Attachment 3

Coachella Valley Integrated Regional Water Management Implementation Grant Proposal

Work Plan

Attachment 3 consists of the following item:

- ✓ **Work Plan**

  Attachment 3 contains detailed information regarding the tasks that were and will be performed for each project constituting the proposal, as well as supporting documents such as regional and project maps, and existing data and studies.

This Work Plan contains summary descriptions of all the projects constituting the *Coachella Valley IRWM Implementation Grant Proposal* and tasks necessary to complete each project in the proposal. The Work Plan demonstrates that the proposal is ready for implementation, and includes a brief discussion of the supporting studies, data, resources, and deliverables for each project, to ensure implementation of the proposal is based on sound scientific and technical principles. The Work Plan tasks are also consistent with the major tasks and sub-tasks identified in the Budget (Attachment 4) and Schedule (Attachment 5) of this Implementation Grant Proposal.

Introduction

The Coachella Valley Regional Water Management Group (CVRWMG) is comprised of the Coachella Water Authority (CWA), Coachella Valley Water District (CVWD), Desert Water Agency (DWA), Indio Water Authority (IWA), and Mission Springs Water District (MSWD). The IRWM regional boundary was selected because it is all-encompassing, and allows for the inclusion of all pertinent agencies and stakeholders interested in water management in the Coachella Valley. As such, besides the CVRWMG, the Coachella Valley IRWM planning process also includes input from key water-related stakeholders throughout the region. The established governance structure for the Coachella Valley IRWM process is a collaborative, consensus-seeking process made up of the CVRWMG, Planning Partners, Issues Groups, and stakeholders.

The Coachella Valley IRWM Plan identifies five goals and thirteen objectives that were established to meet those goals. Each of the IRWM Plan goals and their corresponding objectives are listed in Table 3-1. The project prioritization process used to select from the region's IRWM project list emphasized projects that contribute to these regional goals. Four projects were specifically selected by the CVRWMG and Planning Partners to meet the critical water resource issues and concerns of the Coachella Valley.

The four projects in this proposal will diversify water supply and improve water quality, two critical issues in the Coachella Valley. Because groundwater is the primary source of water supply in the Valley, groundwater protection is a primary concern to regional stakeholders. The *Regional Water Conservation Program* addresses groundwater overdraft by reducing future demands on pumping and thus diversifying water supplies. The *Short-Term Arsenic Treatment Project* will use point-of-use and point-of-entry devices to reduce naturally-occurring arsenic from drinking water supplies in the East Valley. The two

Groundwater Quality Protection Program projects (in Cathedral City and Desert Hot Springs) are septic-to-sewer conversion projects that will decrease nitrate concentrations in local groundwater supplies.

This proposal includes a suite of projects identified by the CVRWMG and Planning Partners to best meet the current challenges of Coachella Valley. The complete proposal offers an integrated solution to the Valley's water supply and water quality needs.

Table 3-1: Coachella Valley Region IRWM Plan Goals and Objectives

Goals	Objectives
1. Optimize water supply reliability.	A. Provide reliable water supply for residential and commercial, agricultural community, and tourism needs.
	B. Manage groundwater levels to reduce overdraft, manage perched water, and minimize subsidence.
	C. Secure reliable imported water supply, including restoring/improving reliability of State Water Project supply and securing other imported water supplies.
	D. Maximize local supply opportunities, including water conservation, water recycling and source substitution, and capture and infiltration of runoff.
2. Protect or improve water quality.	E. Protect groundwater quality and improve, where feasible.
	F. Preserve and improve surface water quality by maintaining integrity of agricultural drainage systems, protecting the quality of natural runoff used for potable supply, and reducing pollution in stormwater runoff.
3. Provide stewardship of our water-related natural resources.	G. Preserve local environment and restore, where feasible.
	H. Manage flood risks, including current acute needs and needs for future development.
4. Coordinate and integrate water resource management.	I. Optimize conjunctive use of available water resources.
	J. Maximize stakeholder involvement and stewardship in water resource management.
5. Ensure cultural, social, and economic sustainability of water in the Valley.	K. Address water-related needs of local Native American culture.
	L. Address water and sanitation needs of disadvantaged communities, including those in remote areas.
	M. Maintain affordability of water.

Proposal Goals and Objectives

The objective of this *Coachella Valley IRWM Implementation Grant Proposal* is to present a suite of projects that:

- Further the regional goals and objectives established in the IRWM Plan;
- Provide multiple benefits through integration of water management strategies; and
- Assist in meeting the Coachella Valley's critical water supply and water quality needs.

Purpose and Need

The purpose and need of this Implementation Grant Proposal are intrinsically linked to the goals and objectives of the Coachella Valley IRWM Plan. This is evident in the fact that part of the criteria used by the CVRWMG and Planning Partners to select projects to include as part of this proposal was the ability of a project to meet the goals and objectives of the Coachella Valley IRWM Plan. Table 3-2 provides a summary of the four projects contained within this proposal, and their contribution to the IRWM Plan

Objectives. For a full explanation of the purpose and need of each project, and how the purpose and need address the Coachella Valley IRWM Plan's goals and objectives, please refer to individual project Work Plans included in this attachment.

Table 3-2: Contribution to IRWM Plan Objectives

Proposed Project	Contribution to IRWM Plan Objectives												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Regional Water Conservation Program	○	○	-	●	○	-	○	-	-	●	-	●	●
Short-Term Arsenic Treatment Project	●	-	-	-	○	-	○	-	-	●	-	●	●
Groundwater Quality Protection Program - Desert Hot Springs	-	-	-	○	●	-	-	-	○	-	-	●	○
Groundwater Quality Protection Program - Cathedral City	-	-	-	○	●	-	-	-	○	-	●	●	○

● = directly related
○ = indirectly related

Project List

The four projects in this proposal will diversify water supply and improve water quality, two critical issues in the Coachella Valley. This proposal provides authorization documentation, proof of formal adoption, work plans, budges, schedules, and other project details. Table 3-3 presents the specific projects included as part of the proposal. An abstract, current project status, priority of the project, and implementing agency is provided for each project.

Table 3-3: Projects Included in the Coachella Valley IRWM Implementation Proposal

Project	Description	
1: Regional Water Conservation Program	*Abstract:*	The *Regional Water Conservation Program* is designed to bring water conservation activities to an accessible level to a wide range of constituents throughout the region, through outreach, water audits, and various mechanisms to assist in implementation of water conservation methods. New programs will be developed and existing conservations plans will be expanded. The program will stretch supplies and provide a shield against drought which addresses critical water supply issues in the Coachella Valley.
	Status:	Tasks of the *Regional Water Conservation Program* are already in place. Separately the agencies have performed a number of tasks to establish existing conservation plans. On October 20, 2010, the agencies met to pool resources and develop the most effective ways to collaborate and create the *Regional Water Conservation Program*. Establishing the structure, budget, and goals of this program were the first step. Completion of design is not relevant to this project, because it will not include final design efforts.
	Priority:	High. This project was ranked Tier 1 in the prioritization process and was selected by the Planning Partners as a project that should be implemented without delay.
	Lead Agency:	Coachella Valley Water District

Project	Description	
2: Short-Term Arsenic Treatment Project	*Abstract:*	The proposed *STAT Project* is based on a pilot program implemented at San Antonio del Desierto. Pueblo Unido CDC developed engineering design that will be replicated at new sites. The STAT Project uses cost effective and reliable technology to remove naturally-occurring arsenic and provide new short term alternatives to improve quality drinking water for DACs without access to public water systems. Additionally, the program has training and education component that consists of helping farmworker families understand the proper monitoring of the quality of the water and functioning of decentralized wastewater systems. This project will address water quality issues in DACs located in the eastern Coachella Valley, including on lands owned by the Torres Martinez Desert Cahuilla Indians.
	Status:	Design and permitting have been completed. All design submittals prior to June 1, 2011 will be in relation to the pilot project, and all design submittals after June 1, 2011 will be specifically for the *STAT Project* and will include an engineering layout for the point-of-entry reverse osmosis system. The design status is 90% complete for this project.
	Priority:	High. This project was ranked Tier 1 in the prioritization process and was selected by the Planning Partners as a project that should be implemented without delay.
	Lead Agency:	Pueblo Unido CDC (PUCDC)
3: Groundwater Quality Protection Program – Desert Hot Springs	*Abstract:*	This project will extend municipal sewers to Sub-area D1 in Assessment District 12, thus eliminating the need for on-site septic systems that that overlie the Desert Hot Springs Subbasin. This project will eliminate 181 septic tanks that threaten contamination of groundwater supply, protect hot mineral water which is the economic basis of the community's spa industry and protect residents of a DAC from significant costs that would result if treatment of the potable water supply were necessary due to contamination.
	Status:	Environmental work for the *Groundwater Quality Protection Program* was completed in 1998 and recertified in 2007, design work was completed in 2010, and construction is currently ready to bid. As such, to date this project is at 100% completion of design.
	Priority:	High. This project was ranked Tier 1 in the prioritization process and was selected by the Planning Partners as a project that should be implemented without delay.
	Lead Agency:	Mission Springs Water District
Groundwater Quality Protection Program – Cathedral City	*Abstract:*	The RWQCB has identified water quality issues relating to failing and/or densely located septic systems within the Colorado River Basin, and has specifically noted that Cathedral City as an area that should convert septic tanks to sewer systems to improve water quality. This project will expand existing municipal sewers in order to eliminate septic tanks in the Indio Hydrologic Subarea that threaten contamination of groundwater supply. It will replace existing septic tanks with sanitary sewers for 132 individual businesses in the vicinity of Perez Road and on Cathedral Canyon Drive. It will expand the CVWD wastewater collection system and connect the project area to a booster pump station.
	Status:	Final design for the project was completed in April 2010, so no design will be required after initiation of the Grant Agreement (June 1, 2011). As such, to date this project is at 100% completion of design.
	Priority:	High. This project was ranked Tier 1 in the prioritization process and was selected by the Planning Partners as a project that should be implemented without delay.
	Lead Agency:	City of Cathedral City

Integrated Elements of Projects

Several of the projects included in this proposal are linked, and the coordinated implementation of each project is critical to the success of the proposal as a whole. The proposal has been crafted to maximize the linkages and integration between the projects within the proposal, and projects included in the proposal have been selected based on their ability to generate multiple benefits.

For a full explanation of the linkages and synergies between projects, please refer to individual project Work Plans included in this attachment.

Regional Map

Figure 3-1 provides a regional map containing the location of proposed activities or facilities of the projects, the water resources that will be affected, DACs within the region, and proposed monitoring locations (where applicable).

Completed Work

Each individual Work Plan provides a description of both completed work (work that has been or is expected to be completed prior to the grant award date of June 1, 2011), and future work for each of the four projects included within this proposal.

Existing Data and Studies

Available data and studies have been collected and reviewed to support the feasibility and technical methods of the projects included within this proposal. For a list of the existing data and studies for each project, please refer to individual project Work Plans included in this attachment. The existing data and studies included for each individual project have been submitted on a separate CD as part of this Implementation Grant proposal.

Project Map

Site maps showing the project's geographical location and the surrounding work boundary will be included in individual project work plans provided in this attachment. Please refer to those individual project maps.

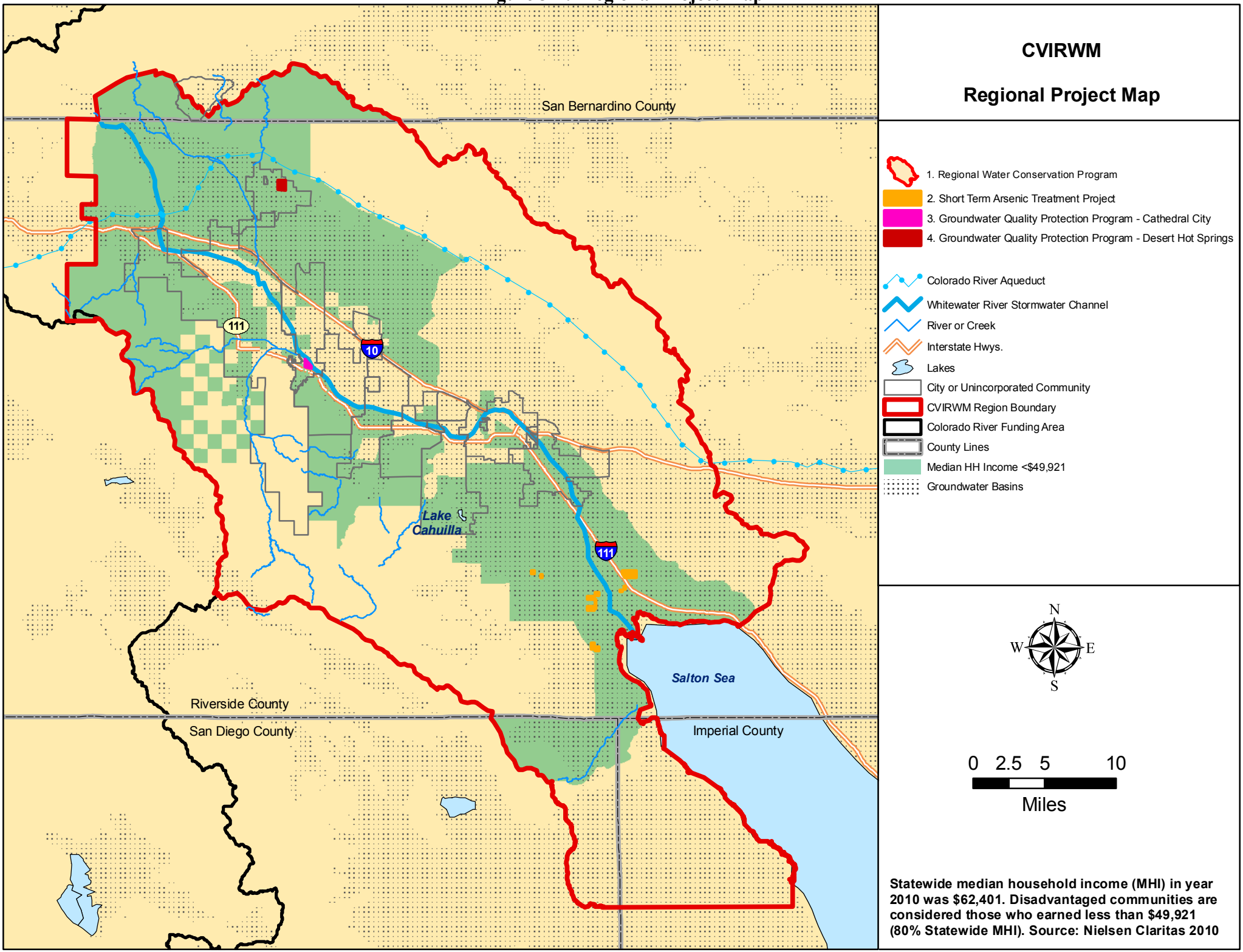
Project Timing and Phasing

Some projects included in this proposal are multi-phases projects and can operate on a standalone basis whiles others are not. For project timing and phasing for each project please refer to individual project work plans included in this attachment.

Work Plan Tasks

The following sections outline the specific activities that will be performed to implement each project in the *Coachella Valley IRWM Implementation Grant Proposal*. In addition, the following sections describe the specifics of each project with respect to project sponsors, project need, project purpose, project objectives, project partners, project abstract, linkages and synergies between projects, existing data and studies, project timing and phasing, and project mapping.

Figure 3-1: Regional Project Map



Regional Water Conservation Program

I. Introduction

Project Sponsor

The Coachella Valley Water District (CVWD) is the project sponsor for the *Regional Water Conservation Program.*

Project Need

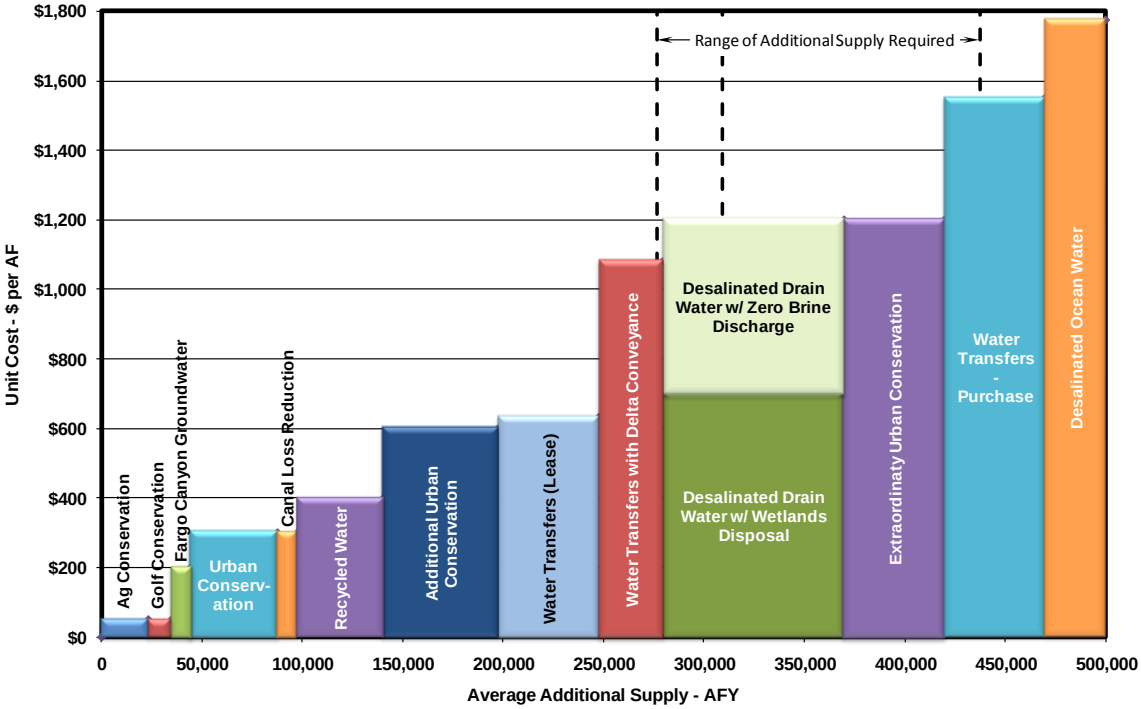
The 20x2020 Plan determined that California residents need to reduce the amount of water each person uses per day (i.e., per capita daily consumption) in order to continue to have enough water support the growing population. This reduction of 20 percent per capita use by the year 2020 is supported by legislation passed in November 2009 (SBx7-7 Steinberg) and has been incorporated into the Urban Water Management Planning act. To comply with the 20x2020 Plan, the Urban Water Management Planning Act requires that water suppliers calculate a baseline water use and baseline reduction targets of 10 percent by 2015 and by 20 percent by 2020.

Assembly Bill (AB) 1420 further amended the Urban Water Management Planning Act to condition eligibility for water management grants and loans on implementing fourteen demand management measures (DMMs) listed in Water Code §10631(f). These DMMs correspond to the fourteen best management practices (BMPs) listed and described in the California Urban Water Conservation Council (CUWCC) Memorandum of Understanding (MOU).

The need for the *Regional Water Conservation Program* is illustrated in the Draft Coachella Valley Water Management Plan (CVWMP) Update, developed by CVWD for that part of the Coachella Valley that overlies the Indio Subbasin. The Draft CVWMP estimates that the average annual cost for the Coachella Valley to comply with the 20x2020 Plan is approximately $6 million. This cost includes the costs of maintaining trained conservation staff, program funding, and ongoing program maintenance. The CVRWMG estimated that the 20x2020 Plan will result in a savings of approximately 70,000 acre-feet of water annually by 2020 within the region (see Figure 3-2). The estimated average cost of water conservation on a per acre-foot basis in the project area is approximately $200; this is based on previous conservation efforts by the Valley's water purveyors. Compared to a cost of $600 to $1,000 per acre-foot for imported water supplies, urban water conservation costs of approximately $200 per acre-foot demonstrate that conservation is one of the most cost-efficient ways to meet future demands.

Future development in the Coachella Valley will comply with relevant landscaping ordinances, demand management measures (DMMs), and conservation programs. The *Regional Water Conservation Program* will provide funding to the five Coachella Valley water purveyors that constitute the CVRWMG to assist in implementing DMMs and other water conservation efforts that will reduce per capita daily consumption levels throughout the Coachella Valley.

Figure 3-2: Relative Costs of Water Supplies in the Coachella Valley



Source: CVWD. 2010. Draft 2010 Update of the Coachella Valley Water Management Plan.

Project Purpose

The *Regional Water Conservation Program* is a multifaceted program consisting of a suite of conservation programs and activities designed to increase efficiency, reduce future water demand, and assist the Coachella Valley in meeting the requirements of the 20x2020 Plan. The *Regional Water Conservation Program* will also increase coordination and collaboration between the member agencies of the CVRWMG.

Project Objectives

The *Regional Water Conservation Program* seeks to accomplish the following objectives:

- Continue to conduct outreach activities to encourage regional water use efficiency;
- Perform a concentrated outreach effort to extend to local schools through the Water Wise outreach program;
- Continue to conduct water audits and corresponding workshops to communicate recommendations regarding ways to increase water use efficiency to local constituents; and
- Assist in the ability of local constituents to act upon recommendations from water audits by subsidizing the costs of these audits both indoor and outdoor.

Table 3-4 provides an overview of the Coachella Valley IRWM Plan Objectives that are expected to be indirectly (○) or directly (●) achieved through implementation of the *Regional Water Conservation Program*.

Table 3-4: Contribution to IRWM Plan Objectives

Proposed Project	Contribution to IRWM Plan Objectives												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Regional Water Conservation Program	○	○	-	●	○	-	○	-	-	●	-	●	●

● = directly related; ○ = indirectly related

The *Regional Water Conservation Program* contributes to the IRWM Plan objectives in the following ways:

- ***A: Provide reliable water supply.*** This program will improve the reliability of the regional water supply by increasing conservation (reducing future water demand and future groundwater pumping) throughout the Valley. By reducing future demand and groundwater pumping, this program will potentially make current and future water supplies available for other uses.
- ***B: Manage groundwater levels***. This program will indirectly help to manage groundwater levels to reduce overdraft, manage perched water, and minimize subsidence by reducing demand and therefore potentially reducing groundwater future demand in the Coachella Valley. In total, this program is anticipated to reduce future groundwater pumping by approximately 6,625 AFY, which would assist in reducing overdraft and minimizing land subsidence.
- ***D: Maximize local supply opportunities.*** This program, by reducing water demand and use, will help maximize local supply opportunities.
- ***E: Protect groundwater quality.*** This program will reduce overdraft (refer to Objective B), which is known to have a deteriorating effect on groundwater quality. Therefore, this program will indirectly protect groundwater quality by reducing a potential threat to groundwater quality.
- ***G: Preserve water-related local environment.*** This program will indirectly preserve the local environment by reducing agricultural and urban irrigation, and therefore reducing runoff. Runoff in agricultural and urban areas can potentially contain chemical fertilizers and pesticides that can have a deleterious impact on the water-related local environment. By reducing the amount of runoff that occurs throughout the Valley, this program will potentially reduce chemical constituents in runoff from entering the water-related local environment.
- ***J: Maximize stakeholder involvement and stewardship in natural resource management.*** This program includes a wide range of stakeholder involvement by including all of the CVRWMG agencies and placing an emphasis on education and outreach. In addition, the emphasis of many components of this program is to educate residents about stewardship in natural resource (water) management. Through this program, the participating agencies will better coordinate their efforts and will establish regular meetings whereby program success and lessons learned can be shared with conservation staff, and adjustments can be made to better target the most effective education and conservation projects/programs. Through this coordination, a stronger valley-wide conservation message is expected to be achieved along with greater agency synergies and ultimately, more effective regional and local conservation achievements. The partner agencies will coordinate on various aspects of this program including but not limited to co-hosting workshops, purchasing equipment in bulk and coordinating public outreach efforts that are regional in nature.
- ***L: Address water and sanitation needs of disadvantaged communities.*** There are pockets of disadvantaged communities throughout the entire Coachella Valley. As such, this regional conservation program will also reach out to DACs. In addition, water conservation is one of the

most cost-effective means of increasing the local water supply, so it helps in addressing the water needs of DACs by maintaining the affordability of water.

- ***M: Maintain affordability of water.*** Water conservation is the most cost-effective means of increasing the local water supply, so this program will assist in maintaining affordability of water.

Project Partners

Project partners in the *Regional Water Conservation Program* include: CVWD, CWA, DWA, IWA, and MSWD. In addition, this program will include extensive outreach and education efforts that will involve a variety of stakeholders throughout the Coachella Valley.

Project Abstract

The *Regional Water Conservation Program* is designed to bring water conservation activities to an accessible level to a wide range of constituents throughout the region, through outreach, water audits, and various mechanisms to assist in implementation of water conservation methods. Completion of design is not relevant to this project, because it will not include final design efforts.

Outreach

The program begins with outreach and education, which will include Public Service Announcements, fliers, workshops and other public relations techniques to encourage water use efficiency. A more concentrated effort of outreach is then extended to local schools through the Water Wise programs. Water Wise equips students with tools to conduct their own water audit as a class assignment, and then provides the student with more efficient items for use in their home. Students have the opportunity to track their families use. Through the *Regional Water Conservation Program*, students across the region will participate in this program as part of the curriculum. These outreach efforts will build on existing efforts from Water Agencies of the Desert Region (WADR), which are described further below.

Water Audits

The other branch of outreach and education is Water Audits. Through these audits, agency staff or irrigation professionals evaluate irrigation systems for inefficiencies which are then reported to the owner, property manager, landscaper, etc. The agencies believe these audits are an efficient way to communicate recommendations to constituents. Audits also work to educate the agency staff and local professions engaged in enforcement of local Landscape Ordinances. Plan check regarding landscape ordinances is an on-going task of agency staff and will be enhanced through the audit process. In addition, public workshops for irrigation professionals are currently being conducted during which information from water audits regarding local irrigation is shared and disseminated. An expansion of these workshops will both serve as a function and effect of outreach efforts.

Implementing Water Conservation Efforts

While water audits are an efficient way to educate constituents and lead to recommendations, agencies find that effectiveness drops off after the audit. Acting upon recommendations could be costly or otherwise complicated. The next step in the process will be the largest function of the *Regional Water Conservation Program*. Agencies, at the discretion of their local needs, will subsidize the costs of implementing both indoor and outdoor improvements. As the constituents of each agency are different, the programs will vary but will include turf reduction, retrofitting inefficient irrigation systems, installing weather-based irrigation timers, separating irrigation stations, and other conservation efforts. Each agency will be responsible for administering this portion of the program within its boundaries; however, the agencies have agreed that if crossover becomes necessary, there will be options for collaboration.

Progress to Date

The CVRWMG agencies have created an umbrella conservation program that allows the region to address conservation needs through a collaborative and united process, but still allows each agency the flexibility to address the specific needs of the communities they serve. For example, MSWD customers are predominantly renters and already have a low per capita consumption, so turf conversion programs are less effective; whereas in some DWA communities, older irrigation systems are a concern for residents who need education on how to retrofit their systems.

The CVRWMG agencies have already implemented and are conducting some of the aforementioned water conservation efforts. These experiences will help inform and shape the *Regional Water Conservation Program* by providing important information regarding effectiveness and what constitutes the region's most pressing conservation needs. For example, MSWD currently participates in the Water Wise program. Approximately 50% of sixth graders in MSWD's service area are given the opportunity to participate. The knowledge that MSWD has gained in their Water Wise program experience will be shared with the partnering agencies as part of the *Regional Water Conservation Program*.

In addition, many of the CVRWMG agencies currently participate in water audits. The audits have led to a broader range of knowledge about local irrigation techniques. That knowledge can then be incorporated into workshops for irrigation professionals, which are currently being conducted by CVWD in both English and Spanish. Such workshops will be expanded throughout the region and held at various times to attract new residents through the *Regional Water Conservation Program*.

Lastly, WADR – also made up of the water agencies throughout the Region – have undertaken joint conservation efforts, including posting conservation-related billboards on the I-10 highway and completing various outreach and education efforts at local community events and festivals. Such efforts from this group will be utilized further through this program.

Linkages and Synergies between Projects

The *Regional Water Conservation Program* was developed by integrating multiple individual water conservation programs being implemented by the CVRWMG agencies. During the IRWM planning process, the agencies submitted individual projects ranging from smart water controller rebates to Resource Action Plans. During the project review and prioritization process, the agencies recognized the synergies between those projects and the potential cost savings that could be achieved through a regional integrated program. This *Regional Water Conservation Program* gives the partner agencies a unique opportunity to coordinate water conservation efforts throughout the region and capitalize on the work completed to date.

Existing Data and Studies

The type, scope, and focus of the conservation measures within this program are identified in the following plans and studies:

- Urban Water Management Plans from each agency
- Coachella Valley Water Management Plan (CVWD 2010): this plan contains a detailed list of existing conservation programs on pages 2-9 through 2-11.
- Urban Water Efficiency and Conservation Plan (IWA 2010)
- Water Conservation Master Plan (MSWD 2004)
- Water Wise Program Reports, issued annually to MSWD

Project Timing and Phasing

Outreach efforts are an on-going part of agency operations for all of the water agencies in the region. Several agencies are already engaged in multiple aspects of the *Regional Conservation Program*; however, grant funding and initiation of the program will increase these efforts dramatically. The program will involve a "regional water conservation kick-off," which entails a surge of public relations including but not limited to press releases, demonstrations, and paid advertising.

The *Regional Water Conservation Program* is not phased, but considered a logical chronology of conservation efforts. While any portion of this program could stand alone and increase water use efficiency, the program as a whole was created for optimum success in meeting the DMMs and the goals and objectives of the Coachella Valley IRWM Plan.

Project Map

Figure 3-3 provides a project site map for the *Regional Water Conservation Program* showing the project boundary, surface waters, groundwater basins, locations of DACs, and any proposed monitoring locations.

II. Proposed Tasks

Grant Administration

CVWD will be responsible for administration and processing of the overall Coachella Valley IRWM Implementation Grant contract, including tasks associated with compiling and submitting program invoices, quarterly reports, and completion reports for DWR.

Direct Project Administration Costs

Separately, the partner agencies have performed a number of tasks to establish existing conservation program. On October 20, 2010, the agencies met to pool resources and develop the most effective ways to collaborate and create the *Regional Water Conservation Program.* Establishing the structure, budget, and goals of this program were the first step to regional program administration.

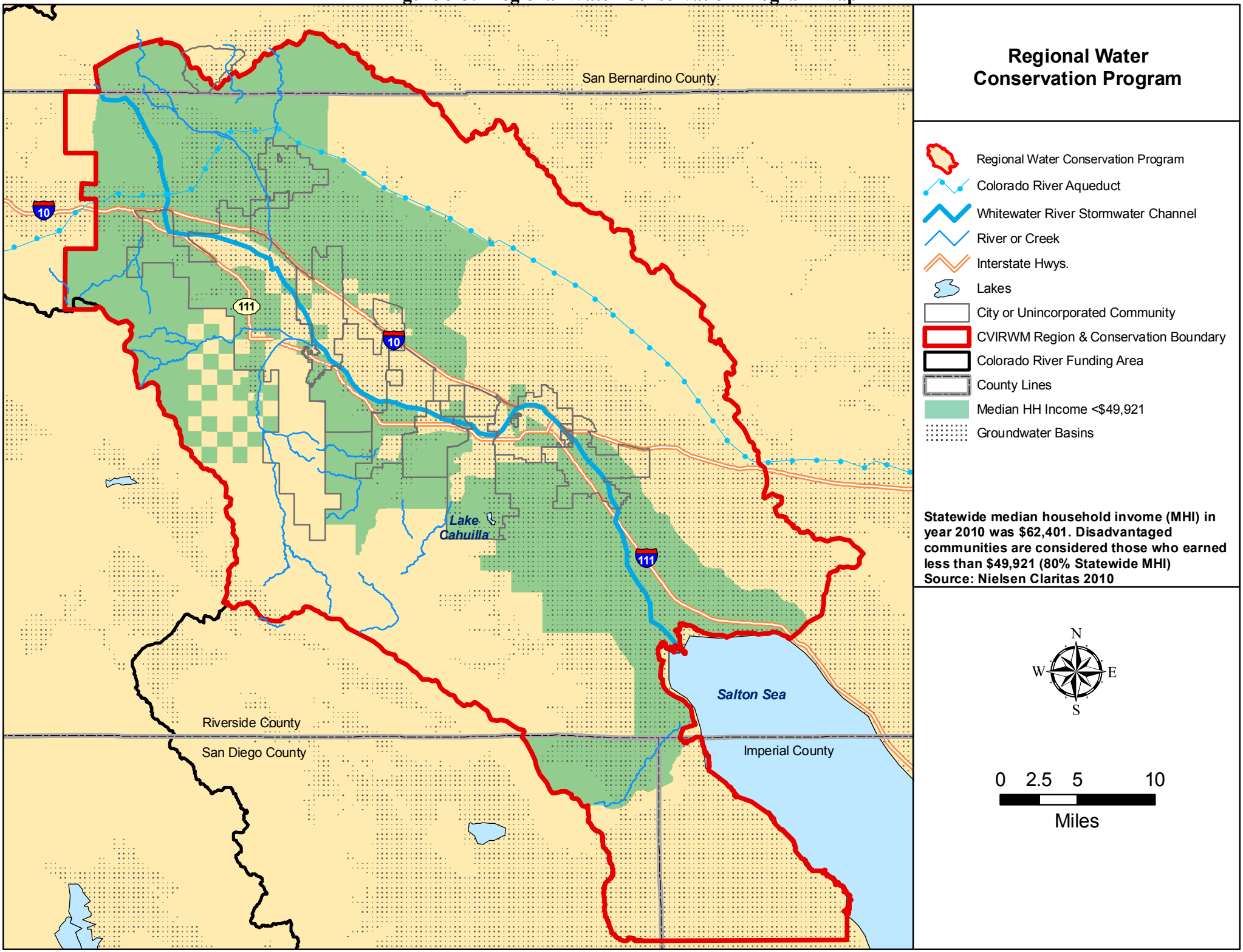
Expansion of existing conservation programs, as well as development of new programs, will require collaboration of the agencies and communities. The *Regional Water Conservation Program* allows the agencies to pool knowledge and resources in an effort to enhance conservation across the region.

Task 1: Project Administration - This program will involve project administration before and after the Implementation Grant agreement is formalized (June 1, 2011).

Completed Work

Project administration before June 1, 2011 will involve working with other agencies on coordinating the *Regional Water Conservation Program.* Actions that have completed to date include an agreement between the partnering water agencies to pursue a regional conservation program, and sharing of data, research, quotes, results, and ideas. Each agency has employed a project administrator and conservation coordinator for 5 hours each to the aforementioned project administration tasks.

Figure 3-3: Regional Water Conservation Program Map



Future Work

Project administration after June 1, 2011 will involve further efforts in workforce with the other agencies on coordinating and administering the *Regional Water Conservation Program*. Each agency has a conservation coordinator currently working on administration of existing conservation programs and working with other agencies on coordinating the *Regional Water Conservation Program*. The agencies will continue to meet and share data, research, quotes, results, and ideas. As the program progresses, administrative tasks will increase with each agency. Some may continue to use internal staff while other may deem it necessary to contract some or all of the tasks outside their agencies. Project administration will also include accounting and project administrator efforts to complete invoicing and project tracking procedures. Each agency will employ a project administrator, accounting staff, and conservation coordinator for 90 hours to complete all future project administration tasks.

Labor Category	Level of Effort	Status
BEFORE June 1, 2011		
CVWD Conservation Coordinator	5 hours	Ongoing
CVWD Project Administrator	5 hours	Ongoing
CWA Conservation Coordinator	5 hours	Ongoing
CWA Project Administrator	5 hours	Ongoing
DWA Conservation Coordinator	5 hours	Ongoing
DWA Project Administrator	5 hours	Ongoing
IWA Conservation Coordinator	5 hours	Ongoing
IWA Project Administrator	5 hours	Ongoing
MSWD Conservation Coordinator	5 hours	Ongoing
MSWD Project Administrator	5 hours	Ongoing
AFTER June 1, 2011		
CVWD Conservation Coordinator	15 hours	Ongoing
CVWD Accounting Staff	20 hours	Not Started
CVWD Project Administrator	15 hours	Ongoing
CWA Conservation Coordinator	15 hours	Ongoing
CWA Accounting Staff	20 hours	Not Started
CWA Project Administrator	15 hours	Ongoing
DWA Conservation Coordinator	15 hours	Ongoing
DWA Accounting Staff	20 hours	Not Started
DWA Project Administrator	15 hours	Ongoing
IWA Conservation Coordinator	15 hours	Ongoing
IWA Accounting Staff	20 hours	Not Started
IWA Project Administrator	15 hours	Ongoing
MSWD Conservation Coordinator	15 hours	Ongoing
MSWD Accounting Staff	20 hours	Not Started
MSWD Project Administrator	15 hours	Ongoing

Task 2: Labor Compliance Program - This program will not involve construction activities or any other activities that would necessitate a Labor Compliance Program.

Task 3: Reporting - To assess progress and accomplishments of the program, the following submittals will be completed by each individual agency and submitted to CVWD as the project sponsor. CVWD will compile the quarterly reports and invoices for ultimate submittal to DWR. All staff labor for the required reporting and invoicing tasks have been show under *Task 1: Direct Project Administration* above.

Project Administration Submittals	Date	Status
AFTER June 1, 2011		
Project Assessment and Evaluation Plan (PAEP)	December 1, 2011	Not started
Quarterly Progress Reports and Invoices	Quarterly as determined by Start	Not started
Project Completion Report	Due upon program completion	Not started

B. Land Purchase Easement

A land purchase easement is not required for implementation of this program.

C. Planning/Design/Engineering/Environmental Documentation

Task 4: Assessment and Evaluation - This task involves preparation of all studies that will be completed after initiation of the Implementation Grant agreement to assess and evaluate the program. No efforts regarding this task will be completed prior to June 1, 2011.

To assess progress and accomplishments of the program, the following submittals will be performed:

- Each agency will produce an *Annual Conservation Report*, each of which will be compiled to share with the CVRWMG for program monitoring purposes. The conservation coordinators from each agency will work together to create a combined annual report.

Study Performed	Date	Status
AFTER June 1, 2011		
Annual Conservation Report	Annually until program end date	Not started

Task 5: Final Design - Not applicable. This program does not require design work.

Task 6: Environmental Documentation - Environmental documentation for this program is not required.

Task 7: Permitting - Not applicable. This program does not require permits.

D. Construction/Implementation

Task 8: Construction Contracting - Some aspects of the Regional Water Conservation Program will be conducted by contractors, while other tasks will be performed by agency staff. The agencies will select and retain various contractors based on individual agency policy, protocol, and on the conservation measures enacted. For implementing the construction/implementation tasks outlined below (in Task 9), it is anticipated that the agencies may use contractors or staff to conduct water audits, supply and install irrigation controls, supply and install smart controls, and for advertisement and outreach publications.

Contractor	Task	Agency
AFTER June 1, 2011		
Water Auditing Specialist/Staff	Water Auditor	CWA, CVWD, DWA, IWA and MSWD
Irrigation Contractor/Staff	Irrigation Controller Supplier / Installer	CWA, CVWD, DWA, IWA and MSWD
Irrigation Contractor/Staff	Smart Controller Supplier / Installer	CWA, CVWD, DWA, IWA and MSWD
Advertising Agencies and Printing Companies/Staff	Advertisement and Outreach	CWA, CVWD, DWA, IWA and MSWD

Task 9: Construction/Implementation – Construction/implementation for this program will involve nine tasks, as described below. The first eight tasks will be performed before and after initiation of the Implementation Grant Agreement.

Completed Work

Some of the portions of the *Regional Water Conservation Program* are in place by individual agencies:

Task	Agency(s)	Activity Description	Status
BEFORE June 1, 2011			
Subtask 9.1: Outreach	CWA, CVWD, DWA, IWA and MSWD	Performs outreach activities through Public Service Announcements, websites, community activities, speaking engagements, classroom demonstrations, field trips, and paid advertisements. In addition, WADR performs outreach through billboards, community events, and festivals. These outreach efforts include information about the importance of conserving water and tips on how conservation can be carried out by constituents.	Ongoing
Subtask 9.2: Water Audit Program	CVWD, DWA, and IWA	Conducts water audits for large and residential water users to recommend potential improvements that can be made to increase efficiency.	Ongoing
Subtask 9.3: Water Wise Program	MSWD	Gives kits to students to measure their own water use and improve water use efficiency at home.	Ongoing
Subtask 9.4: Workshops	CVWD and DWA	Conducts water workshops for landscape professionals, as well as homeowners and Homeowner's Associations. These workshops provide landscape professionals and large water users with information about the most efficient uses of water for irrigation.	Ongoing
Subtask 9.5: Irrigation Clocks	CVWD, DWA, and IWA	Pays for or subsidizes the cost of smart irrigation controllers and/or installation of controllers for customers. Each agency has a customized subsidization and/or cost-sharing protocol that they implement according to agreements they have with the various regional jurisdictions.	Ongoing
Subtask 9.6: Turf Reduction Programs	CVWD and IWA	Offers financial incentives to replace water consumptive turf with low water use native landscaping	Ongoing

Task	Agency(s)	Activity Description	Status
Subtask 9.7: Sprinkler Upgrades	CVWD and IWA	Subsidizes the cost of upgrading sprinkler heads and general upgrades for inefficient systems.	Ongoing
Subtask 9.8: Residential Leak Detection Program	IWA and MSWD	Customers may request a leak detector to be installed on their meter to register and record water use for one week to determine possible leaks and educating residents on their water use.	Ongoing
Subtask 9.9: Irrigation System Upgrades	N/A	N/A	N/A

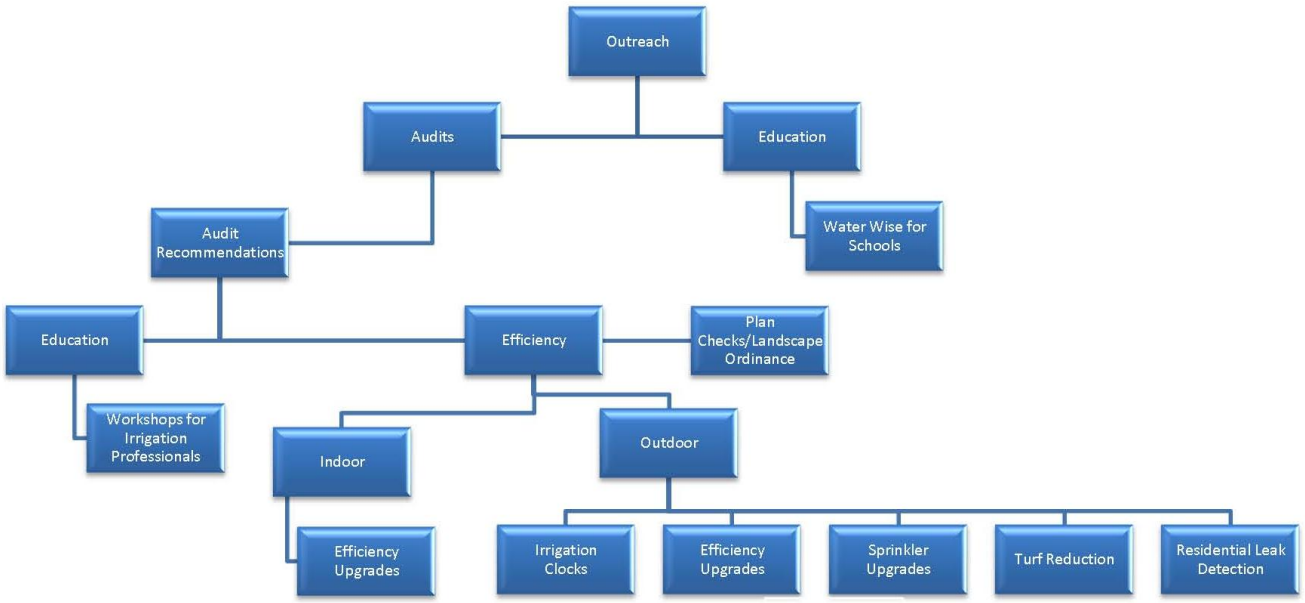
Future Work

The *Regional Water Conservation Program* includes an array of conservation measures that tie together to create the most comprehensive and efficient way to promote conservation in the region. Efforts that will occur after June 1, 2011 involve continuing and/or expanding the subtasks presented above. In addition, CWA, CVWD, DWA, IWA, and MSWD will initiate a new program, Task 9.9: Irrigation System Upgrades. The table below explains the efforts that will be carried out as part of this program after initiation of the Implementation Grant agreement. See Figure 3-4 (below) for details on the structure of the program.

Task	Agency(s)	Activity Description	Status
AFTER June 1, 2011			
Subtask 9.1: Outreach	CWA, CVWD, DWA, IWA and MSWD	Through public service announcements, websites, community activities, speaking engagements, classroom demonstrations, field trips, paid advertisements and other efforts, agencies will conduct outreach about the importance and tips for water conservation. Expansion of this program will allow for more saturation of the message. As constituents become more familiar with the need to conserve, agencies will be able to be more specific in outreach messages by providing customer-targeted conservation tips and direction.	Program will be expanded with grant funding and will utilize the existing WADR conservation group to coordinate regional communications.
Subtask 9.2: Water Audit Program	CWA, CVWD, DWA, IWA and MSWD	Agencies will conduct water audits for large water users and residents to recommend improvements in efficiency. The agencies plan to expand the audit program to segue into Tasks 9.5-9.9.	Program will be expanded with grant funding.
Subtask 9.3: Water Wise Program	CWA, CVWD, DWA, IWA and MSWD	Students will be given kits to measure their own water use and improve efficiency at home. The Water Wise Program will be expanded Valley-wide.	Program will be expanded with grant funding.
Subtask 9.4: Workshops	CWA, CVWD, DWA, IWA and MSWD	Agencies will conduct water workshops for landscape professionals, as well as homeowners and Homeowner's Associations. Expansion of these workshops will create a more educated base of irrigation professionals and large water users.	Program will be expanded with grant funding.
Subtask 9.5: Irrigation Clocks	CWA, CVWD, DWA, IWA and MSWD	Agencies will pay for or subsidize the cost of smart irrigation controllers and/or installation of controllers for customers	Program will be expanded with grant funding.

Task	Agency(s)	Activity Description	Status
Subtask 9.6: Turf Reduction Programs	CWA, CVWD, DWA, IWA, and MSWD	Agencies will offer financial incentives to replace turf with native landscaping	Program will be expanded with grant funding.
Subtask 9.7: Sprinkler Upgrades	CWA, CVWD, DWA, IWA and MSWD	Agencies will pay for or subsidize the cost of upgrading sprinkler heads. This program will be expanded as a second phase of Task 9.2. Following an audit, customers will have the opportunity to upgrade their systems.	Program will be expanded with grant funding.
Subtask 9.8: Residential Leak Detection Program	CWA, CVWD, DWA, IWA and MSWD	Customers may request a leak detector to be installed on their meter to register and record water use for one week to determine possible leaks and educating residents on their water use.	Program will be expanded with grant funding.
Subtask 9.9: Efficiency Upgrades and Retrofits	CWA, CVWD, DWA, IWA and MSWD	Agencies will provide reasonable reimbursements to urban users for other efficiency upgrades and retrofits deemed appropriate during the water audit process.	Program will be initiated with grant funding.

Figure 3-4: Regional Water Conservation Program Structure



E. Environmental Compliance/Mitigation/Enhancement

Task 10: Environmental Compliance/Mitigation/Enhancement - Not applicable.

F. Construction Administration

Task 11: Construction Administration – All administration, coordination, and review of the water conservation programs listed above will be addressed by conservation staff of each CVRWMG agency. These efforts have been included in the budget for *Task 9: Construction/Implementation*.

Short Term Arsenic Treatment Project

I. Introduction

Project Sponsor

The project sponsor for the *Short-Term Arsenic Treatment (STAT) Project* is Pueblo Unido Community Development Corporation (PUCDC).

Project Need

Arsenic is a naturally occurring constituent in the Coachella Valley bedrock, and due to its presence in the bedrock it has also been detected in the local groundwater. This constituent can pose potential health threats, and as such the United States Environmental Protection Agency has set Maximum Containment Levels (MCLs) for arsenic at 10 parts per million (ppm). According to the County of Riverside Department of Environmental Health (DEH), consuming water that contains arsenic levels above the MCLs can potentially pose health concerns by increasing cancer risks and impacting arteries and veins.

While water quality monitoring from wells owned and operated by the local water purveyors show that arsenic concentrations do not exceed MCLs, other reports suggest that arsenic concentrations of 60-70 ppm have been detected in localized areas, particularly in the East Valley. Arsenic concentrations at these levels present unhealthy conditions for East Valley residents, and demonstrate an urgent need for immediate technical solutions.

Farmworker families have enabled the Coachella Valley agricultural industry to be one of the few that have remained strong despite the recent economic downturn. According to the 2008 Riverside County Agricultural Report, the farming industry made a new profit record of 1.3 billion dollars in 2007. The agricultural industry also sustains the regional food system, and constitutes the majority of the local and regional economies. Despite this significant contribution, farmworker communities experience pervasive poverty and lack of necessary infrastructure.

The large majority of farmworker and low-income families live in small, unpermitted mobile home parks (Polanco parks), which rely on onsite wells for drinking water. A program for arsenic treatment in the Coachella Valley is needed to address the long and short-term needs for provision of safe drinking water to rural and remote areas of the Coachella Valley.

The DEH has found that approved point-of-use or point-of-entry treatment units can be effective in removing arsenic and other constituents of concern from local drinking water supplies. However, the East Valley communities that have experienced arsenic concentrations exceeding the MCLs are often disadvantaged communities (DACs) that cannot afford to purchase or install these systems on their own.

This project will address both arsenic-related water quality issues and address water-related needs of DACs by providing cost-effective and reliable ways to remove high levels of arsenic from drinking water supplies for farm worker families in the East Valley.

Project Purpose

The purpose of the *Short-Term Arsenic Treatment Project* is to (1) implement five point-of entry reverse osmosis water treatments systems, (2) implement 280 point-of-use Reverse Osmosis Water Treatment Systems, (3) address arsenic-related water quality issues within the local drinking water supply, and (4) provide water that is reliable and of improved quality to disadvantaged communities (farm worker families).

Project Objectives

The *Short-Term Arsenic Treatment Project* includes the following project objectives:

- Offer cost-effective and reliable technology to remove high levels of arsenic.
- Provide new short-term alternatives to deliver quality drinking water for disadvantaged communities.

Table 3-5 provides an overview of the Coachella Valley IRWM Plan objectives that are expected to be indirectly (○) or directly (●) achieved through implementation of the *Short-Term Arsenic Treatment Project.*

Table 3-5: Contribution to IRWM Plan Objectives

Proposal Project	Contribution to IRWM Plan Objectives												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Short-Term Arsenic Treatment Project	●	-	-	-	○	-	○	-	-	●	-	●	●

● = directly related; ○ = indirectly related

The project contributes to the IRWM Plan objectives in the following ways:

- ***A: Provide reliable water supply.*** This project intends to improve the quality of local water supplies, thereby reducing the need for communities to rely on other, less reliable water supplies such as hauled water.
- ***E: Protect groundwater quality and improve, where feasible.*** This project will indirectly protect groundwater quality by reducing constituents of concern from entering the wastewater supply, and therefore preventing this water from percolating into the groundwater.
- ***J: Maximize stakeholder involvement.*** This project provides education and job training in water management operations, thereby increasing the amount of stakeholders involved.
- ***L: Address water and sanitation needs of disadvantaged communities.*** This project directly addresses water quality issues of DACs within the Coachella Valley.
- ***M: Maintain affordability of water.*** This project will provide a cost-effective solution to local water quality issues within a DAC. In addition, by improving drinking water quality within these communities, this project will reduce the need for residents to rely on other, more expensive water supplies such as bottled water.

Project Partners

Project partners for this project include: Poder Popular of the Eastern Coachella Valley, California Rural Legal Assistance Foundation, California Rural Legal Assistance, and the Environmental Justice Coalition on Water. These entities have collaborated on Arsenic sampling and local outreach and organizing. The groups have worked with Rural Community Assistance Corporation (RCAC) on a survey of Arsenic water quality issues and have worked with and the Coachella Valley Water District to connect some areas to water and sewer service.

Project Abstract

The proposed STAT Project is based on a pilot program implemented at San Antonio del Desierto (a mobile home park) in the Eastern Coachella Valley. During this pilot project, Pueblo Unido CDC (PUCDC) developed an engineering design for short-term arsenic treatment (STAT), which will be replicated for the *Short-Term Arsenic Treatment Project*, and at other impacted sites throughout Coachella Valley. The design layouts from the pilot project included designs for a point-of-entry reverse osmosis water treatment system and installation of point-of-use reverse osmosis water treatment systems. This project will serve communities that currently obtain their water from private wells.

Pueblo Unido CDC will be coordinating the development and implementation of this program in association with its existing Agricultural Worker Housing Rehabilitation Program (AWHRP). AWHRP provides technical assistance and training to farmworker and low-income families to improve the existing infrastructure and bring the Polanco parks up to Riverside Code compliance. The scope of the work includes engineering redesign, redevelopment of domestic water distribution, and installation of electrical system. Additionally, the program has training and education component that consists of helping farmworker families understand the proper monitoring of the quality of the water and functioning of decentralized wastewater systems. The design status is 90% complete.

Linkages and Synergies between Projects

Not applicable.

Existing Data and Studies

This project type, scope, and focus are identified in the following plans and studies:

- Rural Community Assistance Corporation. January 21, 2010. Drinking Water Assessment Final Report: San Antonio del Desierto Mobile Home Park.
- Rural Community Assistance Corporation. March 2010. *Coachella Valley Water Systems Assessments.*

Project Timing and Phasing

This project is a multi-component project. The pilot for this project was completed at the San Antonio del Desierto mobile home park. In addition to the project discussed within this work plan, other phases of this project could potentially occur in other locations throughout the Coachella Valley.

Project Map

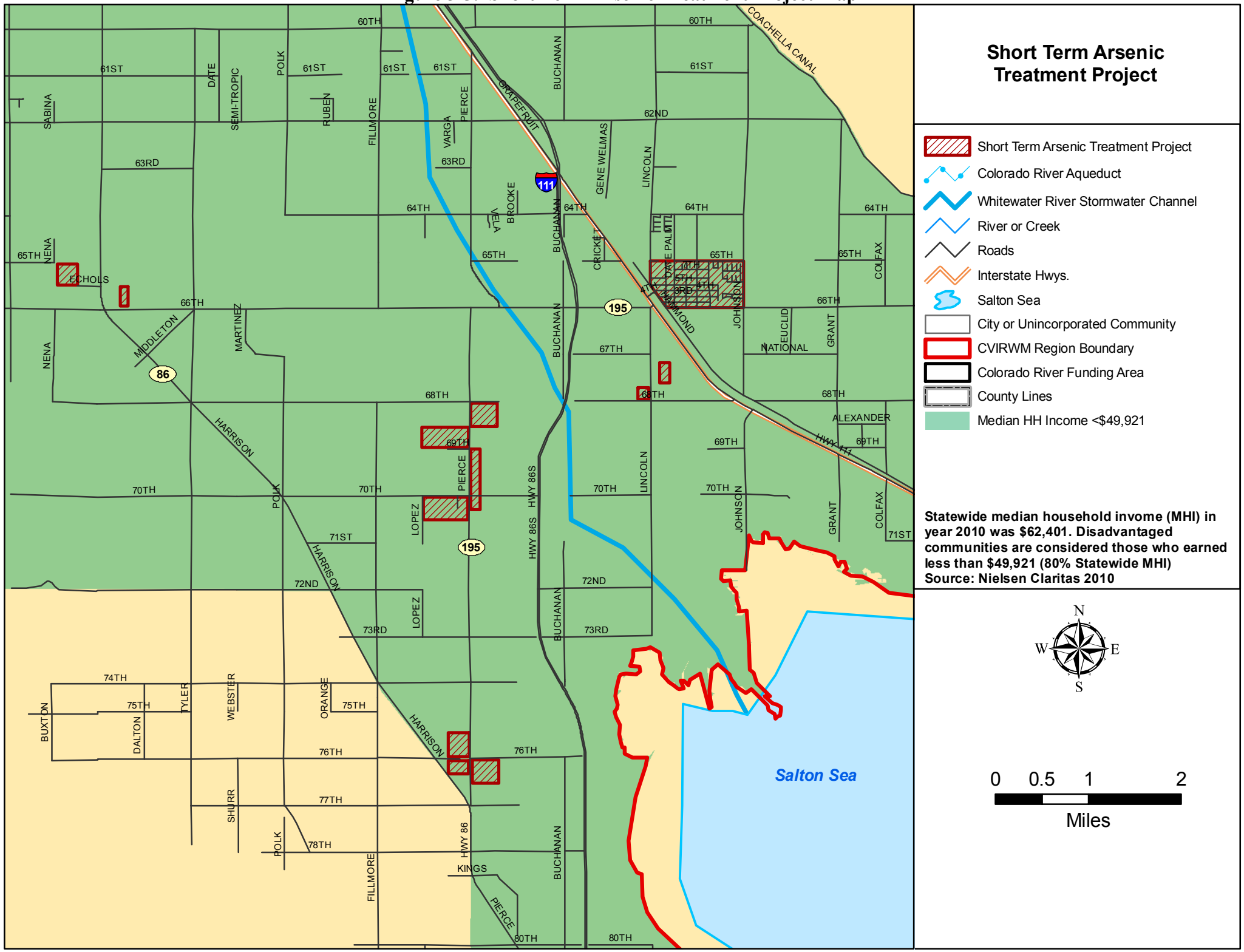
Figure 3-5 provides a project site map for the *Short-Term Arsenic Treatment Project*, showing the project boundary, surface waters, groundwater basins, a DAC layer, proposed monitoring will occur at the project locations.

II. Proposed Tasks

Grant Administration

CVWD will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports for DWR.

Figure 3-5: Short Term Arsenic Treatment Project Map



A. Direct Project Administration Costs

Task 1: Project Administration - This project will involve project administration before and after the Implementation Grant Agreement is formalized (June 1, 2011). Ongoing project administration will carryover from the pilot project that was administered at San Antonio del Desierto. Pueblo Unido has employed a Project Manager for 120 hours to date for project administration efforts. This effort has involved coordination with partner agencies, including providing point-of-entry and point-of-use technical specifications to Coachella Valley Water District, and provided water quality results with the Riverside County Environmental Health Department to monitor system performance.

Future project administration activity will continue to involve a Project Manager from Pueblo Unido (500 hours) to continue to coordinate with CVWD, produce invoices and reports, and fulfill all other necessary administrative tasks associated with the project.

Labor Category	Level of effort	Status
BEFORE June 1, 2011		
Project Manager	120 hours administered for project pilot at San Antonio del Desierto	Ongoing
AFTER June 1, 2011		
Project Manager	240 hours	Ongoing

Task 2: Labor Compliance Program - Not applicable. Construction associated with this project will not involve significant ground disturbing activities, or any other construction activities that would necessitate a Labor Compliance Program.

Task 3: Reporting - All reporting for this project will occur after the Implementation Grant Agreement is formalized (after June 1, 2011). In order to assess progress and accomplishments of the project, the following submittals will be completed by each indicated date.

Submittals	Date	Status
AFTER June 1, 2011		
Project Assessment and Evaluation Plan (PAEP)	December 1, 2011	Not started
Quarterly Reports and Invoices	Quarterly based on start date	Not started
Project Completion Report	Upon Completion	Not started

B. Land Purchase Easement

A land purchase easement is not required for implementation of this project.

C. Planning/Design/Engineering/Environmental Documentation

Task 4: Assessment and Evaluation - This task involves preparation of all studies that were completed before initiation of the Grant Agreement (before June 1, 2011) to assess and evaluate the project.

- The *San Antonio del Desierto Pilot Program Initial Report* will be finalized in January 2011. This informal report will provide information regarding the installation of short-term arsenic treatment (STAT) systems at San Antonio del Desierto mobile home park, which was a pilot program for this project. This study formed the basis of the design that will be used for implementation of the *Short-Term Arsenic Treatment Project*, as well as information needed for design of future implementation at other project sites.

Between June 1, 2011 and April 25, 2011, the following water testing assessments will take place, prior to construction, in order to assess and evaluate the project:

- Water testing will take place in individual mobile home parks within the project area. This testing will include pre-design sampling and testing prior to installation of individual point-of-entry systems. There will be further operational testing of each system during installation and early operations to ensure that the systems are functioning properly. There will also be testing for point-of-use systems before and after installation, which will also sample to ensure that the systems are functioning properly.

Task 5: Final Design - Prior to initiation of the formal grant agreement, before June 1, 2011, PUCDC will conduct preliminary assessments that will aide in final design (refer to Task 4). In addition, by March 22, 2011 PUCDC will produce a final design report. This informal report will provide recommendations regarding the final design for the project. Information for the report will be produced by in-house engineers and systems designers from the company that manufactures the reverse osmosis systems utilized by PUCDC. The design report will contain the basic design components for installation of the reverse osmosis systems, and will be the basis design plans for future anticipated point of entry installations.

After initiation of the formal grant agreement, after June 1, 2011, further design will be required to solidify design of the project. This design will be completed by PUCDC in conjunction with engineers and systems designers from the company that manufactures reverse osmosis systems. Formal submittals from these engineers will be sent to the Riverside County Department of Environmental Health for permitting purposes by June 29, 2011.

Design Submittals	Date	Status
BEFORE June 1, 2011		
Engineering Design	March 2011	Underway
AFTER June 1, 2011		
Final Design	June 2011	Not Started

Task 6: Environmental Documentation - Environmental documentation for this project is not required as it will not be of the size, scale, or impact as to trigger CEQA, NEPA, or other environmental regulations.

Task 7: Permitting - Permitting for this project will occur before and after initiation of the grant agreement (June 1, 2011). On April 26, 2010, PUCDC obtained a treatment permit (#BEL100387) from Riverside County Department of Environmental Health to install reverse osmosis water treatment systems for the San Antonio del Desierto pilot project.

Future permits (after June 1, 2011) will also be required prior to project construction. These permits include a permit from the Riverside Department of Environmental Health for installation of the reverse osmosis water treatment systems for this project. The project will also require permits from the Riverside County Building Department to conduct onsite construction. These permits are expected to be approved by August 27, 2011.

Permit	Approval Date	Status
BEFORE June 1, 2011		
County of Riverside Environmental Health Department Treatment Permit (Permit #BEL100387)	April 2010	Approved
AFTER June 1, 2011		
County of Riverside Environmental Health Department Treatment Permit	August 2011	Underway
Riverside County Building Department Onsite Construction Permit	August 2011	Underway

D. Construction/Implementation

Task 8: Construction Contracting (BEFORE June 1, 2011) - All construction contracting will occur after initiation of the Grant Agreement. Construction contracting will be based on experience from the San Antonio del Desierto pilot project. During the pilot project PUCDC obtained bids to retain a general contractor and subcontractor for required onsite work at San Antonio del Desierto. Because PUCDC has already been through a construction bidding process, they do not anticipate the need to re-bid this part of the *Short-Term Arsenic Treatment Project.* As such, the only deliverables that will take place for construction contracting include a notice to proceed that is anticipated to take place in July of 2011.

Construction Submittals	Date	Status
AFTER June 1, 2011		
Notice to Proceed	July 2011	Not started

Task 9: Construction - All construction for this project will take place after initiation of the formal grant agreement (after June 1, 2011).

Building Materials and/or Construction Standards

The building materials used in construction (concrete and rebar) will be selected based on experience from the San Antonio del Desierto pilot project. As such, selection will be based on a 19'x26'x6' foundation to set the water storage tank and reverse osmosis water system equipment. In addition, PUCDC will work with the manufacturer of the reverse osmosis systems to complete construction engineering plans for the reverse osmosis system installations. These plans will include scale drawings and descriptions for permitting and construction along with operations and maintenance specifications. All construction will conform to standards set forth by the State Department of Public Health, Riverside County Environmental Health, and Riverside County Building Department.

Construction Tasks

Construction tasks will include Mobilization and Site Preparation, Project Construction, and Performance Testing and Demobilization. These subtasks are described in detail below:

- ***Subtask 9.1 Mobilization and Site Preparation***. Mobilization and site preparation will include excavation and compaction for concrete slab, laying a water extension line, and installing electrical supply.
- ***Subtask 9.2 Project Construction***. Project construction will include the following:
  - Installation of 280 point-of-use treatment systems;

- Construction of three 19'x26' concrete slab foundations for a 3,200 gallon water storage tank;
- Construction of a shed structure for three point-of-entry 1,500 gallon reverse osmosis water treatment system;
- Construction of two 19'x26' concrete slab foundations for a 15,000 gallon water storage tank; and
- Construction of a shed structure for a point-of-entry 15,000 gallon reverse osmosis water treatment system.

- ***Subtask 9.3 Performance Testing and Demobilization***. After construction, water testing will take place to evaluate the results of the point-of-use and point-of-entry reverse osmosis systems. Sampling and analysis will occur on a periodic basis (either daily, weekly, or monthly) for the first year following installation to ensure performance and troubleshoot issues when necessary. It is anticipated that approximately 10% of the point-of-use systems will be tested to verify performance on the year following installation. These monitoring efforts will be set forth by permits from the County of Riverside Department of Environmental Health, and PUCDC will be responsible for ensuring compliance with all relevant permits. As such, all water quality data from treated water will be sent to the Riverside Department of Environmental Health for review.

E. Environmental Compliance/Mitigation/Enhancement

Task 10: Environmental Compliance/Mitigation/Enhancement - This project will not trigger requirements of CEQA, NEPA, or other environmental regulations and will therefore not require environmental compliance, mitigation, or enhancement.

F. Construction Administration

Task 11: Construction Administration - This task involves administration, coordination, and review of the construction contract and all other related construction tasks, and will occur before and after initiation of the formal grant agreement. After initiation of the grant agreement, a project manager will be needed to coordinate with contractors, complete invoicing and billing, and other construction administration tasks as required. These efforts are estimated to be approximately 476 hours.

Labor Category	Level of effort	Status
AFTER June 1, 2011		
Project Manager	476 hours	Not Started

Groundwater Quality Protection Program – Desert Hot Springs

I. Introduction

Project Sponsor

The project sponsor for the *Groundwater Quality Protection Program – Desert Hot Springs* is the Mission Springs Water District (MSWD).

Project Need

The Coachella Valley IRWM region lies within Region 7 (Colorado River Basin), which is governed by the California Regional Water Quality Control Board (RWQCB). In 2005 the RWQCB issued the Water Quality Control Plan (WQCP) for the Colorado River Basin, outlining water quality objectives for the region and putting forth an Implementation Program that would assist in achieving those objectives. The

WQCP notes Septic System Impacts to Groundwater Basins as a Regional Board Issue, and specifically states that septic systems within Region 7 have the potential to have a negative impact on groundwater. In addition, the WQCP notes that there are certain identified communities with high densities of septic systems or failing septic systems, which potentially pose a threat to the Mission Creek and Desert Hot Springs aquifers.

The MSWD Urban Water Management Plan notes that the Desert Hot Springs Subbasin is a hot-water basin, containing hot mineral water with temperatures exceeding 100 degrees Fahrenheit. This water serves as the economic basis of Desert Hot Springs, because it draws visitors to the City's numerous spa resorts and hotels.

Therefore, protecting the groundwater quality within the Desert Hot Springs aquifer will not only protect the local water supply, but will also protect hot mineral water that is the economic basis of the community's spa industry. In addition, because Desert Hot Springs qualifies as a disadvantaged community (DAC), this project will also protect residents of a DAC from significant costs that would result if treatment of the potable water supply were necessary due to contamination of groundwater supplies.

Project Purpose

The purpose of the *Groundwater Quality Protection Program - Desert Hot Springs* is to (1) extend the MSWD's municipal wastewater collection system to Sub-area D1 in Assessment District 12, (2) eliminate the need for on-site septic systems in the project area, and (3) comply with State law and an MSWD ordinance that require customers to connect to the wastewater collection system once it is available to their property.

Project Objectives:

The *Groundwater Quality Protection Program - Desert Hot Springs* includes the following project objectives:

- Expand the wastewater collection system in Assessment District 12 Sub Area D1, which will connect 238 parcels to the MSWD system
- Abate potential water quality threats associated with 181 on-site septic systems
- Protect both the drinking water supply to Desert Hot Springs and the hot mineral water that is the basis of the spa economy for the City of Desert Hot Springs and the Coachella Valley
- Reduce the septic tank density in Assessment District 12 Sub Area D1 to at or near the density recommended by the RWQCB

Table 3-6 provides an overview of the Coachella Valley IRWM Plan Objectives that are expected to be indirectly (○) or directly (●) achieved through implementation of the *Groundwater Quality Protection Program - Desert Hot Springs*.

Table 3-6: Contribution to IRWM Plan Objectives

Proposal Projects	Contribution to IRWM Plan Objectives												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Groundwater Quality Protection Program - Desert Hot Springs	-	-	-	○	●	-	-	-	○	-	-	●	○

● = directly related; ○ = indirectly related

This project contributes to the IRWM Plan objectives in the following ways:

- ***D: Maximize local supply opportunities.*** This project indirectly maximizes local supplies by capturing septic effluent for possible future recycled uses.
- ***E: Protect groundwater quality and improve where feasible.*** This project protects potable groundwater sources from contamination due to failing septic systems and a dense concentration of properly functioning septic systems. In addition, this project protects hot mineral water from contamination by failing septic systems, thus preserving the primary industry of the local economy of a DAC.
- ***I: Optimize conjunctive use of available water resources.*** This project will help to coordinate and integrate water resource management by providing additional wastewater supplies to MSWD, thereby providing opportunity for future recycled water supplies within the region.
- ***L: Address water and sanitation needs of DACs.*** This project directly addresses water and sanitation needs of DACs by providing for expansion of the municipal wastewater collection system and providing means for connection to the wastewater collection system for a disadvantaged community.
- ***M: Maintain affordability of water.*** This project indirectly helps maintain the affordability of water by reducing and preventing contamination of the local groundwater supply. A contaminated potable water supply would require costly treatment, and therefore, the project helps maintain the current water supply at affordable levels.

Project Partners

Mission Springs Water District provides water and wastewater infrastructure to the City of Desert Hot Springs, and as such, coordinates land use planning efforts with the City. The City of Desert Hot Springs is supportive of the Missions Springs Water District's efforts to convert septic tanks to sewers, including attending joint meetings of the two governing boards where the need and status of the program were discussed. In conjunction with the sewer project, the City of Desert Hot Springs coordinates additional land use improvements such as curbs, gutters, and street paving.

Project Abstract

Portions of the City of Desert Hot Springs have septic tank densities that are 2.3 to 2.8 times higher than the density recommended by the Regional Water Quality Control Board. As such, these dense septic systems potentially threaten the water quality of the local groundwater supply. These dense septic systems also potentially threaten the local economy, which is highly dependent on hot mineral water to support the spa industry.

As a response, Assessment District 12 was approved by voters in 2004, providing approximately $28 million of matching funds that expires in 2014. This money was used to fund engineering design of a wastewater collection system that will abate approximately 6,000 on-site septic systems. Design of 10 sub-areas that make up the Assessment District is complete, and funds are now needed for construction. The project area, Sub-area D1, consists of 183 septic systems that will be converted to sewers. Environmental work for the *Groundwater Quality Protection Program - Desert Hot Springs* was completed in 1998 and recertified in 2007, design work was completed in 2010, and construction is currently ready to bid. As such, to date this project is at 100% completion of design.

Linkages and Synergies between Projects

Not applicable.

Existing Data and Studies

This project type, scope, and focus are identified in the following plans and studies:

- June 1997 – Albert A. Webb and Associates, Sewer Improvements Project, Project Report. This report contains the following appendices:
    - June 17, 1996 – USGS Report, Transport of Contaminants from Wastewater Disposal Systems Near Mission Creek Subbasin
    - September 12, 1996- Michigan Technical University, Groundwater Study
- November 2004 – Psomas, Desert Hot Springs Water Recycling Appraisal Study: Integrated Resource Plan - Phase I
- March 2007, Psomas, Water Recycling Feasibility Study
- November 2007, URS, Wastewater System Comprehensive Master Plan

Project Timing and Phasing

This project is a multi-phased project. Design of Sub-area D1 allows for streets and/or parcels to be added or removed to meet the amount of funding available. However, $1 million is the minimum amount of funding required for mobilization. The project will be bid at two levels of effort to closely match the project scope with the amount of grant funding available.

Project Map

Figure 3-6 provides a project site map for the *Groundwater Quality Protection Program - Desert Hot Springs*, showing the boundary of the project, surface waters, groundwater basins, DACs within the project area, and any proposed monitoring locations.

II. Proposed Tasks

Grant Administration

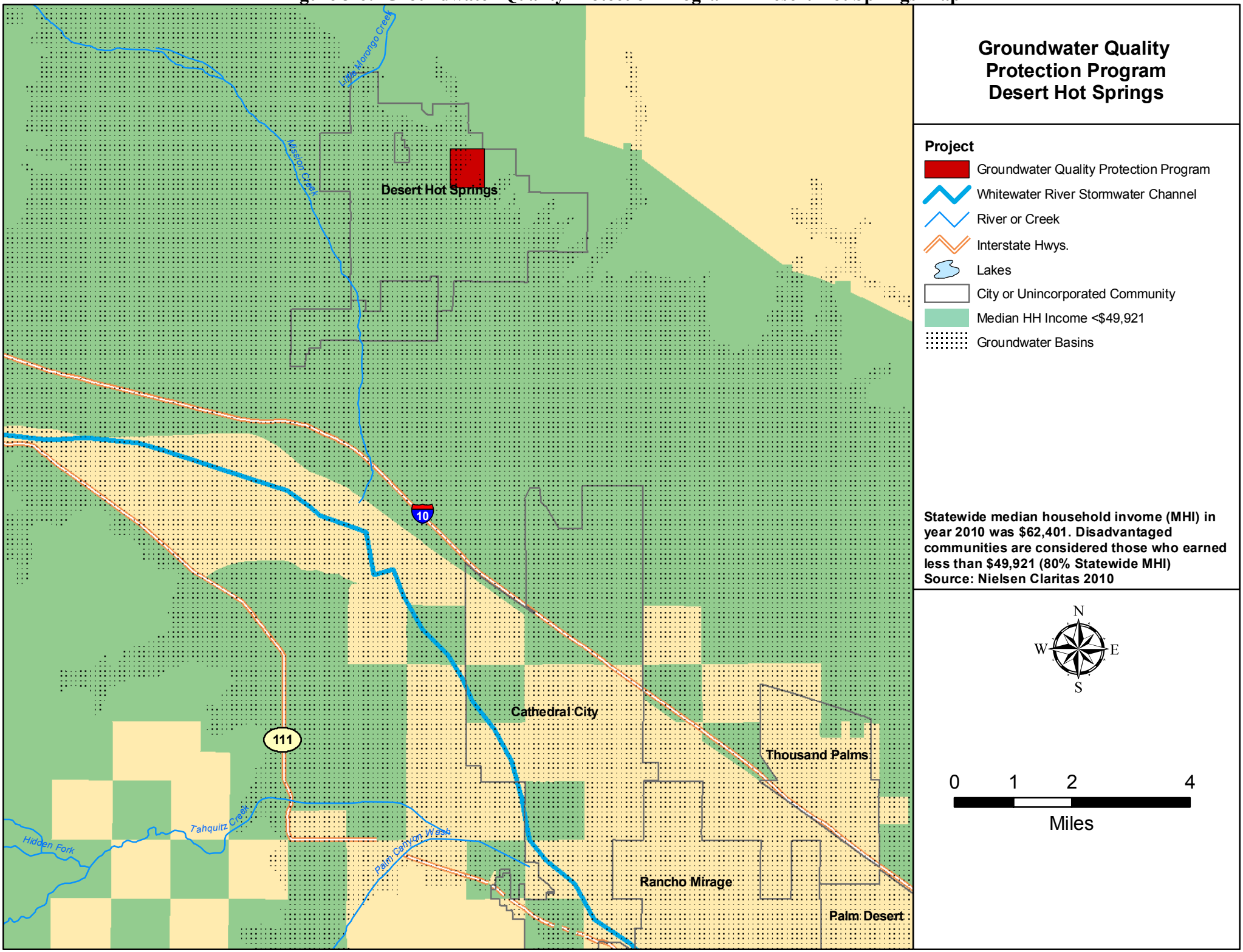
CVWD will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports for DWR.

A. Direct Project Administration

Task 1: Project Administration - This project will involve project administration before and after the Implementation Grant Agreement is formalized (June 1, 2011). Ongoing project administration for this project will involve coordinating with the lead agency (CVWD) and the project consultant. Project administration also includes the staff time that was necessary to receive approval for the project from the MSWD Board of Directors on December 20, 2010. MSWD has employed a Director of Engineering Projects (40 hours) and a Senior Project Manager (80 hours) to date for project administration.

Future project administration (after June 1, 2011) will continue to involve coordination between the lead agency (CVWD) and the project consultant. Deliverables that will be completed include completing project administration invoices and records, and completing project reporting.

Figure 3-6: Groundwater Quality Protection Program -- Desert Hot Springs Map



Labor Category	Level of effort	Status
BEFORE June 1, 2011		
Director of Engineering Projects	40 hours	Ongoing
Senior Project Manager	80 hours	Ongoing
AFTER June 1, 2011		
Director of Engineering Projects	80 hours	Not Started
Senior Project Manager	40 hours	Not Started

Task 2: Labor Compliance Program - MSWD will contract with a consultant to complete a Labor Compliance Program (LCP) no later than March 2011, so all work for this task will be completed by June 1, 2011. MSWD will solicit bids in January 2011, and will award a contract in February 2011. The program will be completed and submitted to the California Department of Industrial Relations no later than March 2011. After this time, MSWD will have begun a district- and State-approved LCP, and will continue to complete annual reports in compliance with relevant state and local laws. Implementation of the LCP will continue as part of the construction project and end with construction, which is estimated to occur on December 1, 2012.

Task 3: Reporting - All reporting for this project will occur after the Implementation Grant Agreement is formalized (after June 1, 2011). To assess progress and accomplishments of the project, the following submittals will be completed by each indicated date.

Project Administration Submittals	Date	Status
Project Assessment and Evaluation Plan (PAEP)	December 1, 2011	Not started
Quarterly Progress Reports and Invoices	Quarterly, dependent on start date	Not started
Project Completion Report	Upon completion of project	Not started

B. Land Purchase Easement

A land purchase easement is not required for implementation of this project.

C. Planning/Design/Engineering/Environmental Documentation

Task 4: Assessment and Evaluation - Not applicable.

Task 5: Final Design - As of June 1, 2011 the project design will be complete. Completion of final design occurred January 29, 2010. The design schedule for the project is as follows:

Design Submittals	Date	Status
BEFORE June 1, 2011		
60% Design	March 11, 2009	Complete
90% (pre-final) Design	November 22, 2009	Complete
100% (Final) Design	January 29, 2010	Complete

Task 6: Environmental Documentation - All environmental documentation for this project will be complete prior to initiation of the grant agreement (June 1, 2011).

The project has been analyzed in an Initial Study/Mitigated Negative Declaration document that was completed and finalized in 1999. The document was later recertified in 2007. This document was later amended with a CEQA Addendum in November 2010 in order to add an additional area to the project area. This project also went through NEPA review that resulted in an Environmental Assessment and a Finding of No Significant Impact in December 2010. These documents will be formalized in January 2011 and February 2011, respectively.

The CEQA/NEPA environmental documentation outlined a Mitigation Monitoring and Reporting Plan (MMRP) that demonstrates mitigation measures required for CEQA compliance were completed in 1998. The MMRP will be in effect during the construction phase of this project.

Environmental Documentation	Date	Status
BEFORE June 1, 2011		
CEQA	February 1999	Complete
CEQA Recertification	May 2007	Complete
CEQA Addendum	January 2011	In Process
NEPA	February 2011	In Process

Task 7: Permitting - Currently, MSWD is ready to apply for a Stormwater Pollution Prevention Plan (SWPPP), a City Encroachment Permit, and a County Encroachment Permit. MSWD will apply for these permits in February 2011, and will obtain these permits by March 1, 2011.

Permit	Approval Date	Status
BEFORE June 1, 2011		
Stormwater Pollution Prevention Plan	March 1, 2011	In Process
City Encroachment Permit	March 1, 2011	In Process
County Encroachment Permit	March 1, 2011	In Process

D. Construction/Implementation

Task 8: Construction Contracting - All construction contracting for this project will occur after formalization of the Implementation Grant Agreement (after June 1, 2011). Construction contracting will include solicitation, which involves advertisement for bids, bid opening, bid evaluations, MSWD staff recommendations, and Board of Directors approval. Construction contracting will also include awarding the construction contract, which includes confirming the contractor's insurance requirements and bonds, and holding a preconstruction meeting.

In addition, separate construction contracts will be initiated with design engineers for construction management services, surveying and staking, and construction (soils) testing. A construction contract for archaeology/biology monitoring in accordance with CEQA will also be required. For each contract, MSWD staff must issue a Request for Proposals, evaluate submitted proposals, and issue recommendations. In addition, approval from MSWD Board of Directors will be required for all four separate contracts.

Construction Submittals	Date	Status
AFTER June 1, 2011		
Notice to Proceed	June 29, 2011	Not started
Construction Management Contract Approval	June 20, 2011	Not started
Surveying and Staking Contract Approval	June 20, 2011	Not started

Construction Testing Contract Approval	June 20, 2011	Not started
Archaeology and Biology Contract Approval	June 20, 2011	Not started

Task 9: Construction - All construction for this project will occur after formalization of the Implementation Grant Agreement (after June 1, 2011).

Building Materials and/or Computational Methods

Building material requirements are detailed in the 100% design plans and specifications and are further referenced in the ASTM, Green Book, and Mission Springs Water District Developer Handbook standards. All materials will be submitted by the contractor, evaluated according to the standards, and approved prior to construction (normally after NTP and before the pre-construction meeting)

Construction Standards, Health and Safety Standards, Laboratory Analysis, and/or Accepted Classification Methods

Construction for this project will conform to the specifications prepared for the project by a licensed engineer. These specifications include project-specific construction standards and also require the contractor to conform to applicable local, state, and federal laws. The specific codes that will be used for project implementation include: MSWD Developer/Contractors Guidelines Handbook, Project Plans and Specifications, ASTM Standards for materials and manufacturing, compliance with all state and local health and safety standards, California Occupational Safety and Health (Cal-OSHA) requirements, County of Riverside and/or Desert Hot Springs Noise Ordinance(s), South Coast Air Quality Management District Standards, and Colorado River Basin RWQCB Standards.

Construction Tasks

Construction tasks for this project will include Mobilization and Site Preparation, Project Construction, and Performance Testing and Demobilization. These subtasks are described in detail below:

- ***Subtask 9.1 Mobilization and Site Preparation*:** Mobilization and site preparation includes ordering of equipment, mobilizing contractor's equipment and construction material, contractor move-in, and preparation of staging areas.
- ***Subtask 9.2 Project Construction*:** Project construction includes installing 7,713 lineal feet of 8'' vitrified clay pipe (VCP) sewer, installing 7,846 lineal feet of 4'' VCP sewer laterals, and installing all appurtenances including but not limited to manholes, grading, and paving.
- ***Subtask 9.3 Performance Testing and Demobilization*:** Performance testing shall be per MSWD Developer/Contractors Guidelines Handbook and per the project plans and specifications. Inspection and testing are required by the project specifications. Contractor shall demobilize and return construction and staging areas to as reasonable as possible to original or improved conditions as a result of construction activities, including newly paved streets. This task will also include surveying and staking and soils testing activities. This task also includes the construction management for project inspection, completing plans and requests for information (RFI's), holding construction meetings, submittal review, responding to RFI's, and project inspection.

E. Environmental Compliance/Mitigation/Enhancement

Task 10: Environmental Compliance/Mitigation/Enhancement - Environmental compliance for this project will occur after initiation of the grant agreement (after June 1, 2011).

Environmental compliance will occur prior to construction of the project, on approximately June 29, 2011 and will conclude by January 27, 2012. Construction activities will be in compliance with the Biological and Archaeological directives listed within the MMRP. The MMRP addressed all issues possible in

extending sewer lines throughout the assessment district within which this project lays. Many of the sewer projects within the assessment district are already completed and none of the special conditions areas listed in the MMRP remain or apply at this time. However, the general project environmental directives for the possibility of archeological or paleontological discovery during any construction, and biological issues as applicable, are still in effect and will be implemented during the construction phase.

F. Construction Administration

Task 11: Construction Administration - This task involves administration, coordination, and review of the construction contracts and all other related construction tasks. After June 1, 2011, the project will require 120 hours of labor from an MSWD Engineer for project administration tasks including project reporting and managing consultants. A Construction Administration Consultant may also be retained to assist the District with these efforts.

Groundwater Quality Protection Program –Cathedral City

I. Introduction

Project Sponsor

The City of Cathedral City is the project sponsor for the *Groundwater Quality Protection Program – Cathedral City.*

Project Need

The Coachella Valley IRWM region lies within Region 7 (Colorado River Basin), which is governed by the California Regional Water Quality Control Board (RWQCB). In 2005, the RWQCB issued the Water Quality Control Plan (WQCP) for the Colorado River Basin, which outlines water quality objectives for the region and contains an Implementation Program that would assist in achieving those objectives. The WQCP notes Septic System Impacts to Groundwater Basins as a Regional Board Issue, and specifically states that septic systems within Region 7 have the potential to have a negative impact on groundwater. In addition, the WQCP notes that there are certain identified communities with high densities of septic systems, including communities in the Indio Hydrologic Subarea, within which lies Cathedral City. The RWQCB identifies conversion of septic systems to sewer systems in Cathedral City within the Implementation Program as a method of potentially achieving water quality needs in Region 7, thereby noting such projects to be high priority and of regional significance, and recommends that funding be allocated to eliminate the use of septic tanks.

Perez Road is a major commercial corridor within the City of Cathedral City that developed using septic tanks rather than sanitary sewers. It is necessary to install sewers to assist businesses experiencing failing septic systems. Project limits for sewer installation are on Perez Road from Date Palm Drive to Cathedral Canyon Drive and on Cathedral Canyon Drive from Perez Road to the Whitewater River. The installation of a sewer line is in accordance with Desert Water Agency's South Area Master Plan, from Date Palm Drive to East Palm Canyon including connection to the Desert Water Agency (DWA) booster pump station.

Septic tank disposal systems south of the Whitewater Channel in Cathedral City have been identified as a significant threat to public potable groundwater resources. This project will permanently remove these known pollution sources (septic tanks) and will sustain and improve local and regional water supply reliability.

Project Purpose

The purpose of the *Groundwater Quality Protection Program – Cathedral City* is to (1) eliminate septic tanks in Cathedral City (within the Indio Hydrologic Subarea) that threaten contamination of groundwater, (2) replace existing septic tanks with sanitary sewers for 132 individual businesses in the vicinity of Perez Road from Date Palm Drive to Cathedral Canyon Drive and on Cathedral Canyon Drive from Perez Road to the Whitewater River, (3) expand the Desert Water Agency (DWA) wastewater collection system to serve the proposed project area, and (4) connect the DWA wastewater collection system to a booster pump station.

Project Objectives

The *Groundwater Quality Protection Program – Cathedral City* includes the following project objectives:

- Implement a sewer connection project identified within the Desert Water Agency's South Area Master Plan
- Construct 4,314 feet of 15-inch sewer to provide sewer connections to an area with failing septic systems
- Convert septic to sewer systems to protect groundwater quality in accordance with the RWQCB's Water Quality Control Plan
- Contribute approximately 7 million gallons of wastewater per year to Coachella Valley Water District's wastewater supply, thereby indirectly increasing the local recycled water supply
- Increase groundwater protection in an area that borders tribal land
- Address sanitation needs relative to failing septic tank systems and protection of groundwater within a disadvantaged community (DAC)

Table 3-7 provides an overview of the Coachella Valley IRWM Plan objectives that are expected to be indirectly (○) or directly (●) achieved through implementation of the *Groundwater Quality Protection Program – Cathedral City*.

Table 3-7: Contribution to IRWM Plan Objectives

Proposal Projects	Contribution to IRWM Plan Objectives												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Groundwater Quality Protection Program – Cathedral City	-	-	-	○	●	-	-	-	○	-	●	●	○

● = directly related; ○ = indirectly related

This project contributes to the IRWM Plan objectives in the following ways:

- ***Objective D: Maximize local supply opportunities.*** This project will connect approximately 132 businesses to the Coachella Valley Water District (CVWD) wastewater collection system. Therefore, this project will indirectly contribute to maximizing local supply opportunities by increasing the amount of non-potable water supplies within the region.
- ***Objective E: Protect groundwater quality and improve, where feasible.*** By eliminating failing septic systems in an area with known groundwater quality issues, this project will protect and potentially improve groundwater quality by removing a contamination source.

- ***Objective I: Optimize conjunctive use of available water resources.*** This project will help to coordinate and integrate water resource management by providing additional wastewater supplies to CVWD, thereby indirectly increasing non-potable water supplies within the region.
- ***Objective K: Address water-related needs of local Native American culture.*** The project borders Agua Caliente tribal lands, which are affected by groundwater pollution in the Palm Springs Sub Area of the Indio Basin. Therefore, the project will address a tribal-identified water-related need by protecting and potentially improving groundwater.
- ***Objective L: Address water and sanitation needs of DACs.*** The project is located within a disadvantaged community (Cathedral City), and therefore will address water and sanitation needs of a DAC by removing failing septic systems and decreasing groundwater contamination.
- ***Objective M: Maintain affordability of water.*** This project indirectly helps maintain the affordability of water by reducing and preventing contamination of the local groundwater supply. A contaminated potable water supply would require costly well replacement, and therefore, the project helps maintain the current water supply at affordable levels.

Project Partners

The City of Cathedral City receives water service within the project area from the Desert Water Agency. Any wastewater produced by this project will be added into the Coachella Valley Water District wastewater supply.

Project Abstract

The RWQCB has identified water quality issues relating to failing and/or densely located septic systems within the Colorado River Basin, and has specifically noted that Cathedral City as an area that should convert septic tanks to sewer systems to improve water quality. This project will expand existing municipal sewers in order to eliminate septic tanks in the Indio Hydrologic Subarea that threaten contamination of groundwater supply. It will replace existing septic tanks with sanitary sewers for 132 individual businesses in the vicinity of Perez Road and on Cathedral Canyon Drive. It will expand the CVWD wastewater collection system and connect the project area to a booster pump station.

To date, this project is at 100% completion of design.

Linkages and Synergies between Projects

Not applicable.

Existing Data and Studies

This project, including specific site locations, is listed within the *1996 Cathedral City South Wastewater Facilities Plan.* The feasibility and technical assessments of this project are listed within Cathedral City's *Perez Road Vicinity Sewers Final Design Memorandum*, which collected data regarding sewage flow, pipe sizing, and materials requirements in order to establish design criteria for the project. The environmental feasibility of this project was determined based on a CEQA Categorical Exemption that was filed for the project on May 19, 2008.

Project Timing and Phasing

This project is a multi-phased project. This phase of the project will construct the interceptor sewer pipeline and connection laterals that will eliminate the need for an existing wastewater pumping station.

Future phases will construct collector sewers and additional connection laterals. This phase will allow 132 businesses, equivalent to 180 equivalent dwelling units (EDUs), to connect to the sewer system.

Project Map

Figure 3-7 provides a project site map for the *Groundwater Quality Protection Program -- Cathedral City*, showing the project boundary, surface waters, groundwater basins, DACs within the project vicinity, and any proposed monitoring locations.

II. Proposed Tasks

Grant Administration

CVWD will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports for DWR.

A. Direct Project Administration Costs

Task 1: Project Administration - This project will involve project administration before and after the Implementation Grant Agreement is formalized (June 1, 2011). Past project administration for this project involved coordinating the various project elements with partner agencies. The City of Cathedral City has employed an Engineer (100 hours) and an Accountant (88 hours) as well as a Project Manager from a consultant firm (77.5 hours) to date for project administration efforts.

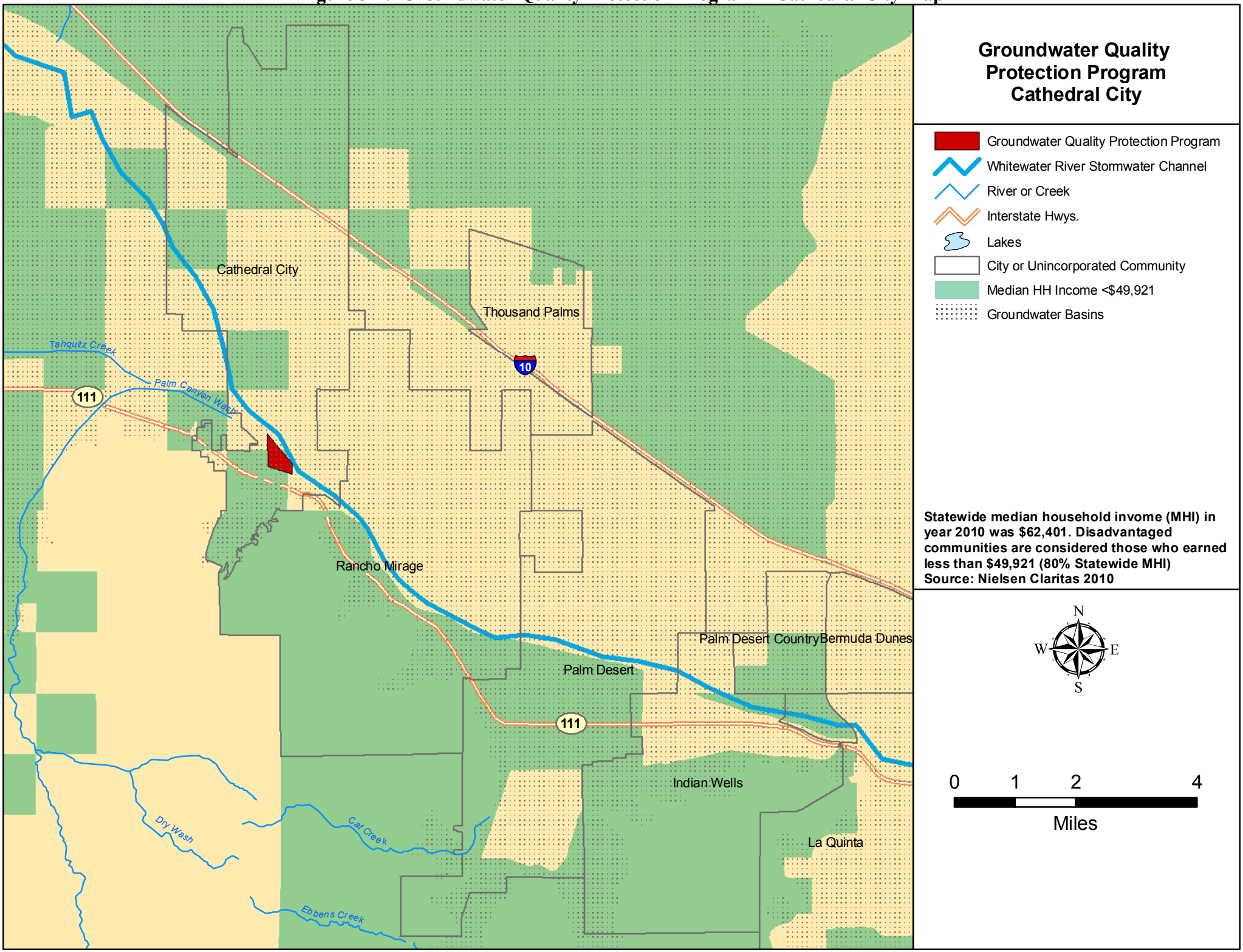
Future project administration (after June 1, 2011) will continue to involve coordination and administrative activities such as working with Desert Water Agency for project coordination, preparing reports, and completing labor compliance documentation.

Labor Category	Level of effort	Status
BEFORE June 1, 2011		
Cathedral City Engineer	100	Complete
Cathedral City Accountant	88	
Consultant Project Management	77.5	
AFTER June 1, 2011		
Cathedral City Administration	72	Ongoing

Task 2: Labor Compliance Program - A Labor Compliance Program (LCP) is not required for actions that will be taken prior to June 1, 2011 (for Administration of Design). The City of Cathedral City contracts with Alliant Consulting, (ID 2003.00328) for labor compliance and has previously implemented a LCP for other septic-to-sewer conversion projects. The City of Cathedral City will retain a consultant to manage the LCP after June 1, 2011 (during construction).

Task 3: Reporting - All reporting for the project will occur after the Implementation Grant Agreement is formalized (after June 1, 2011). To assess progress and accomplishments of the project, the following submittals will be completed by each indicated date.

Figure 3-7: Groundwater Quality Protection Program -- Cathedral City Map



Project Administration Submittals	Date	Status
AFTER June 1, 2011		
Project Assessment and Evaluation Plan (PAEP)	December 1, 2011	Not started
Quarterly Progress Reports and Invoices	Quarterly dependant on Start	Not started
Project Completion Report	Due upon completion of construction	Not started

B. Land Purchase Easement (if applicable)

Not applicable. The project will be constructed within an existing right-of-way.

C. Planning/Design/Engineering/Environmental Documentation

Task 4: Assessment and Evaluation - Not applicable.

Task 5: Final Design - Final design for the project was completed in April 2010, so no design will be required after initiation of the Grant Agreement (June 1, 2011). The final design schedule for the project is shown in the table below.

Design Submittals	Date	Status
BEFORE June , 2011		
10% (conceptual) Design	December 2008	Complete
30% (concept) Design	April 2009	Complete
60% Design	August 2009	Complete
90% (pre-final) Design	December 2009	Complete
100% (Final) Design	April 2010	Complete

Task 6: Environmental Documentation - Not applicable. This project received a CEQA Categorical Exemption on May 19, 2008 because the project will be constructed in existing public right-of-ways and public easement areas, and there will be no expansion of the streets, water lines, drainage facilities, or capacity for the discharge of wastewater from this project.

Task 7: Permitting - All permitting for the project will be completed after initiation of the Grant Agreement. Prior to construction of the project, the City of Cathedral City will issue a City Encroachment Permit, to allow work to occur within the City's right-of-way in conformance with City of Cathedral City construction regulations.

Permit	Approval Date	Status
AFTER June 1, 2011		
City Encroachment Permit	November 10, 2011	Pending

D. Construction/Implementation

Task 8: Construction Contracting - All construction contracting for the project will occur after formalization of the Grant Agreement (after June 1, 2011). Construction contracting will include advertisement for bids, a pre-bid contractors meeting, evaluation of bids, award of contract, and pre-construction conference. Advertisement will be for a minimum of 30 days. The bid review and awarding of the contract by the City Council will take an additional three to four weeks.

Construction submittals include a project schedule and various submittal materials that the contractor will submit to the City of Cathedral City for approval throughout the construction process. In addition, the City of Cathedral City will submit a Notice to Proceed to the contractor by August 23, 2011.

Construction Submittals	Date	Status
AFTER June 1, 2011		
Project schedule and other contractor submittals	August 23, 2011	Pending
Notice to Proceed	August 23, 2011	Pending

Task 9: Construction - All construction for this project will occur after formalization of the Implementation Grant Agreement (after June 1, 2011).

Building Materials and /or Construction Standards

Pipes and appurtenances to be used in construction were selected and specified based on their compliance with Desert Water Agency's Standard Specifications. Design calculations were completed in accordance with current, local engineering standards, including pipe diameter and slope, service lateral size, trench backfill material and compaction requirements, and pavement patching and rehabilitation.

All construction will conform to the specifications prepared for the project by a licensed engineer. These specifications include project-specific construction standards and also require the contractor to conform to applicable local, state, and federal laws. The specific codes identified in preliminary analysis of the project include ASTM Standards for materials and manufacturing, Standard Specifications for Public Works Construction (Greenbook), compliance with all State and Local health and safety standards, Cal-OSHA (California Occupational Safety and Health) requirements, Cathedral City Noise Ordinance, South Coast Air Quality Management District Standards, Colorado River Basin Regional Water Quality Control Board Standards, and Desert Water Agency construction standards.

Construction Tasks

Construction tasks for this project will include Mobilization and Site Preparation, Project Construction, and Performance Testing and Demobilization. These subtasks are described in detail below:

- ***Subtask 9.1 Mobilization and Site Preparation:*** Mobilization and site preparation includes ordering of equipment, mobilizing contractor's equipment and construction material, and preparation of physical site.
- ***Subtask 9.2 Project Construction:*** Project construction includes compliance activities including measures for traffic control and public convenience and safety, and completion of dust control in compliance with the *Coachella Valley PM10 State Implementation Plan*. This subtask also involves construction activities including, excavating trenches, shoring, sheeting and bracing, constructing a 15'' sewer, constructing concrete manholes, boring and jacking a 15'' pipe in steel casing, constructing sewer laterals, backfilling and compaction, and re-paving the roadway. In addition, this task will involve performance testing, materials testing, and surveying.
- ***Subtask 9.3: Performance Testing and Demobilization:*** Performance testing and demobilization will include site inspection and trench backfill testing for compaction in accordance with ASTM D 2922 or ASTM D 1556, sewer pipe pressure testing in accordance with local water agency requirements for pressure testing, application of pre-approved mix designs for roadway resurfacing, and restoring the worksite to its preconstruction condition.

E. Environmental Compliance/Mitigation/Enhancement

Task 10: Environmental Compliance/Mitigation/Enhancement - The project received a CEQA Categorical Exemption in May, 2008 and as such, does not require environmental mitigation or enhancement requirements. This project does not require environmental review pursuant to NEPA.

During project construction, the contractor will comply with conditions of existing PM-10 permit conditions, existing NPDES stormwater permit conditions, and the Cathedral City Noise Ordinance.

F. Construction Administration

Task 11: Construction Administration - Construction administration for this project will not occur until after initiation of the Grant Agreement (June 1, 2011). This task will require labor from a Construction Administration Consultant, who will ensure that the project complies with materials and construction standards setforth by the local water agencies. The local water agencies will review contractor procedures and submittals as necessary. Deliverables for this task include contractor materials and methods submittals, contractor invoices, responding to contractor requests for information, monthly status reports, and scheduling updates.

Labor Category	Level of effort	Status
AFTER June , 2011		
Construction Administrator	Average 5% of construction cost	Not started