1000	\$21,000	\$1,583	\$19,417
Subtotal				\$21,000	\$1,583	\$19,417
<b>Equipment Total</b>				<b>\$727,600</b>	<b>\$54,831</b>	<b>\$672,769</b>
<b> </b>						
Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Site Prep and Staging	Labor	\$50.00	1000	\$50,000	\$3,768	\$46,232
Pothole Utilities	Underground	\$125.00	200	\$25,000	\$1,884	\$23,116
Subtotal				\$75,000	\$5,652	\$69,348
<i>Subtask 9.2 Project Construction</i>						
Operator	Eq. Op	\$60.00	5000	\$300,000	\$22,608	\$277,392
Operator	Eq. Op	\$60.00	5000	\$300,000	\$22,608	\$277,392
Laborer	Pipe Inst'l	\$50.00	7500	\$375,000	\$28,259	\$346,741
Laborer	General	\$40.00	4500	\$180,000	\$13,565	\$166,435
Laborer	General	\$40.00	4000	\$160,000	\$12,057	\$147,943
Dump Truck	Dump Drive	\$45.00	2000	\$90,000	\$6,782	\$83,218
Superintendent	Contractor	\$50.00	3000	\$150,000	\$11,304	\$138,696
Project Manager	Contractor	\$60.00	2100	\$126,000	\$9,495	\$116,505
Subtotal				\$1,681,000	\$126,678	\$1,554,322
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Pressure Testing	Testing	\$50.00	1000	\$50,000	\$3,768	\$46,232
Subtotal				\$50,000	\$3,768	\$46,232
<b>Labor Total</b>				<b>\$1,806,000</b>	<b>\$136,098</b>	<b>\$1,669,902</b>
<b>Component 1-8 Total</b>				<b>\$4,489,200</b>	<b>\$338,300</b>	<b>\$4,150,900</b>

**Component 1-9: Oceanside Reclaimed Water Main Extension**

The materials, equipment, and labor were estimated from historical contract documents from projects of similar size and nature constructed within the City of Oceanside. The costs of the pipe and large appurtenances were quoted from a local supplier. Other material and appurtenances were taken from

previous jobs and a Department Unit Price List. The labor and equipment rates were taken from the *San Diego Prevailing Wage Rates* and FEMA's *2010 Schedule of Equipment Rates* respectively. Total estimated construction costs are \$2,116,527 as shown in Table 4-16 below.

**Table 4-16: Row (d) Construction/ Implementation – Details for 1-9  
North San Diego County Regional Recycled Water Project – Phase II:  
Component 1-9: Oceanside Reclaimed Water Main Extension**

Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Mobilization of Equipment and personnel	-	Lump Sum	100000	\$100,000	\$15,656	\$84,344
Subtotal				\$100,000	\$15,656	\$84,344
<i>Subtask 9.2 Project Construction</i>						
12-inch C200 PVC reclaimed water main	PVC	\$22.33	8140	\$181,766	\$29,083	\$152,684
8-inch C200 PVC reclaimed water main	PVC	\$10.53	6300	\$66,339	\$10,614	\$55,725
Soil and material export	-	Lump Sum	10000	\$10,000	\$1,600	\$8,400
Gate Valves 12-inch (Line Valves)	Valves	\$2,953.00	8	\$23,624	\$3,780	\$19,844
Gate Valves 8-inch (Line Valves)	Valves	\$1,120.00	6	\$6,720	\$1,075	\$5,645
Tee Fittings (12x8x8)	Cast Iron	\$1,504.72	2	\$3,009	\$482	\$2,528
Air-Valves		\$2,200.00	2	\$4,400	\$704	\$3,696
Thrust Blocks	Concrete	\$175.00	188	\$32,900	\$5,264	\$27,636
Copper Services (2-inch)	Copper Pipe	\$3,183.00	10	\$31,830	\$5,093	\$26,737
Subtotal				\$360,589	\$57,694	\$302,894
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
AC Pavement Resurface	AC	\$1.00	43320	\$43,320	\$6,931	\$36,389
Chlorination and Bacteriological	gallon	\$0.50	14440	\$7,220	\$1,155	\$6,065
Subtotal				\$50,540	\$8,086	\$42,454
<b>Materials Total</b>				<b>\$511,129</b>	<b>\$81,436</b>	<b>\$429,692</b>
Equipment						
Activity or Deliverable	Equipment Used	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Trailer, Office	Office Trailer	\$350/mo	36	\$12,600	\$2,016	\$10,584
Mobilization of Equipment and personnel	Truck	\$43/hr.	250	\$10,750	\$1,720	\$9,030
Subtotal				\$23,350	\$3,736	\$19,614
<i>Subtask 9.2 Project Construction</i>						
Backhoe-Loader, Wheeled	1.5 cy	\$33.00/hr.	1400	\$46,200	\$7,392	\$38,808
Broom, Pavement		\$19.72/hr.	350	\$6,902	\$1,104	\$5,798
Compactor, Pneumatic wheeled	Wheeled	\$29.00/hr.	700	\$20,300	\$3,248	\$17,052
Excavator, Hydraulic	Bucket, 1.5 cy	\$65.00/hr.	1200	\$78,000	\$12,480	\$65,520
Loader, Wheeled	Bucket, 2.0	\$28.75/hr.	1400	\$40,250	\$6,440	\$33,810

Equipment						
Activity or Deliverable	Equipment Used	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
Paver, Asphalt		\$115.00/hr.	360	\$41,400	\$6,624	\$34,776
Pick-up, Asphalt		\$83.00/hr.	360	\$29,880	\$4,781	\$25,099
Stripper, Paint		\$19.00/hr.	40	\$760	\$122	\$638
Trailer, Equipment	12 ton	\$25.00/hr.	1400	\$35,000	\$5,600	\$29,400
Truck, Dump	18 cy	\$65.00/hr.	1400	\$91,000	\$14,560	\$76,440
Trench Plates (recessed)	Plates	\$3.25/hr.	1600	\$5,200	\$832	\$4,368
Subtotal				\$394,892	\$63,183	\$331,709
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Compaction Testing	Nuclear Gauge	\$15.00	700	\$10,500	\$1,680	\$8,820
Subtotal				\$10,500	\$1,680	\$8,820
<b>Equipment Total</b>				<b>\$428,742</b>	<b>\$68,599</b>	<b>\$360,143</b>
Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Pothole Utilities	Underground	\$125.00	200	\$25,000	\$4,000	\$21,000
Preconstruction Videotaping	Video	\$100.00	100	\$10,000	\$1,600	\$8,400
Erosion Control/Storm Water Pollution Prevention Plan	Environ.	\$150.00	100	\$15,000	\$2,400	\$12,600
Subtotal				\$50,000	\$8,000	\$42,000
<i>Subtask 9.2 Project Construction</i>						
Operator (Group 10)	Eq. Operator	\$61.90	2600	\$160,940	\$25,750	\$135,190
Operator (Group 10)	Eq. Operator	\$61.90	2400	\$148,560	\$23,770	\$124,790
Laborer (Group 4)	Pipelayer	\$46.07	3500	\$161,245	\$25,799	\$135,446
Laborer (Group 1-General)	General	\$44.36	3500	\$155,260	\$24,842	\$130,418
Laborer(Group 4)	Pipelayer	\$46.07	3500	\$161,245	\$25,799	\$135,446
Dump Truck	Dump Drive	\$46.39	1400	\$64,946	\$10,391	\$54,555
Superintendent	Contractor	\$51.48	2000	\$102,960	\$16,474	\$86,486
Project Manager	Contractor	\$57.14	2000	\$114,280	\$18,285	\$95,995
Subtotal				\$1,069,436	\$171,110	\$898,326
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Pressure Testing	Testing	\$0.50	14440	\$7,220	\$1,155	\$6,065
Compaction Testing	Geotechnical	\$100.00	500	\$50,000	\$8,000	\$42,000
Subtotal				\$57,220	\$9,155	\$48,065
<b>Labor Total</b>				<b>\$1,176,656</b>	<b>\$188,265</b>	<b>\$988,391</b>
<b>Component 1-9 Total</b>				<b>\$2,116,527</b>	<b>\$338,300</b>	<b>\$1,778,227</b>

### **Component 1-10: SEJPA Conversion of Existing Tanks to Recycled Water Storage**

The proposed costs are based on recently completed planning and study efforts, augmented with SEJPA staff knowledge and project understanding. Upon completion of the construction bidding documents, including plans and specifications, an engineer's opinion of probable cost will be completed. Anticipated completion date for construction documents and engineer's estimate is early 2014. Total estimated construction costs are \$471,941 as shown in Table 4-17 below.

**Table 4-17: Row (d) Construction/ Implementation – Details for 1-10  
North San Diego County Regional Recycled Water Project – Phase II:  
Component 1-10: SEJPA Conversion of Existing Tanks to Recycled Water Storage**

Materials						
Activity or Deliverable	Units	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Bonds and Insurance - 5%	Each	\$20,000.00	1	\$20,000	\$0	\$20,000
Field Office with Utilities For Duration	Each	\$15,000.00	1	\$15,000		\$15,000
Prepare & Submit Detailed Schedule & Schedule of Values	Each	\$2,500.00	1	\$2,500	\$0	\$2,500
Traffic Control Plans, Encroachment Permit, Signage, K-Rail	Each	\$2,000.00	1	\$2,000	\$1,000	\$1,000
Storm Water Pollution Prevention Plan - Silt Fence, straw waddles, stakes, sand bags	Each	\$3,500.00	1	\$3,500	\$2,730	\$770
Subtotal				\$43,000	\$3,730	\$39,270
<i>Subtask 9.2 Project Construction</i>						
12" Pipe Fittings and Valves	Each	\$240.00	12	\$2,880	\$2,246	\$634
12" PVC, C900, Transmission Pipe	LF	\$24.00	900	\$21,600	\$16,848	\$4,752
Excavation and Recompaction	CY	\$40.00	900	\$36,000	\$28,080	\$7,920
Paving	SF	\$10.00	3,600	\$36,000	\$28,080	\$7,920
Concrete pad for new inlet to Tank (12'x20' pad = 240 sf @ \$5 per sf)	SF	\$5.00	240	\$1,200	\$936	\$264
SCADA Cabinet, Communication Equipment & Radio	Each	\$8,000.00	1	\$8,000	\$6,240	\$1,760
12" welded steel pipe for reconfigured tank inlet & outlet (prevent short circuiting)	LF	\$32.00	120	\$3,840	\$2,995	\$845
12" welded steel pipe for potable water air-gap connection (supplemental water backup)	LF	\$32.00	44	\$1,408	\$1,098	\$310
Preparing & Recoating inside of tank (125' diameter, 32' height = 24,900 SF @ \$4.25 per SF)	SF	\$4.25	24,900	\$105,825	\$82,544	\$23,282
Replacement of cathodic protection zinc anodes	Each	\$180.00	28	\$5,040	\$3,931	\$1,109
Subtotal				\$221,793	\$172,999	\$48,794
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Soil & Concrete Testing	Each	\$4,500.00	1	\$4,500	\$3,510	\$990
Horsepower, Flow, & Pressure Testing	Each	\$2,500.00	3	\$7,500	\$5,850	\$1,650
Demobilize Equipment and Crews	Each	\$3,500.00	1	\$3,500	\$2,730	\$770
Subtotal				\$15,500	\$12,090	\$3,410
<b>Materials Total</b>				<b>\$280,293</b>	<b>\$188,819</b>	<b>\$91,474</b>

Equipment						
Activity or Deliverable	Units	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Installation of Construction Office - Truck Tractor	Hour	\$45.00	24	\$1,080	\$842	\$238
Crew Trucks	Hour	\$20.00	320	\$6,400	\$4,992	\$1,408
Subtotal				\$7,480	\$5,834	\$1,646
<i>Subtask 9.2 Project Construction</i>						
Pipeline & Structure Excavation/Backfill - Excavator - 1 cu yd bucket	Hour	\$39.00	200	\$7,800	\$6,084	\$1,716
Pipeline & Structure Excavation/Backfill - Dump Trucks - 8 cu yd	Hour	\$35.00	240	\$8,400	\$6,552	\$1,848
Pipe Installation, backhoe	Hour	\$35.00	320	\$11,200	\$8,736	\$2,464
Pipe Installation, water truck	Hour	\$32.00	240	\$7,680	\$5,990	\$1,690
Crew Trucks (Plumbing)	Hour	\$20.00	160	\$3,200	\$2,496	\$704
Crew Trucks (Electrical)	Hour	\$20.00	80	\$1,600	\$1,248	\$352
Man Lift	Hour	\$22.00	180	\$3,960	\$3,089	\$871
Concrete Pumper Truck - new inlet & outlet structure	Hour	\$45.00	40	\$1,800	\$1,404	\$396
Subtotal				\$45,640	\$35,599	\$10,041
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Remove Construction Office - Truck Tractor	Hour	\$45.00	16	\$720	\$562	\$158
Across All Activities - Pick-Up Trucks	Hour	\$20.00	120	\$2,400	\$1,872	\$528
Subtotal				\$3,120	\$2,434	\$686
<b>Equipment Total</b>				<b>\$56,240</b>	<b>\$43,867</b>	<b>\$12,373</b>
<b>Labor</b>						
Activity or Deliverable	Units	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Project Manager	Hour	\$120.00	16	\$1,920	\$1,498	\$422
Superintendent	Hour	\$90.00	16	\$1,440	\$1,123	\$317
Land Surveying - Surveyor Crew	Hour	\$160.00	24	\$3,840	\$2,995	\$845
Traffic Control Implementation - Laborers	Hour	\$44.00	48	\$2,112	\$1,647	\$465
Mobilize Equipment and Crews	Hour	\$44.00	40	\$1,760	\$1,373	\$387
Subtotal				\$11,072	\$8,636	\$2,436
<i>Subtask 9.2 Project Construction</i>						
Operating Engineers For All Equipment nic Pickups	Hour	\$60.00	320	\$19,200	\$14,976	\$4,224
Laborers	Hour	\$44.00	640	\$28,160	\$21,965	\$6,195
Cement Masons - Engineering Construction	Hour	\$44.00	128	\$5,632	\$4,393	\$1,239
Painters	Hour	\$44.00	320	\$14,080	\$10,982	\$3,098
Superintendent	Hour	\$90.00	200	\$18,000	\$14,040	\$3,960

Labor						
Activity or Deliverable	Units	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
Contractors Office Engineering Support	Hour	\$120.00	200	\$24,000	\$18,720	\$5,280
Subtotal				\$109,072	\$85,076	\$23,996
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Construction Inspector	Hour	\$60.00	120	\$7,200	\$5,616	\$1,584
Soils and Material Tester	Hour	\$60.00	40	\$2,400	\$1,872	\$528
Welding/Coating Special Inspection	Hour	\$60.00	24	\$1,440	\$1,123	\$317
Site Cleanup - Laborers	Hour	\$44.00	96	\$4,224	\$3,291	\$933
Subtotal				\$15,264	\$11,902	\$3,362
<b>Labor Total</b>				<b>\$135,408</b>	<b>\$105,614</b>	<b>\$29,794</b>
<b>Component 1-10 Total</b>				<b>\$471,941</b>	<b>\$338,300</b>	<b>\$133,641</b>

**Row (e) Environmental Compliance/ Mitigation/ Enhancement**

**Task 10: Environmental Compliance/ Mitigation/ Enhancement**

Not applicable.

**Row (f) Construction Administration**

**Task 11: Construction Administration**

Not applicable.

**Row (g) Other Costs**

Other costs are not required for this project.

**Row (h) Construction/Implementation Contingency**

Construction/Implementation contingency are not included in the proposed budget.

**Row (i) Grand Total**

The Grand Total for the *North San Diego County Regional Recycled Water Project – Phase II* (\$19,150,228) was calculated as the sum of rows (GA) through (h).

**Table 4-18: Row (i) Grand Total Costs  
*North San Diego County Regional Recycled Water Project – Phase II***

	Category	Total
(GA)	Grant Administration	\$103,560
(a)	Direct Project Administration	\$69,000
(b)	Land Purchase/ Easement	\$0
(c)	Planning/ Design/ Engineering/ Environmental Documentation	\$128,000
(d)	Construction/ Implementation	\$18,849,668
(e)	Environmental Compliance/ Mitigation/ Enhancement	\$0
(f)	Construction Administration	\$0
(g)	Other Costs	\$0
(h)	Construction/ Implementation Contingency	\$0
<b>(i)</b>	<b>Grand Total</b>	<b>\$19,150,228</b>

## Project 2: Turf Replacement and Agricultural Irrigation Efficiency Program

The *Turf Replacement and Agricultural Irrigation Efficiency Program* will involve financial incentives, technical assistance, support and guidance, training, and resource lists to encourage and support projects that reduce water use and improve irrigation efficiency. Funding for this project involves the following aspects of project implementation: project administration and construction/ implementation costs.

The total cost associated with the *Turf Replacement and Agricultural Irrigation Efficiency Program* is \$784,591. Of these total costs, \$592,760 is being requested for grant funding through the IRWM Grant Program. The remaining \$191,831 will be funded through in-kind labor and the general funds of the participating project partners. The Water Authority and City of San Diego will be using in-house labor as in-kind contribution to administer their respective programs and also to administer the grant contract. In addition, the Water Authority used an vendor to develop a microsite for its Turf Replacement Program, which was completed December 2012. This work will also be reported as in-kind contribution. In total, the non-State share of the total project cost (funding match) is 24% for this program.

Table 4-19 below provides a more detailed break-down of the total project budget.

**Table 4-19: Total Project Budget  
Turf Replacement and Agricultural Irrigation Efficiency Program**

<b>Proposal Title: San Diego IRWM Implementation Grant Proposal – Round 2</b>					
<b>Project Title: Turf Replacement and Agricultural Irrigation Efficiency Program</b>					
<b>Project serves a need of a DAC?:</b>		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
<b>Funding Match Waiver request?:</b>		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
<b>Category</b>		<b>(a) Requested Grant Amount</b>	<b>(b) Cost Share: Non-State Fund Source* (Funding Match)</b>	<b>(c) Cost Share: Other State Fund Sources*</b>	<b>(d) Total</b>
(GA)	Grant Administration	\$17,265			\$17,265
(a)	Direct Project Administration	\$11,510	\$3,837	\$0	\$15,347
(b)	Land Purchase/Easement	\$0	\$0	\$0	\$0
(c)	Planning/Design/Engineering/ Environmental Documentation	\$0	\$0	\$0	\$0
(d)	Construction/Implementation	\$563,985	\$187,994	\$0	\$751,979
(e)	Environmental Compliance/ Mitigation/Enhancement	\$0	\$0	\$0	\$0
(f)	Construction Administration	\$0	\$0	\$0	\$0
(g)	Other Costs	\$0	\$0	\$0	\$0
(h)	Construction/Implementation Contingency	\$0	\$0	\$0	\$0
<b>(i)</b>	<b>Grand Total</b>	<b>\$592,760</b>	<b>\$191,831</b>	<b>\$0</b>	<b>\$784,591</b>
* <b>Sources of funding:</b> The Water Authority and City of San Diego will be using in-house labor as in-kind contribution to administer their respective programs and also to administer the grant. In addition, the Water Authority used an vendor to develop a microsite for its Turf Replacement Program, which was completed December 2012. This work will also be reported as in-kind contribution.					

This Implementation Grant Proposal is requesting funding for two project tasks identified within the *Turf Replacement and Agricultural Irrigation Efficiency Program* work plan (refer to Attachment 3).

The sections below provide detailed descriptions of each of the row and task budgets (where applicable). In addition, each description below describes how cost estimates for each of the tasks or rows were calculated.

**(GA) Grant Administration**

As part of this proposal, each project has agreed to allocate an amount equivalent to 3% of their grant request to pay for the cost for grant administration by the San Diego County Water Authority. The *Turf Replacement and Agricultural Irrigation Efficiency Program's* contribution will be \$17,265 to this effort.

**Row (a) Direct Project Administration**

The total direct project administration costs for the project are \$15,347. Table 4-20 provides a detailed listing of all applicable costs.

**Task 1: Project Administration**

This includes the cost for all administration of the project, which involves labor costs for a Water Resources Specialist from the Water Authority. Project administration will involve administering the grant contract, tracking budgets, developing and administering the MOU between the Water Authority and the City, and establishing and administering vendor contracts. This task will also include efforts necessary to prepare invoices, quarterly reports, project assessment and evaluation plans (PAEPs), and final reports as required by DWR for IRWM contracting purposes. The costs associated with this task were determined based on the estimated amount of time required to manage each of the activities described above (approximately 216 hours), which will be undertaken by a Water Resources Specialist.

This budget assumes that \$3,837 (25%) of the total time required to complete this task will be funded by the Water Authority through in-kind labor and will therefore be considered matching funds. The rest of the funding required to complete this task, \$11,510, is being requested as grant funding from DWR.

**Task 2: Labor Compliance Program**

Construction projects are not part of the scope of the *Turf Replacement and Agricultural Irrigation Efficiency Program*. Therefore, a Labor Compliance Program is not anticipated to be required for this project.

**Task 3: Reporting**

Costs for grant reporting have been included in staff labor estimated under Task 1: Project Administration, above.

**Table 4-20: Row (a) Direct Project Administration Budget  
*Turf Replacement and Agricultural Irrigation Efficiency Program***

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 1: Project Administration</b>						
Project administration, including invoicing and reporting	Water Resources Specialist	\$70.89	216	\$15,347	\$11,510	\$3,837
<b>Task 1 Total</b>				<b>\$15,347</b>	<b>\$11,510</b>	<b>\$3,837</b>
<b>Row (a) Total</b>				<b>\$15,347</b>	<b>\$11,510</b>	<b>\$3,837</b>

**Row (b) Land Purchase/ Easement**

Not applicable.

**Row (c) Planning/ Design/ Engineering/ Environmental Documentation**

Not applicable

**Task 4: Assessment and Evaluation**

Not applicable.

**Task 5: Final Design**

Not applicable.

**Task 6: Environmental Documentation**

Not applicable.

**Task 7: Permitting**

Not applicable.

**Row (d) Construction/ Implementation**

The *Turf Replacement and Agricultural Irrigation Efficiency Program* does not involve construction but will include implementation efforts. Implementation will involve in-house administration for the City of San Diego and the San Diego County Water Authority, management of vendor contracts, rebates, and incentives for program participation and implementation.

**Task 8: Construction Contracting**

Not applicable.

**Task 9: Construction/ Implementation**

This task will include the implementation of the program. It is divided into five subtasks:

- **Subtask 9.1 Water Authority Turf Replacement – In House:** Administration of the Water Authority's Turf Replacement Program, management of vendor to operate program, and program rebates.
- **Subtask 9.2 Water Authority Turf Replacement – Vendor:** Operation of Turf Replacement Program in Water Authority's service area. Reviewing and processing rebate applications and submittals, tracking and reporting program progress, disbursing rebates, conducting inspections, providing customer service, and marketing and outreach.
- **Subtask 9.3 City of San Diego Turf Replacement – In House:** Administration and implementation of the City of San Diego's Turf Replacement Rebate Program. Application review, site visits, verification of project completion, customer support, rebate processing, program website, and rebate funding.
- **Subtask 9.4 Water Authority Agricultural Irrigation Efficiency – In House:** Administration of the Agricultural Efficiency Program, vendor management. This task also includes budgeted funds for agricultural incentives. Eligible costs include, but are not limited to, various hardware, such as reclamation pipe, weather-based irrigation controllers (WBICs), space tubing, mesh basket, meters and various valves.
- **Subtask 9.5 Water Authority Agricultural Irrigation Efficiency – Vendor:** Operation of the Agricultural Efficiency Incentive Program by the vendor selected and contracted with by the Water Authority.

In-house labor costs were calculated by estimating the amount of time necessary for program management, invoice processing, site visits, and rebate processing, and using the wage rates for the responsible parties (Water Resources Specialist, Management Analysts, Associate Analysts, Program Manager, Inspector, Field Representative, and Word Processing Operator). In-house labor hours were estimated to total 2,650 hours. Vendor costs were calculated in a similar way: estimated amount of time to operate the program and process incentives (383 hours) times the billing rate.

This task also includes funding for the rebates themselves. The rebates will cover up to 50% of the cost of the hardware needed to convert agricultural lands to recycled water, and various maximum amounts depending on lot size for urban users. Rebate structures and guidelines are detailed in Water Authority and City of San Diego protocols and informational handouts (see Appendix 3-2). Costs of equipment necessary for conversion were priced and a maximum number of units chosen to estimate total funding for agricultural irrigation efficiency implementation, and a maximum number of square footage at a rate of \$1.50 per square foot was used to determine turf replacement rebate totals. The square footage assumed

for the Water Authority’s turf replacement activities is 81,800 and the square footage assumed for the City’s turf replacement activities is 237,870. For the agricultural irrigation efficiency program, it is assumed that 50 acres of agricultural land on a minimum of two sites will be converted to recycled water use; the cost estimate provided is based on the necessary hardware to retrofit this amount of land.

The total cost for implementation for the *Turf Replacement and Agricultural Irrigation Efficiency Program* is \$751,979.

**Table 4-21: Row (d) Construction/ Implementation  
Turf Replacement and Agricultural Irrigation Efficiency Program**

Incentives						
Activity or Deliverable	Incentives	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<b>Task 9: Construction/ Implementation</b>						
<i>Subtask 9.1 Water Authority Turf Replacement – In House</i>						
Rebates - Water Authority	Sq. ft. of turf replaced	\$ 1.50	81802	\$122,703	\$122,703	\$0
Subtotal				\$122,703	\$122,703	\$0
<i>Subtask 9.3 City of San Diego Turf Replacement - In House</i>						
Rebates - City of San Diego	Sq. ft. of turf replaced	\$ 1.50	237871	\$356,807	\$356,807	\$0
Subtotal				\$356,807	\$356,807	\$0
<i>Subtask 9.4 Water Authority Agricultural Irrigation Efficiency – In House</i>						
H-Ward strainer mesh basket	each	\$1,200.00	8	\$9,600	\$9,600	\$0
.75" recycled water pipe	per ft	\$0.75	500	\$375	\$375	\$0
1.5" recycled water pipe	per ft	\$0.80	500	\$400	\$400	\$0
2" main pipe	per ft	\$40.00	250	\$10,000	\$10,000	\$0
4" main pipe	per ft	\$80.00	200	\$16,000	\$16,000	\$0
PC .6gph 12" space tubing	per 500 ft	\$210.00	5	\$1,050	\$1,050	\$0
WBIC	each	\$1,200.00	6	\$7,200	\$7,200	\$0
meter	each	\$850.00	3	\$2,550	\$2,550	\$0
valves	each	\$175.00	15	\$2,625	\$2,625	\$0
Subtotal				\$49,800	\$49,800	\$0
<b>Incentives Total</b>				<b>\$529,309</b>	<b>\$529,309</b>	<b>\$0</b>
<b>Labor</b>						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Water Authority Turf Replacement – In House</i>						
Labor - Water Authority staff to administer program	Water Resources Specialist	\$ 70.89	930.52	\$65,964	\$0	\$65,964
Labor - Water Authority staff to process invoices	Mgmt. Analyst	\$ 67.49	24.00	\$1,620	\$0	\$1,620
Labor - Water Authority vendor to develop program microsite	Droplet Technologies	Lump Sum		\$19,990	\$0	\$19,990
Subtotal				\$87,574	\$0	\$87,574
<i>Subtask 9.2 Water Authority Turf Replacement - Vendor</i>						
Labor - Water Authority vendor to operate program	Program Manager	\$ 90.00	279.73	\$25,176	\$25,176	\$0
	Inspector	\$ 110.00	50.00	\$5,500	\$5,500	\$0

Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
Subtotal				\$30,676	\$30,676	\$0
<i>Subtask 9.3 City of San Diego Turf Replacement - In House</i>						
Labor - City staff processing applications, site visits, issuing rebate checks to customers	Associate Analyst	\$ 84.41	297.34	\$25,100	\$0	\$25,100
	Field Rep	\$ 50.28	1010.95	\$50,834	\$0	\$50,834
	Word Processing Operator	\$ 48.99	133.76	\$6,553	\$0	\$6,553
Subtotal				\$82,487	\$0	\$82,487
<i>Subtask 9.4 Water Authority Agricultural Irrigation Efficiency - In House</i>						
Labor - Water Authority staff to administer program	Water Resources Specialist	\$ 70.89	252.97	\$17,933	\$0	\$17,933
Subtotal				\$17,933	\$0	\$17,933
<i>Subtask 9.5 Water Authority Agricultural Irrigation Efficiency - Vendor</i>						
Labor - Water Authority's contract with vendor to process pass-thru incentives	Project Manager	\$ 75.00	53.33	\$4,000	\$4,000	\$0
Subtotal				\$4,000	\$4,000	\$0
<b>Labor Total</b>				<b>\$222,670</b>	<b>\$34,676</b>	<b>\$187,994</b>
<b>Task 9 Total</b>				<b>\$751,979</b>	<b>\$563,985</b>	<b>\$187,994</b>
<b>Row (d) Total</b>				<b>\$751,979</b>	<b>\$563,985</b>	<b>\$187,994</b>

**Row (e) Environmental Compliance/Mitigation/Enhancement**

Although the *Turf Replacement and Agricultural Irrigation Efficiency Program* provides incentives and rebates, it is not responsible for individual/on-site environmental compliance. Responsibility for such issues lay with the site owner or representative. Therefore, no Environmental Compliance/Mitigation/Enhancement is included in the Work Plan or Budget.

**Task 10: Environmental Compliance/Mitigation/Enhancement**

Not applicable.

**Row (f) Construction Administration**

Construction will not be performed as part of this project; construction administration is not applicable to this project and is not included within the Work Plan or Budget.

**Task 11: Construction Administration**

Not applicable.

**Row (g) Other Costs**

No other costs are required for this project.

**Row (h) Construction/Implementation Contingency**

Construction will not be performed as part of this project, therefore construction/implementation contingency is not required.

**Row (i) Grand Total**

The Grand Total for the *Turf Replacement and Agricultural Irrigation Efficiency Program* (\$784,591) was calculated as the sum of rows (GA) through (h) for each column.

**Table 4-22: Row (i) Grand Total Costs**  
***Turf Replacement and Agricultural Irrigation Efficiency Program***

	Category	Total
(GA)	Grant Administration	\$17,265
(a)	Direct Project Administration	\$15,347
(b)	Land Purchase/Easement	\$0
(c)	Planning/Design/Engineering/ Environmental Documentation	\$0
(d)	Construction/Implementation	\$751,979
(e)	Environmental Compliance/ Mitigation/Enhancement	\$0
(f)	Construction Administration	\$0
(g)	Other Costs	\$0
(h)	Construction/Implementation Contingency	\$0
<b>(i)</b>	<b>Grand Total</b>	<b>\$784,591</b>

### Project 3: Rural Disadvantaged Community (DAC) Partnership Program

The *Rural DAC Partnership Program* will address inadequate water supply and water quality issues affecting rural DACs, including tribal communities, in the San Diego IRWM Region. Funding for this project involves several aspects of program implementation including: direct project administration, planning/ design/ engineering/ environmental documentation, and construction/ implementation.

The total cost associated with the *Rural DAC Partnership Program* is \$5,819,288. Of these total costs, \$1,943,610 is being requested for grant funding through the IRWM Grant Program. The remaining \$1,550,271 will be funded by project partners, including the Rural Communities Assistance Corporation (RCAC) and other available State and federal funding programs. The RCAC will continue to leverage these programs – including Indian Health Services, State Water Resources Control Board's Clean Water State Revolving Fund, and U.S. Department of Agriculture's Rural Development Program – to meet the needs of the rural DACs in the San Diego IRWM Region. In total, the non-State share of the total project cost (funding match) is 27% for this program.

Table 4-23 below provides a more detailed break-down of the total project budget.

**Table 4-23: Total Project Budget  
Rural DAC Partnership Program**

<b>Proposal Title: San Diego IRWM Implementation Grant Proposal – Round 2</b> <b>Project Title: Rural DAC Partnership Program</b>					
Project serves a need of a DAC?:		<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
Funding Match Waiver request?:		<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
Category		(a)	(b)	(c)	(d)
		Requested Grant Amount	Cost Share: Non-State Fund Source* (Funding Match)	Cost Share: Other State Fund Sources*	Total
(GA)	Grant Administration	\$56,610	\$0	\$0	\$56,610
(a)	Direct Project Administration	\$51,619	\$0	\$0	\$51,619
(b)	Land Purchase/Easement	\$0	\$0	\$0	\$0
(c)	Planning/Design/Engineering/Environmental Documentation	\$9,982	\$0	\$0	\$9,982
(d)	Construction/Implementation	\$1,825,399	\$1,550,271	\$2,325,407	\$5,701,077
(e)	Environmental Compliance/Mitigation/Enhancement	\$0	\$0	\$0	\$0
(f)	Construction Administration	\$0	\$0	\$0	\$0
(g)	Other Costs	\$0	\$0	\$0	\$0
(h)	Construction/Implementation Contingency	\$0	\$0	\$0	\$0
(i)	<b>Grand Total</b>	<b>\$1,943,610</b>	<b>\$1,550,271</b>	<b>\$2,325,407</b>	<b>\$5,819,288</b>
<i>* Sources of funding: Non-State funding match will come in part through IHS, which will partner with some projects to provide design, construction management services, and construction costs, such as the 50% funding for Example Project 3-3. Other non-state funds will come from project proponents, RCAC, or from Federal grants through the USEPA and USDA.</i>					

The Implementation Grant Proposal is requesting funding for five project tasks identified within the *Rural DAC Partnership Project – Phase II* work plan (refer to Attachment 3).

The sections below provide detailed descriptions of each of the row and task budgets (where applicable). In addition, each description below describes how cost estimates for each of the tasks or rows were calculated.

**(GA) Grant Administration**

As part of this proposal, each project has agreed to allocate an amount equivalent to 3% of their grant request to pay for the cost for grant administration by the San Diego County Water Authority. *Rural DAC Partnership Program* will contribute \$56,610 to the cost of this effort.

**Row (a) Direct Project Administration**

The total direct project administration costs for the project are \$51,619. Table 4-24 provides a list of all applicable costs.

**Task 1: Project Administration**

This includes the cost for overall contract management. This task covers preparation of invoices and backup documentation, as well as management oversight. The costs were determined based on an hourly wage for RCAC Project Manager and Support Staff, based on the necessary time commitment estimated from past experience.

**Task 2: Labor Compliance Program**

RCAC will implement a Labor Compliance Program (LCP) for the *Rural DAC Partnership Program* as necessary. Costs for this task are estimated to total \$14,042.

**Task 3: Reporting**

This task involves submitting quarterly progress reports. Costs for this task were included in Task 1: Project Administration above.

**Table 4-24: Row (a) Direct Project Administration  
*Rural DAC Partnership Program***

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 1: Project Administration</b>						
Management Oversight - Preparation of invoices, quarterly reports, and backup documentation	Project Management	\$118.57	160	\$18,971	\$18,971	\$0
	Staff Support	\$70.21	265	\$18,606	\$18,606	\$0
<b>Task 1 Total</b>				<b>\$37,577</b>	<b>\$37,577</b>	<b>\$0</b>
<b>Task 2- Labor Compliance Program</b>						
Labor Compliance - Monitoring and reporting	Support Staff	\$70.21	200	\$14,042	\$14,042	\$0
<b>Task 2 Total</b>				<b>\$14,042</b>	<b>\$14,042</b>	<b>\$0</b>
<b>Row (a) Grand Total</b>				<b>\$51,619</b>	<b>\$51,619</b>	<b>\$0</b>

**Row (b) Land Purchase/Easement**

All land to be used is already owned by project partners, and is not included in the costs for this project.

**Row (c) Planning/Design/Engineering/Environmental Documentation**

The total planning/design/engineering/environmental documentation costs for the project are \$9,982. Table 4-25 provides a detailed listing of all applicable costs.

**Task 4: Assessment and Evaluation**

This task includes facilitation of the Rural DAC stakeholder Committee, documentation of the project selection process, and preparation of formal program guidelines:

- **Subtask 4.1: Facilitation of Rural DAC Stakeholder Committee** will involve convening the stakeholder group in order to review the priority list of projects to ensure readiness to proceed

and commitment of funding match and, if necessary, reviewing and selecting additional projects for funding.

- **Subtask 4.2: Rural DACs Project Assessment and Selection Study** will involve soliciting for additional critical water quantity and/or quality projects from rural DACs (if necessary), finalizing project selection criteria, evaluating other available funding resources to leverage Proposition 84 dollars, providing outreach and program information, and assisting with project scope, readiness, and project documentation for funding.
- **Subtask 4.3: Rural DACs Partnership Program Guidelines** will be prepared to provide small and tribal water system operators with the information needed to contract with RCAC under this program.

**Task 5: Final Design**

Not applicable.

**Task 6: Environmental Documentation**

Not applicable.

**Task 7: Permitting**

Not applicable.

**Table 4-25: Row (c) Planning/Design/Environmental Documentation  
Rural DAC Partnership Program**

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 4: Assessment and Evaluation</b>						
Subtask 4.1: Facilitation of Rural DAC Stakeholder Committee	Project Manager	\$118.57	12	\$1,423	\$1,423	\$0
	Support Staff	\$70.21	24	\$1,685	\$1,685	\$0
Subtask 4.2: Rural DACs Project Assessment and Selection Study	Project Manager	\$118.57	20	\$2,371	\$2,371	\$0
	Support Staff	\$70.21	36	\$2,528	\$2,528	\$0
Subtask 4.3: Rural DACs Partnership Program Guidelines	Project Manager	\$118.57	6	\$711	\$711	\$0
	Support Staff	\$70.21	18	\$1,264	\$1,264	\$0
<b>Task 4 Total</b>				<b>\$9,982</b>	<b>\$9,982</b>	<b>\$0</b>
<b>Row (c) Total</b>				<b>\$9,982</b>	<b>\$9,982</b>	<b>\$0</b>

**Row (d) Construction/Implementation**

The Construction/Implementation costs for the project are estimated to be \$5,701,077. Table 4-26 provides a detailed listing of all applicable costs.

**Task 8: Construction Contracting**

Not applicable.

**Task 9: Construction/Implementation**

Total costs for Task 9 are \$5,701,077. Construction costs for this project are divided between two subtasks: program implementation and reimbursements for infrastructure construction. These costs, summarized below, are anticipated for construction/ implementation of the selected DAC projects.

- **Subtask 9.1: Rural DACs Partnership Program Implementation:** The total cost for this subtask is \$37,577. This was estimated based on RCAC experience managing implementation of construction project for small, rural water systems in the San Diego IRWM Region.
- **Subtask 9.2: Rural DACs Infrastructure Reimbursements:** The costs for this subtask include materials such as pipes, tanks, concrete, valves, and connectors, as well as all labor for installation. To simplify program management, any additional costs necessary to complete final design and/or environmental documentation prior to construction were also included. The total estimated cost for this subtask is \$3,663,500.

**Table 4-26: Row (d) Construction/Implementation  
Rural DAC Partnership Program**

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total (\$)	Grant Request	Funding Match
<b>Task 9: Construction/ Implementation</b>						
<i>Subtask 9.1: Rural DACs Partnership Program Implementation</i>						
Program Implementation	Project Manager	\$118.57	160	\$18,971	\$18,971	\$0
	Support Staff	\$70.21	265	\$18,606	\$18,606	\$0
Subtotal				\$37,577	\$37,577	\$0
<b>Materials / Labor</b>						
Activity or Deliverable	Discipline/ Materials/ Equipment	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.2: Rural DACs Infrastructure Reimbursements</i>						
Design associated with infrastructure upgrades:						
Preliminary engineering reports	A&E	\$200.00	800	\$160,000	\$48,000	\$112,000
Final design and specifications	A&E	\$200.00	1800	\$360,000	\$108,000	\$252,000
Design Subtotal				\$520,000	\$156,000	\$364,000
Environmental compliance associated with infrastructure upgrades:						
CEQA/NEPA Compliance - Categorical Exclusion; Negative Declaration; FONSI	A&E	\$200.00	600	\$120,000	\$36,000	\$84,000
Environmental Subtotal				\$120,000	\$36,000	\$84,000
Construction activities associated with infrastructure upgrades:						
Construction of new storage tanks and foundations	200,000 gal welded	\$545,000	3	\$1,635,000	\$490,500	\$1,144,500
Connection of the new storage tanks to existing water mains	Connection	\$5,000	6	\$30,000	\$9,000	\$21,000
Demolition or abandonment in place of storage tanks	Demolition	\$35,000	3	\$105,000	\$31,500	\$73,500
Abandonment in place of altitude valves	Abandonment	\$5,000	4	\$20,000	\$6,000	\$14,000
Installation of a pressure reducing valve stations	PRV Station	\$30,000	4	\$120,000	\$36,000	\$84,000
Construction of new sections of water main	8" PVC	\$45	1800	\$81,000	\$24,300	\$56,700

Materials / Labor						
Activity or Deliverable	Discipline/ Materials/ Equipment	Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
Installation of air relief valves	Valve	\$4,000	8	\$32,000	\$9,600	\$22,400
Installation of gate valves	Valve	\$3,600	14	\$50,400	\$15,120	\$35,280
Construction of new groundwater wells	Well	\$ 620,000	3	\$1,860,000	\$558,000	\$1,302,000
Construction of piping to connect new wells to existing distribution system	8" PVC	\$ 45	1400	\$63,000	\$18,900	\$44,100
Pressure testing		\$3,500.00	8	\$28,000	\$8,400	\$19,600
Mobilization (10% of construction costs)			10%	\$399,640	\$66,230	\$333,410
Contingency (15% of construction costs)			15%	\$599,460	\$322,272	\$277,188
Construction Subtotal				\$5,023,500	\$1,595,822	\$3,427,678
Subtotal				<b>\$5,663,500</b>	<b>\$1,787,822</b>	<b>\$3,875,678</b>
<b>Task 9 Total</b>				<b>\$5,701,077</b>	<b>\$1,825,399</b>	<b>\$3,875,678</b>
<b>Row (d) Total</b>				<b>\$5,701,077</b>	<b>\$1,825,399</b>	<b>\$3,875,678</b>

The budget for infrastructure reimbursements will be dependent on DAC project selection (Task 4).

### Example Project Implementation

A construction/ implementation cost breakdown for each example project is found in the tables below (Tables 4-27 through 4-29).

**Table 4-27: Row (d) Construction/Implementation Costs – Details for Example 3-1  
Rural DAC Partnership Program: Phoenix House School**

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Example 3-1: Phoenix House School</b>						
Design associated with infrastructure upgrades:						
Preliminary Engineering and Final Design	Engineering	\$200.00	278	\$55,600	\$11,120	\$44,480
Environmental associated with infrastructure upgrades:						
Prepare CEQA Negative Declaration	A&E	\$200.00	70	\$14,000	\$2,800	\$11,200
Construction associated with infrastructure upgrades:						
Mobilization (10% of construction costs)			10%	\$29,750	\$5,950	\$23,800
New well		\$297,500	1	\$297,500	\$59,500	\$238,000
Performance testing		\$2,618	1	\$2,618	\$524	\$2,094
Contingency (15% of construction costs)			15%	\$44,625	\$8,925	\$35,700
<b>Example 3-1 Total</b>				<b>\$444,093</b>	<b>\$88,819</b>	<b>\$355,274</b>

**Table 4-28: Row (d) Construction/Implementation Costs – Details for Example 3-2  
Rural DAC Partnership Program: Rancho Estates MWC**

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Example 3-2: Rancho Estates MWC</b>						
Design associated with infrastructure upgrades:						
Preliminary Engineering and Final Design	Engineering	\$200.00	1782	\$356,400	\$71,280	\$285,120
Environmental associated with infrastructure upgrades:						
N/A						
Construction associated with infrastructure upgrades:						
Install 3,000 feet of 4" pipe		\$37.00	3000	\$111,000	\$22,200	\$88,800
Install 13,500 feet of 6" pipe		\$40.00	13500	\$540,000	\$108,000	\$432,000
41 new hydrants		\$1,000	41	\$41,000	\$8,200	\$32,800
50,000 water storage tank		\$55,000	1	\$55,000	\$11,000	\$44,000
500 gallon hydro-pneumatic tank		\$15,000	1	\$15,000	\$3,000	\$12,000
60 household connections and meters		\$2,400	60	\$144,000	\$28,800	\$115,200
Construction Labor		\$85.00	1,765	\$150,000	\$30,000	\$120,000
Contingency				\$369,600	\$73,920	\$295,680
<b>Example 3-2 Total</b>				<b>\$1,636,800</b>	<b>\$327,360</b>	<b>\$1,309,440</b>

**Table 4-29: Row (d) Construction/Implementation Costs – Details for Example 3-3  
Rural DAC Partnership Program: San Pasqual District B Water System**

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Example 3-3: San Pasqual District B Water System</b>						
Design associated with infrastructure upgrades:						
Final Design	Engineering	\$200.00	542	\$108,417	\$54,209	\$54,209
Environmental associated with infrastructure upgrades:						
Prepare NEPA FONSI	A&E	\$200.00	12	\$2,400	\$1,200	\$1,200
Construction associated with infrastructure upgrades:						
Mobilization (10% of construction costs)			10%	\$62,454	\$31,227	\$31,227
Tank and foundation - 250,000 gal welded		\$590,000	1	\$590,000	\$295,000	\$295,000
Water main connection		\$6,000	3	\$18,000	\$9,000	\$9,000
Tank Demolition		\$25,000	1	\$25,000	\$12,500	\$12,500
Tank piping - 8" PVC		\$38.00	400	\$15,200	\$7,600	\$7,600
Gate valve - 8"		\$3,500	4	\$14,000	\$7,000	\$7,000
Pressure testing		\$5,652	1	\$5,652	\$2,826	\$2,826
Contingency (15% of construction costs)			15%	\$99,330	\$49,665	\$49,665
<b>Example 3-3 Total</b>				<b>\$940,453</b>	<b>\$470,226</b>	<b>\$470,226</b>

**Row (e) Environmental Compliance/Mitigation/Enhancement**

**Task 10: Environmental Compliance/Mitigation/Enhancement**

Not applicable.

**Row (f) Construction Administration**

**Task 11: Construction Administration**

Not applicable.

**Row (g) Other Costs**

Not applicable.

**Row (h) Construction/Implementation Contingency**

Not applicable.

**Row (i) Grand Total**

The Grand Total for the *Rural DAC Partnership Program* (\$5,819,288) was calculated as the sum of rows (GA) through (h).

**Table 4-30: Row (i) Grand Total Costs  
*Rural DAC Partnership Program***

	<b>Category</b>	<b>Total</b>
(GA)	Grant Administration	\$56,610
(a)	Direct Project Administration	\$51,619
(b)	Land Purchase/Easement	\$0
(c)	Planning/Design/Engineering/ Environmental Documentation	\$9,982
(d)	Construction/Implementation	\$5,701,077
(e)	Environmental Compliance/ Mitigation/Enhancement	\$0
(f)	Construction Administration	\$0
(g)	Other Costs	\$0
(h)	Construction/Implementation Contingency	\$0
<b>(i)</b>	<b>Grand Total</b>	<b>\$5,819,288</b>

## Project 4: Failsafe Potable Reuse at the Advanced Water Purification Facility

The *Failsafe Potable Reuse at the Advanced Water Purification Facility* project will provide comprehensive testing, evaluation, and demonstration of failsafe treatment trains for potable reuse without an environmental buffer. Funding for the project involves planning/ design/ engineering/ environmental documentation and construction/ implementation tasks.

The total cost associated with the *Failsafe Potable Reuse at the Advanced Water Purification Facility* project is \$3,151,703. Of these total costs, \$2,176,390 is being requested for grant funding through the IRWM Grant Program. The remaining \$975,313 will be funded by the WateReuse Research Foundation (WRRF) and the City of San Diego. In total, the non-State share of the total project cost (funding match) is 31% for this project.

Table 4-31 below provides a more detailed break-down of the total project budget.

**Table 4-31: Total Project Budget**  
***Failsafe Potable Reuse at the Advanced Water Purification Facility***

<b>Proposal Title: San Diego IRWM Implementation Grant Proposal – Round 2</b>					
<b>Project Title: Failsafe Potable Reuse at the Advanced Water Purification Facility</b>					
<b>Project serves a need of a DAC?:</b>		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
<b>Funding Match Waiver request?:</b>		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
<b>Category</b>		<b>(a)</b>	<b>(b)</b>	<b>(c)</b>	<b>(d)</b>
		<b>Requested Grant Amount</b>	<b>Cost Share: Non-State Fund Source* (Funding Match)</b>	<b>Cost Share: Other State Fund Sources*</b>	<b>Total</b>
(GA)	Grant Administration	\$63,390	\$0	\$0	\$63,390
(a)	Direct Project Administration	\$0	\$0	\$0	\$0
(b)	Land Purchase/Easement	\$0	\$0	\$0	\$0
(c)	Planning/Design/Engineering/ Environmental Documentation	\$666,540	\$975,313	\$0	\$1,641,853
(d)	Construction/Implementation	\$1,446,460	\$0	\$0	\$1,446,460
(e)	Environmental Compliance/ Mitigation/Enhancement	\$0	\$0	\$0	\$0
(f)	Construction Administration	\$0	\$0	\$0	\$0
(g)	Other Costs	\$0	\$0	\$0	\$0
(h)	Construction/Implementation Contingency	\$0	\$0	\$0	\$0
<b>(i)</b>	<b>Grand Total</b>	<b>\$2,176,390</b>	<b>\$975,313</b>	<b>\$0</b>	<b>\$3,151,703</b>
* <b>Sources of funding:</b> Project partners will be using in-house labor as in-kind funding match, and has secured in-kind matches in the form of equipment loans and lab analysis from universities and water purification technology companies. All funding matches are being made under Task 4.					

The Implementation Grant Proposal is requesting funding for three project tasks identified within the *Failsafe Potable Reuse at the Advanced Water Purification Facility* Work Plan (refer to Attachment 3).

The sections below provide detailed descriptions of each of the row and task budgets (where applicable). In addition, each description below describes how cost estimates for each of the tasks or rows were calculated.

### (GA) Grant Administration

As part of this proposal, each project has agreed to allocate an amount equivalent to 3% of their grant request to pay for the cost for grant administration by the San Diego County Water Authority. The *Failsafe Potable Reuse at the Advanced Water Purification Facility* project will contribute \$63,390 to this cost.

**Row (a) Direct Project Administration**

**Task 1: Project Administration**

Not applicable.

**Task 2: Labor Compliance Program**

Not applicable.

**Task 3: Reporting**

To simplify billing for this project, WRRF staff labor costs associated with reporting are included as part of Task 5.1 below.

**Row (b) Land Purchase/ Easement**

Not applicable.

**Row (c) Planning/ Design/ Engineering/ Environmental Documentation**

The total planning/ design/ engineering/ environmental documentation costs for the project are \$1,641,853. Table 4-32 provides a summary of the applicable costs; Tables 4-33 and 4-34 below provide a detailed cost breakdown for Tasks 4 and 5, respectively.

**Table 4-32: Row (c) Planning/ Design/ Environmental Documentation  
*Failsafe Potable Reuse at the Advanced Water Treatment Facility***

Activity or Deliverable	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 4: Assessment and Evaluation</b>					
Subtask 4.1 Background Research and Criteria Development	See Table 4-33		\$216,930	\$0	\$216,930
Subtask 4.2 Toolbox for Integrated Treatment Trains	See Table 4-33		\$94,952	\$0	\$94,952
Subtask 4.3 Treatment Train Development and Validation	See Table 4-33		\$254,183	\$0	\$254,183
Subtask 4.4 In-kind Equipment and Water Quality Tests	See Table 4-33		\$409,248	\$0	\$409,248
<b>Task 4 Total</b>			<b>\$975,313</b>	<b>\$0</b>	<b>\$975,313</b>
<b>Task 5: Final Design</b>					
Subtask 5.1 Project Management and Coordination with Participating Agencies	See Table 4-34		\$127,922	\$127,922	\$0
Subtask 5.2 Expert Panel Workshop to Develop Guidelines for Failsafe Potable Reuse	See Table 4-34		\$177,826	\$177,826	\$0
Subtask 5.3 Develop Comprehensive Test Plan for Potable Reuse	See Table 4-34		\$120,472	\$120,472	\$0
Subtask 5.4 Final Report on Complete Strategy for Failsafe Potable Reuse	See Table 4-34		\$240,320	\$240,320	\$0
<b>Task 5 Total</b>			<b>\$666,540</b>	<b>\$666,540</b>	<b>\$0</b>
<b>Row (c) Total</b>			<b>\$1,641,853</b>	<b>\$666,540</b>	<b>\$975,313</b>

**Task 4: Assessment and Evaluation**

The total cost for this task is \$975,313 and includes costs for four major subtasks, as detailed below. All costs for Task 4 activities were developed by WRRF staff and consultants, based on experience developing and managing potable reuse projects within the State of California.

- Subtask 4.1: Background Research and Criteria Development:** Costs for this subtask include labor expenses for a Principal Investigators (PI), Co-PIs, a California Department of Public Health (CDPH) Expert, an International Expert, and Project Engineers. These expenses were calculated based on estimated time to accomplish each aspect of the subtask and each participant's hourly wage. Time estimates were made based on prior experience. The total cost for this subtask is \$216,930. Various activities to be accomplished in this subtask include workshops, review of scientific knowledge on potable reuse and public health criteria, development of criteria, and a report of findings.
- Subtask 4.2: Toolbox for Integrated Treatment Trains:** This subtask will include developing a computer model that delivers information on integrated water reuse treatment trains for potable reuse. Accomplishing this will require a PI, Co-PIs, Project Engineers, and an International Expert. Costs for this subtask are based on labor rates and the estimated time to accomplish the items in the subtask. These estimates are made based on past experience to calculate a total cost of \$94,952 for this subtask.
- Subtask 4.3: Treatment Train Development and Validation:** This subtask involved identifying and validating the most promising treatment train alternatives for direct potable reuse based on the information gathered in the previous tasks. This will require a Principal Investigator, Co-PIs, an International Expert, a Project Engineer, and the Los Angeles County Sanitation District to develop a treatment train, validate it, and write a report. The total cost for this subtask is \$254,183, and is based on prior experience to estimate the time needed to accomplish these goals and the labor costs for the people involved.
- Subtask 4.4: In-kind Equipment and Water Quality Tests:** Throughout this stage of the project, in-kind contributions from the University of Arizona, GE Water, ITT Water & Tech, and APT Water totaling \$409,248 will provide for water quality testing and pilot equipment. The value of these in-kind contributions was calculated based on these organizations' standard billing rate and the agreed terms of the contribution (number of samples processed, length of time for equipment use).

**Table 4-33: Row (c) Planning/ Design/ Environmental Documentation – Task 4  
Failsafe Potable Reuse at the Advanced Water Treatment Facility**

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 4: Assessment and Evaluation</b>						
<b>Subtask 4.1 Background Research and Criteria Development</b>						
Subtask 4.1a - Literature review on potable reuse	Principal Investigator	\$283	8	\$2,264	\$0	\$2,264
	Co-PI	\$216	8	\$1,728	\$0	\$1,728
	Co-PI	\$197	84	\$16,548	\$0	\$16,548
	Co-PI	\$136	120	\$16,320	\$0	\$16,320
	CDPH Expert	\$200	10	\$2,000	\$0	\$2,000
	International Expert	\$350	6	\$2,100	\$0	\$2,100
	Project Engineer	\$117	80	\$9,360	\$0	\$9,360
Subtask 4.1b - Review of public health criteria	Principal Investigator	\$283	8	\$2,264	\$0	\$2,264
	Co-PI	\$216	2	\$432	\$0	\$432
	Co-PI	\$136	24	\$3,264	\$0	\$3,264

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
	CDPH Expert	\$200	30	\$6,000	\$0	\$6,000
	International Expert	\$350	6	\$2,100	\$0	\$2,100
	Project Engineer	\$117	40	\$4,680	\$0	\$4,680
Subtask 4.1c - Panel workshop to Develop Criteria for Direct Potable Reuse	Principal Investigator	\$283	80	\$22,640	\$0	\$22,640
	Co-PI	\$216	18	\$3,888	\$0	\$3,888
	Co-PI	\$197	42	\$8,274	\$0	\$8,274
	Co-PI	\$136	78	\$10,608	\$0	\$10,608
	CDPH Expert	\$200	64	\$12,800	\$0	\$12,800
	International Expert	\$350	32	\$11,200	\$0	\$11,200
	Panelists	\$200	84	\$16,800	\$0	\$16,800
Subtask 4.1d - Additional criteria development	Project Engineer	\$117	34	\$3,978	\$0	\$3,978
	Principal Investigator	\$283	6	\$1,698	\$0	\$1,698
	Co-PI	\$216	6	\$1,296	\$0	\$1,296
	Co-PI	\$136	4	\$544	\$0	\$544
	Project engineer	\$117	8	\$936	\$0	\$936
Subtask 4.1e - State of the Science and Criteria Reports	Project Engineer	\$140	40	\$5,600	\$0	\$5,600
	Principal Investigator	\$283	32	\$9,056	\$0	\$9,056
	Co-PI	\$216	32	\$6,912	\$0	\$6,912
	Co-PI	\$136	140	\$19,040	\$0	\$19,040
	CDPH Expert	\$200	20	\$4,000	\$0	\$4,000
	International Expert	\$350	8	\$2,800	\$0	\$2,800
	Project Engineer	\$117	40	\$4,680	\$0	\$4,680
<b>Subtask 4.1 Total</b>				<b>\$216,930</b>	<b>\$0</b>	<b>\$216,930</b>
<b>Subtask 4.2 Toolbox for Integrated Treatment Trains</b>						
Subtask 4.2a - Develop a list of unit processes and associated variables	Principal Investigator	\$283	1	\$283	\$0	\$283
	Co-PI	\$216	1	\$216	\$0	\$216
	Co-PI	\$197	10	\$1,970	\$0	\$1,970

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
	Co-PI	\$136	1	\$136	\$0	\$136
	Project Engineer	\$165	48	\$7,920	\$0	\$7,920
	Project Engineer	\$134	28	\$3,752	\$0	\$3,752
Subtask 4.2b - Identify existing models	Principal Investigator	\$283	1	\$283	\$0	\$283
	Co-PI	\$216	1	\$216	\$0	\$216
	Co-PI	\$197	7	\$1,379	\$0	\$1,379
	Co-PI	\$136	1	\$136	\$0	\$136
	Project Engineer	\$140	8	\$1,120	\$0	\$1,120
	Project Engineer	\$165	48	\$7,920	\$0	\$7,920
	Project Engineer	\$134	25	\$3,350	\$0	\$3,350
Subtask 4.2c - Develop and refine description of individual unit process models	Principal Investigator	\$283	1	\$283	\$0	\$283
	Co-PI	\$216	1	\$216	\$0	\$216
	Co-PI	\$197	10	\$1,970	\$0	\$1,970
	Co-PI	\$136	1	\$136	\$0	\$136
	Project Engineer	\$165	47	\$7,755	\$0	\$7,755
	Project Engineer	\$134	28	\$3,752	\$0	\$3,752
Subtask 4.2d - Integrate unit process models into a unified toolbox	Principal Investigator	\$283	1	\$283	\$0	\$283
	Co-PI	\$216	1	\$216	\$0	\$216
	Co-PI	\$197	10	\$1,970	\$0	\$1,970
	Co-PI	\$136	1	\$136	\$0	\$136
	Project Engineer	\$165	48	\$7,920	\$0	\$7,920
	Project Engineer	\$134	28	\$3,752	\$0	\$3,752
Subtask 4.2e - Validate toolbox using data from existing systems practicing indirect potable reuse	Principal Investigator	\$283	1	\$283	\$0	\$283
	Co-PI	\$216	1	\$216	\$0	\$216
	Co-PI	\$197	10	\$1,970	\$0	\$1,970
	Co-PI	\$136	40	\$5,440	\$0	\$5,440
	Project Engineer	\$165	48	\$7,920	\$0	\$7,920
	Project Engineer	\$134	28	\$3,752	\$0	\$3,752
Subtask 4.2f - Toolbox report	Principal Investigator	\$283	1	\$283	\$0	\$283
	Co-PI	\$216	1	\$216	\$0	\$216
	Co-PI	\$197	10	\$1,970	\$0	\$1,970

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
	Co-PI	\$136	10	\$1,360	\$0	\$1,360
	International Expert	\$350	8	\$2,800	\$0	\$2,800
	Project Engineer	\$165	48	\$7,920	\$0	\$7,920
	Project Engineer	\$134	28	\$3,752	\$0	\$3,752
<b>Subtask 4.2 Total</b>				<b>\$94,952</b>	<b>\$0</b>	<b>\$94,952</b>
<b>Subtask 4.3 Treatment Train Development and Validation</b>						
Subtask 4.3a - Develop treatment train	Principal Investigator	\$283	16	\$4,528	\$0	\$4,528
	Co-PI	\$216	24	\$5,184	\$0	\$5,184
	Co-PI	\$197	15	\$2,955	\$0	\$2,955
	Co-PI	\$136	120	\$16,320	\$0	\$16,320
	International Expert	\$350	8	\$2,800	\$0	\$2,800
	Project Engineer	\$136	20	\$2,720	\$0	\$2,720
Subtask 4.3b - Validate the treatment train	Principal Investigator	\$283	24	\$6,792	\$0	\$6,792
	Co-PI	\$216	40	\$8,640	\$0	\$8,640
	Co-PI	\$197	14	\$2,758	\$0	\$2,758
	Co-PI	\$136	208	\$28,288	\$0	\$28,288
	International Expert	\$350	8	\$2,800	\$0	\$2,800
	Project Engineer	\$136	80	\$10,880	\$0	\$10,880
	LACSD - Pilot O&M	\$100	1000	\$100,000	\$0	\$100,000
Subtask 4.3c - Treatment train report	Principal Investigator	\$283	24	\$6,792	\$0	\$6,792
	Co-PI	\$216	50	\$10,800	\$0	\$10,800
	Co-PI	\$197	14	\$2,758	\$0	\$2,758
	Co-PI	\$136	208	\$28,288	\$0	\$28,288
	Project Engineer	\$136	80	\$10,880	\$0	\$10,880
<b>Subtask 4.3 Total</b>				<b>\$254,183</b>	<b>\$0</b>	<b>\$254,183</b>
<b>Subtask 4.4 In-kind Equipment and Water Quality Tests</b>						
Subtask 4.4a - Lab analysis for water quality testing	University of Arizona	\$500/sample	100 samples	\$50,000	\$0	\$50,000
Subtask 4.4b - In-Kind Pilot Equipment (ITT Water, GE Water, APT Water)	GE Water	\$11,667/month	6 months	\$70,000	\$0	\$70,000
	ITT Water & Tech	\$16,500/month	12 months	\$198,000	\$0	\$198,000
	APT Water	\$7,604/month	12 months	\$91,248	\$0	\$91,248
<b>Subtask 4.4 Total</b>				<b>\$409,248</b>	<b>\$0</b>	<b>\$409,248</b>
<b>Task 4 Total</b>				<b>\$975,313</b>	<b>\$0</b>	<b>\$975,313</b>

### Task 5: Final Design

This task includes the total cost for developing information on proper design and operational concepts for failsafe potable reuse treatment trains. There are subtasks whose costs are detailed below, for a total cost of \$666,540. All costs for Task 5 activities were developed by WRRF staff and consultants, based on experience developing and managing potable reuse projects within the State of California.

- Subtask 5.1: Project Management and Coordination with Participating Agencies:** This subtask provides for weekly and bi-monthly progress meetings with project partners and the WaterReuse Foundation, and quarterly updates with CDPH. Costs for this subtask include travel and labor costs for a Senior Officer, Project Manager, and Project Engineer, as well as meeting support costs. These costs total \$127,922.
- Subtask 5.2: Expert Panel Workshop to Develop Guidelines for Failsafe Potable Reuse:** This subtask involves creating an expert panel and running an international workshop to develop guidelines that will address hazard analysis, critical control points, redundancy requirements, and water quality monitoring techniques for direct potable reuse. Costs for this subtask include labor costs for a Senior Officer, Project Manager, Project Engineer, Associate Engineer, and costs for panel members. These costs were calculated based on the estimated time to prepare for the workshop and its findings, as well as prior experience with workshop expenses. The total cost for this subtask is \$177,826.
- Subtask 5.3: Develop Comprehensive Test Plan for Potable Reuse:** This subtask includes the costs related to developing and writing a comprehensive test plan based on the failsafe guidelines produced in Subtask 5.2. The total cost of this subtask is \$120,472, and is calculated based on the labor costs and estimated time to accomplish subtask goals for a Senior Officer, Project managers, Project engineers, and associate engineers involved with this subtask.
- Subtask 5.4: Final Report on Complete Strategy for Failsafe Potable Reuse:** This subtask will draft and finalize a report on a complete strategy for failsafe potable reuse without an environmental buffer based on the findings of the previous tasks. Costs will include the labor and time of a Senior Officer, Project manager, Project engineer, and Associate engineer, and are estimated using prior experience. The total cost for this subtask is \$240,320.

**Table 4-34: Row (c) Planning/ Design/ Environmental Documentation Costs – Task 5  
Failsafe Potable Reuse at the Advanced Water Treatment Facility**

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Subtask 5.1 Project Management and Coordination with Participating Agencies</b>						
Subtask 5.1a - Meetings, agendas and meeting minutes	Senior officer	\$280	96	\$26,880	\$26,880	\$0
	Project manager	\$215	96	\$20,640	\$20,640	\$0
	Project engineer	\$146	192	\$28,032	\$28,032	\$0
	Mileage			\$1,050	\$1,050	\$0
Subtask 5.1b - Conference calls	Senior officer	\$280	26	\$7,280	\$7,280	\$0
	Project manager	\$215	78	\$16,770	\$16,770	\$0
	Project engineer	\$146	86	\$12,556	\$12,556	\$0
	Line charges			\$210	\$210	\$0
Subtask 5.1c - Progress reports and invoicing	Project manager	\$215	24	\$5,160	\$5,160	\$0
	Project	\$146	64	\$9,344	\$9,344	\$0

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
	engineer					
<b>Subtask 5.1</b>				<b>\$127,922</b>	<b>\$127,922</b>	<b>\$0</b>
<b>Subtask 5.2 Expert Panel Workshop to Develop Guidelines for Failsafe Potable Reuse</b>						
Subtask 5.2a - Perform literature review and develop straw man for expert panel to consider for failsafe concept	Senior officer	\$280	64	\$17,920	\$17,920	\$0
	Project manager	\$215	64	\$13,760	\$13,760	\$0
	Project engineer	\$146	80	\$11,680	\$11,680	\$0
	Associate engineer	\$100	56	\$5,600	\$5,600	\$0
Subtask 5.2b - Develop workshop presentations and arrange logistics	Senior officer	\$280	40	\$11,200	\$11,200	\$0
	Project manager	\$215	40	\$8,600	\$8,600	\$0
	Project engineer	\$146	74	\$10,804	\$10,804	\$0
	Associate engineer	\$100	60	\$6,000	\$6,000	\$0
Subtask 5.2c - Workshop with expert panel to develop failsafe guidelines	Senior officer	\$280	16	\$4,480	\$4,480	\$0
	Project manager	\$215	16	\$3,440	\$3,440	\$0
	Project engineer	\$146	16	\$2,336	\$2,336	\$0
	Associate engineer	\$100	16	\$1,600	\$1,600	\$0
	Panel members	Lump Sum Cost		\$63,000	\$63,000	\$0
Subtask 5.2d - Expert panel report review and post workshop analysis	Senior officer	\$280	16	\$4,480	\$4,480	\$0
	Project manager	\$215	6	\$1,290	\$1,290	\$0
	Project engineer	\$146	66	\$9,636	\$9,636	\$0
	Associate engineer	\$100	20	\$2,000	\$2,000	\$0
<b>Subtask 5.2</b>				<b>\$177,826</b>	<b>\$177,826</b>	<b>\$0</b>
<b>Subtask 5.3 Develop Comprehensive Test Plan for Potable Reuse</b>						
Subtask 5.3a - Develop test objectives for failsafe potable reuse	Senior officer	\$280	40	\$11,200	\$11,200	\$0
	Project manager	\$215	80	\$17,200	\$17,200	\$0
	Project engineer	\$146	80	\$11,680	\$11,680	\$0
	Associate engineer	\$100	24	\$2,400	\$2,400	\$0
Subtask 5.3b - Incorporate comments from review of test objectives by City, CDPH and CA WaterReuse	Senior officer	\$280	24	\$6,720	\$6,720	\$0
	Project manager	\$215	24	\$5,160	\$5,160	\$0
	Project engineer	\$146	12	\$1,752	\$1,752	\$0

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
	Associate engineer	\$100	12	\$1,200	\$1,200	\$0
Subtask 5.3c - Develop comprehensive test, monitoring and challenge plan (bench-, pilot-, demo-scale)	Senior officer	\$280	40	\$11,200	\$11,200	\$0
	Project manager	\$215	40	\$8,600	\$8,600	\$0
	Project engineer	\$146	120	\$17,520	\$17,520	\$0
	Associate engineer	\$100	102	\$10,200	\$10,200	\$0
Subtask 5.3d - Finalize test plan after review by City, CDPH and CA WaterReuse	Senior officer	\$280	8	\$2,240	\$2,240	\$0
	Project manager	\$215	24	\$5,160	\$5,160	\$0
	Project engineer	\$146	40	\$5,840	\$5,840	\$0
	Associate engineer	\$100	24	\$2,400	\$2,400	\$0
<b>Subtask 5.3</b>				<b>\$120,472</b>	<b>\$120,472</b>	<b>\$0</b>
<b>Subtask 5.4 Final Report on Complete Strategy for Failsafe Potable Reuse</b>						
Subtask 5.4a - Draft final report with failsafe guidelines, test objectives, demonstration testing results, and final outcomes/recommendations for failsafe potable reuse	Senior officer	\$280	200	\$56,000	\$56,000	\$0
	Project manager	\$215	240	\$51,600	\$51,600	\$0
	Project engineer	\$146	480	\$70,080	\$70,080	\$0
	Associate engineer	\$100	130	\$13,000	\$13,000	\$0
Subtask 5.4b - Finalize report after review by City, CDPH and CA WaterReuse	Senior officer	\$280	80	\$22,400	\$22,400	\$0
	Project manager	\$215	8	\$1,720	\$1,720	\$0
	Project engineer	\$146	120	\$17,520	\$17,520	\$0
	Associate engineer	\$100	80	\$8,000	\$8,000	\$0
<b>Subtask 5.4</b>				<b>\$240,320</b>	<b>\$240,320</b>	<b>\$0</b>
<b>Task 5 Total</b>				<b>\$666,540</b>	<b>\$666,540</b>	<b>\$0</b>

### Task 6: Environmental Documentation

Not applicable.

### Task 7: Permitting

Not applicable.

### Row (d) Construction/Implementation

The construction/implementation costs for the project are estimated to be \$1,466,460. Table 4-35 provides a detailed listing of all applicable construction/implementation costs, all of which are being requested as part of the IRWM Grant Program.

### Task 8: Construction Contracting

Not applicable.

### Task 9: Construction/Implementation

Implementation of the test plan finalized in Task 5 will occur at the City of San Diego's Advanced Water Treatment Facility, with tests occurring over a span of 52 weeks. Implementation costs will total \$1,466,460 for both labor and materials during the testing phase. These activities are described in detail in the work plan (see Attachment 3). All costs for Task 9 activities were developed by City of San Diego staff and consultants, based on experience operating the demonstration plant.

- **Subtask 9.1: Perform Demonstration-Scale Testing:** This subtask involves operating the City of San Diego's advanced water purification demonstration facility to collect data for evaluating failsafe concepts from workshop.
- **Subtask 9.2: Bench-Scale Experiments on Indicators and Surrogates:** This subtask will involve testing to better define a surrogate and indicator framework for advanced treated water.
- **Subtask 9.3: Develop Meaningful Correlations Calibrations for Emerging Technologies:** Subtask 9.3 includes coordination with manufacturers to develop proper calibrations and reliable information.
- **Subtask 9.4: Challenge Testing for Indicators with Surrogate Monitoring:** In this subtask, the demonstration plant operator will challenge the system with intentional failures to test monitoring equipment response and redundancy treatments.

The costs associated with each activity are divided between materials and labor:

- **Materials:** Materials for the project may include, but are not limited to: water treatment chemicals such as sodium hydroxide, sodium hypochlorite, citric acid, antiscalane/CIP chemicals, hydrogen peroxide, CECs, NDMA, Dioxane, TOC, EEM, UV, bacteria and protozoa, and others. It also includes the cost of an on-site trailer. Materials costs total \$895,336.
- **Labor:** Labor is required to perform testing and experiments, coordinate with manufacturers to confirm data and assess reliability, and conduct challenge testing. Types of laborers involved in this task will include Senior Officer, Project Manager, Project Engineer, and Associate Engineer. These costs are based on projected timeline and time requirements for each step, determined by prior experience. Labor costs are expected to total \$551,124.

**Table 4-35: Row (d) Construction/ Implementation  
Failsafe Potable Reuse at the Advanced Water Purification Facility**

Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<b>Task 9: Construction/ Implementation</b>						
Subtask 9.1 - Perform Demonstration-Scale Testing	Ammonia hydroxide	\$1.31	38000	\$49,630	\$49,630	\$0
	Sodium hypochlorite	\$1.98	13000	\$25,709	\$25,709	\$0
	Citric acid	\$1.05	2800	\$2,942	\$2,942	\$0
	Sodium hydroxide	\$1.98	2760	\$5,458	\$5,458	\$0
	Antiscalant/ CIP chemicals	\$7.64	1692	\$12,931	\$12,931	\$0
	Hydrogen peroxide	\$0.42	33403	\$14,054	\$14,054	\$0
	On-site trailer	\$224	12	\$2,682	\$2,682	\$0
	CECs, NDMA,	\$800	364	\$291,200	\$291,200	\$0

Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
	Dioxane					
	TOC, EEM, UV	\$200	400	\$80,000	\$80,000	\$0
	THM, HAA, etc.	\$500	300	\$150,000	\$150,000	\$0
	Coliphage	\$20	1248	\$24,960	\$24,960	\$0
	Coliform	\$10	625	\$6,250	\$6,250	\$0
	Protozoa	\$100	315	\$31,500	\$31,500	\$0
Subtask 9.2 - Bench-scale Experiments on Indicators and Surrogates	CECs, NDMA, Dioxane	\$800	40	\$32,000	\$32,000	\$0
	TOC, EEM, UV	\$200	160	\$32,000	\$32,000	\$0
	THM, HAA, etc.	\$500	40	\$20,000	\$20,000	\$0
	Coliphage	\$20	126	\$2,520	\$2,520	\$0
	Coliform	\$10	120	\$1,200	\$1,200	\$0
	Protozoa	\$100	60	\$6,000	\$6,000	\$0
Subtask 9.3 - Develop Meaningful Correlations Calibrations for Emerging Technologies	CECs, NDMA, Dioxane	\$800	26	\$20,800	\$20,800	\$0
	TOC, EEM, UV	\$200	26	\$5,200	\$5,200	\$0
	THM, HAA, etc.	\$500	26	\$13,000	\$13,000	\$0
	Coliphage	\$20	160	\$3,200	\$3,200	\$0
	Coliform	\$10	160	\$1,600	\$1,600	\$0
	Protozoa	\$100	80	\$8,000	\$8,000	\$0
Subtask 9.4 - Challenge Testing for Indicators with Surrogate Monitoring	Stock MS2	\$2,000	9	\$18,000	\$18,000	\$0
	Stock coliform	\$1,000	8	\$8,000	\$8,000	\$0
	Stock C. parvum	\$5,000	3	\$15,000	\$15,000	\$0
	Coliphage	\$20	175	\$3,500	\$3,500	\$0
	Coliform	\$10	200	\$2,000	\$2,000	\$0
	Protozoa	\$100	60	\$6,000	\$6,000	\$0
<b>Materials Total</b>				<b>\$895,336</b>	<b>\$895,336</b>	<b>\$0</b>

Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
Subtask 9.1 - Perform Demonstration-Scale Testing	Senior officer	\$280	52	\$14,560	\$14,560	\$0
	Project manager	\$215	104	\$22,360	\$22,360	\$0
	Project engineer	\$146	986	\$143,956	\$143,956	\$0
	Associate engineer	\$100	2067	\$206,700	\$206,700	\$0

Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
Subtask 9.2 - Bench-scale Experiments on Indicators and Surrogates	Senior officer	\$280	40	\$11,200	\$11,200	\$0
	Project manager	\$215	24	\$5,160	\$5,160	\$0
	Project engineer	\$146	160	\$23,360	\$23,360	\$0
	Associate engineer	\$100	240	\$24,000	\$24,000	\$0
Subtask 9.3 - Develop Meaningful Correlations Calibrations for Emerging Technologies	Senior officer	\$280	24	\$6,720	\$6,720	\$0
	Project manager	\$215	40	\$8,600	\$8,600	\$0
	Project engineer	\$146	66	\$9,708	\$9,708	\$0
	Associate engineer	\$100	160	\$16,000	\$16,000	\$0
Subtask 9.4 - Challenge Testing for Indicators with Surrogate Monitoring	Senior officer	\$280	8	\$2,240	\$2,240	\$0
	Project manager	\$215	80	\$17,200	\$17,200	\$0
	Project engineer	\$146	160	\$23,360	\$23,360	\$0
	Associate engineer	\$100	160	\$16,000	\$16,000	\$0
<b>Labor Total</b>				<b>\$551,124</b>	<b>\$551,124</b>	<b>\$0</b>
<b>Task 9 Total</b>				<b>\$1,446,460</b>	<b>\$1,446,460</b>	<b>\$0</b>
<b>Row (d) Total</b>				<b>\$1,446,460</b>	<b>\$1,446,460</b>	<b>\$0</b>

**Row (e) Environmental Compliance/ Mitigation/ Enhancement**

**Task 10: Environmental Compliance/ Mitigation/ Enhancement**

Not applicable.

**Row (f) Construction Administration**

**Task 11: Construction Administration**

Not applicable.

**Row (g) Other Costs**

Not applicable.

**Row (h) Construction/Implementation Contingency**

Not applicable.

**Row (i) Grand Total**

The Grand Total for the *Failsafe Potable Reuse at the Advanced Water Treatment Facility* project (\$3,151,703) was calculated as the sum of rows (GA) through (h) for each column.

**Table 4-36: Row (i) Grand Total Costs**  
***Failsafe Potable Reuse at the Advanced Water Treatment Facility***

	<b>Category</b>	<b>Total</b>
(GA)	Grant Administration	\$63,390
(a)	Direct Project Administration	\$0
(b)	Land Purchase/Easement	\$0
(c)	Planning/Design/Engineering/ Environmental Documentation	\$1,641,853
(d)	Construction/Implementation	\$1,446,460
(e)	Environmental Compliance/ Mitigation/Enhancement	\$0
(f)	Construction Administration	\$0
(g)	Other Costs	\$0
(h)	Construction/Implementation Contingency	\$0
<b>(i)</b>	<b>Grand Total</b>	<b>\$3,151,703</b>

## Project 5: Sustaining Healthy Tributaries to the Upper San Diego River

The *Sustaining Healthy Tributaries to the Upper San Diego River* project will involve tasks necessary for creating a baseline for healthy creeks in the San Diego River watershed, including habitat restoration, data collection and monitoring, and education and outreach. Funding for this project is needed for direct project administration, planning/ designing/ engineering/ environmental documentation, and construction/ implementation.

The total cost associated with the *Sustaining Healthy Tributaries to the Upper San Diego River* project is \$711,854. Of these total costs, \$536,630 is being requested for grant funding through the IRWM Grant Program, and the project will not involve other sources of State funding. The remaining \$175,224 will be funded through in-kind labor by project partners, including the San Diego River Park Foundation (SDRPF), San Diego Fly Fishers, San Diego State University, Kumeyaay Digueno Land Conservancy, and Helix Water District. In total, the non-State share of the total project cost (funding match) is 25%.

Table 4-37 below provides a more detailed break-down of the total project budget.

**Table 4-37: Total Project Budget  
Sustaining Healthy Tributaries to the Upper San Diego River**

<b>Proposal Title: San Diego IRWM Implementation Grant Proposal – Round 2</b>					
<b>Project Title: Sustaining Healthy Tributaries to the Upper San Diego River</b>					
<b>Project serves a need of a DAC?:</b>		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
<b>Funding Match Waiver request?:</b>		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
<b>Category</b>		<b>(a) Requested Grant Amount</b>	<b>(b) Cost Share: Non-State Fund Source* (Funding Match)</b>	<b>(c) Cost Share: Other State Fund Sources*</b>	<b>(d) Total</b>
(GA)	Grant Administration	\$15,630	\$0	\$0	\$15,630
(a)	Direct Project Administration	\$21,146	\$17,750	\$0	\$38,896
(b)	Land Purchase/ Easement	\$0	\$0	\$0	\$0
(c)	Planning/ Design/ Engineering/ Environmental Documentation	\$10,086	\$0	\$0	\$10,086
(d)	Construction/ Implementation	\$489,768	\$157,475	\$0	\$647,243
(e)	Environmental Compliance/ Mitigation/ Enhancement	\$0	\$0	\$0	\$0
(f)	Construction Administration	\$0	\$0	\$0	\$0
(g)	Other Costs	\$0	\$0	\$0	\$0
(h)	Construction/ Implementation Contingency	\$0	\$0	\$0	\$0
<b>(i)</b>	<b>Grand Total</b>	<b>\$536,630</b>	<b>\$175,224</b>	<b>\$0</b>	<b>\$711,854</b>
<i>* Sources of funding: SDRPF will provide in-house labor for the funding match for Direct Project Administration and the Construction/Implementation activities..</i>					

This Implementation Grant Proposal is requesting funding for three project tasks identified within the *Sustaining Healthy Tributaries to the Upper San Diego River* work plan (refer to Attachment 3).

The sections below provide detailed descriptions of each of the row and task budgets (where applicable). In addition, each description below describes how cost estimates for each of the tasks or rows were calculated.

### **(GA) Grant Administration**

As part of this proposal, each project has agreed to allocate an amount equivalent to 3% of their grant request to pay for the cost for grant administration by the San Diego County Water Authority. The *Sustaining Healthy Tributaries to the Upper San Diego River* project will contribute \$15,630 to this cost.

**Row (a) Direct Project Administration**

SDRPF will carry out project administration tasks relating to direct project administration per its MOU with project partners. Costs for Tasks 1 and 3 were calculated based on SDRPF labor costs and Task 2 on estimated consultant costs, along with the estimated amount of time required to complete each task. These costs are detailed in Table 4-38 below.

**Task 1: Project Administration**

SDRPF will be responsible for Project Administration per the MOU with project partners. This task is expected to cost \$18,086 for 320 hours by a Project Administrator.

**Task 2: Labor Compliance Program**

SDRPF will hire a third party labor compliance consultant to manage any necessary Labor Compliance Programs. This is estimated to cost \$5,900 and will be provided as funding match.

**Task 3: Reporting**

This task will involve quarterly progress reports throughout the project implementation, as well as a final project report upon project completion.

**Table 4-38: Row (a) Direct Project Administration  
Sustaining Healthy Tributaries to the Upper San Diego River**

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 1: Project Administration</b>						
Project Administration	Project Administrator	\$56.52	320	\$18,086	\$8,000	\$10,086
<b>Task 1 Total</b>				<b>\$18,086</b>	<b>\$8,000</b>	<b>\$10,086</b>
<b>Task 2: Labor Compliance Program</b>						
Manage Labor Compliance Program	Project Manager	\$31.28	16	\$500	\$0	\$500
Third Party Labor Compliance Contract	Contractor	\$5,000.00	Lump Sum	\$5,000	\$0	\$5,000
ODCs				\$400	\$400	\$0
<b>Task 2 Total</b>				<b>\$5,900</b>	<b>\$400</b>	<b>\$5,500</b>
<b>Task 3: Reporting</b>						
Reporting and Invoicing	Administrative Associate	\$19.72	112	\$2,209	\$2,209	\$0
	Project Manager	\$31.28	208	\$6,506	\$4,521	\$1,985
	Project Administrator	\$56.52	12	\$678	\$500	\$178
PAEP and Final Report	Project Coordinator	\$27.08	200	\$5,416	\$5,416	\$0
ODCs				\$100	\$100	\$0
<b>Task 3 Total</b>				<b>\$14,909</b>	<b>\$12,746</b>	<b>\$2,163</b>
<b>Row (a) Total</b>				<b>\$38,896</b>	<b>\$21,146</b>	<b>\$17,750</b>

**Row (b) Land Purchase/Easement**

Not applicable.

**Row (c) Planning/Design/Engineering/Environmental Documentation**

Much of the planning, assessment and evaluation for this project has already been completed and funded through other means, and are not included within the proposed budget.

**Task 4: Assessment and Evaluation**

Not applicable.

**Task 5: Final Design**

Not applicable.

**Task 6: Environmental Documentation**

Not applicable.

**Task 7: Permitting**

This task involves obtaining required permitting, anticipated to be part of Regional General Permit No. 41. It will also involve coordination with regulatory agencies. In the event that other permits are required, a \$6,000 contingency cost has been included in the proposed budget. This cost is based upon SDRPF experience obtaining permits for habitat restoration projects throughout the San Diego River watershed. The total cost for this task will be \$10,086.

**Table 4-39: Row (c) Planning/Design/Engineering/Environmental Documentation  
Sustaining Healthy Tributaries to the Upper San Diego River**

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 7: Permitting</b>						
Coordination with Regulatory Agencies	Project Manager	\$31.28	80	\$2,502	\$2,502	\$0
	Project Coordinator	\$27.08	40	\$1,083	\$1,083	\$0
Contingency	Cost of unanticipated permits			\$6,000	\$6,000	\$0
ODCs	Lump Sum			\$500	\$500	\$0
<b>Task 7 Total</b>				<b>\$10,086</b>	<b>\$10,086</b>	<b>\$0</b>
<b>Row (c) Total</b>				<b>\$10,086</b>	<b>\$10,086</b>	<b>\$0</b>

**Row (d) Construction/Implementation**

The Construction/Implementation costs for the project are estimated to be \$647,243. Table 4-40 below provides a detailed listing of all applicable costs.

**Task 8: Construction Contracting**

No construction contracting will be required for this project.

**Task 9: Construction**

Labor for this task will total \$344,168, while materials and equipment are expected to cost \$303,075. This task is divided into eight subtasks, each of which is summarized below. Construction costs were developed by SDRPF and partner staff, based on their experience implementing similar habitat restoration and monitoring programs throughout the region.

- **Subtask 9.1 Complete Two Feasibility Studies for Removal of Hydromodifications:** The costs associated with this task include the labor and materials necessary to host a working group, create agreements with interested parties, and select a contractor to perform the study.
- **Subtask 9.2 Develop and Implement Field Monitoring Program:** The costs associated with the project's Field Monitoring Program include labor for developing the monitoring program and monitoring supplies and equipment. Additionally, other associated direct costs for materials are anticipated.
- **Subtask 9.3 Conduct Field Assessments of Tributaries:** The costs associated with performance testing include a consultant contract, estimated based on agency experience managing such contracts.

- **Subtask 9.4 Establish One Real-Time Monitoring Station:** The costs for this subtask include the labor for a Project Manager and Project Coordinator from SDRPF, and the cost of a contract with the San Diego State University Foundation to perform the work.
- **Subtask 9.5 Implement Web-based Data Management System:** The costs for this subtask will include a contractor to expand the current web-based data management system, a Project Manager and Project Coordinator to oversee the work, and other direct costs associated with website development.
- **Subtask 9.6 Restore 4.4 Acres of Riparian Habitat:** This is the most costly of the eight subtasks, utilizing 4,000 hours of volunteer work valued at just over \$87,000, a Project Manager, Project Coordinator, and Field Associates, in addition to the physical supplies necessary for restoration work.
- **Subtask 9.7 Establish Public Information Web Portal:** This task includes the costs for the consultant who will be contracted to improve and update the project website, and oversight of the consultant.
- **Subtask 9.8 Implement Education Plan:** These costs include labor for a Project Coordinator, Project Manager, and Project Administrator, as well as the supplies for producing interpretive and educational materials.

**Table 4-40: Row (d) Construction/Implementation  
Sustaining Healthy Tributaries to the Upper San Diego River**

Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of hours	Total (\$)	Grant Request	Funding Match
<b>Task 9: Construction</b>						
Subtask 9.1 Complete Two Feasibility Studies for Removal of Hydromodifications	Project Coordinator	\$27.08	120	\$3,250	\$2,166	\$1,084
	Project Manager	\$31.28	40	\$1,251	\$1,251	\$0
Subtask 9.2 Develop and Implement Field Monitoring Program	Project Coordinator	\$27.08	800	\$21,664	\$10,832	\$10,832
	Project Manager	\$31.28	360	\$11,261	\$11,261	\$0
Subtask 9.3 Conduct Field Assessments of Tributaries	Field Associate	\$24.57	1000	\$24,570	\$20,000	\$4,570
	Project Coordinator	\$27.08	600	\$16,248	\$16,248	\$0
	Volunteer In-Kind	\$21.79	1200	\$26,148	\$0	\$26,148
Subtask 9.4 Establish One Real-Time Monitoring Station	Project Coordinator	\$27.08	80	\$2,166	\$2,166	\$0
	Project Manager	\$31.28	8	\$250	\$0	\$250
Subtask 9.5 Implement Web-based Data Management System	Project Coordinator	\$27.08	150	\$4,062	\$3,900	\$162
	Project Manager	\$31.28	60	\$1,877	\$1,877	\$0
Subtask 9.6 Restore 4.4 Acres of Riparian Habitat	Field Associate	\$24.57	2400	\$58,968	\$43,968	\$15,000
	Project Coordinator	\$27.08	1440	\$38,995	\$33,000	\$5,995
	Project Manager	\$31.28	800	\$25,024	\$25,024	\$0
	Volunteer In-kind	\$21.79	4000	\$87,160	\$0	\$87,160

Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of hours	Total (\$)	Grant Request	Funding Match
Subtask 9.7 Establish Public Information Web Portal	Project Manager	\$31.28	40	\$1,251	\$0	\$1,251
	Project Administrator	\$56.52	40	\$2,261	\$2,000	\$261
Subtask 9.8 Implement Education Plan	Project Coordinator	\$27.08	480	\$12,998	\$11,000	\$1,998
	Project Manager	\$31.28	80	\$2,502	\$0	\$2,502
	Project Administrator	\$56.52	40	\$2,261	\$2,000	\$261
<b>Labor Total</b>				<b>\$344,168</b>	<b>\$186,693</b>	<b>\$344,168</b>
Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
Subtask 9.1 Complete Two Feasibility Studies for Removal of Hydromodifications	Consultant	\$27,500	2	\$55,000	\$55,000	\$0
	ODC	\$500	1	\$500	\$500	\$0
Subtask 9.2 Develop and Implement Field Monitoring Program	Monitoring Supplies	\$26,000	1	\$26,000	\$26,000	\$0
	ODC	\$500	1	\$500	\$500	\$0
Subtask 9.3 Conduct Field Assessments of Tributaries	Training Materials	\$15.00	500	\$7,500	\$7,500	\$0
	Contract with KDLC	\$7,500	1	\$7,500	\$7,500	\$0
	Assessment Supplies	\$7,500	1	\$7,500	\$7,500	\$0
	ODC	\$500	1	\$500	\$500	\$0
Subtask 9.4 Establish One Real Time Monitoring Station	Contract with SDSU Foundation	\$75,000	1	\$75,000	\$75,000	\$0
Subtask 9.5 Implement Web-based Data Management System	Contract	\$15,000	1	\$15,000	\$15,000	\$0
	ODC	\$500	1	\$500	\$500	\$0
Subtask 9.6 Restore 4.4 Acres of Riparian Habitat	Restoration Materials and Supplies	\$10,000	4.4 acres	\$44,000	\$44,000	\$0
	Toilet Rental	\$250	12	\$3,000	\$3,000	\$0
	Generator Rental	\$100	12	\$1,200	\$1,200	\$0
	Auger Rental	\$450	12	\$5,400	\$5,400	\$0
	Debris Removal	\$500	6	\$3,000	\$3,000	\$0
	Pump	\$75.00	1	\$75	\$75	\$0
	Gloves	\$4.00	100	\$400	\$400	\$0
	Hand Tools	\$20.00	100	\$2,000	\$2,000	\$0
	Fencing	\$3.00	400	\$1,200	\$1,200	\$0
	Trailer Rental	\$150	12	\$1,800	\$1,800	\$0
Subtask 9.7 Establish Public Information Web Portal	Consultant	\$15,000	1	\$15,000	\$15,000	\$0
Subtask 9.8 Implement Education Plan	Printing	\$2.50	2000	\$5,000	\$5,000	\$0
	Supplies	\$1,000	1	\$1,000	\$1,000	\$0
	ODC	\$500	1	\$500	\$500	\$0
	Displays	\$2,000	12	\$24,000	\$24,000	\$0

Materials						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<b>Materials Total</b>				<b>\$303,075</b>	<b>\$303,075</b>	<b>\$0</b>
<b>Task 9 Total</b>				<b>\$647,243</b>	<b>\$489,768</b>	<b>\$157,475</b>
<b>Row (d) Total</b>				<b>\$647,243</b>	<b>\$489,768</b>	<b>\$157,475</b>

**Row (e) Environmental Compliance/Mitigation/Enhancement**

**Task 10: Environmental Compliance/Mitigation/Enhancement**

Not applicable.

**Row (f) Construction Administration**

**Task 11: Construction Administration**

Not applicable.

**Row (g) Other Costs**

Not applicable.

**Row (h) Construction/Implementation Contingency**

No construction contingency costs are included in this budget.

**Row (i) Grand Total**

The Grand Total for the *Sustaining Healthy Tributaries to the Upper San Diego River* project (\$711,854) was calculated as the sum of rows (GA) through (h).

**Table 4-41: Row (i) Grand Total Costs  
*Sustaining Healthy Tributaries to the Upper San Diego River***

	Category	Total
(GA)	Grant Administration	\$15,630
(a)	Direct Project Administration	\$38,896
(b)	Land Purchase/Easement	\$0
(c)	Planning/Design/Engineering/ Environmental Documentation	\$10,086
(d)	Construction/Implementation	\$647,243
(e)	Environmental Compliance/ Mitigation/Enhancement	\$0
(f)	Construction Administration	\$0
(g)	Other Costs	\$0
(h)	Construction/Implementation Contingency	\$0
<b>(i)</b>	<b>Grand Total</b>	<b>\$711,854</b>

**Project 6: Chollas Creek Integration Project – Phase II**

The *Chollas Creek Integration Project – Phase II* will reduce flood damage and improve water quality at Northwest Village Chollas Creek through creek realignment, headwall installation, and drop structures; improve habitat through invasives removal and native riparian revegetation; and conduct pre/post water quality monitoring. Funding for this project involves all aspects of project implementation including project administration, planning/ design/ engineering/ environmental documentation, construction/ implementation, construction administration, and construction/ implementation contingency.

The total cost associated with the *Chollas Creek Integration Project – Phase II* is \$678,723. Of these total costs, \$515,000 is being requested for grant funding through the IRWM Grant Program. The remaining \$163,723 will be funded by contributions from the project partners including Jacobs Center for Neighborhood Innovation (JCNI), Groundworks San Diego-Chollas Creek (Groundworks), and San Diego Coastkeeper. In total, the non-State share of the total project cost (funding match) is 24% for this project.

Table 4-42 below provides a more detailed break-down of the total project budget.

**Table 4-42: Total Project Budget  
*Chollas Creek Integration Project – Phase II***

<b>Proposal Title: San Diego IRWM Implementation Grant Proposal –Round 2</b> <b>Project Title: Chollas Creek Integration Project – Phase II</b> <b>Project serves a need of a DAC?:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Funding Match Waiver request?:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Category		(a) Requested Grant Amount	(b) Cost Share: Non-State Fund Source* (Funding Match)	(c) Cost Share: Other State Fund Sources*	(d) Total
(GA)	Grant Administration	\$15,000	0	0	\$15,000
(a)	Direct Project Administration	\$20,000	\$23,250	\$0	\$43,250
(b)	Land Purchase/Easement	\$0	\$0	\$0	\$0
(c)	Planning/Design/Engineering/ Environmental Documentation	\$10,000	\$64,505	\$0	\$74,505
(d)	Construction/Implementation	\$436,456	\$61,718	\$0	\$498,174
(e)	Environmental Compliance/ Mitigation/Enhancement	\$0	\$0	\$0	\$0
(f)	Construction Administration	\$0	\$14,250	\$0	\$14,250
(g)	Other Costs	\$0	\$0	\$0	\$0
(h)	Construction/Implementation Contingency	\$33,544	\$0	\$0	\$33,544
<b>(i)</b>	<b>Grand Total</b>	<b>\$515,000</b>	<b>\$163,723</b>	<b>\$0</b>	<b>\$678,723</b>

*\* Sources of funding: Operating budgets from JCNI, Groundworks, and Coastkeeper.*

The Implementation Grant Proposal is requesting funding for four project tasks identified within the *Chollas Creek Integration Project – Phase II* work plan (refer to Attachment 3).

The sections below provide detailed descriptions of each of the row and task budgets (where applicable). In addition, each description below describes how cost estimates for each of the tasks or rows were calculated.

**(GA) Grant Administration**

As part of this proposal, each project has agreed to allocate an amount equivalent to 3% of their grant request to pay for the cost for grant administration by the San Diego County Water Authority. The *Chollas Creek Integration Project – Phase II* will contribute \$15,000 to this cost.

**Row (a) Direct Project Administration**

The total direct project administration costs for the project are \$43,250, \$20,000 of which is being requested through the IRWM Grant Program. Table 4-43 provides a detailed listing of all applicable costs.

**Task 1: Project Administration**

This includes the cost for project management, including labor costs for a JCNI Project Manager and a Groundworks Project Manager. Project administration will include grant management, coordination with partners, invoicing, and financial, MOU, and contractual documentation. Project Administration costs will total \$31,250.

**Task 2: Labor Compliance Program**

JCNI will hire a consultant for the *Chollas Creek Integration Project – Phase II* to ensure compliance with State labor laws. Included in the Task 2 budget are the consultant costs as well, as the costs for Groundworks to supervise paid student labor per State law. Total costs for Task 2 are \$8,250.

**Task 3: Reporting**

This task includes the staff labor from JCNI for preparing quarterly progress reports and the Project Completion Report. Costs for grant reporting total \$3,750.

**Table 4-43: Row (a) Direct Project Administration Budget  
*Chollas Creek Integration Project – Phase II***

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 1: Administration</b>						
Project Management- Manage Project, design, permits, funding and partnerships	JCNI Project Manager	\$75.00	250	\$18,750	\$0	\$18,750
	Groundwork Project Manager	\$75.00	58	\$12,500	\$12,500	\$0
<b>Task 1 Total</b>				<b>\$31,250</b>	<b>\$12,500</b>	<b>\$18,750</b>
<b>Task 2: Labor Compliance Program</b>						
Prevailing Wage Compliance	Consultant	\$75.00	60	\$4,500	\$0	\$4,500
Student Labor Supervision	Groundwork Project Manager	\$75.00	160	\$3,750	\$3,750	\$0
<b>Task 2 Total</b>				<b>\$8,250</b>	<b>\$3,750</b>	<b>\$4,500</b>
<b>Task 3: Reporting</b>						
Quarterly Progress Reports	JCNI Project Manager	\$75	50	\$3,750	\$0	\$3,750
Final/Project Close out Report with Supporting Documentation	JCNI Project Manager	Shovels, buckets, etc.		\$3,666	\$3,666	\$0
<b>Task 3 Total</b>				<b>\$3,750</b>	<b>\$3,750</b>	<b>\$0</b>
<b>Row (a) Total</b>				<b>\$43,250</b>	<b>\$20,000</b>	<b>\$23,250</b>

**Row (b) Land Purchase/Easement**

The land containing the project site is already owned by the Jacobs Center for Neighborhood Innovation (Lead partner) and so Land Purchase/Easement is not applicable.

**Row (c) Planning/Design/Engineering/Environmental Documentation**

The total planning/ design/ engineering/ environmental documentation costs for the project are \$74,505. Table 4-44 provides a detailed listing of all applicable costs.

**Task 4: Assessment and Evaluation**

This task includes costs for development of a Hydrology and Water Quality Study, a Geotechnical Study, and costs associated with pre- and post- project water quality testing. Groundworks will recruit and train student volunteers for water quality monitoring, and will also pay stipends (\$10/hour) for their time.

This cost was determined based on the anticipated labor costs of those involved in creating these documents. This task will require a Civil Engineer, an Environmental Engineer, a Geologist, paid student workers, and Groundworks employees to train students for completion of the various studies and water quality monitoring. Total costs for Task 4 are \$37,525.

**Task 5: Final Design**

This task includes the cost for finalizing design of the project. This task was initiated in 2011 and will be completed before September 2013, so will be used as matching funds. This task's costs will consist of labor costs for a Civil Engineer to complete the working drawing, which will total \$18,980.

**Task 6: Environmental Documentation**

This task includes the cost for contributions by a JCNI consultant toward the preparation of a draft Mitigated Negative Declaration (MND), expected to be complete before September 2013. These costs were determined based only on JCNI contributions to MND development; the actual document was prepared entirely in-house by the City of San Diego as part of their permitting process. Costs are estimated to total \$3,000.

**Task 7: Permitting**

This task includes the cost for obtaining all necessary permits to implement the project, including obtaining permits for a City of San Diego Site Development Permit, a California Fish & Wildlife, Streambed Alteration Agreement, and a U.S. Army Corp of Engineers, Section 404 Permit. This cost was determined based on the consultant costs necessary to support JCNI in obtaining these permits. Permitting costs are anticipated to total \$15,000.

**Table 4-44: Row (c) Planning/ Design/ Environmental Documentation  
Chollas Creek Integration Project – Phase II**

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 4: Assessment and Evaluation</b>						
Drainage Report for Northwest Village Creek	Civil Engineer	\$135.00	45	\$6,075	\$0	\$6,075
Water Quality Technical Report for Northwest Village Creek	Environmental Engineer	\$120.00	85	\$10,200	\$0	\$10,200
Geotechnical Investigation for Northwest Village Creek	Geologist	\$125.00	30	\$3,750	\$0	\$3,750
Training Students for Monitoring	Groundworks Project Manager	\$75.00	100	\$7,500	\$0	\$7,500
Student Water Quality Monitoring Stipends	Groundworks	\$10.00	1000	\$10,000	\$10,000	\$0
<b>Task 4 Total</b>				<b>\$37,525</b>	<b>\$10,000</b>	<b>\$27,525</b>
<b>Task 5: Final Design</b>						
100% Design plans for construction and restoration	Civil Engineer	\$135.00	141	\$18,980	\$0	\$18,980
<b>Task 5 Total</b>				<b>\$18,980</b>	<b>\$0</b>	<b>\$18,980</b>

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 6: Environmental Documentation</b>						
Mitigated Negative Declaration	A & E	\$150.00	20	\$3,000	\$0	\$3,000
<b>Task 6 Total</b>				<b>\$3,000</b>	<b>\$0</b>	<b>\$3,000</b>
<b>Task 7: Permitting</b>						
City of San Diego, Site Development Permit	A & E	\$100.00	100	\$10,000	\$0	\$10,000
California Fish & Wildlife, Streambed Alteration Agreement	A & E	\$150.00	20	\$3,000	\$0	\$3,000
U.S. Army Corp of Engineers, Section 404 Permit	A & E	\$125.00	16	\$2,000	\$0	\$2,000
<b>Task 7 Total</b>				<b>\$15,000</b>	<b>\$0</b>	<b>\$15,000</b>
<b>Row (c) Total</b>				<b>\$74,505</b>	<b>\$10,000</b>	<b>\$64,505</b>

#### Row (d) Construction/ Implementation

The Construction and Implementation costs for the project are estimated to be \$498,174. Table 4-45 provides a detailed listing of all applicable costs.

#### **Task 8: Construction Contracting**

JCNI will be responsible for preparation of Bid Packages, outreach and advertisements, pre-bid meeting, and selection of contractor. These costs are anticipated to total \$6,000.

#### **Task 9: Construction/ Implementation**

Construction costs for this project are divided between three subtasks: Mobilization and Site Preparation, Project Construction, and Performance Testing and Demobilization. These costs will total \$492,174, of which \$61,718 in matching funds will be provided.

- **Subtask 9.1 Mobilization and Site Preparation:** The costs included in this subtask are labor (mainly contractors), equipment, and materials necessary to properly prepare the Chollas Creek project site for construction activities. This includes protecting existing habitat, clearing and grubbing, preparing storm drains and catch basins, and other general mobilization activities.
- **Subtask 9.2 Project Construction:** This subtask includes all construction activities for the *Chollas Creek Integration Project – Phase II*, such as grading, cut and fill, installation of headwalls, rip rap, and irrigation systems, and erosion control. Costs were calculated from contractor costs, materials required, and equipment needed.
- **Subtask 9.3 Performance Testing and Demobilization:** The costs included in this subtask include the labor, materials, and equipment necessary for all testing and demobilization activities. This activities include soils testing, water metering, installation of project signage, installation of bioswales, water quality testing, project monitoring, general demobilization, and reporting activities.

Materials costs are estimated to total \$280,862, while labor costs are estimated to total \$211,313. Construction costs were estimated by a consultant, based on prior experience and project scope.

**Table 4-45: Row (d) Construction/ Implementation  
Chollas Creek Integration Project – Phase II**

Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of hours	Total (\$)	Grant Request	Funding Match
<b>Task 8: Construction Contracting</b>						
Preparation of Bid Packages, outreach and advertisements, pre-bid meeting, and selection of contractor	JCNI Project Manager	\$75.00	80	\$6,000	\$6,000	\$0
<b>Task 8 Total</b>				<b>\$6,000</b>	<b>\$6,000</b>	<b>\$0</b>
<b>Materials</b>						
Activity or Deliverable	Materials Used	Unit Costs (\$)	Number of Units	Total (\$)	Grant Request	Funding Match
<b>Task 9: Construction/ Implementation</b>						
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Mobilization	Lump Sum	\$5,000.00	1	\$5,000	\$5,000	\$0
Clear & Grub	Tractor Cubic Yards	\$14,000.00	0	\$3,500	\$3,500	\$0
Construction Fence	Lump Sum	\$3,000.00	1	\$3,000	\$3,000	\$0
Subtotal				\$11,500	\$11,500	\$0
<i>Subtask 9.2 Project Construction</i>						
Storm Drain	Pipe Lineal Feet	\$65.00	50	\$3,250	\$3,250	\$0
Catch Basin	Basin	\$5,000.00	2	\$10,000	\$10,000	\$0
Headwall	Headwall	\$8,000.00	2	\$16,000	\$16,000	\$0
Rip rap	Rocks/Stones Cubic Yards	\$60.00	610	\$36,600	\$36,600	\$0
Grading	Tractor Cubic Yards	\$14.90	12000	\$178,846	\$178,846	\$0
Cut & fill	Tractor Cubic Yards	\$14.00	100	\$14,000	\$14,000	\$0
Bioswales	Contractor Lineal Feet	\$5.00	300	\$1,500	\$1,500	\$0
Tools/Digging Equipment	Estimate	\$3,666.00	1	\$3,666	\$0	\$3,666
Subtotal				\$263,862	\$260,196	\$3,666
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Project Signage	Contractor Number of Each	\$500.00	1	\$500	\$0	\$500
Water Meter	Lump Sum	\$2,000.00	1	\$2,000	\$433	\$1,567
Lab Testing Equipment	Lump Sum	\$3,000.00	1	\$3,000		\$3,000
Subtotal				\$5,500	\$433	\$5,067
<b>Materials Total</b>				<b>\$280,862</b>	<b>\$272,129</b>	<b>\$8,733</b>
<b>Labor</b>						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
<i>Subtask 9.1 Mobilization and Site Preparation</i>						
Existing habitat Protection	Lump Sum	\$5,000.00	1	\$50,000	\$50,000	\$0
Install erosion control measures	Contractor-Hours	\$45.00	85	\$3,825	\$2,843	\$982
Subtotal				\$53,825	\$52,843	\$982
<i>Subtask 9.2 Project Construction</i>						
Install drop catch basins	Contractor-Hours	\$45.00	600	\$27,000	\$27,000	\$0
Install storm drains	Contractor-Hours	\$45.00	480	\$21,600	\$21,600	\$0

Labor						
Activity or Deliverable	Discipline	Hourly Wage (\$)	Number of Hours	Total (\$)	Grant Request	Funding Match
Install rip-rap segments	Contractor-Hours	\$45.00	100	\$4,500	\$4,500	\$0
Install irrigation systems	Contractor-Hours	\$45.00	180	\$8,100	\$8,100	\$0
Install bioswales	Contractor-Hours	\$45.00	460	\$20,700	\$20,700	\$0
Replant vegetation	Contractor Hours	\$45.00	850	\$38,250	\$23,584	\$14,666
Subtotal				\$120,150	\$105,484	\$14,666
<i>Subtask 9.3 Performance Testing and Demobilization</i>						
Monitoring/Management of Revegetation Areas	Contractor-Hours	\$15.00	1667	\$24,998	\$0	\$24,997
Soils Test	Geologist Lump sum	\$1.00	2500	\$2,500	\$0	\$2,500
Water Quality Sampling & Analysis	Contractor-Hours	\$80.00	62	\$4,960	\$0	\$4,960
Reporting to other Agencies	Contractor-Hours	\$80.00	61	\$4,880	\$0	\$4,880
Subtotal				\$37,338	\$0	\$37,337
<b>Labor Total</b>				<b>\$211,313</b>	<b>\$158,327</b>	<b>\$52,985</b>
<b>Task 9 Total</b>				<b>\$492,174</b>	<b>\$430,456</b>	<b>\$61,718</b>
<b>Row (d) Total</b>				<b>\$498,174</b>	<b>\$436,456</b>	<b>\$61,718</b>

**Row (e) Environmental Compliance/ Mitigation/ Enhancement**

**Task 10: Environmental Compliance/ Mitigation/ Enhancement:**

Not applicable.

**Row (f) Construction Administration**

The Construction Administration costs for the project are estimated to be \$14,250. Table 4-46 provides a detailed listing of all applicable costs.

**Task 11: Construction Administration**

The total construction administration costs consist of labor required for managing the construction contractor. The hours estimated were based on prior experience, and as per the estimated design and construction schedule. These costs will be provided as matching funds totaling \$14,250.

**Table 4-46: Row (f) Construction Administration  
Chollas Creek Integration Project – Phase II**

Activity or Deliverable	Discipline	Hours	Number of Hours	Total Costs (\$)	Grant Request	Funding Match
<b>Task 11: Construction Administration</b>						
Manage Contractor and construction/field activities	JCNI Project Manager	\$ 75	190.00	\$14,250	\$0	\$14,250
<b>Task 11 Total</b>				<b>\$14,250</b>	<b>\$0</b>	<b>\$14,250</b>
<b>Row (f) Total</b>				<b>\$14,250</b>	<b>\$0</b>	<b>\$14,250</b>

**Row (g) Other Costs**

Not applicable.

**Row (h) Construction/Implementation Contingency**

The Construction/Implementation Contingency for project is estimated to be \$33,544. This was estimated based on approximately 7% of the construction contract amount budgeted for unforeseen emergencies or design shortfalls.

**Row (i) Grand Total**

The Grand Total for the *Chollas Creek Integration Project – Phase II* (\$678,723) was calculated as the sum of rows (GA) through (h).

**Table 4-47: Row (i) Grand Total Costs  
*Chollas Creek Integration Project – Phase II***

	<b>Category</b>	<b>Total</b>
(GA)	Grant Administration	\$15,000
(a)	Direct Project Administration	\$43,250
(b)	Land Purchase/Easement	\$0
(c)	Planning/Design/Engineering/ Environmental Documentation	\$74,505
(d)	Construction/Implementation	\$498,174
(e)	Environmental Compliance/ Mitigation/Enhancement	\$0
(f)	Construction Administration	\$14,250
(g)	Other Costs	\$0
(h)	Construction/Implementation Contingency	\$33,544
<b>(i)</b>	<b>Grand Total</b>	<b>\$678,723</b>

## Project 7: Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II

The *Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II* project will involve establishing nutrient water quality objectives for the Santa Margarita River (SMR) watershed, which could be used in the development of alternative nutrient water quality objectives by the San Diego RWQCB in its Basin Plan Triennial Update. This is the second of a three phase project. Phase I was funded through Proposition 84-Round 1 Implementation Grant, and created an SMR Watershed Stakeholder Group, developed a monitoring plan, conducted initial studies, and developed water quality goals for the SMR Estuary. Phase II will expand on the work of Phase I by extending studies out to the watershed as a whole, developing water quality goals for the Lower Santa Margarita River, and incorporating information learned in Phase I. Funding for the project involves two aspects of project implementation: grant administration and planning/design/engineering/environmental documentation.

The total cost associated with the *Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II* project is \$1,590,534. This is a joint project with one of our Tri-County FACC partners, the Upper Santa Margarita RWMG, to address surface water quality for a watershed that crosses IRWM Region boundaries. To simplify grant contracting, the *San Diego IRWM Implementation Grant Proposal – Round 2* contains the project in its entirety. However, it should be noted that the project benefits will accrue to both regions. Of the \$1,191,275 grant funding requested, \$181,875 has been allocated by the Upper Santa Margarita IRWM Region from their Tri-County FACC MOU allocation. The remaining \$399,259 will be funded by non-State funding sources provided by project partners. In total, the non-State share of the total project cost (funding match) is 25% for this project.

Table 4-48 below provides a more detailed break-down of the total project budget.

**Table 4-48: Total Project Budget**  
**Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II**

Proposal Title: San Diego IRWM Implementation Grant Proposal –Round 2					
Project Title: Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II					
Project serves a need of a DAC?:		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Funding Match Waiver request?:		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Category		(a) Requested Grant Amount	(b) Cost Share: Non-State Fund Source* (Funding Match)	(c) Cost Share: Other State Fund Sources*	(d) Total
(GA)	Grant Administration	\$29,400	\$0	\$0	\$29,400
(a)	Direct Project Administration	\$0	\$51,072	\$0	\$51,072
(b)	Land Purchase/Easement	\$0	\$0	\$0	\$0
(c)	Planning/Design/Engineering/ Environmental Documentation	\$1,161,875	\$348,187	\$0	\$1,510,062
(d)	Construction/Implementation	\$0	\$0	\$0	\$0
(e)	Environmental Compliance/ Mitigation/Enhancement	\$0	\$0	\$0	\$0
(f)	Construction Administration	\$0	\$0	\$0	\$0
(g)	Other Costs	\$0	\$0	\$0	\$0
(h)	Construction/Implementation Contingency	\$0	\$0	\$0	\$0
(i)	<b>Grand Total</b>	<b>\$1,191,275</b>	<b>\$399,259</b>	<b>\$0</b>	<b>\$1,590,534</b>
* Sources of funding: Funding match will be provided by the project partners primarily as in-house labor.					

The Implementation Grant Proposal is requesting funding for one project task identified within the *Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II* work plan (refer to Attachment 3).

The sections below provide detailed descriptions of each of the row and task budgets (where applicable). In addition, each description below describes how cost estimates for each of the tasks or rows were calculated.

**(GA) Grant Administration**

As part of this proposal, each project has agreed to allocate an amount equivalent to 3% of their grant request to pay for the cost for grant administration by the San Diego County Water Authority. Note that for this project, grant administration is 2.5% of the project’s grant request due to the interregional agreement with the Upper Santa Margarita IRWM Region. The *Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II* project will contribute \$29,400 to this cost.

**Row (a) Direct Project Administration**

The County of San Diego staff will support Direct Project Administration activities, with the matching funds for these activities coming from the County of San Diego’s General Fund. Costs for this row are estimated to total \$51,072.

**Task 1: Project Administration**

The County of San Diego will carry out project administration tasks relating to direct project administration and reporting for this project. Costs are estimated to total \$51,072.

**Task 2: Labor Compliance Program**

Not applicable

**Task 3: Reporting**

Not applicable.

**Table 4-49: Row (a) Direct Project Administration  
*Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II***

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total	Grant Request	Funding Match
<b>Task 1: Project Administration</b>						
Track budgets, prepare invoices, compile backup documentation, and prepare quarterly reports	Land Use Environmental Planner III	\$127.68	316	\$40,347	\$0	\$40,347
Prepare and administer PAEP	Land Use Environmental Planner III	\$127.68	36	\$4,596	\$0	\$4,596
Prepare project completion report	Land Use Environmental Planner III	\$127.68	48	\$6,129	\$0	\$6,129
<b>Task 1 Total</b>				<b>\$51,072</b>	<b>\$0</b>	<b>\$51,072</b>
<b>Row (a) Total</b>				<b>\$51,072</b>	<b>\$0</b>	<b>\$51,072</b>

**Row (b) Land Purchase/ Easement**

Not applicable.

**Row (c) Planning/Design/Engineering/Environmental Documentation**

Total planning/ design/ engineering/ environmental documentation costs for the project are \$1,510,062. Approximately \$1,161,875 of this is included in this grant request, and \$348,187 will be provided in matching funds. Table 4-50 provides a detailed listing of all applicable costs.

**Task 4: Assessment and Evaluation**

The total cost for this task will be \$1,510,062 for the following activities.

- **Subtask 4.1 Continue to Facilitate Stakeholder Advisory Group:** Costs for this task include all people, activities, and materials necessary to continue facilitating a stakeholder advisory group. Facilitating the stakeholder group requires Principal Scientists and Facilitators, meeting supplies, travel expenses for meetings, and miscellaneous support. It also will provide for a staff member from the San Diego RWQCB to attend 15 group meetings, approximately six hours each. These costs total \$407,015, and was estimated based on salary and anticipated time for labor, as well as prior experience for the costs of materials and travel for meetings.
- **Subtask 4.2 Conduct Field and Special Studies:** Costs for this task include labor costs necessary to conduct field and special studies, as well as costs for laboratory analysis, supplies, and travel. These costs, at a total of \$760,493, were estimated by SCCWRP for conducting the monitoring special studies and based on actual consultant invoices for the *USMC Hydrological and Biological Support to Lower SMR Watershed Monitoring Program - Years 2008–2009*.
- **Subtask 4.3 Develop Nutrient WQOs for Santa Margarita River:** Costs for this task include labor costs necessary to conduct technical modeling of the Santa Margarita River that will lead to the development of nutrient water quality objectives for the SMR estuary. These costs were estimated by SCCWRP for conducting the technical studies, while others were based on documented funding through USEPA grants and US Marine Corps Camp Pendleton modeling.

**Task 5: Final Design**

Not applicable.

**Task 6: Environmental Documentation**

Not applicable.

**Task 7: Permitting**

Not applicable.

**Table 4-50: Row (c) Planning/ Design/ Engineering/ Environmental Documentation  
Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II**

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total Costs	Grant Request	Funding Match
<b>Task 4: Assessment and Evaluation</b>						
<i>Subtask 4.1 Continue to Facilitate Stakeholder Advisory Group</i>						
Continue to Facilitate Stakeholder Advisory Group	Principal Scientist	\$180	375	\$67,612	\$67,612	\$0
	Facilitator	\$215	375	\$80,673	\$80,673	\$0
	Miscellaneous Support and Supplies	Lump sum	Lump Sum	\$7,871	\$7,871	\$0
	Program Coordinator	144	240	\$34,675	\$0	\$34,675
	Land Use Environmental Planner III	128	240	\$30,643	\$0	\$30,643
	RWQCB, 15 Meetings	\$150	450	\$67,540	\$67,540	\$0

Activity or Deliverable	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total Costs	Grant Request	Funding Match
County of San Diego Support of consultants to the Stakeholder Advisory Group, including note-taking	Senior Civil Engineer	\$139	22	\$3,097	\$0	\$3,097
	Land Use Environmental Planner III	\$116	129	\$14,903	\$0	\$14,903
	Principal Scientist*	\$180	253	\$45,596	\$0	\$45,596
	Facilitator*	\$215	253	\$54,404	\$0	\$54,404
<b>Subtask 4.1 Total</b>				<b>\$407,015</b>	<b>\$223,697</b>	<b>\$183,318</b>
<i>Subtask 4.2 Conduct Field and Special Studies</i>						
Monitoring and Special Studies Report	Principal Scientist	328	328	\$59,430	\$59,430	\$0
	Senior Scientist	1,407	1,407	\$208,799	\$208,799	\$0
	Senior Research Technician	1,408	1,408	\$149,248	\$149,248	\$0
	Research Technician	1,406	1,406	\$119,229	\$119,229	\$0
USMC Hydrological and Biological Support to Lower SMR Watershed Monitoring Program - Years 2008–2009 (Stetson Report)	Principal Scientist*	67	67	\$12,073	\$0	\$12,073
	Senior Scientist*	67	67	\$9,943	\$0	\$9,943
	Laboratory Analysis	Lump Sum	Lump Sum	\$154,399	\$154,399	\$0
	Supplies	Lump Sum	Lump Sum	\$47,373	\$47,373	\$0
<b>Subtask 4.2 Total</b>				<b>\$760,493</b>	<b>\$738,478</b>	<b>\$22,016</b>
<i>Subtask 4.3 Develop Nutrient Water Quality Goals for the Santa Margarita River</i>						
Technical Studies Supporting Proposed Nutrient Water Quality Goals for Santa Margarita River Report	Principal Scientist	320	320	\$57,661	\$57,661	\$0
	Senior Scientist	100	100	\$14,840	\$14,840	\$0
	Scientist	1,000	1,000	\$127,200	\$127,200	\$0
USEPA Funds - SCCWRP NNE Spreadsheet Evaluation	Principal Scientist*	116	116	\$20,902	\$0	\$20,902
	Senior Scientist*	205	205	\$30,422	\$0	\$30,422
USMC Camp Pendleton Lagoon Modeling	Principal Scientist*	195	195	\$35,137	\$0	\$35,137
	Senior Scientist*	380	380	\$56,392	\$0	\$56,392
<b>Subtask 4.3 Total</b>				<b>\$342,554</b>	<b>\$199,701</b>	<b>\$142,853</b>
<b>Task 4 Total</b>				<b>\$1,510,062</b>	<b>\$1,161,875</b>	<b>\$348,187</b>
<b>Row (c) Total</b>				<b>\$1,510,062</b>	<b>\$1,161,875</b>	<b>\$348,187</b>

**Row (d) Construction/ Implementation**

**Task 8: Construction Contracting**

Not applicable.

**Task 9: Construction**

Not applicable.

**Row (e) Environmental Compliance/ Mitigation/ Enhancement**

**Task 10: Environmental Compliance/ Mitigation/ Enhancement**

Not applicable

**Row (f) Construction Administration**

**Task 11: Construction Administration**

Not applicable

**Row (g) Other Costs**

Not applicable.

**Row (h) Construction/Implementation Contingency**

Not applicable.

**Row (i) Grand Total**

The Grand Total for the *Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II* project (\$1,590,534) was calculated as the sum of rows (GA) through (h).

**Table 4-51: Row (i) Grand Total Costs  
*Implementing Nutrient Management in the Santa Margarita River Watershed – Phase II***

	<b>Category</b>	<b>Total</b>
(GA)	Grant Administration	\$29,400
(a)	Direct Project Administration	\$51,072
(b)	Land Purchase/Easement	\$0
(c)	Planning/Design/Engineering/ Environmental Documentation	\$1,510,062
(d)	Construction/Implementation	\$0
(e)	Environmental Compliance/ Mitigation/Enhancement	\$0
(f)	Construction Administration	\$0
(g)	Other Costs	\$0
(h)	Construction/Implementation Contingency	\$0
<b>(i)</b>	<b>Grand Total</b>	<b>\$1,590,534</b>