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Acronyms Used in this Work Plan

ADA	Americans with Disabilities Act	NAHC	Native American Heritage Commission
AFY	acre feet per year	NPDES	National Pollutant Discharge Elimination System
APWA	American Public Works Association	NPV	North Pleasant Valley
ASTM	American Society of Testing and Materials	OVLC	Ojai Valley Land Conservancy
CCC	California Coastal Conservancy	PV	Pleasant Valley
CDFW	California Department of Fish and Wildlife	RO	Reverse Osmosis
CDPH	California Department of Public Health	RWQCB	Regional Water Quality Control Board
CEQA	California Environmental Quality Act	SMP	Salinity Management Pipeline
cfs	cubic feet per second	SWAMP	Surface Water Ambient Monitoring Program
DEIR	Draft Environmental Impact Report	SWP	State Water Project
FEIR	Final Environmental Impact Report	TDS	total dissolved solids
GAMA	Groundwater Ambient Monitoring and Assessment Program.	TMDLs	Total Maximum Daily Loads
GPM	gallons per minute	TNC	The Nature Conservancy
IRWM	Integrated Regional Water Management	UCSB	University of California Santa Barbara
mg/L	milligrams per liter	VCWWD	Ventura County Water Works District
MGD	million gallons per day	VHC	Ventura Hillside Conservancy
MND	Mitigated Negative Declaration	WCVC	Watersheds Coalition of Ventura County
MOU	Memorandum of Understanding	WPD	Watershed Protection District
MT	Metric tons	WQCP	Water Quality Control Plant
MWWTP	Moorpark Wastewater Treatment Plant	WWD1	Waterworks District 1
		WWD8	Waterworks District 8

I. Introduction

Goals and Objectives of the Proposal

The purpose of this Proposal for Proposition 84 Integrated Regional Water Management (IRWM) Program Implementation Grant Round 2 is to implement projects identified in the Watersheds Coalition of Ventura County (WCVC) Integrated Regional Water Management Plan (IRWM Plan).

The objectives of the WCVC IRWM Plan, as adopted, are to:

1. Reduce dependence on imported water.
2. Protect, conserve, and augment water supplies.
3. Protect and improve water quality.
4. Protect people, property, and the environment from adverse flooding impacts.
5. Protect and restore habitat and ecosystems in watersheds.
6. Provide water-related public access, recreational, and educational opportunities.

The goal of this Proposal is to implement projects that fulfill the above objectives to benefit the watersheds of Ventura County.

Project List

A description of the six projects that comprise this Proposal is provided in Table 1 and their locations are shown on Figure 1. These projects are crucial to achieving the objectives of the WCVC IRWM Plan. The projects are described in greater detail in Section II.

Purpose and Need

This Proposal includes projects that address water supply, water quality, ecosystem health, environmental justice, and provision of water-related public access for recreation and education. Detailed discussion of purpose and need for each project in the Proposal can be found in the individual work plans (Section II). The following paragraphs and Table 2 document how projects in this Proposal meet the WCVC IRWM Plan objectives.

Water Supply

Two of the WCVC IRWM Plan objectives address water supply:

1. Reduce dependence on imported water.
2. Protect, conserve, and augment water supplies.

Of the total Ventura County water demand of approximately 430,000 acre feet per year (AFY), about 280,000 AFY is supplied from local groundwater sources. Imported water, which is exclusively State Water Project (SWP) water from the Sacramento – San Joaquin Delta (Ventura County receives no Colorado River water), makes up about 25 percent of the water utilized in the County. The balance of the water is from local surface and recycled water.

The Calleguas Creek Watershed is largely dependent upon imported water from the SWP, obtained locally by Calleguas Municipal Water District (Calleguas). Many retail purveyors in the Calleguas Creek Watershed have no source of potable water other than Calleguas, while others use both imported water and local groundwater. The Santa Clara River Watershed is also partially dependent upon imported water from the SWP from Calleguas. The Ventura River Watershed uses both groundwater and local surface water but does not import SWP water.

The availability of imported water from the SWP is subject to a number of natural and human factors and has become increasingly vulnerable to drought, catastrophic levee failures from flood and/or seismic events, and regulatory restrictions on pumping facilities to protect endangered species.

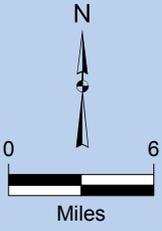
Groundwater is an important water resource in the Region, as it supplies approximately 60 percent of the water demand. Groundwater availability and quality vary greatly throughout the Region. In some areas, for example the northern part of the Pleasant Valley (PV) Basin, groundwater is available, but the resource is underutilized because it is too brackish. In areas such as this, desalters are necessary to fully develop the groundwater resource. In other areas, for example the Santa Paula Basin and the main part of the PV Basin, water quality is less of an issue and groundwater overdraft is

**TABLE 1
PROPOSAL PROJECT LIST**

No.	Implementing Agency	Project Title	Project Summary	Status (% complete)
C-20	City of Camarillo (Camarillo)	North Pleasant Valley Groundwater Desalter (NPV Groundwater Desalter)	This project is part of an integrated strategy to improve water quality and enhance water supply reliability in the Calleguas Creek Watershed. The Desalter will treat local brackish groundwater using reverse osmosis technology to provide up to 7,500 AFY of potable water and facilitate reuse of an additional 3,300 AFY recycled water.	Pilot testing complete, site identified, design criteria established, design ~ 20% complete
C-21	City of Simi Valley - Ventura County Waterworks District No. 8 (WWD8)	West Simi Valley Water Recycling Project Phases 1 and 2 (Simi RW Project)	This project will expand the existing recycled water distribution system to serve 600 AFY of recycled water to 47 additional customers. Recycled water use will offset potable water demands currently met using imported water supplies. This project phase consists of two additional pumps, a 1.25 million gallon tank and 22,000 linear feet of distribution pipeline.	Feasibility, CEQA, and right-of-way complete; customers identified, alignment selected, design ~50% complete
C-22	Ventura County Waterworks District No. 1 (WWD1)	Moorpark Recycled Water Project Phase IV	This project expands the existing Ventura County Waterworks District No. 1 recycled water distribution system to serve an additional 425 AFY recycled water. Recycled water use will offset potable water demands, of which roughly 80% are currently met using imported water supplies. This project includes construction of ~16,500 linear feet of recycled water pipeline and a booster pump station.	Feasibility studies complete, customers identified, alignment selected, design ~10% complete
SC-12B	Ventura County Watershed Protection District (WPD)	South Oxnard Stormwater Flood Management and Community Enhancement Project Phase 2B	This project will place a cover over 2,700 feet of the J Street flood control channel between Hueneme Road and Pleasant Valley Road. The improvement will be done in a manner that will allow the City of Oxnard to construct a linear park in the future. The cover will limit trash entering the Ormond Beach Lagoon. In addition, 20 acres of land will be purchased in the Ormond Beach area, to the southeast of the channel improvements, which will remain as open space, providing opportunities for public recreation and protect Ormond Beach Lagoon and its habitat.	Feasibility studies and conceptual design are complete. CEQA/permits are in progress. Preliminary design underway, design~30 % complete
SC-13	University of California at Santa Barbara (UCSB)	Invasive Plant Removal, Ecosystem Restoration, and Habitat Protection in the Santa Clara River (Santa Clara River Restoration)	This project consists of an arundo control and habitat restoration program in the Santa Clara River floodplain, between Sespe Creek and Santa Paula Creek. This project will restore between 150 and 200 acres of riparian habitat by removing arundo and other invasive plant species and implementing revegetation efforts. Removal of water-intensive invasive species will conserve approximately 3,500 AFY, reduce flood and fire risk, and improve riparian habitat for sensitive species.	Feasibility studies and right-of-way are complete. CEQA/permits are in progress. Design activities complete
V-11	Ventura County Watershed Protection District (WPD)	Ventura River Invasive Plant Removal and Ecosystem Restoration Project (Ventura River Restoration)	This project advances the removal of invasive species along the Ventura River, beginning at Highway 150 and extending to south of Foster Park. Approximately 43 acres of arundo will be removed. Removal of water-intensive invasive species will conserve approximately 860 AFY, reduce flood and fire risk, and improve riparian habitat for sensitive species. The project will also enhance recreational access to the Ventura River via improvement of an access road, development of public restrooms, and installation of a trailhead on the Ventura River Steelhead Preserve.	Feasibility studies are complete. CEQA complete for arundo removal. Right-of-Way is complete. Design activities ~ 75% complete

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Key to WCVC Proposition 84 Projects	
C-20	North Pleasant Valley Groundwater Desalter
C-21	West Simi Valley Water Recycling Project – Phases 1 and 2
C-22	Moorpark Recycled Water System Phase IV
SC-12B	South Oxnard Stormwater Flood Management and Community Enhancement Project Phase 2B
SC-13	Invasive Plant Removal, Ecosystem Restoration, and Habitat Protection in the Santa Clara River
V-11	Ventura River Invasive Plant Removal and Ecosystem Restoration Project



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Legend

- WCVC Proposition 84 Projects
- Disadvantaged Communities
Median Household Income <= \$49,305
- Ventura River Watershed
- Santa Clara River Watershed
- Calleguas Watershed

Kennedy/Jenks Consultants

Watersheds Coalition of Ventura County
IRWMP Proposition 84 Grant Proposal
Ventura County, California

WCVC Proposition 84 Projects

K/J 1389001*00
March 2013

Figure 1

**TABLE 2
IRWM PLAN OBJECTIVES MET BY PROJECTS**

Project	WCVC IRWM Objective				
	<i>Water Supply</i>	<i>Water Quality</i>	<i>Improve Flood Management</i>	<i>Habitat Quality</i>	<i>Public Access</i>
North Pleasant Valley Desalter	●	●			
West Simi Valley Recycled Water Phases 1 and 2	●	●			
Moorpark Recycled Water Project Phase IV	●	●			
South Oxnard Stormwater Flood Management and Community Enhancement Project Phase 2B		●		●	●
Santa Clara River Restoration	●	●	●	●	●
Ventura River Restoration	●	●	●	●	●

the primary concern. In areas threatened by groundwater overdraft, it is critical to ensure that water resources are used efficiently and not lost to invasive plant species or otherwise wasted. Similarly it is important to maximize the reuse of treated wastewater that would otherwise flow to the ocean because it can be used in lieu of groundwater and/or imported water for non-potable purposes.

Invasive plant species have spread throughout the Region's watersheds, including along the Ventura and Santa Clara Rivers, which has significant impacts on local water supplies. Invasive species found in the Region, among which arundo (*Arundo donax*) is most dominant, can use more than four times as much water as native riparian species resulting in significant water losses from the system. Along the Santa Clara and Ventura rivers this wasted water would otherwise contribute to much needed groundwater recharge.

With the ongoing threats to both imported SWP and local water resources, there is a need for projects that augment local water supplies, improve local water supply reliability, and reduce dependence on imported supplies. Projects within this Proposal will help augment and conserve local water supplies through brackish groundwater desalting, recycled water production, and invasive species removal.

Water Quality

One of the objectives of the WCVV IRWM Plan is to protect and improve water quality. Primary water quality challenges faced by Ventura County are the result of salts accumulation in groundwater and surface water, disturbance of natural riparian systems, and various point and non-point source discharges.

In the Calleguas Creek Watershed, historic and ongoing urbanization and agricultural activities have resulted in accumulation of salts in soils, surface water, and groundwater. Over time, the salts have become increasingly concentrated in some areas to the point that the groundwater can no longer be used without treatment or blending with imported water. The salts have become a serious enough problem for the Regional Water Quality Control Board (RWQCB) to list Calleguas Creek and its tributaries as "impaired" necessitating the development of total maximum daily loads

(TMDLs) for numerous constituents. Several of the projects in this Proposal are intended to enable use of degraded water supplies while protecting the basin from further salinity impairment by exporting salts and reducing salt imports.

Invasive species are also impacting the Ventura River Watershed, where surface water quality is threatened by reduced instream flows and eutrophication. Invasive species have numerous negative effects on water quality, which include increased water temperatures, changes to nutrient flows, and enhanced erosion. Addressing these water quality threats is critical to sustaining the beneficial uses of these water resources.

The water quality impacts of stormwater runoff, urban runoff and other non-point sources are a concern throughout all three watersheds. Discharges from these sources can contain harmful levels of nutrients, bacteria, metals, toxic compounds and trash. Developing methods to address these contaminants and prevent them from reaching receiving waters is of paramount importance to Ventura County.

Projects in this Proposal will effectively address these water quality challenges by reducing salt imports to, and increasing salt exports from, the watershed, preventing pollution from entering and being conveyed by flood channels, and targeting invasive species for removal.

Flood Management

One of the objectives of the WCVV IRWM Plan is to protect people, property, and the environment from adverse flooding impacts. Addressing this objective involves maintaining and improving existing engineered flood control structures and reducing flood risks through improved management of the natural riparian systems impacted by invasive species.

In some parts of Ventura County the floodplain is relatively undeveloped, while in other parts undersized flood control facilities serve dense urban areas. In some urban areas flood control channels are eye sores, serve as targets for graffiti, divide neighborhoods, and collect and convey trash to sensitive downstream habitat.

Invasive species, particularly arundo and tamarisk (*Tamarix ramosissima*) that have

spread along the riparian systems in Ventura County exacerbate flood risk. Large stands of these species obstruct stream flows and divert flow outward. Additionally, wildfires are exacerbated through invasive species infestation. Unlike native California riparian plants, arundo is highly flammable and increases the probability, extent, and intensity of wildfires and the associated erosion and debris flows that enter streams for years following fires.

Projects in this Proposal further the Region's efforts to develop and implement innovative strategies to address flood management that include targeted improvement efforts to small-scale systems and large-scale efforts to enhance efficacy of the natural conveyance systems. The projects will reduce flood risk and lessen the adverse impacts associated with flood management.

Habitat Quality and Public Access

The final two WCVV IRWM Plan objectives relate to habitat quality (i.e., protect and restore habitat and ecosystems in our watersheds) and public access to enjoy the watershed (i.e., provide water-related public access, recreational, and educational opportunities).

Creating and enhancing both habitat and recreational opportunities remains crucial to preservation of the quality of life in Ventura County, where open space, agriculture, wildlife, and outdoor recreation are highly valued by both residents and visitors. This is particularly the case in a Region that contains the longest (84 miles) unchannelized river remaining in Southern California, the Santa Clara River.

Natural habitat in Ventura County, as elsewhere, is continually under pressure from development, invasive species, climate change, water quality threats, and competing water needs. Projects that integrate preservation and improvements in habitat value with water supply, water quality, and flood control benefits are particularly desirable. These approaches to resource management retain the natural state of Ventura County's watersheds.

Overall, the IRWM Plan objectives are met by creating multi-faceted solutions for the many water-related challenges faced by the Region.

Projects within this Proposal will provide multiple benefits addressing habitat through targeted ecosystem restoration efforts and improved recreational access and opportunities.

Integrated Elements of the Projects

The projects in this Proposal all further the objectives and goals of the WCVV IRWM Plan to address critical water resource management issues identified for the Region. Individually and collectively, the projects offer multiple integrated benefits relative to water supply, water quality, improvement of flood management, protection of habitat, and provision of public access. Projects in this proposal are working toward complementary and mutual goals. In some cases projects in this Proposal interface directly with each other and amplify benefits to the Region (synergy).

Projects to Reduce Dependence on Imported Water and Protect, Conserve, and Augment Water Supply

Increased recycled water use is identified in the WCVV IRWM Plan as a strategy to augment water supplies, enhance local supply reliability and reduce dependence on imported water. The Simi RW Project (C-21) and the Moorpark Recycled Water Project Phase IV (C-22) will enable increased recycled water use by 1,025 AFY. Similarly the NPV Groundwater Desalter (C-20) will create 7,500 AFY potable water from a brackish local source and facilitates use of 3,300 AFY more recycled water. All three projects incrementally reduce dependence on imported water. Importantly, together the three projects increase the quantity and diversity of local supplies and thereby amplify benefits related to local supply reliability.

Projects to Protect and Improve Water Quality

All projects in this Proposal will improve water quality. The NPV Desalter will benefit water quality in two ways: (1) by treating and exporting salts from the local brackish groundwater and (2) by decreasing imported water use, which will cause less salt loading to the watershed. Likewise the Simi RW Project and Moorpark Recycled Water Project Phase IV reduce use of imported water and importation of associated salts. The South Oxnard Stormwater

Flood Management and Community Enhancement Project Phase 2B (SC-12B) will reduce the amount of trash flushed into the Ormond Beach lagoon, a sensitive habitat. The Santa Clara River Restoration Project (SC-13) and Ventura River Restoration Project (V-11) support native vegetation that improve the biological and chemical properties of local streams.

Projects to Protect and Restore Habitat and Ecosystems

Both the Santa Clara River Restoration Project (SC-13) and Ventura River Restoration Project (V-11) will provide foraging habitat and nesting habitat for native wildlife. Additionally, knowledge gained from each project, such as data on efficacy of herbicides, best management practices, and cost-effective means of revegetation, will inform ongoing invasive species removal and native revegetation efforts of both projects as well as future projects in the Region and beyond. Thus, each project will not only directly contribute to the goal of improved habitat quality, they will also simultaneously strengthen each other through information sharing.

Projects to Provide Water-Related Public Access, Recreation, and Educational Opportunities

Three projects in this Proposal directly work to acquire, preserve, and improve water-related public access, recreation, and educational opportunities: South Oxnard Stormwater Flood Management and Community Enhancement Project Phase 2B (SC-12B), Santa Clara River Restoration Project (SC-13), and Ventura River Restoration Project (V-11). Individually each project contributes to the preservation of hiking opportunities, enhancement of plant and wildlife viewing, and creation of outdoor classrooms. Together these projects create a framework whereby public agencies (Ventura County Watershed Protection District), non-profit organizations (Ojai Valley Land Conservancy, Ventura Hillside Conservancy, The Nature Conservancy), and academic institutions (University of California) act in concert to benefit the Region. These projects create a synergy where such coordination becomes standard, facilitating future projects and efforts.

Consistency with Basin Plan

All projects included in this Proposal are consistent with the Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. This proposal, therefore, contributes to preserving and enhancing water quality and protecting the beneficial uses of regional waters. The NPV Groundwater Desalter (C-20) will help achieve specific Basin Plan objectives related to chloride, sulfate, and total dissolved solids in Calleguas Creek. The Simi RW Project (C-21), and the Moorpark Recycled Water Project Phase IV (C-22) are consistent with the Basin Plan, in particular relating to the Policy with Respect to Water Reclamation in California. The South Oxnard Stormwater Flood Management and Community Enhancement Project Phase 2B (SC-12B), the Santa Clara River Restoration Project (SC-13) and Ventura River Restoration Project (V-11) are consistent with Basin Plan strategies that help conform to the State's antidegradation policy and protect designated beneficial uses including control of nonpoint source pollutants.

Maps

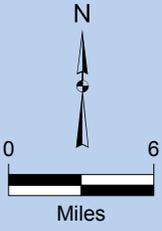
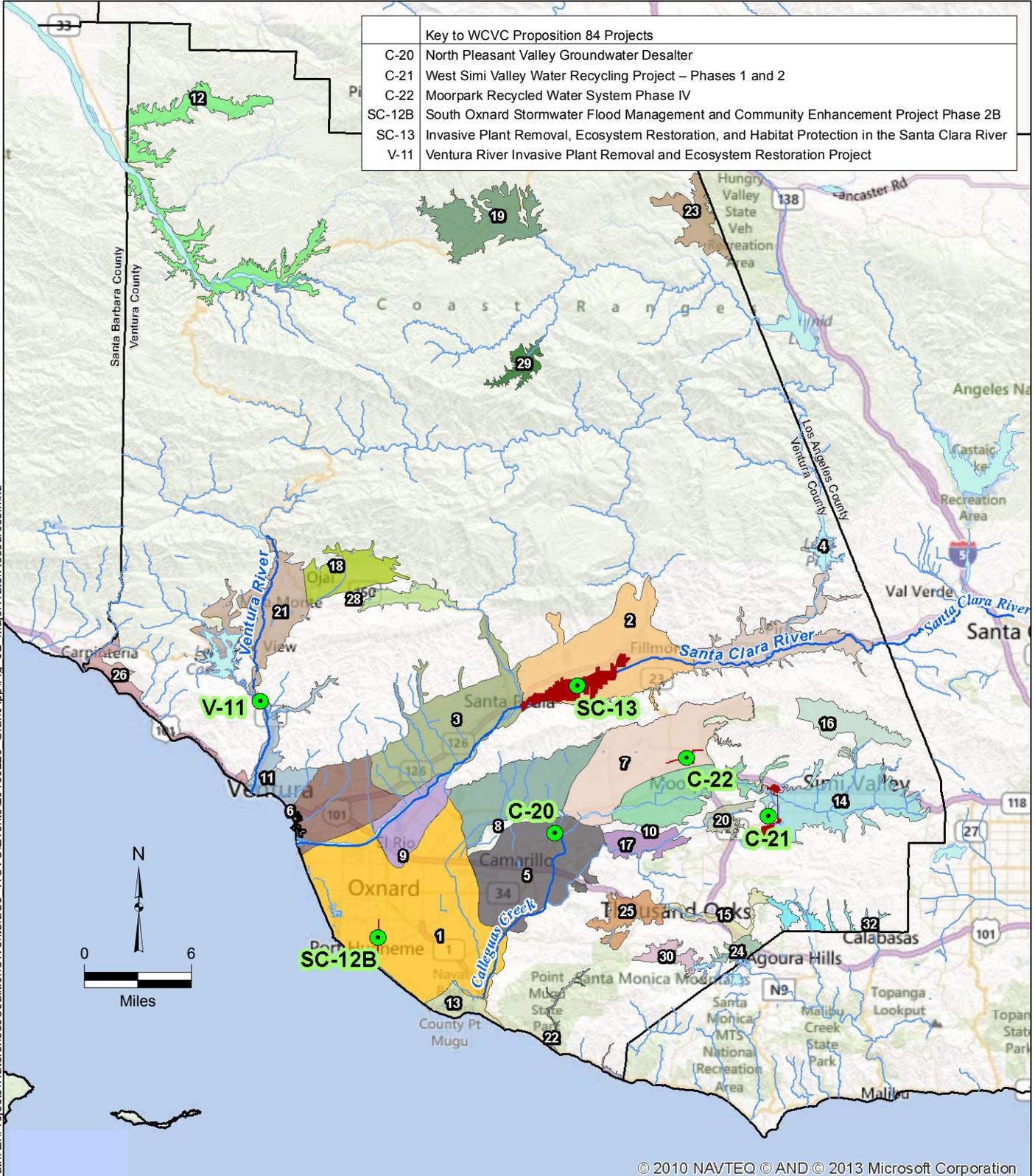
The three major WCVC watersheds, Disadvantaged Communities within the region, as well as the six projects in this Proposal are mapped in Figure 1. Figure 2 shows the major water resources, including rivers and groundwater basins (as identified in DWR Bulletin 118) within Ventura County, as well as the projects in the Proposal. Detailed individual project maps are included with each work plan in Section II.

Completed Work

Each project has completed a significant amount of up-front work and is ready to proceed with the next steps when and if grant funding is awarded. Each project has been evaluated to establish its feasibility and has been sufficiently developed to determine the tasks necessary for implementation (listed in the work plan), create a budget, and prepare a schedule. Many of the projects have completed some or all of the necessary California Environmental Quality Act (CEQA) documentation, land acquisition, permitting, and design. Again, all of the projects are ready to proceed with the next steps when/if grant funding is awarded.

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Key to WCVC Proposition 84 Projects	
C-20	North Pleasant Valley Groundwater Desalter
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V-11	Ventura River Invasive Plant Removal and Ecosystem Restoration Project



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Legend		
● WCVC Proposition 84 Projects	(10) South Las Posas	(21) Upper Ventura River
Groundwater Basins	(11) Lower Ventura River	(22) South Coast
(1) Oxnard Plain Pressure	(12) Cuyama Valley	(23) Hungry Valley
(2) Fillmore	(13) Mugu Forebay	(24) Russell Valley
(3) Santa Paula	(14) Simi Valley	(25) Conejo Valley
(4) Piru	(15) Thousand Oaks	(26) North Coast
(5) Pleasant Valley	(16) Tapo Gillibrand	(28) Upper Ojai
(6) Mound	(17) Arroyo Santa Rosa	(29) Mutau Flat
(7) East Las Posas	(18) Ojai Valley	(30) Sherwood
(8) West Las Posas	(19) Lockwood Valley	(31) Little Cuddy Valley
(9) Oxnard Plain Forebay	(20) Tierra Rejada Valley	(32) Las Virgennes Cyn

Kennedy/Jenks Consultants
Watersheds Coalition of Ventura County
Ventura County, California

Major Water Resources

K/J 1389001*00
February 2013

Figure 2

A more detailed description of the completed work is included with the work plan for each project in Section II.

Existing Data and Studies

Existing Data and Studies have been prepared for all of the projects in this Proposal. At a minimum, each project has sufficient documentation to establish its feasibility. Many of the projects have completed some or all of the necessary CEQA documentation, background studies, geotechnical investigation, preliminary design, and design.

A more detailed description of the Existing Data and Studies, is included with the work plan for each project in Section II.

Project Timing and Phasing

The Project Timing and Phasing for each project is included with the work plan for each project in Section II, as well as in Attachment 5.

Work for each project is already underway and all of the projects are ready to proceed with the next steps when/if grant funding is awarded. Most projects will be ready to bid shortly after anticipated funding award in October 2013 and will begin construction or implementation in late 2013 or early 2014. The projects in this Proposal will be completed by 2018.

II. Proposed Work

Proposed work for each project in this Proposal is provided on the following pages.



City of Camarillo

North Pleasant Valley Groundwater Desalter (NPV Groundwater Desalter)

City of Camarillo

Contact: Lucia McGovern
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 F. (805) 388-5387
lmcgovern@ci.camarillo.ca.us

Program Preferences

- Include Regional Projects/Programs
- Integrate water management within hydrologic region
- Effectively resolve significant water-related conflicts within or between regions
- Contribute to attainment or one or more objectives to CALFED
- Address critical water supply/quality needs of DAC
- Effectively integrate water management with land use planning
- For Flood Management - projects that provide multiple benefits

CALFED

Primary Objectives

- Ecosystem quality
- Water supply
- Water quality
- Levee system integrity

Statewide Priorities

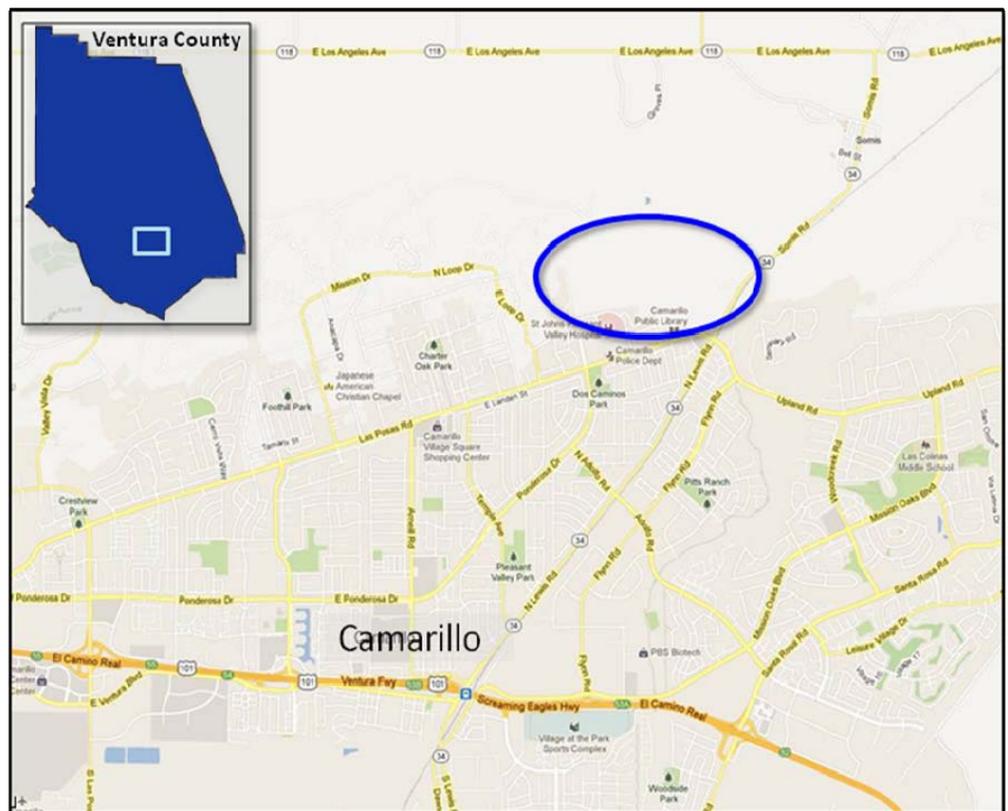
- Drought preparedness
- Use and reuse water more efficiently
- Climate change response actions
- Expand environmental stewardship
- Practice integrated flood management
- Protect surface water and groundwater quality
- Improve tribal water & natural resources
- Ensure equitable distribution of benefits

Overview

The NPV Groundwater Desalter is part of an integrated strategy to enhance water supply reliability and improve water quality in the Calleguas Creek Watershed. The Desalter will consist of extraction wells, a treatment facility, and raw water pipelines that will produce 7,500 AFY or about 6.7 million gallons per day (MGD) of treated groundwater for potable uses. Concentrate produced by the facility will be discharged to the Regional Salinity Management Pipeline (SMP) operated by Calleguas. In turn, delivery of higher quality water will reduce wastewater salinity, thereby facilitating 3,300 AFY of recycled water use. The NPV Groundwater Desalter will be jointly owned by the Cities of Camarillo and Thousand Oaks and Camrosa Water District (project proponents).

Location

The location of the NPV Groundwater Desalter is shown below.



Watershed Coalition of Ventura County Primary Objectives

- Reduce dependence on imported water
- Protect, conserve, and augment water supplies
- Protect and improve water quality
- Protect people, property, and the environment from adverse flooding impacts
- Protect and restore habitat and ecosystems in our watersheds
- Provide water-related public access, recreational, and educational opportunities

Project Benefits

Construction and operation of a desalter will have a number of significant benefits for the Region:

- Increased use of brackish groundwater resources will provide 7,500 AFY of local water that will offset imported water demand.
- Reduced salt in water delivered to customers will result in lower chloride in wastewater, thereby facilitating reuse of an additional 3,300 AFY of recycled water currently lost to the ocean. Recycled water reuse will offset groundwater pumping in an area of documented overdraft.
- Salt export will improve water quality in the Calleguas Creek Watershed. The project will remove more than 17,000 metric tons (MT) of salt per year.
- Salt export will help meet groundwater basin objectives. The existing groundwater quality is 1,800 mg/L total dissolved solids (TDS), the basin plan objective is 850 mg/L.
- Camarillo water customers will receive higher quality water. Current salt (TDS) levels in delivered water are 750 mg/L; delivered water treated by the desalter will have salt levels of approximately 300 mg/L.
- Reduced salts in wastewater will facilitate Camarillo Sanitary District compliance with discharge water quality limitations for chloride, TDS, and sulfate and avoid potential fees and penalties.

Cost and Schedule

Total project cost is approximately \$42,781,600; \$5,000,000 in grant funds are being requested, and the remaining funds have been programmed in the City of Camarillo Capital Improvement Plan (~\$22.5 million), City of Thousand Oaks Capital Improvement Plan (~\$7.5 million), and Camrosa Water District Capital Improvement Plan (~\$7.5 million). Project construction is planned to begin April 2016 and the NPV Groundwater Desalter could be in operation by late 2017.

Project Snapshot

Consistent with Basin Plan	Feasibility Studies	Design
Yes	Complete	20% complete
CEQA/NEPA	Permits	ROW/Land Acquisition
In progress	In progress	In progress

North Pleasant Valley Groundwater Desalter

Project Description

The City of Camarillo (Camarillo) currently delivers a blend of local groundwater (40%) and imported water (60%) to its customers. Imported water from the SWP is provided by Calleguas, which is a member agency of the wholesale water agency, Metropolitan Water District of Southern California.

Since the 1990's, the northeastern portion of the Pleasant Valley Groundwater Basin (PV Basin), which underlies Camarillo, has experienced an ongoing decline in water quality and a simultaneous rise in groundwater levels, both caused by recharge from upstream wastewater treatment plants. Historically Camarillo has dealt with brackish groundwater by blending it with imported water. As groundwater quality has declined, Camarillo has had to use more imported water for blending to comply with secondary drinking water standards resulting in an increased dependence on imported water. One well in the PV Basin has been taken out of service due to severe salinity impairment.

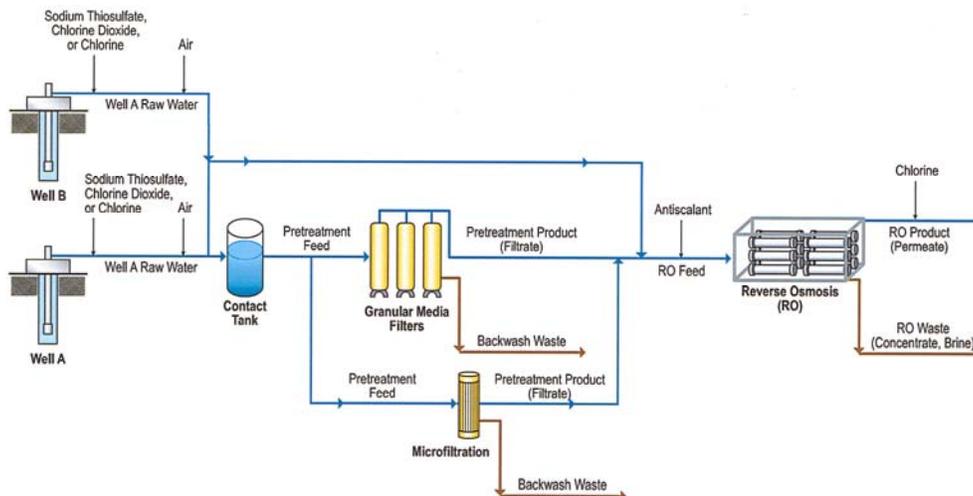
Rising groundwater levels have decreased aquifer storage capacity for recharge of higher quality stormwater and may have increased the liquefaction potential in some areas. The construction of a groundwater desalter will allow increased use of brackish groundwater, increasing water supply reliability, while

removing salts through disposal to the ocean via the SMP. Increased groundwater pumping will lower groundwater levels, thereby reducing liquefaction potential and allowing for recharge of higher quality stormwater.

The NPV Groundwater Desalter will produce 7,500 AFY, or about 6.7 MGD, of treated groundwater. The project will pump brackish groundwater from the northern area of the PV Basin. Pre-treatment with sodium thiosulfate will sequester iron and manganese and prevent scaling of desalter membranes. Reverse osmosis (RO) treatment technology will be used to remove salts from the raw groundwater. The concentrate produced by groundwater demineralization will be discharged to Calleguas' SMP which discharges to the ocean under an National Pollutant Discharge Elimination System (NPDES) permit.

The NPV Groundwater Desalter will be jointly owned by the Cities of Camarillo and Thousand Oaks and Camrosa Water District (project proponents). The NPV Groundwater Desalter will consist of a treatment facility (comprised of chemical treatment, two-stage RO membranes, storage tanks, cartridge filters, UV disinfection, and decarbonators), distribution pipelines (product, raw groundwater and concentrate), and two new extraction wells. The NPV Groundwater Desalter will also utilize three existing wells. Letters of support from the City of Thousand Oaks and Camrosa Water District are included with this Work Plan.

A process diagram of the treatment plant is shown below.



The plant will treat 93 percent of the groundwater pumped through the RO process and the remaining 7 percent of groundwater will be blended with the treated water prior to distribution to potable water customers. The blend of treated water will be delivered directly to customers in Camarillo's water system or pumped into Calleguas' regional wholesale water distribution system where it will be available to other retail agencies. The City of Thousand Oaks and Camrosa Water District will not directly take water from the NPV Groundwater Desalter because their service areas are not connected to Camarillo's water system. Rather, these entities will receive credit for desalted water delivered to other retail agencies connected to and located downstream within Calleguas' distribution system. Each unit of desalter water put into the Calleguas system will be reflected in a discount on imported water purchases from Calleguas made by the City of Thousand Oaks and Camrosa Water District. This credit system allows the City of Thousand Oaks and Camrosa Water District to participate in, and accrue benefits from, the project despite their physical distance from the NPV Desalter.

- Reduce dependence on imported water.
- Reduce salts in the watershed.
- Improve quality of potable water, recycled water, and groundwater.

Desalting at the NPV Groundwater Desalter will remove or avoid approximately 17,000 MT salt per year from the watershed and increase local water supplies by 7,500 AFY. This additional water supply will reduce importation of water into the watershed. The project will provide a reliable, year-round source of supply that will not fluctuate appreciably by season and will be available during peak demands.

Reducing the amount of demand for SWP water will reduce overall energy consumption and, ultimately, greenhouse gas production. The energy used to pump, treat, and distribute local water is only a fraction of the energy required to import the same amount of water from the SWP as the latter requires pumping through the Sacramento Delta, over the Tehachapi Mountains, and subsequently through other SWP transmission facilities.

Project Timing and Phasing

The project is to be completed in a single phase, which includes the construction of a treatment facility (equipment, buildings, and tanks), pipelines connecting to the SMP, and drilling of two 1,500 gallons per minute (GPM) capacity wells.

Goals and Objectives

An overarching goal in the Calleguas Creek Watershed is to improve local water quality through the managed transport of salts out of the watershed; another is to develop local water supplies in a continuing effort to improve water supply self-reliance and reliability.

The objectives of the NPV Groundwater Desalter are to:

- Enable the development of new local potable water supplies.
- Provide an additional source of water which will be critical during times of drought when imported water deliveries are likely to be restricted.

Purpose and Need

The need for local water resources is already well established and is documented in the WCVI IRWM Plan. Self-reliance will become increasingly important as imported supplies from the SWP continue to be vulnerable to drought, catastrophic levee failures, and regulatory shutdowns of pumping facilities to protect endangered species. Unfortunately self-reliance is complicated because local groundwater is impaired with high salinity. Since the mid-1990's TDS in groundwater beneath Camarillo has increased from 500 mg/L to 1,800 mg/L. Currently, a blend of local groundwater (40%) and imported water (60%) is delivered to Camarillo customers. But due to ongoing groundwater quality degradation, Camarillo will have to continue to increase the fraction of imported water in the blend unless a desalter is built.

Without the project, the quality of groundwater pumped by Camarillo would continue to decline as well as in the remainder of the Pleasant Valley Groundwater Basin. Camarillo would very likely use less groundwater than it does today. Camarillo would increase the fraction of

imported water it uses to blend down salt concentrations within its potable distribution system to meet secondary drinking water standards, as required by the California Department of Public Health (CDPH). Moreover, Camarillo, Thousand Oaks, and Camrosa Water District would not be able to increase the use of local groundwater supply, despite its availability due to its poor quality. Overall, there would be less local groundwater use relative to today, no opportunity to increase brackish groundwater use, and increased reliance on imported water without the project, amounting to approximately 7,500 AFY

Water delivered by Camarillo has elevated TDS levels, approximately 750 mg/L. The secondary water quality standard for TDS is 500 mg/L. With a desalter, delivered water will have TDS levels of approximately 300 mg/L (a 450 mg/L decrease), and imported water use can be reduced.

The continued use of imported water is undesirable not only from a self-reliance perspective but because the use of SWP water results in salts import. Over the years, this accumulation of salts has adversely affected water quality to the point that total maximum daily loads (TMDLs) have been established for many of the creeks within the watershed. The project will help meet water quality requirements and improve the health of the watershed by removing salts from the watershed and avoiding the import of salts in imported water, a total of 17,000 MT per year.

The project will also help reduce salt concentrations in tertiary-treated wastewater (recycled water) produced by the Camarillo Sanitary District. With a desalter, the decrease in salt concentration in delivered potable water will result in lower-salt wastewater. Currently the number and types of recycled water customers are limited by high salinity. Thus, the project will facilitate reuse of an additional 3,300 AFY of recycled water currently lost to the ocean. Recycled water reuse will further reduce imported water demand and will offset groundwater pumping in an area of documented overdraft.

Integrated Elements of Projects

Camarillo, the City of Simi Valley, and Ventura County Waterworks District 1 have collaborated in this WCVC grant proposal to implement projects that address common goals for reducing dependence on imported water, augmenting local water supply, enhancing supply reliability, and improving water quality through reduced salt import (see also pages 3-7 to 3-8).

Existing Data and Studies/ Completed Work

Multiple studies have been completed that document the feasibility of desalting NPV groundwater and project readiness. The four studies/documents described below are provided with this work plan.

Final Brackish Water Alternatives. 2009. City of Camarillo.

This study demonstrates the feasibility of desalting groundwater from Camarillo's existing wells using RO technology. The report documents the results of a year-long pilot study using water from two NPV wells. The pilot study:

- Demonstrated the overall feasibility and effectiveness of the treatment scheme for meeting water quality goals (pgs 2-1 to 2-6).
- Optimized the operation of the component treatment processes to obtain full-scale design criteria (pgs 8-6 to 8-19).
- Evaluated and compared the use of several pretreatment options for iron and manganese removal, minimization of membrane fouling, and overall cost-effectiveness (pgs 5-63 to 5-67).
- Evaluated the potential for new nano-filtration and low-pressure RO membranes to achieve water quality goals with minimal energy and operating costs (pgs 5-104 to 5-112).
- Determined the potential for the treatment process to effectively remove emerging contaminants (pgs 5-11 to 5-119).

- Generated data such as power requirements, chemical use, membrane fouling rates, waste disposal flows, and other information that will benefit other brackish groundwater applications within the watershed (pgs 8-6 to 8-19).

Preliminary Hydrogeologic Study North Pleasant Valley Surface and Groundwater. 2008. Hopkins Groundwater Consultants.

This study documents the source of poor quality water recharging the aquifer beneath Camarillo and provides a preliminary estimate of future groundwater recharge and water quality trends, thereby providing a preliminary basis for sizing the capacity of the desalter. The study evaluated groundwater level trends and water quality trends in the NPV Basin. The study documents groundwater degradation and an associated rapid water level rise in the PV Basin beginning in approximately 1994. In 1994, TDS in the PV groundwater was approximately 500 mg/L; in 2008, some PV wells had TDS of 1,800 mg/L (see Plate A1). The report estimates annual groundwater recharge on the order of 10,000 to 15,000 AFY (pg ES1). The study further concludes that water quality in this area of the PV Basin will likely not improve in the foreseeable future, and that treatment will be necessary to allow continued municipal use of this groundwater supply (pg ES1).

Northern Pleasant Valley Desalter Groundwater Analysis and Modeling. 2012. Steven Bachman, PhD.

This study builds on the 2008 Hopkins study to provide a basis for environmental review of the groundwater component of the project and provide key information necessary for project design (e.g., project flow capacity and number of additional wells and associated locations). Groundwater modeling was used to estimate the area and volume of the brackish groundwater plume beneath Camarillo and to determine the optimal number and location of future wells to provide source water for the desalter. The model was also used to evaluate potential impacts from increased pumping in the vicinity of future groundwater desalter wells. Modeling results indicate that with no

desalter pumping in NPV (no project scenario), brackish groundwater will migrate beyond Camarillo into agricultural areas of the main PV Basin, causing widespread impacts to agricultural wells. Pumping from the NPV desalter would largely eliminate the water quality threat without causing unmanageable impacts to the few local wells in the project area (pg 56).

Notice of Preparation/Initial Study for the North Pleasant Valley Groundwater Desalter

Pursuant to the requirements of CEQA, Camarillo prepared, duly noticed, and circulated a draft Initial Study/Notice of Preparation to take public and agency input on the appropriate scope of environmental review. Camarillo is currently preparing a Draft Environmental Impact Report (DEIR). The DEIR is anticipated in spring 2013.

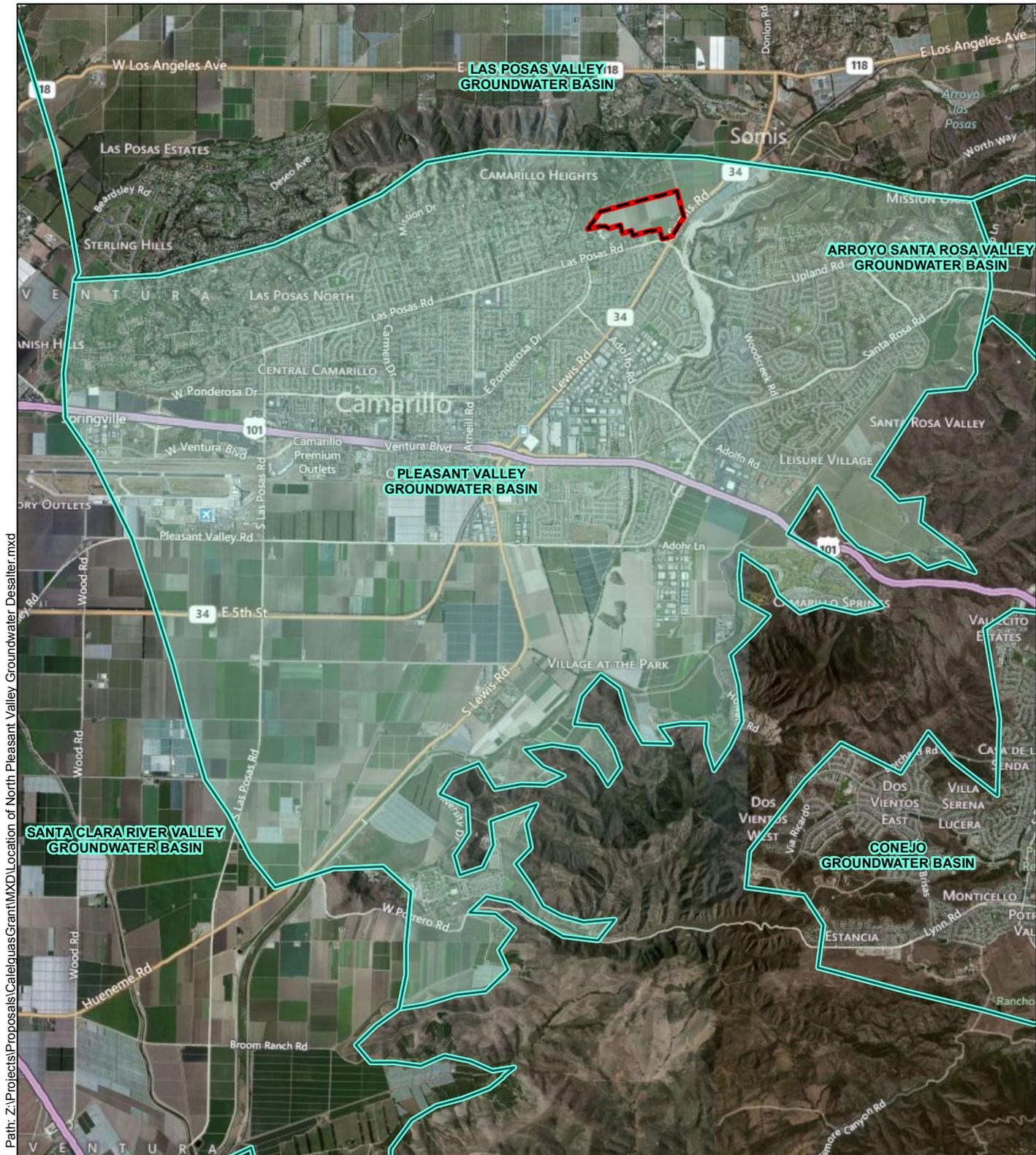
Conceptual design was completed as part of the pilot study (see *Final Brackish Water Alternatives Study*, pgs 8-6 to 8-19).

Project proponents are working with the Fox Canyon Groundwater Management Agency to obtain permission to pump 9,500 AFY of raw groundwater so as to produce 7,500 AFY of potable water. The 9,500 AFY pumping will be comprised of Camarillo's historic allocation of 4,500 AFY plus a portion of the accumulated 20,000 AF groundwater credits. A letter of support from the Fox Canyon Groundwater Management Agency is provided with this Work Plan (Att3_IG2_WorkPlan_2of7).

Project construction could begin as early as April 2016 and the NPV Groundwater Desalter could be in operation by late 2017.

Project Map

Figure 3 shows the general location near Lewis and Las Posas Road, where the 5 to 7 acre NPV Groundwater Desalter will be located.

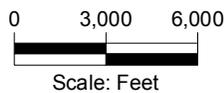


Path: Z:\Projects\Proposals\CaleguasGrant\MXD\Location of North Pleasant Valley Groundwater Desalter.mxd

Image Source: ESRI

Legend

- General Location North Pleasant Valley Groundwater Desalter
- Groundwater Basin Boundaries



Kennedy/Jenks Consultants

Watersheds Coalition of Ventura County
Camarillo, California

Location of North Pleasant Valley Groundwater Desalter

K/J 1389001*00
March 2013

Figure 3

II. Work Plan

Tasks necessary to construct the NPV Groundwater Desalter are described in the following table.

TABLE 3

<p>Budget Category (a): Direct Project Administration Costs</p>
<p>Task 1: Administration</p> <p>Prepare and submit invoices.</p> <p>Deliverables: Invoices.</p>
<p>Task 2: Labor Compliance Program</p> <p>Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b).</p> <p>Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.</p>
<p>Task 3: Reporting</p> <p>Prepare quarterly and final reports as specified in the Grant Agreement.</p> <p>Deliverables: Quarterly and final reports as specified in the Grant Agreement.</p>
<p>Budget Category (b): Land Purchase/Easement</p>
<p>Task 4: Land Purchase/Easement</p> <p>Camarillo will acquire a 5-7 acre parcel in the northeast area of the City of Camarillo.</p> <p>Deliverables: Final recorded deed.</p>
<p>Budget Category (c): Planning/Design/Engineering/Environmental Documentation</p>
<p>Task 5: Assessment and Evaluation</p> <p>Camarillo will prepare a Monitoring Plan identifying parameters to be measured, locations for measurement, and frequency of measurement. A Project Performance Measures Plan will also be developed.</p> <p>Deliverables: Monitoring Plan; Project Performance Measures Plan; provision of available groundwater data to the GAMA Program.</p>
<p>Task 6: Design</p> <p>A consultant team representing the project proponents will be hired, and one of the tasks of that team will be to prepare 30% design and specifications that will be used by prospective design/build firms to prepare competitive bids. The selected design-build firm will finalize design documents and construct treatment facilities and ancillary infrastructure.</p> <p>Deliverables: 30% Plans and Specifications prepared by the design-build engineer.</p>

Task 7: Environmental Documentation

Camarillo previously completed and circulated a Notice of Preparation. A DEIR will be prepared and released for public review. Following public review, the City of Camarillo will prepare and adopt a FEIR in accordance with Section 15371 of CEQA. A Notice of Completion will be filed with the State Clearinghouse and Ventura County Clerk. As part of CEQA, the City will perform Native American Tribal notification consistent with PRC §75102.

Deliverables: Notice of Preparation; DEIR; FEIR; Notice of Completion; Documentation of Native American Tribal Notification.

Task 8: Permitting

The following permits will be required prior to construction:

- 1) Fox Canyon Groundwater Management Agency – approval to pump 9,500 AFY (7,500 AFY for potable water production plus 2,000 AFY for brine reject)
- 2) Los Angeles Regional Water Quality Control Board – Permit to Discharge Groundwater from Construction and Dewatering to Surface Water R4-2008-0032
- 3) Los Angeles Regional Water Quality Control Board – General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order 2012-0006-DWQ
- 4) California Department of Public Health - amendment to the City's Water Supply Permit

Deliverables: Copies of permits and approvals.

Budget Category (d): Construction/Implementation**Task 9. Coordination**

Activities needed to prepare documents for the Joint Powers Agreement between project proponents for joint ownership/operation of proposed project. Camarillo will develop public outreach and education materials to describe improved water quality with the desalter and discourage use of water softeners.

Deliverables: Copies of Joint Powers Agreement; public education materials.

Task 10: Construction Contracting

Once 30% design is completed, the project will be advertised for bidding in accordance with California Public Contract Code, which allows awarding of contracts utilizing design/build methods. Proposals will be reviewed by a technical review committee comprised of staff from Camarillo, Thousand Oaks, and Camrosa Water District.

Deliverables: Notice of Award issued to contractor.

Task 11: Construction/Implementation

Once the project has been 30% designed, and the design/build package is formally bid and awarded, the selected design/build team will complete the design plans and will construct the project in accordance with the plans and specifications. During construction, project proponent staff and/or qualified engineering consultants will provide construction management and administration, including testing and integration into the Camarillo and Calleguas distribution system.

Project proponent staff and/or qualified construction management consultants will provide the necessary inspection and oversight that includes on-site inspection, material testing, project coordination, meetings, and will ensure overall compliance with the contract plans and specifications.

<p>Deliverables: Record drawings; construction photos.</p>
<p>Category (e): Environmental Compliance/Mitigation/Enhancement</p>
<p>Task 12: Environmental Compliance/Mitigation/Enhancement</p> <p>Camarillo (as lead agency for CEQA) will ensure implementation of mitigation measures identified in the CEQA document’s Mitigation Monitoring and Reporting Plan.</p> <p>Deliverables: CEQA Mitigation Monitoring and Reporting Plan; reporting on any mitigation in quarterly reports.</p>
<p>Budget Category (f): Construction Administration</p>
<p>Task 13: Construction Administration</p> <p>Camarillo staff will administer contract documents related to the project including: construction, labor compliance, change order approvals, etc.</p> <p>Deliverables: Included in Task 11, Construction.</p>

Other Required Information

Procedures

Camarillo, the City of Thousand Oaks, and Camrosa Water District are members of WCVV. The County of Ventura, on behalf of the WCVV, will coordinate all administrative items involved in partnering, organization, reporting, and invoicing related to the grant agreement.

A Joint Powers Authority will be developed to define the roles and responsibilities for the NPV Desalter construction, ownership, and operation.

Standards

The NPV Groundwater Desalter will be designed and constructed in accordance with the appropriate standards, including those from CDPH, American Society for Testing and Materials (ASTM), American Public Works Association (APWA), and the Standard Specifications for Public Works Construction (Greenbook).

Development of Performance Measures and Monitoring Plan

Camarillo will develop a Monitoring Plan and Project Performance Measures Plan. The Monitoring Plan will ensure, to the extent feasible, that data collected will be consistent with the Groundwater Quality Monitoring Act and Groundwater Ambient Monitoring and Assessment (GAMA) program. Available data will be provided to the GAMA program. Camarillo will prepare a Project Performance Measures Plan, based on Attachment 6, that will include specific metrics to evaluate the water supply and water quality benefits achieved by the NPV Groundwater Desalter.

Status of Acquisition of Land or Rights-of Way

The project proponents are identifying parcels that are 5 acres or more in size in the northeast area of the City of Camarillo. These parcels are being considered and evaluated as part of the CEQA environmental analysis. Once a location is recommended in the approved CEQA

document, negotiations with existing parcel owners will proceed.

Permits

The following permits will be obtained as part of the design process:

- 1) Los Angeles Regional Water Quality Control Board – Permit to Discharge Groundwater from Construction and Dewatering to Surface Water R4-2008-0032
- 2) Los Angeles Regional Water Quality Control Board – General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order 2012-0006-DWQ
- 3) California Department of Public Health - amendment to the City's Water Supply Permit

Status of Preparation and Completion of Environmental Requirements

Pursuant to the requirements of CEQA, Camarillo prepared, duly noticed, and circulated a draft Initial Study/Notice of Preparation to take public and agency input on the appropriate scope of environmental review. Camarillo is currently preparing a DEIR. The DEIR is anticipated spring 2013. Following a 45-day review period, comments on the DEIR will be incorporated into a Final Environmental Impact Report (FEIR). The FEIR will include mitigation measures as necessary to avoid and lessen significant impacts. A Notice of Completion will be filed with the Ventura County Clerk's Office and the State Clearinghouse. It is anticipated that the FEIR will be completed in late 2013. As part of CEQA, Camarillo will perform Native American Tribal Notification per PRC §75102.

Submittals to Granting Agency

Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will evaluate the project relative to the metrics contained in the Project Performance Measures Plan. Other items required by the grant contract will also be submitted to the granting agency. Submittals

will include those described in the Work Plan (Table 3).

Design Plans and Specifications

A consultant team representing the project proponents (for project management purposes) will be hired, and one of the team's tasks will be to prepare 30% design plans and specifications that will be used by prospective design/build firms to prepare competitive bids. The selected design/build firm will prepare the final design and construct treatment facilities and ancillary infrastructure.

Items Provided with this Work Plan

The following items are being provided with this work plan. These items are found in Att3_IG2_WorkPlan_2of7.

- *Letter of Support for Grant Funding of the North Pleasant Valley Groundwater Desalter*, City Council, City of Thousand Oaks. March 5, 2013.
- *Letter of Support for Grant Funding of the North Pleasant Valley Groundwater Desalter*, Camrosa Water District. March 8, 2013.
- *Preliminary Hydrogeologic Study North Pleasant Valley Surface and Groundwater Study*. Hopkins Groundwater Consultants. January 2008
- *Final Brackish Water Alternatives. 2009*. City of Camarillo.
- *Northern Pleasant Valley Desalter Groundwater Analysis and Modeling*. Stephan Bachman, PhD.
- *Notice of Preparation/Initial Study for the Camarillo Groundwater Treatment Facility*. 2008.



City of Simi Valley/Ventura County Waterworks District No. 8 West Simi Valley Water Recycling Project Phases 1 and 2 (Simi RW Project)

City of Simi Valley/Ventura County Waterworks District No. 8

Contact: Joe Deakin
P. (805) 583-6401
F. (805) 583-6300
ideakin@simivalley.org

Program Preferences

- Include Regional Projects/Programs
- Integrate water management within hydrologic region
- Effectively resolve significant water-related conflicts within or between regions
- Contribute to attainment or one or more objectives to CALFED
- Address critical water supply/quality needs of DAC
- Effectively integrate water management with land use planning
- For Flood Management - projects that provide multiple benefits

CALFED

Primary Objectives

- Ecosystem quality
- Water supply
- Water quality
- Levee system integrity

Statewide Priorities

- Drought preparedness
- Use and reuse water more efficiently
- Climate change response actions
- Expand environmental stewardship
- Practice integrated flood management
- Protect surface water and groundwater quality
- Improve tribal water & natural resources
- Ensure equitable distribution of benefits

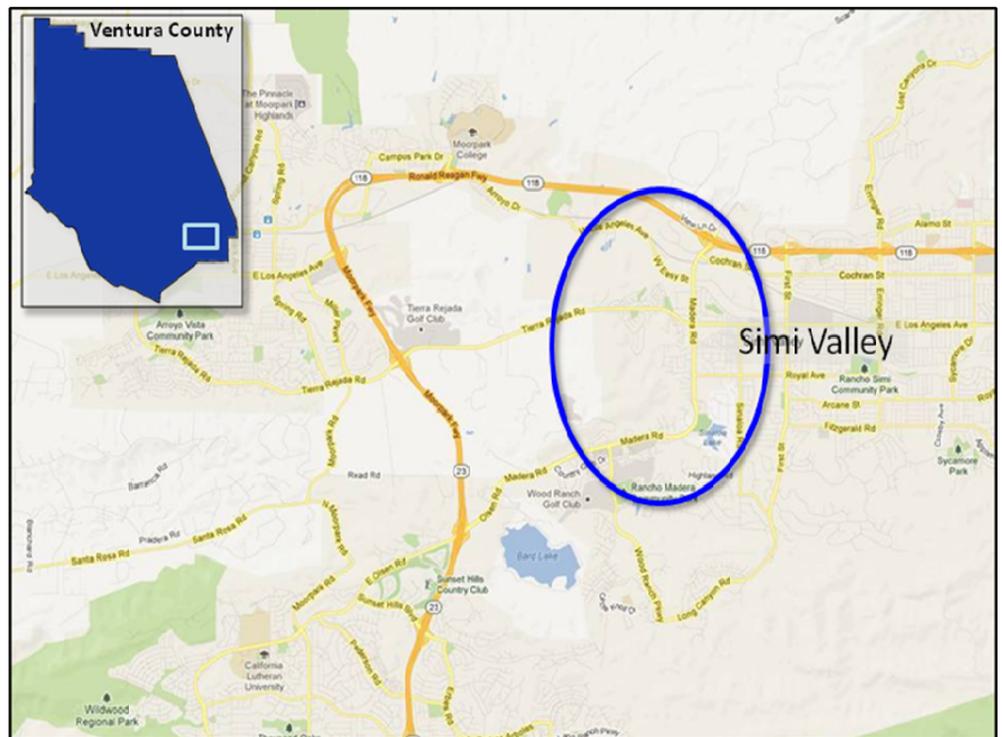
Overview

The West Simi Valley Water Recycling Project Phases 1 and 2 (Simi RW Project) will be implemented by the City of Simi Valley to expand its existing recycled water distribution system to serve 47 additional potential customers and reduce potable water demand by approximately 600 AFY. The City of Simi Valley is almost entirely dependent on imported water. By developing an alternative local water resource, the City of Simi Valley will reduce water importation. The Simi RW Project's primary components are:

- Adding two 3.5 cubic feet per second (cfs) pump units to the existing Recycled Water Pump Station at the City of Simi Valley Water Quality Control Plant.
- Construction of a 1.25 million gallon above-ground storage tank.
- Construction of approximately 22,000 linear feet of 4-inch to 24-inch diameter distribution pipeline.

Location

The location of the Simi RW Project is shown below.



Watershed Coalition of Ventura County Primary Objectives

- Reduce dependence on imported water
- Protect, conserve, and augment water supplies
- Protect and improve water quality
- Protect people, property, and the environment from adverse flooding impacts
- Protect and restore habitat and ecosystems in our watersheds
- Provide water-related public access, recreational, and educational opportunities

Project Benefits

Expansion of the recycled water distribution system will have a number of significant benefits for the Region:

- Increased use of recycled water will provide 600 AFY of local water that will offset imported water demand.
- Increase supply reliability by diversifying the regional water resource portfolio.
- Improve surface water and groundwater quality by reducing salt loading by approximately 223 MT/year via avoided SWP water imports.

Cost and Schedule

Total project cost is approximately \$9,604,000; \$3,000,000 in grant funds are being requested, and the remaining funds are included in the City of Simi Valley’s Capital Improvement Plan. Project construction is planned for October 2013 and the Simi RW Project could be in operation by late 2015.

Project Snapshot

Consistent with Basin Plan	Feasibility Studies	Design
Yes	<i>Complete</i>	<i>50% complete</i>
CEQA/NEPA	Permits	ROW/Land Acquisition
<i>Complete</i>	<i>In progress</i>	<i>Complete</i>

West Simi Valley Water Recycling Project Phases 1 and 2

Project Description

The Simi RW Project will be implemented by the City of Simi Valley/Waterworks District 8¹ to expand an existing recycled water distribution system to serve 47 additional potential customers and deliver an additional 600 AFY of recycled water. The City of Simi Valley is almost entirely dependent on imported water. By developing an alternative local water resource, the City of Simi Valley will reduce water importation.

The source of the recycled water is the City of Simi Valley Water Quality Control Plant (WQCP). The WQCP discharged an average of 8.8 MGD (9,900 AFY) of tertiary-treated effluent in 2011. The tertiary treated water meets CDPH requirements for unrestricted recycled water use. Since 2001, recycled water has been served to two customers: the Simi Valley Landfill and the City of Simi Valley Public Services Center. Recycled water usage is currently about 50 AFY.

The Simi RW Project's primary components are:

- Adding two pump units to the existing Recycled Water Pump Station at the WQCP.
- Construction of a 1.25 million gallon tank.
- Construction of approximately 22,000 linear feet of 4-inch to 24-inch distribution pipeline.

Project Timing and Phasing

The project consists of two additional phases of the existing West Simi Valley Water Recycling Project: Phase 1 will extend the current recycled water distribution system generally eastward on Cochran Street, from its western

terminus to Madera Road, extending north on Madera Road to the Highway 118 interchange (see Figure 4). The capital improvements will include approximately 4,300 linear feet of pipeline and a mechanism to facilitate switching to a back-up potable water supply when needed.

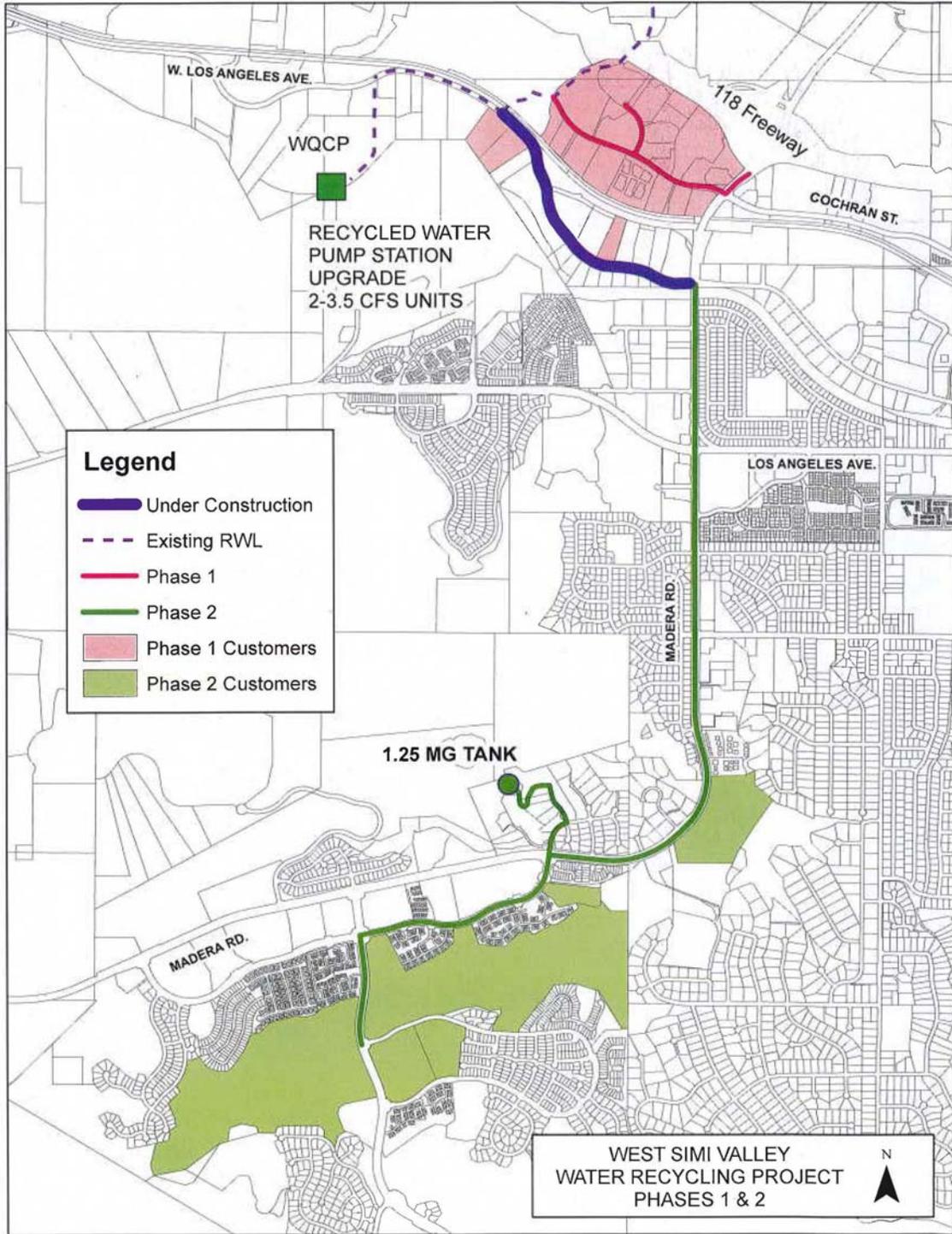
Phase 2 will extend the recycled water distribution system generally southward on Madera Road to a "T" at Country Club Drive, branching out northwest on Country Club Drive to a new 1.25 million gallon tank, southwest on Country Club Drive to Wood Ranch Parkway, and south on Wood Ranch Parkway to Lake Park Drive (see Figure 4). The capital improvements include approximately 17,300 linear feet of pipeline, two new pump units at the existing Recycled Water Pump Station, and a new 1.25 million gallon tank.

There are 25 potential Phase 1 customers and 22 potential Phase 2 customers currently identified. Recycled water service to customers will commence once they comply with the on-site requirements established by the CDPH and the RWQCB, following the completion of their respective distribution system phases.

The West Simi Valley Water Recycling Project includes three future phases that are not part of this Proposal. Future phases will serve an additional 20 customers delivering another 650 AFY.

¹ Waterworks District 8 (WWD8) is a dependent special district of the City of Simi Valley. The service area of WWD8 includes the City of Simi Valley and adjacent unincorporated Ventura County.

FIGURE 4
LOCATION OF WEST SIMI VALLEY RECYCLED WATER PROJECT PHASES 1 AND 2



Goals and Objectives

The Simi RW Project goals and objectives are to:

- Expand the recycled water distribution system of the City of Simi Valley to provide 600 AFY of recycled water deliveries now and provide distribution system backbone pipeline to facilitate ultimate delivery of 1,250 AFY recycled water.
- Reduce demands on imported water from the SWP.
- Improve water supply reliability by providing a local resource for water supply even during drought conditions.
- Improve surface water and groundwater quality by reducing salt imports associated with imported water.

Purpose and Need

The project is located within the Calleguas Creek Watershed, which is highly dependent on imported SWP water. These imported supplies are becoming increasingly unreliable, and there is a great need to reduce the Region's and thereby the City of Simi Valley's dependency. Expanded use of recycled water is a critical strategy identified for augmenting local water supplies as it provides an additional drought-resistant water resource.

The Simi RW Project's purpose is to expand recycled water usage in the City of Simi Valley and decrease reliance on imported water. Current customers within the planned Simi RW Project Phase 1 and 2 use about 600 AFY of imported potable water for irrigation that could be alternatively served by recycled water. Thus, delivery of 600 AFY recycled water will directly offset City of Simi Valley imported water demands.

The continued use of imported water is undesirable not only from a self-reliance perspective, but because the use of SWP water results in salts import. Over the years, this accumulation of salts has adversely affected water quality to the point that TMDLs have been established for many of the creeks within the watershed. The project will help meet water

quality requirements and improve the health of the watershed by avoiding the import of 223 MT tons per year of salts in imported water.

While the Simi RW Project will deliver 600 AFY recycled water, the pipelines and storage are also sized to provide the backbone for future recycled water deliveries. When all phases of the West Simi Valley Water Recycling Project are complete, the distribution network is anticipated to supply 1,250 AFY of recycled water.

Alternative local water resources are needed statewide to keep pace with water consumption and compensate for water import restrictions. Use of recycled water, a drought-resistant supply, is an important climate change adaptation strategy and utilizing local water resources in place of imported water helps reduce greenhouse gas emissions. Within the local area, project implementation will help the City of Simi Valley local economy by making recycled water available to commercial customers at a reduced cost, thereby providing an incentive to use recycled water, a more reliable supply.

Integrated Elements of Projects

The City of Simi Valley, Camarillo, and Ventura County Waterworks District 1 have collaborated in this WCVC grant proposal to implement projects that address common goals for reducing dependence on imported water, augmenting local water supply, enhancing supply reliability, and improving water quality through reduced salt import (see also pages 3-7 to 3-8).

Existing Data and Studies/ Completed Work

The Simi RW Project expands work previously completed by the City of Simi Valley, including adding tertiary treatment at the WQCP and construction of 4,000 linear feet of recycled water distribution pipeline. The City of Simi Valley has completed the feasibility studies and environmental documentation necessary for this project to proceed immediately. These studies/documents are described below and are provided with this Work Plan.

Final Recycled Water Master Plan Update.
2008. Ventura County Waterworks District No. 8.

The Recycled Water Master Plan Update identified potential recycled water customers (Figure 6-1, pg 45), and associated recycled water demand (Table 6-1, pg 48). The Master Plan also developed conceptual phase pipeline alignments (Figure 7-1, pg 51) and planning level costs (pgs 77-79).

2011 Mitigated Negative Declaration for the West Simi Valley Water Recycling Project.
2011. Ventura County Waterworks District 8.

Pursuant to the requirements of CEQA, the City of Simi Valley prepared, duly noticed, and circulated a Mitigated Negative Declaration (MND). The MND and associated Mitigation Monitoring Plan were adopted by the Simi Valley Council on July 25, 2011. A Notice of Determination was filed with the County of Ventura on July 29, 2011 and posted from July 29, 2011 to September 29, 2011. Consistent with the Mitigation Monitoring and Reporting Plan of the MND, the City of Simi Valley has worked with the California Department of Fish and Wildlife to prepare an assessment of existing flow and vegetation structure in the Arroyo Simi downstream of the existing recycled water discharge. The City of Simi Valley has also completed a "Discovery Plan" which documents the appropriate procedures to identify and handle any cultural or paleontological resources discovered during construction.

2011 Engineering Report for Waste Discharge Permit and Water Recycling Requirements by the California Regional Water Quality Control Board. Ventura County Waterworks District No. 8.

This engineering report provides the information to demonstrate to CDPH and the RWQCB that the Simi Valley Recycled Water System will comply with the Water Recycling Criteria of California Code of Regulations Title 22. The CDPH has reviewed the 2011 Engineering Report, visited the project site, and provided

information to be incorporated into the final water recycling permit.

In addition to the planning studies described above, the City of Simi Valley has also initiated contact with potential recycled water customers to discuss conversion to recycled water use and to confirm potential for recycled water demand. Records of water use by the potential recycled water customers are being provided with this Work Plan.

Phase 1 design will start in spring 2013 and should be complete in fall 2013. Design of Phase 2 will start in summer 2013 and should be complete in summer 2014. The City of Simi Valley previously completed a potable water tank design in the location proposed for the recycled water tank. The design will be updated for the recycled water system. Construction of Phase 1 could begin as early as fall 2013. Phase 2 construction is scheduled to start summer 2014.

Project Map

Figure 4 shows the location of the West Simi Recycled Water Project Phases 1 and 2.

Work Plan

Tasks necessary to construct the Simi RW are described in the following table.

TABLE 4

<p>Category (a): Direct Project Administration Costs</p>
<p>Task 1: Administration</p> <p>Prepare and submit invoices. Deliverables: Invoices.</p>
<p>Task 2: Labor Compliance Program</p> <p>Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b). Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.</p>
<p>Task 3: Reporting</p> <p>Prepare quarterly and final reports as specified in the Grant Agreement. Deliverables: Quarterly and final reports as specified in the Grant Agreement.</p>
<p>Category (b): Land Purchase/Easement</p>
<p>Task 4: Land Purchase/Easement</p> <p>No additional land or right-of-way acquisition is required. Deliverables: Not applicable.</p>
<p>Category (c): Planning/Design/Engineering/Environmental Documentation</p>
<p>Task 5: Assessment and Evaluation</p> <p>The City of Simi Valley will prepare a Project Performance Measures Plan. Data on Arroyo Simi flow, collected consistent with the CEQA Mitigation Monitoring Plan, will be made available to the Surface Water Ambient Monitoring Program (SWAMP). Deliverables: Project Performance Measures Plan; provision of available data to SWAMP program.</p>
<p>Task 6: Design</p> <p>Several technical studies, described earlier, have been completed that document the feasibility of additional recycled water delivery and use in the City of Simi Valley service area. The City of Simi Valley or selected consultant will prepare Plans and Specifications for Phases 1 and 2 of the West Simi Valley Water Recycling Project. Deliverables: Technical studies; Plans and Specifications.</p>

Task 7: Environmental Documentation

Description: A Mitigated Negative Declaration was completed and adopted by the Board of the Ventura County Waterworks District No. 8 on July 25, 2011.

Deliverables: Resolution adopting the Mitigated Negative Declaration for the West Simi Valley Water Recycling Project; Certified Final Initial Study/Mitigated Negative Declaration; Documentation of Native American Tribal Notification.

Task 8: Permitting

The following permits will be obtained prior to construction:

- 1) Los Angeles Regional Water Quality Control Board – General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order 2012-0006-DWQ
- 2) City of Simi Valley - Encroachment Permit
- 3) Ventura County Watershed Protection District – Encroachment Permit

Amendments to Water Reclamation Requirements (Order No. 87-46) and Waste Discharge Requirements (Order No. R4-2003-0081) will be completed prior to delivering recycled water to customer sites.

Deliverables: Copies of permits.

Category (d): Construction/Implementation**Task 9: Construction Contracting**

The Simi Valley City Council will authorize staff to solicit bids based on Plans and Specifications. Staff will review bids and recommend a construction contract be awarded. The Simi Valley City Council will award the construction contract. Staff will issue letters for Notice of Award and Notice to Proceed.

Deliverables: Notice of Award issued to contractor; Notice to Proceed to contractor.

Task 10: Construction/Implementation

Phase 1: The City of Simi Valley will construct ~4,300 linear feet of pipeline (4-inch, 6-inch and 12-inch) in Cochran Street, Westhills Court, and Park Center Drive and construct a mechanism to enable potable water delivery for customer reliability.

Phase 2: The City of Simi Valley will construct ~17,300 linear feet of pipeline (8-inch, 16-inch, 20-inch and 24-inch) in Madera Road, Country Club Drive, and Westranch Lane; construct one 1.25 million gallon recycled water storage tank at the District's Lower McCoy Tank site; and install two 3.5 cfs pump units at the existing Recycled Water Pump Station located at the WQCP.

Deliverables: Record drawings and construction photos.

Task 11: User Agreements

The City of Simi Valley will execute user agreements with each recycled water customer.

Deliverable: Executed user agreements.

Category (e): Environmental Compliance/Mitigation/Enhancement

Task 12: Environmental Compliance/Mitigation/Enhancement

The City of Simi Valley and selected consultant will provide cultural resources monitoring, as applicable, and biological resource monitoring for the Arroyo Simi.

Deliverables: Discovery Plan (for cultural resources monitoring); compliance monitoring reports to be included with quarterly grant reports.

Category (f): Construction Administration

Task 13: Construction Administration

The City of Simi Valley and selected consultant will provide inspection, construction management, and administrative services during construction of Phases 1 and 2.

Deliverables: Same as for Task 10, Construction/Implementation.

Other Required Information

Procedures

The City of Simi Valley is the project proponent. City of Simi Valley staff will coordinate all activities between consultants, contractors, regulatory agencies, and recycled water customers to ensure that the design, construction, and operation of the recycled water facilities meet the project goals and objectives. The City of Simi Valley is a member of WCVC. The County of Ventura, on behalf of WCVC, will coordinate all administrative items involved in partnering, organization, reporting, and invoicing related to the grant agreement.

Standards

Project facility design and construction will be in accordance with the District's "Recycled Water Design and Construction Standards," provided in Appendix C of the 2011 Engineering Report (included with this Proposal). In addition, recycled water facilities will be designed and constructed in accordance with the appropriate standards from CDPH, ASTM, APWA, and the Standard Specifications for Public Works Construction (Greenbook).

Development of Performance Measures

The City of Simi Valley will prepare a Project Performance Measures Plan, based on Attachment 6, that will include specific metrics to evaluate the water supply and water quality benefits achieved by the Simi RW Project. Recycled water customers will have separate meters to track recycled water usage. Meter reading will occur every two months. Recycled water meter reads will be totaled to determine the cumulative recycled water usage to evaluate the project.

Status of Acquisition of Land or Rights-of Way

No further land acquisition is anticipated to be necessary. The two new pump units will be housed at the existing Recycled Water Pump Station owned by the City of Simi Valley. The City of Simi Valley previously purchased the site for the 1.25 million gallon tank. Recycled water pipelines will be placed within existing City streets.

Permits

The District currently serves recycled water from the WQCP under existing permits, Water Reclamation Requirements (Order No. 87-46) and Waste Discharge Requirements (Order No. R4-2003-0081), both issued by the RWQCB. In accordance with the District's Engineering Report and comments received from the RWQCB and CDPH, Title 22 reports for recycled water customer sites will be prepared and incorporated into the existing permits as amendments. In addition, the City of Simi Valley will obtain the following permits prior to construction:

- 1) Los Angeles Regional Water Quality Control Board – General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order 2012-0006-DWQ
- 2) City of Simi Valley - Encroachment Permit
- 3) Ventura County Watershed Protection District – Encroachment Permit

Status of Preparation and Completion of Environmental Requirements

The MND for the West Simi Valley Water Recycling Project was completed and adopted by the WWD8 Board on July 25, 2011. A Notice of Determination was filed with the County of Ventura on July 29, 2011 and posted from July 29, 2011 to September 29, 2011. Mitigation measures identified in the MND will be implemented.

The City of Simi Valley conducted Native American consultation as part of the CEQA process, including a sacred lands check with the Native American Heritage Commission (NAHC) for the presence of Native American cultural resources in the immediate project area. No specific site information was on file with the NAHC. However, the NAHC provided a list of Native American individuals and organizations that might have knowledge of cultural resources within the project area. A letter explaining the project and asking for any comments was mailed to all names on the list.

Submittals to Granting Agency

Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will evaluate the project relative to the metrics contained in the Project Performance Measures Plan. Other items required by the grant contract will also be submitted to the granting agency. Submittals will include those described in the Work Plan (Table 4).

Design Plans and Specifications

The City of Simi Valley has completed recycled water design and construction standards (provided with this Proposal). The City of Simi Valley or selected consultant will prepare Plans and Specifications for Phase 1 and Phase 2 in 2013.

Items Provided with this Work Plan

The following items are being provided with this work plan. These items are found in Att3_IG2_WorkPlan_3of7.

- *Final Recycled Water Master Plan Update. 2008. Ventura County Waterworks District No. 8.*
- *2011 Mitigated Negative Declaration (MND) for the West Simi Valley Water Recycling Project*
- *2011 Engineering Report for Waste Discharge Permit and Water Recycling Requirements by the California Regional Water Quality Control Board. Ventura County Waterworks District No. 8.*
- Records of water use by the potential recycled water customers.

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Ventura County Waterworks District 1

Moorpark Recycled Water Project - Phase IV

Ventura County Waterworks District No. 1
 Contact: Susan Pan
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susan.pan@ventura.org

Program Preferences

- Include Regional Projects/Programs
- Integrate water management within hydrologic region
- Effectively resolve significant water-related conflicts within or between regions
- Contribute to attainment or one or more objectives to CALFED
- Address critical water supply/quality needs of DAC
- Effectively integrate water management with land use planning
- For Flood Management - projects that provide multiple benefits

CALFED

Primary Objectives

- Ecosystem quality
- Water supply
- Water quality
- Levee system integrity

Statewide Priorities

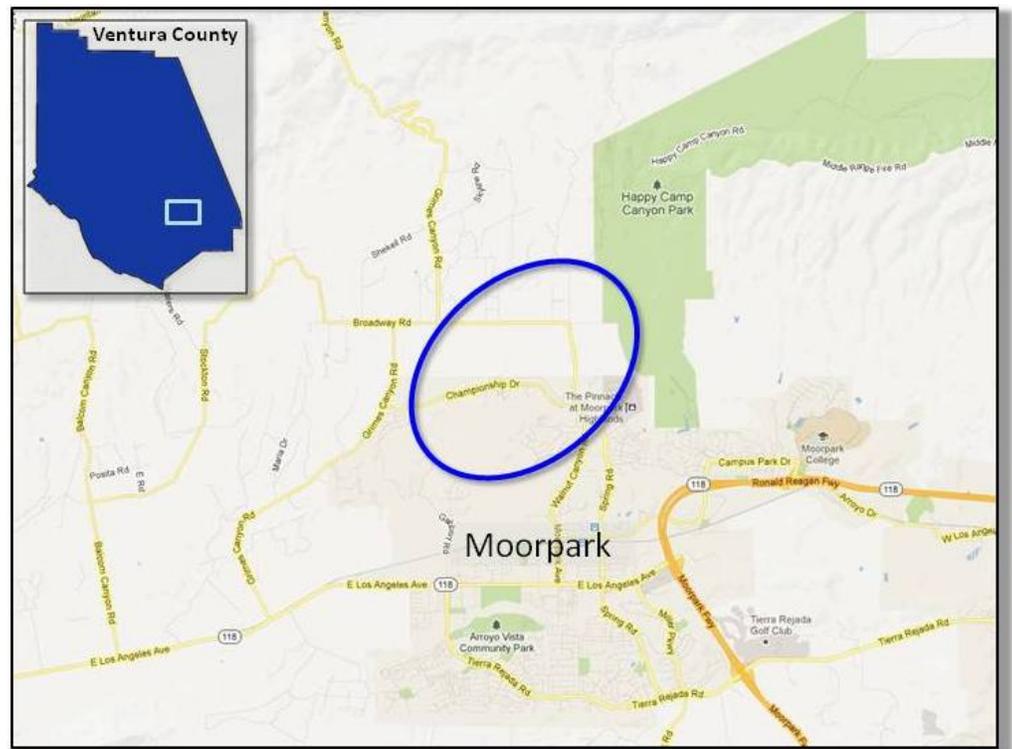
- Drought preparedness
- Use and reuse water more efficiently
- Climate change response actions
- Expand environmental stewardship
- Practice integrated flood management
- Protect surface water and groundwater quality
- Improve tribal water & natural resources
- Ensure equitable distribution of benefits

Overview

The Moorpark Recycled Water Project Phase IV will expand the recycled water distribution system of Ventura County Waterworks District No. 1 (WWD1) with the construction of approximately 16,500 linear feet of 12-inch diameter recycled water pipeline and a 0.5 MGD booster pump station. This final phase, of a multi-phase program, will enable the delivery of an additional 425 AFY of recycled water to offset potable water demands, including imported water supplies. The first phase of the recycled water system was completed in 2002; with all four phases, it is anticipated that up to 1,600 AFY of recycled water can be delivered.

Location

The location of the Moorpark Recycled Water Project Phase IV is shown below.



Watershed Coalition of Ventura County Primary Objectives

- Reduce dependence on imported water
- Protect, conserve, and augment water supplies
- Protect and improve water quality
- Protect people, property, and the environment from adverse flooding impacts
- Protect and restore habitat and ecosystems in our watersheds
- Provide water-related public access, recreational, and educational opportunities

Project Benefits

Expansion of the recycled water distribution system will have a number of significant benefits for the Region:

- Increased use of recycled water will provide 425 AFY of local water that will offset imported water demand.
- Increase supply reliability by diversifying the regional water resource portfolio.
- Improve surface water and groundwater quality by reducing salt loading by approximately 157 MT/year via avoided SWP water imports.

Cost and Schedule

Total project cost is approximately \$4,200,000; \$2,000,000 in grant funds are being requested and the remaining funds are included in the Waterworks District 1 Capital Improvement Plan. Project construction is planned for December 2014 and the recycled distribution facilities could be in operation by summer 2016.

Project Snapshot

Consistent with Basin Plan	Feasibility Studies	Design
Yes	<i>Complete</i>	<i>10% Complete</i>
CEQA/NEPA	Permits	ROW/Land Acquisition
<i>In Progress</i>	<i>In progress</i>	<i>In progress</i>

Moorpark Recycled Water Project - Phase IV

Project Description

WWD1 provides both water and sanitation services to the customers within its service area, which includes the City of Moorpark and contiguous unincorporated areas to the north and west. Imported water makes up approximately 80% of WWD1 supply with the remainder coming from local groundwater and recycled water. In 2010, WWD1 supplied approximately 11,775 AF of water to about 38,700 people.

The Moorpark Wastewater Treatment Plant (MWWTP) is owned and operated by WWD1 and is located between Highway 118 (Los Angeles Avenue) and Calleguas Creek (locally referred to as Arroyo Las Posas) approximately four miles west of the City of Moorpark. The MWWTP has a secondary treatment capacity of 3.0 MGD and tertiary treatment capacity of 1.5 MGD. The MWWTP includes 30 ponds that cover approximately 30 acres where secondary treated effluent from the MWWTP is currently stored and percolated. Approximately 1.5 MGD of effluent is treated to a tertiary level for reclamation and beneficial reuse. The tertiary treated water meets CDPH requirements for unrestricted recycled water use.

Project Timing and Phasing

The project proposed for funding is Phase IV. WWD1 has been developing its recycled water system in four phases (as shown in Figure 5):

- Phase I, completed in 2002, includes the existing tertiary treatment facility, a recycled water pump station, 4 miles of recycled water lines from MWWTP to the Moorpark Country Club Golf Course, and on-site storage ponds. The golf course currently uses approximately 400 AFY of recycled water.
- Phase II, completed in 2012, includes construction of a 1.5 million gallon aboveground storage tank and approximately 3,000 linear feet of recycled water pipeline. This phase

currently provides more than 200 AFY and may provide additional recycled water after more customers connect for service.

- Phase III builds upon Phase II to serve an additional 450 AFY of recycled water. The first half of Phase III (Phase III-A) was also constructed in 2012.
- Phase IV of the Recycled Water System includes construction of approximately 16,500 linear feet of recycled water pipeline and a booster pump station from the existing recycled water reservoir near Championship Drive and Grimes Canyon Road in Moorpark to the Rustic Canyon Golf Course. This phase will provide 425 AFY of recycled water to the Rustic Canyon Golf Course, Moorpark County Club Estates Homeowners Association, and the City of Moorpark Landscape District. Phase IV trends easterly from the terminus of Phase I (already complete).

Goals and Objectives

The goals and objectives of this project are to:

- Expand the recycled water distribution system of WWD1 to provide 425 AFY of recycled water.
- Reduce demands on imported water from the SWP.
- Improve water supply reliability by providing a local resource for water supply even during drought conditions.
- Improve surface water and groundwater quality by reducing salt imports associated with imported water.

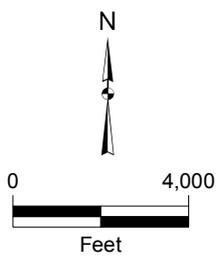
Purpose and Need

The project is located within the Calleguas Creek Watershed, which is highly dependent on imported SWP water. These imported supplies are becoming increasingly unreliable and there is a great need to reduce the Region's, and thereby WWD1's, dependency.

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Kennedy/Jenks Consultants

Watersheds Coalition of Ventura County
Moorpark, California

**Moorpark Recycled Water
Project Phase IV**

K/J 1389001*00
February 2013

Figure 5

The continued use of imported water is undesirable not only from a self-reliance perspective, but because the use of SWP water results in salt import. Over the years, this accumulation of salts has adversely affected water quality to the point that TMDLs have been established for many of the creeks within the watershed. The project will help meet water quality requirements and improve the health of the watershed by avoiding the import of 157 MT per year of salts in imported water.

In addition to imported water, WWD1 obtains a portion of its water supplies from local groundwater resources, which are under various stresses. Expanded use of recycled water is a critical strategy identified for augmenting local water supplies as it provides an additional drought-resistant water resource.

In addition, WWD1 needs to reduce its use of potable water in order to comply with Senate Bill 7 of Special Extended Session 7 (SBx7-7). This bill requires urban water retail suppliers, such as WWD1, to reduce their per capita potable daily water use. The bill targets reductions of 10 percent by year 2015 and 20 percent by year 2020. One of WWD1's strategies for meeting the SBx7-7 targets is to increase recycled water delivery.

Integrated Elements of Projects

WWD1, Camarillo, and the City of Simi Valley have collaborated in this WVCV grant proposal to implement projects that address common goals for reducing dependence on imported water, augmenting local water supply, enhancing supply reliability, and improving water quality through reduced salt import (see also pages 3-7 to 3-8).

Existing Data and Studies/ Completed Work

WWD1 has completed the necessary feasibility studies and planning documents for this project to proceed immediately. Permitting is well underway. The feasibility studies are described below and are provided with this Work Plan.

Recycled Water Market Assessment. 2008. Kennedy/Jenks Consultants.

In 2008, WWD1 prepared a market assessment for different locations within the service area. Areas 4 and 5 of that Market Assessment evaluated users near the Phase IV recycled water alignment. This assessment identified more than 900 AFY potential recycled water demand in the vicinity of the Phase IV pipeline (see Figures 3-5 and 3-6 and Table 3-1, pgs 6 to 8).

Ventura County Waterworks District No. 1, Moorpark Wastewater Treatment Plant Reclaimed Water Feasibility Study. 1990. Boyle Engineering.

This feasibility study was conducted to evaluate the feasibility of supplying recycled water for irrigation of agricultural and landscaping operations within the WWD1 service area. The study identified a large potential market for recycled water near the MWWTP.

2011 Annual Water Recycling Monitoring Report, Ventura County Waterworks District No. 1, 2012.

WWD1 prepares an Annual Water Recycling Report. This report, most recently completed for calendar year 2011, documents recycled water production, use, and quality and confirms that the WWD1 recycled water system is operating within its recycled water permits. This report demonstrates WWD1's institutional capacity to expand recycled water to additional customers.

Final Environmental Impact Report: Moorpark Wastewater Treatment Plant Reclaimed Water Distribution System State Clearinghouse No. 96021009. 1997. Ventura County Waterworks District 1.

As the lead agency, WWD1 prepared and adopted the FEIR for the MWWTP recycled water distribution system (State Clearinghouse No. 96021009). The FEIR was approved by the County Board of Supervisors in April 1997. WWD1 is working with a consultant to utilize

information in that document to complete CEQA documentation specific to the project, anticipated to be a MND.

In addition to feasibility and environmental studies, WWD1 has conducted other activities necessary to implement and expand recycled water delivery and use. WWD1 has obtained a master water recycling permit from the California Regional Water Quality Control Board (Order No. R4-2002-0028) for treatment and delivery of recycled water to existing customers (provided with this Work Plan). WWD1 has also developed and adopted Rules and Regulations mandating use of recycled water when and where available.

Permit applications and CEQA documentation are in progress. WWD1 has also initiated contact with potential recycled water customers to discuss conversion to recycled water use and to confirm potential for recycled water demand. Identified customers include Country Club Estates Home Owners Associations, Moorpark Maintenance District, and Rustic Canyon Golf Course.

Beginning in early 2013, WWD1 will prepare a preliminary design report followed by schematic design and final design anticipated in spring 2014.

Construction of the project is expected to begin in late 2014 with an estimated duration of 12 months.

Project Map

Figure 5 shows the location of the Moorpark Recycled Water Phase IV facilities.

Work Plan

Tasks necessary to construct the Moorpark Recycled Water Phase IV are described in the following table.

TABLE 5

<p>Category (a): Direct Project Administration Costs</p>
<p>Task 1: Administration</p> <p>Prepare and submit invoices. Deliverables: Invoices.</p>
<p>Task 2: Labor Compliance Program</p> <p>Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b). Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.</p>
<p>Task 3: Reporting</p> <p>Prepare quarterly and final reports as specified in the Grant Agreement. Deliverables: Quarterly and final reports as specified in the Grant Agreement.</p>
<p>Category (b): Land Purchase/Easement</p>
<p>Task 4: Land Purchase/Easement</p> <p>Perform easement acquisition for one parcel of land needed for the construction of a portion of the recycled water line. Deliverables: Easement deed.</p>
<p>Category (c): Planning/Design/Engineering/Environmental Documentation</p>
<p>Task 5: Assessment and Evaluation</p> <p>WWD1 will prepare a Project Performance Measures Plan. Deliverables: Project Performance Measures Plan.</p>
<p>Task 6: Design</p> <p>Several technical studies, described earlier, have been completed that document the feasibility of additional recycled water delivery and use in the WWD1 service area. Prepare preliminary design report and plans and specifications for the recycled water lines and the booster pump station. Deliverables: Technical studies; Preliminary Design Report, Plans and Specifications.</p>

Task 7: Environmental Documentation

Prepare the CEQA Initial Study, Mitigated Negative Declaration (based on existing FEIR), and Mitigation Monitoring Program. Complete the CEQA review and filing process. As part of CEQA, WWD1 will perform Native American Tribal notification consistent with PRC §75102.

Deliverables: Notice of Preparation, DEIR, FEIR, Notice of Completion, Documentation of Native American Tribal Notification.

Task 8: Permitting

The following permits will be obtained prior to construction:

- 1) Los Angeles Regional Water Quality Control Board – General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order 2012-0006-DWQ
- 2) City of Moorpark - Encroachment Permits
- 3) County of Ventura – Encroachment Permits
- 4) Ventura County Watershed Protection District – Encroachment Permit

Deliverables: Copies of Permits.

Category (d): Construction/Implementation**Task 9: Construction Contracting**

The Ventura County Board of Supervisors will authorize staff to solicit bids based on Plans and Specifications. Staff will review bids and recommend a construction contract be awarded. Ventura County Board of Supervisors will award the construction contract. Staff will issue letters for Notice of Award and Notice to Proceed.

Deliverables: Notice of Award to Contractor, Notice to Proceed to Contractor.

Task 10: Construction/Implementation

Description: Construct the 16,500 linear feet of 12-inch diameter recycled water pipelines and a 0.5 MGD booster pump station.

Deliverables: Record Drawings, Construction Photos.

Task 11: User Agreements

WWD1 will execute user agreements with each recycled water customer.

Deliverable: Executed user agreements.

Category (e): Environmental Compliance/Mitigation/Enhancement

Task 12: Environmental Compliance/Mitigation/Enhancement

Implement environmental compliance/mitigation program during and prior to the completion of construction.

Deliverables: Compliance monitoring reports to be included with quarterly grant reports.

Category (f): Construction Administration

Task 13: Construction Administration

WWD1 and/or selected consultant will provide inspection, construction management, and administrative services during construction of Phases IV.

Deliverables: Same as for Task 10, Construction/Implementation.

Other Required Information

Procedures

WWD1 is the project proponent. WWD1 staff will coordinate all activities between consultants, contractors, regulatory agencies, and recycled water customers to ensure that the design, construction, and operation of the recycled water facilities meet the project goals and objectives. WWD1 is a member of WCVC. The County of Ventura, on behalf of WCVC, will coordinate all administrative items involved in partnering, organization, reporting, and invoicing related to the grant agreement.

Standards

Project facility design and construction will be in accordance with the WWD1 standards. In addition, recycled water facilities will be designed and constructed in accordance with the appropriate standards, from CDPH, ASTM, APWA, and the Standard Specifications for Public Works Construction (Greenbook).

Development of Performance Measures

WWD1 will prepare a Project Performance Measures Plan, based on Attachment 6, that will include specific metrics to evaluate the water supply and water quality benefits achieved by the Moorpark Recycled Water Project Phase IV. Recycled water customers will have separate meters to track recycled water usage. Recycled water meter reads will be totaled to determine the cumulative recycled water usage to evaluate the project.

Status of Acquisition of Land or Rights-of Way

The land for the pump station has been acquired. Most of the pipeline construction will be in public right-of-way. There is only one parcel of land that the WWD1 is in the process of obtaining an easement for, which will be needed for the recycled water pipeline construction. The landowner has verbally agreed to provide the easement, and WWD1 is in the process of completing the documentation to formalize the agreement.

Permits

WWD1 will obtain the following permits prior to construction:

- 1) Los Angeles Regional Water Quality Control Board – General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order 2012-0006-DWQ
- 2) City of Moorpark - Encroachment Permits
- 3) County of Ventura – Encroachment Permits
- 4) Ventura County Watershed Protection District – Encroachment Permit

Status of Preparation and Completion of Environmental Requirements

WWD1 prepared and adopted the FEIR for the MWWTP recycled water distribution system (State Clearinghouse No. 96021009). The FEIR was approved by the County Board of Supervisors in April 1997. Since the Phase IV project will include installation of recycled water distribution pipelines within existing streets and construction of a recycled water booster pump station on an already disturbed site, WWD1 anticipates preparing a MND for the project. As part of CEQA, WWD1 will perform Native American Tribal Notification per PRC §75102.

Submittals to Granting Agency

Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will evaluate the project relative to the metrics contained in the Project Performance Measures Plan. Other items required by the grant contract will also be submitted to the granting agency. Submittals will include those described in the Work Plan (Table 5).

Design Plans and Specifications

Conceptual design for the project is complete (~10%). WWD1 intends to hire a consultant to prepare the design plans and specifications for the booster pump station and recycled water distribution pipeline. Following design, WWD1 will solicit bids for construction.

Items Provided with this Work Plan

The following items are being provided with this work plan. These items are found in Att3_IG2_WorkPlan_4of7.

- *Ventura County Waterworks District No. 1, Moorpark Wastewater Treatment Plant Reclaimed Water Feasibility Study.* 1990. Boyle Engineering.
- *2008 Recycled Water Market Assessment.* 2008. Kennedy/Jenks Consultants.
- *2011 Annual Water Recycling Monitoring Report, Ventura County Waterworks District No. 1, 2012.*
- *Final Environmental Impact Report: Moorpark Wastewater Treatment Plant Reclaimed Water Distribution System State Clearinghouse No. 96021009.* 1997. Ventura County Waterworks District 1.
- Master water recycling permit from the California Regional Water Quality Control Board (Order No. R4-2002-0028).

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Ventura County Watershed Protection District

South Oxnard Stormwater Flood Management and Community Enhancement Project Phase 2B

Ventura County Watershed Protection District

Contact: Gerard Kapuscik
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 F. (805) 654-3350
Gerard.Kapuscik@ventura.org

Program Preferences

- Include Regional Projects/Programs
- Integrate water management within hydrologic region
- Effectively resolve significant water-related conflicts within or between regions
- Contribute to attainment or one or more objectives to CALFED
- Address critical water supply/quality needs of DAC
- Effectively integrate water management with land use planning
- For Flood Management - projects that provide multiple benefits

CALFED

Primary Objectives

- Ecosystem quality
- Water supply
- Water quality
- Levee system integrity

Statewide Priorities

- Drought preparedness
- Use and reuse water more efficiently
- Climate change response actions
- Expand environmental stewardship
- Practice integrated flood management
- Protect surface water and groundwater quality
- Improve tribal water & natural resources
- Ensure equitable distribution of benefits

Overview

The project integrates flood control, land use management, and wetlands preservation in a high-density minority and low-income disadvantaged community. The Ventura County Watershed Protection District (WPD) will replace the deficient trapezoidal concrete J Street Drain (current maximum capacity is for a 10-year storm) with reinforced concrete channels in four phases to improve flood management in the South Oxnard area. Great care has been taken to ensure that J Street Drain improvements will preserve the functional characteristics of the Ormond Beach Lagoon and be compatible with the Coastal Conservancy's plans for Ormond Beach restoration.

Phase 2B (this Proposal) is a part of these channel improvements and consists of (1) the covering of 2,700 linear feet of J Street Drain between Pleasant Valley and Hueneme roads and (2) the purchase of ecologically valuable lands near the discharge of the drain to further beach and wetlands protection. The cover will improve water quality by reducing the volume of trash entering the drain and transported to sensitive habitats located downstream. The cover will also improve the safety and quality of life in the adjacent community. Lastly, the covering will be done in a manner that will allow the City of Oxnard to construct a linear park and vegetated swales for passive stormwater treatment in the future. Approximately 20 acres of land will be purchased, in partnership with The Nature Conservancy, to the southeast of the channel improvements. The J Street Drain improvements and the preserved land form the eastern and western boundaries of the Ormond Beach Lagoon. The property will be combined with 540 acres already under protection and, like the J Street Drain improvements, further habitat and wetlands preservation goals at Ormond Beach.

Location

The project will be located at the southern edge of the City of Oxnard, along J Street between Hueneme and Pleasant Valley roads and within Ormond Beach.



Watershed Coalition of Ventura County Primary Objectives

- Reduce dependence on imported water
- Protect, conserve, and augment water supplies
- Protect and improve water quality
- Protect people, property, and the environment from adverse flooding impacts
- Protect and restore habitat and ecosystems in our watersheds
- Provide water-related public access, recreational, and educational opportunities

Project Benefits

The project is an approach to flood management that integrates water and land use management in a primarily minority and low-income community. Through this novel integration, the project will:

- Add public safety benefits to a flood management project. Covering the channel will provide safe passage for school children, pedestrians, and bicyclists by moving these activities off the dense urban streets.
- Add community connectivity to a flood management project. The fenced open channel drain is a physical and visual barrier. Phase 2B will reunite a neighborhood divided by a trash-collecting and graffiti-attracting eyesore.
- Improve recreational access by creating the backbone for a future linear park.
- Improve water quality by reducing the amount of trash and heavy metals that enter J Street Drain and ultimately Ormond Beach Lagoon.
- Remove development pressure on Ormond Beach considered by wetland experts to be the most important wetland restoration opportunity in Southern California (California State Coastal Conservancy, Ormond Beach Wetlands Restoration Project Feasibility Study, 2009).
- Improve tourism potential of Ormond Beach.
- Redress inequitable distribution of environmental burdens (i.e., flood control facilities) and access to public goods (i.e., parks, open space) consistent with environmental justice (California Government Code §65040.12(e)).

Cost and Schedule

Total project cost is approximately \$6,927,490; \$4,500,000 in grant funds are being requested; remaining funds will come from the Ventura County Watershed Protection District (\$1,818,481) and The Nature Conservancy (\$608,919). Project construction will begin in spring 2014, with completion by late 2015. Ormond Beach property acquisition will occur at the same time as construction of the channel covering.

Project Snapshot

Consistent with Basin Plan	Feasibility Studies	Design
Yes	Complete	30% complete
CEQA/NEPA	Permits	ROW/Land Acquisition
In progress	In progress	Project element

South Oxnard Stormwater Flood Management and Community Enhancement Project Phase 2B

Project Description

The J Street Drain is nearly 60 years old, has only a 10-year storm event conveyance capacity, and divides a low-income minority community. The surrounding neighborhood is at risk for severe flooding to depths of up to 4 feet in the event of a 100-year storm. The channel discharges into Ormond Beach Lagoon, an area considered to be the most important wetland restoration opportunity in Southern California by the California Coastal Conservancy. To address these issues, WPD is undertaking extensive improvements to the 2.2-mile-long J Street Drain in the City of Oxnard.

WPD plans to enhance flood management in the South Oxnard area by replacing the J Street Drain with a larger capacity, cast-in-place, open rectangular channel in four phases. The portion considered as part of this Proposal is Phase 2B, which will cover the portion of the channel from Pleasant Valley Road to Hueneme Road (approximately 2,700 linear feet) to reduce the negative aspects of flood control on the community. The environmental improvements include eliminating an open channel facility that currently attracts graffiti and trash, reuniting the neighborhood which is divided by the existing, fenced channel, and allowing for the future construction of a linear park and vegetated swales for additional passive stormwater treatment.

In addition to the channel covering, Phase 2B involves the purchase of 20 acres to the southeast of the J Street Drain outlet. The property will be combined with 540 acres already under protection by The Nature Conservancy and Coastal Conservancy.

As part of design of the J Street Drain improvements, WPD evaluated multiple configurations of the outlet to preserve the flow needed to maintain Ormond Beach Lagoon and its biological resources (including tidewater goby habitat, snowy plover, and California least tern nesting). Some configurations could cause breach of the lagoon and some configurations

would strand the lagoon. The selected configuration involves discharge into the lagoon, combined with beach elevation management activities. The J Street Drain acts as the western end of the Ormond Beach Lagoon; the 20-acre parcel that will be purchased as part of Phase 2B is at the eastern end of the lagoon. The J Street Drain improvements and property purchase work synergistically toward preservation of the entire Ormond Beach Lagoon and Ormond Beach.

Based on the American Community Survey for 2007-2011, the area surrounding the Phase 2B project qualifies as a Disadvantaged Community (see Figure 6).

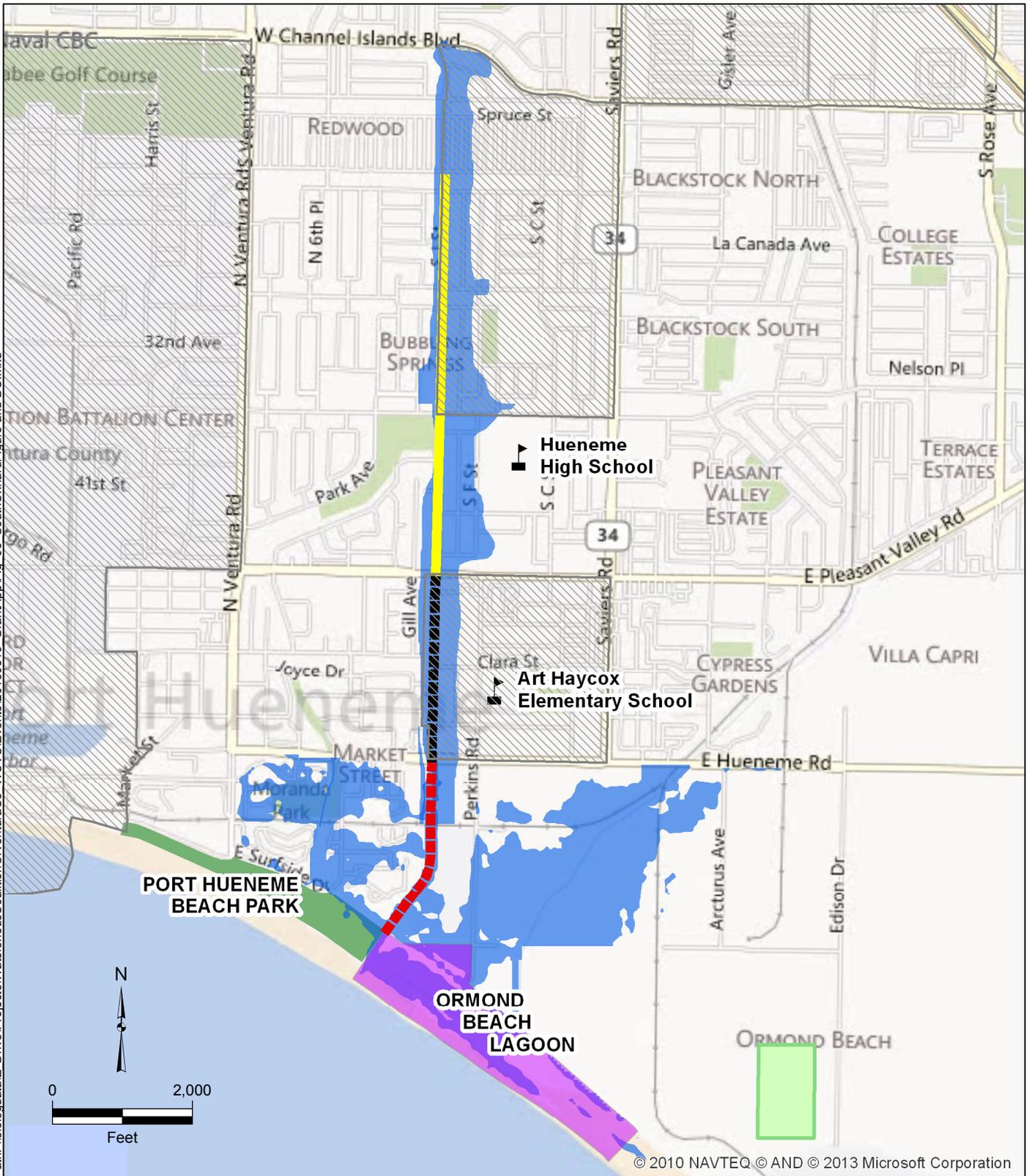
Project Timing and Phasing

The entire South Oxnard Stormwater Flood Management and Community Enhancement Project has four major phases. As shown in Figure 6:

- Phase 1 is channel improvements from Hueneme Road to Ormond Beach Lagoon.
- Phase 2A is channel improvement from Pleasant Valley Road to Hueneme Road.
- Phase 2B is the channel cover in the same location as Phase 2A and purchase of the 20-acre Ormond Beach property.
- Phase 3 and 4 are channel improvements from Redwood Street to Pleasant Valley Road.

Phase 1 focuses on the downstream end of the J Street Drain. Phase 1 will include the replacement of approximately 2,700 linear feet of existing trapezoidal concrete channel between Hueneme Road and the Ormond Beach Lagoon. The reinforced concrete channel replacement is 49.5 feet wide and varies in height from 7 to 8 feet and will have a trash collection berm at its upstream end. The trash boom will prevent, but not eliminate, trash entering the lagoon. The open channel design in this phase preserves tidewater goby habitat and foraging habitat for the endangered

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Legend

- | | |
|------------------------------------|--|
| J Street Drain Improvements | School Sites |
| Phase 1 | 100-yr Floodplain |
| Phase 2A and 2B | Ormond Beach Lagoon |
| Phase 3 and 4 | Disadvantaged Communities
Median Household Income <= \$49,305 |
| 20 Acre Parcel Purchase | |

Kennedy/Jenks Consultants

Watersheds Coalition of Ventura County
City of Oxnard, California

**South Oxnard Stormwater Flood Management
& Community Enhancement Project**

K/J 1389001*00
March 2013

Figure 6

least tern. Phase 1 is scheduled to begin construction in spring 2013 and is expected to be completed by July 2014. Once completed, the Phase 1 channel will have the capacity to convey the flow from a 100-year storm.

Phase 2A consists of replacing approximately 2,700 linear feet of existing trapezoidal concrete channel with three parallel cast-in-place concrete rectangular channels in J Street between Pleasant Valley Road and Hueneme Road. The three rectangular channels comprising the Phase 2A channel will have the capacity to convey the flow from a 100-year storm. Proposition 1E funds are being sought for Phase 2A. However, the Ventura County Board of Supervisors has committed to completing the Phase 2A channel improvements as an open channel and will complete this effort regardless as to whether Proposition 1E funds are received.

This project, Phase 2B, depicted in the graphic below, will cover the channel from Pleasant Valley Road to Hueneme Road. Phase 2B will also purchase 20 acres to the southeast of the J Street Drain discharge at the eastern edge of the Ormond Beach Lagoon. Phase 2B is strongly desired by the local community as evidenced by the public hearings and public comments received during preparation of the technical studies and environmental impact report. The channel covering will be done in a manner that will allow a park to be constructed in a future phase. The City of Oxnard has indicated that once both channel improvements

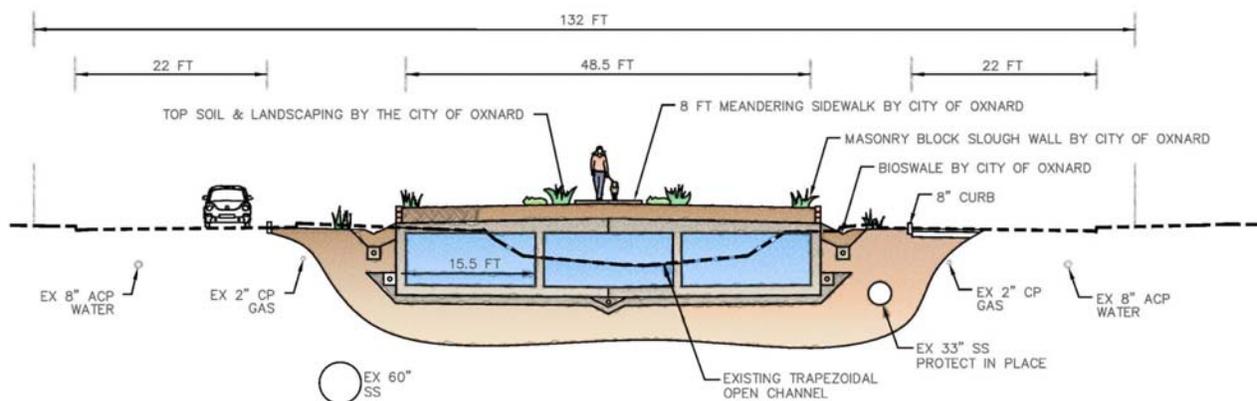
and the covering are complete, the City will develop the linear park.

Phases 3 and 4 are upstream of Phases 1 and 2 and together consist of replacing approximately 6,800 linear feet of existing trapezoidal concrete channel with reinforced concrete box culverts between Pleasant Valley Road and Redwood Street.

Goals and Objectives

A goal of the South Oxnard Stormwater Flood Management and Community Enhancement Project Phase 2B is to improve stormwater flood management in a manner that enhances community connectivity and aesthetics by eliminating opportunities for trash accumulation and graffiti, and health and safety in an environmental justice neighborhood in South Oxnard. These enhancements can be achieved by covering the J Street Drain.

A second goal of Phase 2B is to build upon WPD efforts to maintain Ormond Beach Lagoon and its biological resources. The J Street Drain improvements (Phases 1 and 2A) will maintain appropriate flows to the lagoon. WPD will team with The Nature Conservancy to purchase 20 acres at the eastern end of the lagoon. The parcel will be combined with 540 acres already purchased by The Nature Conservancy and the Coastal Conservancy as part of a plan to acquire at least 1,000 acres to accommodate wetland and other coastal habitats.



Eventually these lands will be restored as part of a comprehensive coastal restoration project planned for the area. Once complete, Ormond Beach will be the largest coastal wetlands restoration in Southern California providing valuable habitat to several special status species.

The Phase 2B objectives include:

- Integrating water and land use planning by reducing adverse effects from flood management facilities within an environmental justice community.
- Providing the surface to support a future linear park over the J Street Drain, which will improve aesthetics, recreational access, and public health and safety.
- Unifying an environmental justice community.
- Improving threatened, endangered, and other sensitive species habitat quality by reducing the amount of trash and heavy metals that could be flushed to the Ormond Beach Lagoon and Pacific Ocean.
- Preserving coastal open space and wetlands at Ormond Beach.

Purpose and Need

The South Oxnard Community is currently negatively impacted by flooding as a result of undersized flood management facilities. The neighborhoods adjacent to the project are in the 100-year floodplain and have experienced extensive flooding in numerous storm events, most recently in 2010. The fenced, open channel of the J Street Drain physically and visually divides the neighborhood. Although the flood hazards will be addressed through completion of Phases 1 and 2A, the adverse impacts of an open channel will remain unless Phase 2B is completed.

Phase 2B (this Proposal) is needed to address the adverse impacts of the open channel. Covering the channel will reunite the surrounding neighborhood, which is divided by a trash-collecting and graffiti-attracting eyesore and will redress inequitable distribution of environmental burdens (i.e., flood control facilities) and access to public goods (i.e.,

parks, open space) consistent with environmental justice (California Government Code §65040.12(e)). Phase 2B addresses the latter because the channel cover provides the foundation for a future linear park which will include pedestrian and bicycle trails, features strongly desired by the local low-income, minority community. Art Haycox Elementary School sits approximately 1,000 feet to the east of the J Street Drain, between Hueneme and Pleasant Valley Roads. The covering will provide safe pedestrian passage for use by school children.



The covered box design in Phase 2B will remove an existing fenced barrier and open channel separating the homes on either side of J Street, unifying a currently disconnected environmental justice community.

The channel covering and future linear park will also vastly improve the aesthetics of the J Street Drain. Currently, the fencing to prevent access to the open channel and graffiti on the channel walls are unsightly. The open channel also collects trash which, despite a trash boom, can be flushed downstream to Ormond Lagoon.



Trash in the J Street Drain



The existing open channel collects trash and is vulnerable to graffiti.

Phase 2B also integrates opportunities for coastal resource enhancement identified downstream of the drain channel. Ormond Beach is a 1,500-acre area composed of a mix of land uses including agriculture, industry, and wetlands. Although the wetlands have been drained, filled, and degraded over the past century, this is one of the few areas in Southern California with an intact dune-transition zone-marsh system. The Ormond Beach area hosts over 200 migratory bird species, and more shorebird species are known to use Ormond Beach than any other site in Ventura County. Six threatened and endangered species and six species of concern have been identified in this sensitive habitat.

“Ormond Beach is considered by wetland experts to be the most important wetland restoration opportunity in southern California. Unlike other coastal wetland restoration projects in southern California, there is room to restore the approximate extent of historic wetlands, provide surrounding upland habitat to complete the ecosystem and accommodate sea level rise. The biological significance of this area has been recognized and its restoration potential endorsed by all of the federal and state resource agencies that participate in the Southern California Wetlands Recovery Project.”

-- California State Coastal Conservancy, Ormond Beach Wetlands Restoration Project Feasibility Study

Additional land acquisition is needed to further the restoration effort. The project includes purchase of approximately 20 acres southeast of the J Street Drain outlet in the Ormond Beach area to sustain, protect, and restore habitat and ecosystems in the watershed while

providing opportunities for passive recreation. The 20-acre acquisition supplements the 540 acres already protected by The Nature Conservancy, a project partner.

Based on the above, Phase 2B accomplishes the objectives of integrated flood management and land use planning, improves public health and safety, protecting habitat, protecting and improving water quality, and providing compatible recreational, public access, and educational opportunities.

Integrated Elements of Projects

This project, as well as the Santa Clara River Restoration Project, and the Ventura River Restoration Project work toward the common goals of (1) improved habitat and (2) provision of water-related public access, recreation and educational opportunities. This project will reduce the amount of trash and heavy metals flushed into the Ormond Beach lagoon. The Santa Clara River Restoration and Ventura River Restoration projects improve habitat by supporting native vegetation that improve the biological and chemical properties of the floodplain. This project and the Santa Clara River Restoration and Ventura River Restoration projects each contribute to the preservation of hiking opportunities, enhancement of plant and wildlife viewing, and creation of outdoor classrooms.

Existing Data and Studies/ Completed Work

WPD is on track to complete all necessary pre-construction requirements so that Phase 2B construction (covering for the channel) can occur simultaneously with the Phase 2A flood channel improvements. Feasibility studies and conceptual design are complete. Permitting and environmental review are underway and final design is scheduled to begin shortly. The extensive technical studies that provide justification and definition of the project, as well as essential information for CEQA and permitting, have been completed and are discussed below.

The City of Oxnard Floodplain Analysis: Industrial Drain, Rice Road Drain, J Street Drain, Hueneme Drain, and Ormond Lagoon.

2005. Ventura County Watershed Protection District.

This report documented the existing drain capacity and determined the need for channel improvements. The drain capacity was estimated to be 500 to 600 cubic feet per second (cfs), which would be exceeded during a 10-year or larger flood event.

J Street Drain Channel Improvement Study and Preliminary Design. 2005. Ventura County Watershed Protection District.

This Study included development of a preliminary design plan for the 2.2-mile long J Street Drain Channel to improve its current capacity to the 100-year flood level.

Final Environmental Impact Report J Street Drain Project Ventura County, California. SCH #2008041057. 2012. Ventura County Watershed Protection District.

From 2007 to 2012, WPD prepared a series of documents to evaluate potential impacts from J Street Drain improvements. These include: Initial Study, Notice of Preparation, Notices of Availability, DEIR, Recirculated DEIR, FEIR, Findings of Fact, and Notice of Determination. A variety of technical studies and memoranda were also completed to support the EIR (and are included in the EIR appendices):

- Coastal Engineering Report and Addendum, Sedimentation Study, Ormond Lagoon and Beach Coastal Processes Assessment
- J Street/Oxnard Industrial Drain Numerical Hydraulic Model
- Biological Technical Report (includes California Least Tern/Snowy Plover Protocol Survey and USACE/CDFG Jurisdictional Wetland Delineation Reports)
- Cultural Resource Constraint Analysis
- Geotechnical Study
- Hazardous Sites Study and Map
- Global Climate Change Evaluation
- Mosquito Technical Study
- Air Quality Technical Report

- Control of Water Surface Elevations for J Street Drain Design (Sea Level Rise) Technical Memo

The above-mentioned technical studies demonstrate the feasibility of improving flood management in the South Oxnard Area.

Ormond Beach Wetlands Restoration Project Feasibility Study. 2009. California State Coastal Commission.

This study documents the importance of the existing ecology of the Ormond Beach area and the potential for improved wetlands habitat. According to this report, "The California State Coastal Conservancy (SCC) is pursuing, at a scale unprecedented within the State, to restore as much lost habitat as possible within the Ormond Beach area."

Preliminary design is complete for Phase 2A. Conceptual design is complete for Phase 2B (this project). Final design for Phase 2B is anticipated to be completed by December 2013.

WPD submitted a permit application to the US Army Corps of Engineers for a Section 404 Permit No. 43 for Stormwater Management Facilities (provided with this Work Plan).

Completed work for the Ormond Beach land acquisition includes all preliminary negotiations with the current land owner who is a willing seller. The Ormond Beach property purchase is anticipated to be finalized by December 2014. Construction of Phase 2B (covering for the channel) will occur simultaneously with the Phase 2A flood channel improvements over approximately 13 months from May 2014 to June 2015.

Project Map

Figure 6 shows the project location.

Work Plan

Tasks necessary to implement Phase 2B of the South Oxnard Stormwater Flood Management and Community Enhancements Project are described in the following table.

TABLE 6

<p>Category (a): Direct Project Administration Costs</p>
<p>Task 1: Administration Prepare and submit invoices. Deliverables: Invoices</p>
<p>Task 2: Labor Compliance Program Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b). Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.</p>
<p>Task 3: Reporting Prepare quarterly and final reports as specified in the Grant Agreement. Deliverables: Quarterly and final reports as specified in the Grant Agreement.</p>
<p>Category (b): Land Purchase/Easement</p>
<p>Task 4: Land Purchase/Easement WPD will obtain an easement for the channel covering from the City of Oxnard. For the Ormond Beach land purchase, WPD and The Nature Conservancy will negotiate the final purchase price for the 20 acres of land with the current landowner, then finalize the purchase including all required legal steps to make the purchase and record the sale. Deliverables: Easement documents; final recorded deed for Ormond Beach property.</p>
<p>Category (c): Planning/Design/Engineering/Environmental Documentation</p>
<p>Task 5: Assessment and Evaluation WPD will prepare a Project Performance Measures Plan. Deliverables: Project Performance Measures Plan.</p>
<p>Task 6: Design Several technical studies have been completed that document the feasibility of improved flood management in the South Oxnard area. Prepare plans and specifications for bidding. Deliverables: Technical studies; Final plans and specifications.</p>

Task 7: Environmental Documentation

The Board of Supervisors for the Ventura County Watershed Protection District certified the Final Environmental Impact Report (FEIR) for the J Street Drain Project on March 27, 2012. This document analyzes the open rectangular channel configuration for Project Phases 1 – 4. WPD will prepare and certify an appropriate revision to the FEIR specific to channel covering in Phase 2B. WPD performed tribal notification as part of the FEIR.

Deliverables: Approved and adopted FEIR and project specific CEQA documentation; documentation of Native American Tribal Notification.

Task 8: Permitting

The following permits will be obtained for the project:

- 1) U.S. Army Corps of Engineers - Section 404, Nationwide Permit No. 43 for Stormwater Management Facilities.
- 2) California Department of Fish and Game - Section 1602 Lake or Streambed Alteration Agreement.
- 3) Los Angeles Regional Water Quality Control Board - General Waste Discharge Requirements for Specified Discharges to Groundwater in Santa Clara River and Los Angeles River Basins (Order No. 93-010).
- 4) Los Angeles Regional Water Quality Control Board - General National Pollutant Discharge Elimination System and Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (Order No. R4-2008-0032).
- 5) Los Angeles Regional Water Quality Control Board – General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order 2012-0006-DWQ.

Deliverables: Copies of permits.

Category (d): Construction/Implementation**Task 9. Coordination**

Activities needed to prepare and execute MOUs with the City of Oxnard and The Nature Conservancy.

Deliverables: Memoranda of Understanding.

Task 10: Construction Contracting

The construction contract will be bid and awarded in accordance with the Public Contract Code and WPD procedures.

Deliverables: Notice of Award issued to contractor; Notice to Proceed to contractor.

Task 11: Construction/Implementation

WPD will construct a cover over Phase 2A of the J Street Drain, approximately 2,700 linear feet, from Pleasant Valley Road to Hueneme Road.

Deliverables: Record Drawings; construction photos.

Category (e): Environmental Compliance/Mitigation/Enhancement

Task 12: Environmental Compliance/Mitigation/Enhancement

WPD will comply with environmental compliance and best management practices detailed in permits.

Deliverables: Reporting on any mitigation measures in quarterly reports.

Category (f): Construction Administration

Task 13: Construction Administration

WPD will monitor the progress, ensure project documentation is complete, manage the schedule and track the budget. Construction inspection will be provided to ensure strict adherence to the plans, specifications, and quality and safety standards. Inspection also will include quality testing of materials.

Deliverables: Provided with Task 11.

Other Required Information

Procedures

Development and issuance of the construction contract will be done using County of Ventura, Public Works Agency contracting procedures. The County Board of Supervisors will authorize all of the contracts for this project.

WPD will enter into an MOU with the City of Oxnard that will identify the obligations of WPD and the City during construction and project operation. WPD will enter into an MOU with The Nature Conservancy for cost sharing purchase of property in the Ormond Beach Area.

WPD is the project proponent and will enter into a subgrant agreement with Ventura County (grant applicant). WPD staff will coordinate all project activities to ensure that improvements meet the project goals and objectives. The County of Ventura will coordinate all administrative items involved in partnering, organization, reporting, and invoicing related to the grant agreement.

Standards

The South Oxnard Stormwater Flood Management and Community Enhancement Phase 2B will be constructed in accordance with the appropriate standard, including those from the WPD.

Development of Performance Measures

WPD will prepare a Project Performance Measures Plan, based on Attachment 6, that will include specific metrics to evaluate the water quality, habitat restoration, and public access benefits achieved by the project.

Status of Acquisition of Land or Rights-of Way

An MOU between the WPD and the City of Oxnard will identify the obligations of each party including cost sharing, right-of-way, utilities, and maintenance.

For the Ormond Beach land purchase, WPD and The Nature Conservancy will negotiate the final purchase price for the 20 acres of land with the current landowner, then take all required

legal steps to make the purchase and record the sale.

Permits

Phase 2B will be constructed simultaneously with Phase 2A flood channel improvements. Several permits are needed for the Phase 2A channel improvements, and the terms and conditions of those permits will also apply to Phase 2B. Permits that may have terms and conditions that specifically apply to Phase 2B include:

- U.S. Army Corps of Engineers - Section 404, Nationwide Permit No. 43 for Stormwater Management Facilities.
- California Department of Fish and Game - Section 1602 Lake or Streambed Alteration Agreement.
- Los Angeles Regional Water Quality Control Board - General Waste Discharge Requirements for Specified Discharges to Groundwater in Santa Clara River and Los Angeles River Basins (Order No. 93-010).
- Los Angeles Regional Water Quality Control Board - General National Pollutant Discharge Elimination System and Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (Order No. R4-2008-0032).
- Los Angeles Regional Water Quality Control Board – General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order 2012-0006-DWQ.

The permit application was submitted in August 2012 to the U.S. Army Corps of Engineers for the Section 404 Permit and is provided with this Work Plan.

Status of Preparation and Completion of Environmental Requirements

As described earlier, WPD completed extensive CEQA documentation for the overall project. However, in the CEQA documentation, the preferred alternative is an open, rectangular

reinforced concrete channel and limited additional CEQA documentation is necessary to address the covering of the channel. Therefore, WPD will amend or supplement the existing FEIR to address the covering of the channel from Pleasant Valley Road to Hueneme Road.

As documented in Appendix E of the existing FEIR, WPD performed Native American consultation and tribal notification for the project. Consultation included a sacred lands check with the NAHC for the presence of Native American cultural resources in the immediate project area. No specific site information was on file with the NAHC. However, the NAHC provided a list of Native American individuals and organizations that might have knowledge of cultural resources within the project area. A letter explaining the project and asking for any comments was mailed to all names on the list.

- *Final Environmental Impact Report J Street Drain Project Ventura County, California. SCH #2008041057. 2012. Ventura County Watershed Protection District.*
- *Ormond Beach Wetlands Restoration Project Feasibility Study. 2009. California State Coastal Commission.*
- Application to the U.S. Army Corps of Engineers for a Section 404, Nationwide Permit No. 43 for Stormwater Management Facilities.

Submittals to Granting Agency

Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will evaluate the project relative to the metrics contained in the Project Performance Measures Plan. Other items required by the grant contract will also be submitted to the granting agency. Submittals will include those described in the Work Plan (Table 6).

Design Plans and Specifications

As shown in the graphics above, conceptual design of the channel cover is complete.

Items Provided with this Work Plan

The following items are being provided with this work plan. These items are found in Att3_IG2_WorkPlan_5of7.

- *The City of Oxnard Floodplain Analysis: Industrial Drain, Rice Road Drain, J Street Drain, Hueneme Drain, and Ormond Lagoon. 2005. Ventura County Watershed Protection District.*
- *J Street Drain Channel Improvement Study and Preliminary Design. 2005. Ventura County Watershed Protection District.*

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University of California at Santa Barbara

Invasive Plant Removal, Ecosystem Restoration, and Habitat Protection in the Santa Clara River (Santa Clara River Restoration)

University of California Santa Barbara

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Program Preferences

- Include Regional Projects/Programs
- Integrate water management within hydrologic region
- Effectively resolve significant water-related conflicts within or between regions
- Contribute to attainment or one or more objectives to CALFED
- Address critical water supply/quality needs of DAC
- Effectively integrate water management with land use planning
- For Flood Management - projects that provide multiple benefits

CALFED

Primary Objectives

- Ecosystem quality
- Water supply
- Water quality
- Levee system integrity

Statewide Priorities

- Drought preparedness
- Use and reuse water more efficiently
- Climate change response actions
- Expand environmental stewardship
- Practice integrated flood management
- Protect surface water and groundwater quality
- Improve tribal water & natural resources
- Ensure equitable distribution of benefits

Overview

This project will remove arundo (*Arundo donax*; giant reed) and restore habitat in the Santa Clara River floodplain in an identified critical wildlife zone. The project is part of a large-scale effort by the California Coastal Conservancy to eliminate arundo from the watershed to improve water resources in the Region. The goal of the overall effort is to create a large, contiguous native riparian zone through a series of related, but stand-alone, restoration projects.

This project will restore between 150 and 200 acres of riparian habitat over a period of four years, by removing arundo and other invasive plant species. Passive and active revegetation strategies will be used to re-establish riparian forests and a wetlands buffer to improve water quality of agricultural run-off entering the Santa Clara River and to provide wildlife habitat for riparian and wetland species. Removal of water-intensive invasive species will conserve approximately 3,500 AFY of water. Water previously consumed in excess by invasive species will instead provide much needed recharge to the overdrafted groundwater basins along the Santa Clara River, including the Santa Paula and Oxnard Basins (DWR Basins 4-4.02 and 4-4.04, respectively). Groundwater is the largest single source of water for the cities of Fillmore and Santa Paula and is the primary source of water for agriculture in the Santa Clara River. Additional recharge helps resolve conflicts between groundwater users in the local basins.

The University of California at Santa Barbara (UCSB) is involved in ongoing research to determine the effects of arundo on native biota and ecosystem properties and develop the most effective control and restoration strategies for reducing impacts to native ecosystems. Guided by science-based information, this project provides valuable hands-on application in restoration ecology practices for UCSB and other regional college students and researchers. UCSB has teamed with The Nature Conservancy (TNC) and Friends of the Santa Clara River to access prioritized lands for restoration.

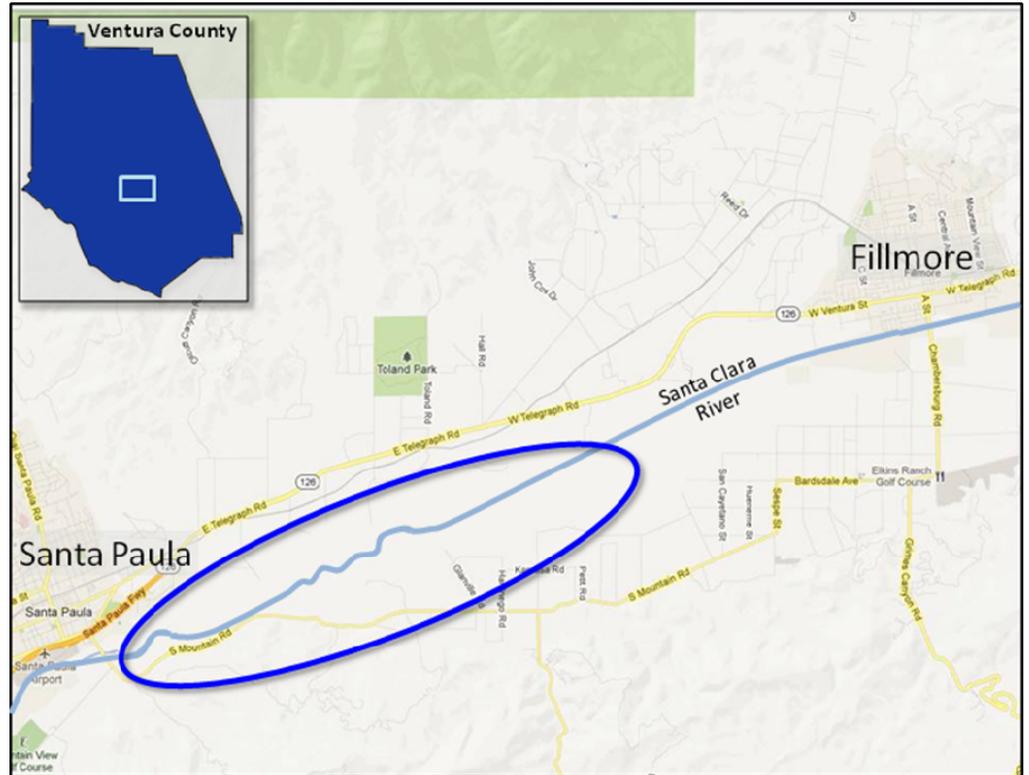
The project area is within a larger 1,000 acre floodplain area comprised of a mix of degraded properties targeted for restoration. The California Coastal Conservancy's strategic plan for arundo treatment and post-treatment revegetation for the lower watershed will guide project implementation.

Watershed Coalition of Ventura County Primary Objectives

- Reduce dependence on imported water
- Protect, conserve, and augment water supplies
- Protect and improve water quality
- Protect people, property, and the environment from adverse flooding impacts
- Protect and restore habitat and ecosystems in our watersheds
- Provide water-related public access, recreational, and educational opportunities

Location

Restoration will occur along the Santa Clara River floodplain, in the river reach between Sespe Creek and Santa Paula Creek (approximately 6 river miles). Flow originating in this reach provides recharge for the underlying Fillmore and Santa Paula Groundwater Basins and the Oxnard Plain.



Project Benefits

Invasive species removal and habitat restoration will have a number of significant benefits for the Santa Clara River ecosystem:

- Removal of invasive species, which consume excessive water volumes compared to native vegetation, will reduce water consumption and conserve local water supplies. Assuming each acre of arundo uses approximately 20 AFY more water than an acre of native vegetation (*Arundo donax Distribution and Impact Report*. 2011. California Invasive Plant Council. 2011), the project will conserve 3,500 AFY.
- Water savings will help address groundwater overdraft in the Santa Paula and Oxnard Basins, thereby helping to resolve significant water-related conflicts within the Region.
- Invasive species control will reduce the amount of arundo biomass that could act as flood debris and exacerbate river flooding.
- Improved habitat will attract birds and other wildlife, providing enhanced recreational opportunities for wildlife viewing from existing trails.

- Improved habitat will benefit species listed as “threatened”, “endangered”, or “special concern” under the federal and California Endangered Species Acts (“sensitive species”). The lower Santa Clara River is home to 46 sensitive species, many negatively impacted by arundo (due to lack of shading and poor foraging and nesting habitat). Sensitive species that will benefit from arundo removal include amphibians such as the arroyo toad, fish species such as the unarmored three spine stickleback and southern steelhead, and bird species such as the southwestern willow flycatcher and least Bell’s vireo.
- Invasive species control will reduce the amount of flammable biomass in the watershed and allow the river to again act as a fire break.

Cost and Schedule

Total project cost is approximately \$2,886,023; \$1,998,300 in grant funds are being requested and \$887,723 in match will be provided from local and federal grants and in-kind services. Project implementation will begin as early as October 2013 and will be completed by September 2017.

Project Snapshot

Consistent with Basin Plan	Feasibility Studies	Design
Yes	Complete	Complete
CEQA/NEPA	Permits	ROW/Land Acquisition
In progress	In progress	Complete

Invasive Plant Removal, Ecosystem Restoration, and Habitat Protection in the Santa Clara River (Santa Clara River Restoration)

Project Description

This project is an arundo control and habitat restoration program in the Santa Clara River floodplain for the river reach between Sespe Creek and Santa Paula Creek (six river miles) near the City of Santa Paula (Figure 7). The Santa Clara River watershed drains an extensive and biologically rich region and contains a strong representation of the biodiversity of the South and Central Coast Bioregions. The Santa Clara River is one of the few major river systems in the State which retains much of its natural hydrology and provides ecosystem functions necessary to sustain more than 17 federally listed species. The river basin also supports valuable agricultural resources and diverse recreational resources. Arundo is the most problematic invasive plant in southern California coastal rivers where it causes extensive flood damage, increases fire risk, and uses substantially more water than native vegetation. The project is part of a large-scale effort by the Coastal Conservancy to eliminate arundo from the watershed to improve water resources and habitat.

Arundo and invasive plants will be removed consistent with methods described in the California Coastal Conservancy's *Santa Clara River Parkway Strategic Plan for Arundo Treatment and Post-Treatment Revegetation*. The methods employed will vary depending on density of arundo, season, and presence of sensitive plants and wildlife.

Revegetation will follow arundo removal. Passive revegetation is anticipated for areas that receive periodic flood flows. Where passive recovery is unlikely, active planting will occur, using plants propagated from local seeds and cuttings, and when necessary, container plants.

All plants will be monitored for 3-4 years from the beginning of the project to track mortality

and evaluate whether additional planting will be necessary. Maintenance activities, including controlling invasive plants and arundo resprouts, and watering plants that show signs of desiccation, will be performed regularly during this period. If survival of cuttings is below 80 percent after each of the first two years, new cuttings will be planted. Observational methods will be used to determine potential causes of plant mortality, including inspecting plants for signs of herbivory or pathogen growth, and evaluating soil moisture at base of plantings. Retreatment of arundo regrowth will occur once or twice annually for at least three years to ensure that all arundo plants have been killed.

Project Timing and Phasing

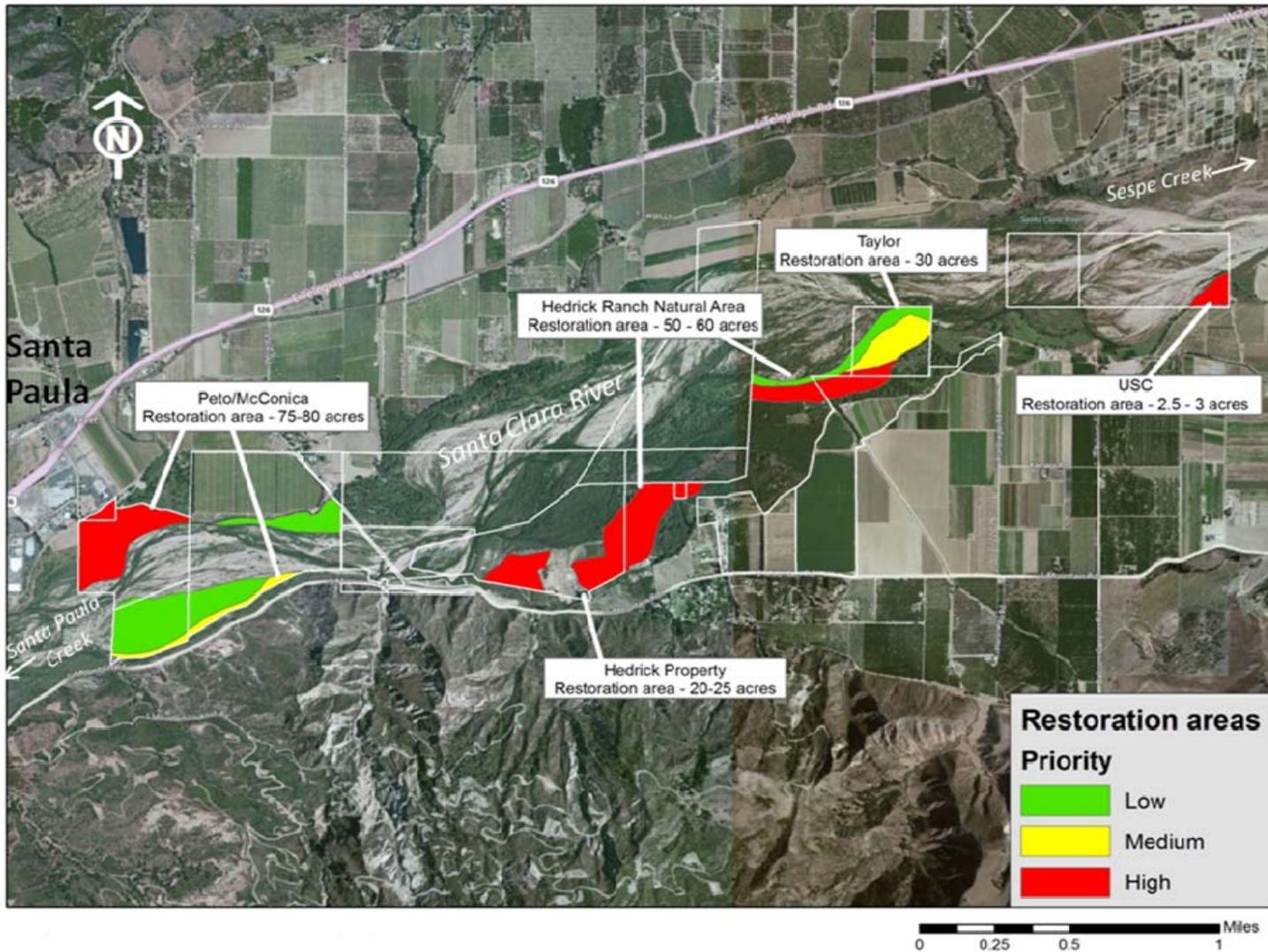
The overall restoration area covers over 1,000 acres within the floodplain. The goal is to create a large, contiguous riparian zone through a series of related, but stand-alone, restoration projects. To date, arundo has been removed from 26.6 acres within the Santa Clara river area targeted by the Coastal Conservancy.

This project will restore between 150 and 200 acres of riparian habitat by removing arundo and other invasive plant species, and using passive and active revegetation strategies to re-establish riparian forests. Priority will be given to properties with the largest arundo populations, with high habitat value, and where invasive plants pose the greatest risk to public safety (through floods and fires).

Work will occur in locations where arundo removal and restoration have not yet occurred. This includes:

- 2.5 to 3 acres on TNC's USC property.
- Approximately 30 acres on TNC's Taylor property.
- 50 to 60 acres on Friends of the Santa Clara River's Hedrick Ranch Nature Area property.
- 20 to 25 acres on Friends of the Santa Clara River's Hedrick Property.
- 70 to 80 acres on TNC's Peto/McConica property.

**FIGURE 7
SANTA CLARA RIVER RESTORATION PROJECT AREA**



All intended work areas are owned by project partners, TNC and Friends of the Santa Clara River. The Santa Clara River Restoration Project is not dependent on any other projects.

Goals and Objectives

The overall project goal is to use scientifically-based methods to restore water and biological resources to the floodplain for the benefit of human and natural systems. Specific objectives include:

- 1) Control arundo populations and other non-native, invasive plant species to reduce impacts to native ecosystems and allow native species to reestablish.
- 2) Restore native plant communities using a scientifically and ecologically-based approach to promote long-term ecosystem stability and conservation benefits.
- 3) Design a long-term biological monitoring program to facilitate a scientific evaluation of outcomes and successes.
- 4) Increase groundwater recharge to overdrafted basins by replacing high water use non-native plants with native plants.
- 5) Create a riparian forest and wetland buffer to provide wildlife habitat and water quality benefits.
- 6) Reduce flood and fire threats.
- 7) Provide outreach, access, and natural resource information regarding local and watershed restoration.

Purpose and Need

The Santa Clara River Parkway Project (funded by the State Coastal Conservancy) has identified this river reach as a critical wildlife zone due to its size, natural resources, and potential wildlife habitat. However, man-made alterations have led to habitat degradation and invasion by non-native species. Arundo is the primary invasive species of concern and forms large, monotypic stands throughout the project area.

A recent study by the California Invasive Plant Council (*Arundo donax Distribution and Impact Report*, March 2011, provided with this Work

Plan) shows that arundo can use up to six times as much water as native vegetation.



Arundo donax in Santa Clara River Floodplain.

This high water consumption is undesirable in the Santa Clara River as it limits groundwater recharge of the Fillmore, Santa Paula, and Oxnard Plain groundwater basins. The City of Fillmore's sole water supply is groundwater from the Fillmore Basin. Likewise the sole source of water for the City of Santa Paula is Santa Paula Basin groundwater. Additionally, local agriculture is heavily dependent on groundwater. A long-term decline in groundwater levels has been observed in the adjudicated Santa Paula Basin (United Water Conservation District. 2012. *Groundwater and Surface Water Conditions Report 2011*). In the Oxnard Plain, overdraft has existed for more than 50 years. It is estimated that the annual overdraft is 20,000 to 25,000 AFY (United Water Conservation District. 2012. *Groundwater and Surface Water Conditions Report 2011*).

Arundo is also known to be highly flammable. The California Invasive Plant Council estimates the fuel load of arundo is three times greater than that of native vegetation. Despite being highly flammable, arundo is able to recover rapidly from fire. By contrast, cottonwoods, willows, and other native woody plants are much less tolerant of direct exposure to fire and are outcompeted by arundo after a fire. Recent studies suggest that arundo is making riparian systems fire prone. Arundo in the project area has caused a decline in native species by facilitating fire, but also through direct competition for resources (California Invasive

Plant Council. 2011. *Arundo donax Distribution and Impact Report*). At the same time, with its large stands, arundo creates river flow obstruction and debris dams (as demonstrated in the photo below), thereby increasing risks of flooding and related damages (Stillwater Sciences. 2011. *Santa Clara River Parkway Strategic Plan for Arundo Treatment and Post-Treatment Revegetation*).



Photo by Richard Zembal. Source: California Invasive Plant Council. 2011. *Arundo donax Distribution and Impact Report*.

Arundo biomass damage to a bridge in the Santa Ana River.

Arundo also provides little to no habitat for wildlife. The California Invasive Plant Council evaluated arundo impacts to species listed under the federal Endangered Species Act. This evaluation found that arundo changed abiotic and biological functions in a way that moderately to severely impacted amphibian species such as arroyo toad, fish species such as the unarmored three spine stickleback and southern steelhead, and bird species such as the southwestern willow flycatcher and least Bell's vireo (California Invasive Plant Council. 2011. *Arundo donax Distribution and Impact Report*). Removal and restoration activities on 15 acres at the nearby Hedrick Ranch Natural Area has resulted in a significant increase in wildlife, especially the endangered least Bell's vireo (Hedrick Ranch Bird Survey conducted by the Western Foundation for Vertebrate Zoology, 2011).

Removing arundo and restoring native riparian forests will increase groundwater recharge, enhance wildlife value of associated wetlands, reduce flooding damage caused by accumulation of arundo biomass, and diminish the risk of and impact from wildfire which have killed a substantial number of riparian dependent trees in the project area.

Integrated Elements of Projects

This project, as well as the Ventura River Restoration Project, and the South Oxnard Stormwater Flood Management and Community Enhancements Project work toward the common goals of: (1) improved habitat and (2) provision of water-related public access, recreation and educational opportunities. This project and the Ventura River Restoration project improve habitat by supporting native vegetation that improve the biological and chemical properties of the floodplain. The South Oxnard Stormwater Flood Management project will improve habitat by reducing the amount of trash flushed into the Ormond Beach lagoon. This project the Ventura River Restoration Project, and South Oxnard Stormwater Flood Management Project each contribute to the preservation of hiking opportunities, enhancement of plant and wildlife viewing, and creation of outdoor classrooms.

The Santa Clara River Restoration and Ventura River Restoration projects create a framework whereby public agencies, non-profit organizations, and academic institutions act in concert to benefit the Region. These projects create a synergy where such coordination becomes the norm rather than the exception.

Existing Data and Studies/ Completed Work

The project is ready to proceed to implementation: feasibility studies are done, planning documents are complete, property access is in place, and permitting is well underway.

Multiple planning documents have been prepared specific to the project area. Additionally, numerous scientific data are available and studies have been completed to facilitate successful invasive species control and habitat restoration. These documents constitute the necessary feasibility studies, planning documents, and design documents for the project. The three studies/documents described below are provided with this Work Plan.

Lambert, A.M. and T.L. Dudley. 2011. *Taylor Property Habitat Restoration Plan*. Submitted to California Department of Fish and Wildlife (CDFW) and Santa Clara River Trustee Council.

This document provides specifics on techniques and methods and locations for habitat restoration on the Taylor property (one of the properties in this project). This document along with the Santa Clara River Parkway Strategic Plan constitute all the design documents needed for the project. This plan has been adapted to the remaining properties.

Beller, E.E., R.M. Grossinger, et al, 2011. *Historical Ecology of the Lower Santa Clara River, Ventura River, and Oxnard Plain: An Analysis of Terrestrial, Riverine, and Coastal Habitats*. Prepared for the State Coastal Conservancy.

This document provides information on the various invasive species communities, vegetation density, native plant coverage, and flood frequency/water availability for restoration activities.

Stillwater Sciences. 2011. *Santa Clara River Parkway Strategic Plan for Arundo Treatment And Post-Treatment Revegetation*. Prepared for the California State Coastal Conservancy. Oakland, CA.

This document provides a comprehensive look at the arundo problem in the Santa Clara River Parkway, describes effective

and appropriate arundo treatment and restoration approaches, identifies permits associated with the different restoration methods, and pinpoints specific areas for the application of treatment methods and priorities for treatment based on watershed-scale processes and ecological conditions. Unit costs and strategies for reducing costs are provided. The document also provides best management practices for invasive species removal and habitat restoration.

These studies and plans have already been benefiting the Santa Clara River. Restoration work has been completed or is planned on almost 40 acres in the Santa Clara River.

As described above, the planning and design for the project is done, but minor work related to CEQA review and permitting remains to be completed in 2013. The status of CEQA review and permits for the five project parcels is summarized in Table 7 below.

Project implementation could begin as early as October 2013 and will be completed by December 2017.

Project Map

Figure 7 shows the locations for restoration activities.

**TABLE 7
STATUS OF CEQA REVIEW AND PERMITTING BY PROJECT PROPERTY**

	USC	Taylor	Hedrick Ranch Nature Area	Hedrick	Peto/McConica
CEQA Exemption	complete	complete	complete	complete	complete
CDFW Streambed Alteration Agreement	complete	complete	Renewal 2013	Renewal 2013	complete
CDFW Restoration Plan	Pending (Dec 2013)	complete	complete	complete	Pending (summer 2013)
US Fish and Wildlife Service Biological Opinion	Pending (summer 2013)	complete	complete	complete	Pending (summer 2013)
Ventura County WPD Encroachment Permit	Not applicable	complete	complete	complete	complete

Work Plan

Tasks necessary to implement the Invasive Plant Removal, Ecosystem Restoration, and Habitat Protection Project in the Santa Clara River are described in the following table.

TABLE 8

<p>Category (a): Direct Project Administration Costs</p>
<p>Task 1: Administration</p> <p>Prepare and submit invoices.</p> <p>Deliverables: Invoices.</p>
<p>Task 2: Labor Compliance Program</p> <p>Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b).</p> <p>Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.</p>
<p>Task 3: Reporting</p> <p>Prepare quarterly and final reports as specified in the Grant Agreement.</p> <p>Deliverables: Quarterly and final reports as specified in the Grant Agreement.</p>
<p>Category (b): Land Purchase/Easement</p>
<p>Task 4: Land Purchase/Easement</p> <p>The properties where the project will be implemented are already owned by project partners. No additional land acquisition or easements are necessary or planned.</p>
<p>Category (c): Planning/Design/Engineering/Environmental Documentation</p>
<p>Task 5: Assessment and Evaluation</p> <p>A Monitoring Plan will be prepared in accordance with the granting agency requirements and consistent with monitoring methods developed in the <i>Taylor Property Habitat Restoration Plan</i> and <i>Riparian Restoration Handbook</i> published by the Santa Clara River Trustee Council. A Project Performance Measures Plan will also be developed.</p> <p>Deliverables: Monitoring Plan; quarterly progress monitoring by biological monitor; annual progress monitoring by biological monitor; Project Performance Measures Plan; provision of available GIS data to California Environmental Information Clearinghouse.</p>
<p>Task 6: Design</p> <p>All design activities have been completed and are found in the <i>Taylor Property Habitat Restoration Plan</i> and <i>Santa Clara River Parkway Strategic Plan for Arundo Treatment and Post-Treatment Revegetation</i>.</p> <p>Deliverables: Habitat restoration plans.</p>

Task 7: Environmental Documentation

UCSB will complete the following environmental documentation before project implementation: CEQA Exemptions and USFWS biological opinions for all five properties. Because the project is covered by a CEQA Exemption, Native American Tribal Notification is not necessary.

Deliverables: California Department of Fish and Wildlife CEQA exemption letters; Streambed; USFWS biological opinions for properties where work will occur.

Task 8: Permitting

Ventura County Watershed Protection District has provided an encroachment permit exemption for restoration activities in the floodplain. UCSB will complete the following permits before project implementation: Streambed Alteration agreements and associated restoration plans for all five properties.

Deliverables: Copies of permits, waivers, and restoration plans.

Category (d): Construction/Implementation

Task 9: Construction Contracting

The USCB Contracts and Grants Department will oversee the review of specifications, the development and coordination of contract documents, bidding and award of projects, and the execution of agreements.

Deliverables: Notice of Award to contractors; Notice to Proceed to contractors.

Task 10: Construction/Implementation

Arundo and invasive plants will be removed consistent with methods described in the *Santa Clara River Parkway Strategic Plan for Arundo Treatment and Post-Treatment Revegetation*. 150 to 200 acres of Arundo will be removed. Revegetation will follow arundo removal. All plants will be monitored for 3-4 years from the beginning of the project to track mortality and evaluate if additional planting will be necessary. Retreatment of arundo regrowth will occur once or twice annually for at least three years to ensure that all arundo plants have been eliminated.

Deliverables: Site photos documenting arundo removal and revegetation efforts.

Category (e): Environmental Compliance/Mitigation/Enhancement

Task 11: Environmental Compliance/Mitigation/Enhancement

Best Management Practices described in the *Santa Clara River Parkway Strategic Plan for Arundo Treatment and Post-Treatment Revegetation* and all permit documents will be followed. Best Management Practices will include pre-construction surveys, training of project personnel on safe use of pesticides, and limiting the amount of cuttings from a native plant.

Deliverables: Summary of best management practices; results of pre-construction surveys summarized in quarterly reports.

Category (f): Construction Administration

Task 12: Construction Administration

Contract administration will include orienting staff and contractors to the specific work they are undertaking, field inspections of all work by the project manager, reviewing contractor invoices, and ensuring proper payment for contracted tasks.

Deliverables: Same as for Task 10, Construction/Implementation.

Other Required Information

Procedures

The necessary procedures and relationships are in place to ensure successful collaboration of UCSB and its partners on the Santa Clara River Restoration Project. Friends of the Santa Clara River has and will continue to provide access to UCSB for research and restoration activities on their properties, as well as unlimited access to their plant growth facility. UCSB and TNC entered into a license agreement in 2012 formalizing the terms and conditions of UCSB's use of the Taylor property during the project period. This agreement will be extended to all TNC properties in the project area.

UCSB is the project proponent and will enter into a subgrant agreement with Ventura County (grant applicant). UCSB staff will coordinate all project activities to ensure that the invasive species removal and habitat restoration meet the project goals and objectives. The County of Ventura will coordinate all administrative items involved in partnering, organization, reporting, and invoicing related to the grant agreement.

Standards

The approaches used for this restoration project are common to the restoration field in general and have been specifically adapted to the project area. Methods and monitoring protocols are consistent with the *Taylor Property Habitat Restoration Plan* already approved by CDFW and the *Santa Clara River Parkway Strategic Plan for Arundo Treatment and Post-Treatment Revegetation*.

Development of Project Assessment and Evaluation Measures

UCSB will prepare a Project Performance Measures Plan, based on Attachment 6, that will include specific metrics to evaluate the success of native habitat restoration, changes in biodiversity, and other benefits achieved by the Santa Clara River Restoration.

UCSB will employ project assessment methods standard to the restoration field, as well as rigorous biological sampling methods to track changes to habitats, resources, and species as

restoration progresses. Project assessment will include photo documentation and regular progress monitoring.

Photo Documentation

Photographic reference points for each acre will be established to document the progress of vegetative growth. Photo-point locations will be recorded with a GPS unit, and included in reference maps that accompany the annual monitoring reports. When progress photos are taken, location, direction, and angle of view will be recorded. These will be repeated during subsequent occurrences of photo documentation to provide a time-series of photographs. Photographs will be included in quarterly grant reports.

Progress Monitoring

Progress monitoring will be performed by a biological monitor on a quarterly basis. Monitoring will include qualitative assessment of natural recruitment, health of planted species, plant mortality, presence of non-native invasive plants, and potential soil issues. Subsequent maintenance and revegetation activities will be adjusted if needed based on monitoring results.

Annual Monitoring

Annual monitoring will be performed by a biological monitor once a year to evaluate effectiveness of restoration implementation. Quantitative monitoring will assess growth, survivorship, and diversity of plants in the project area.

Line transects will be permanently established for each acre using stratified-random sampling methods. Transects will be located using a grid overlaid on the most current aerial photograph, and the beginning and end points of each transect marked to ensure temporal sampling occurs at the same location. Transects will be at least 25 meters long. Absolute percent cover of native and non-native plants will be determined along transects using the point-intercept method for vegetation over 0.75 meter and using 0.5 meter quadrats for vegetation under 0.75 meter. A current flora of all plant species occurring in the restoration area will be developed.

Annual reports will contain both qualitative data and quantitative data evaluating the status of

the restoration project. The annual report will be submitted to California Department of Fish and Wildlife, TNC, and the granting agency. Results of monitoring will also be used to guide adaptive management during the project period.

In collaboration with the Western Foundation for Vertebrate Zoology, a network of monitoring sites have been established across the project area and in other areas of the watershed to document status and trends in hydrologic and biodiversity elements. These data are essential for understanding how environmental conditions, including climate change, are affecting long-term patterns in biodiversity and ecosystem processes and for landscape-level assessment of progress toward restoring native species. Coordination of current monitoring efforts will also facilitate evaluating progress toward reducing excess nutrients and pollutants in the river system and meeting regional water quality standards.

Status of Acquisition of Land or ROWs

The properties where the project will be implemented are already owned by project partners. No additional land acquisition or easements are currently necessary or planned.

Permits

As summarized above, the majority of permits have been acquired for the project and the following are in progress:

- Renewal of the Streambed Alteration Agreements for the Hedrick Ranch Nature Area and Hedrick property.
- Biological Opinion for the USC and Peto/McConica property.

The majority of the project is above the ordinary high water mark and is out of United State Army Corps of Engineers (USACE) jurisdiction. Any work conducted within USACE jurisdiction will not require a permit because all cut plant material (fill) will be removed from the work sites. Ventura County Watershed Protection District provided an exemption to their encroachment permit process because work will only entail improvements to land.

Status of Preparation and Completion of Environmental Requirements

CEQA exemption was provided by CDFW as part of the Streambed Alteration Agreement for all TNC properties (Taylor and Peto/McConica). Friends of the Santa Clara River is currently renewing their Streambed Alteration Agreement, and as part of that process a CEQA Exemption will be prepared for the Hedrick Ranch Nature Area.

Submittals to Granting Agency

UCSB will prepare quarterly and final reports as specified in the Grant Agreement. Reports will include information from daily field notes, invoices, and analysis of qualitative and quantitative monitoring data. Submittals will include those described in the Work Plan (Table 8).

Design Plans and Specifications

All design activities have been completed and are found in the *Taylor Property Habitat Restoration Plan* and *Santa Clara River Parkway Strategic Plan for Arundo Treatment and Post-treatment Revegetation*.

Items Provided with this Work Plan

The following items are being provided with this work plan. These items are found in Att3_IG2_WorkPlan_6of7.

- Beller, E.E., R.M. Grossinger, et al, 2011. *Historical Ecology of the Lower Santa Clara River, Ventura River, and Oxnard Plain: An Analysis of Terrestrial, Riverine, and Coastal Habitats*. Prepared for the State Coastal Conservancy.
- Lambert, A.M. and T.L. Dudley. 2011. *Taylor Property Habitat Restoration Plan*. Submitted to California Department of Fish and Wildlife (CDFW) and Santa Clara River Trustee Council.
- Stillwater Sciences. 2011. *Santa Clara River Parkway Strategic Plan for Arundo Treatment And Post-Treatment Revegetation*. Prepared for the California State Coastal Conservancy. Oakland, CA.

- California Invasive Plant Council. 2011. *Arundo donax* Distribution and Impact Report.



Ventura County Watershed Protection District

Ventura River Invasive Plant Removal and Ecosystem Restoration Project

(Ventura River Restoration)

Ventura County Watershed Protection District

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Program Preferences

- Include Regional Projects/Programs
- Integrate water management within hydrologic region
- Effectively resolve significant water-related conflicts within or between regions
- Contribute to attainment or one or more objectives to CALFED
- Address critical water supply/quality needs of DAC
- Effectively integrate water management with land use planning
- For Flood Management - projects that provide multiple benefits

CALFED

Primary Objectives

- Ecosystem quality
- Water supply
- Water quality
- Levee system integrity

Statewide Priorities

- Drought preparedness
- Use and reuse water more efficiently
- Climate change response actions
- Expand environmental stewardship
- Practice integrated flood management
- Protect surface water and groundwater quality
- Improve tribal water & natural resources
- Ensure equitable distribution of benefits

Overview

The Ventura River Invasive Plant Removal and Ecosystem Restoration Project (Ventura River Restoration) continues the removal of non-native, invasive plant species in the Ventura River Watershed as part of the on-going, larger scale Matilija Dam Ecosystem Restoration effort on 33 miles of the Ventura River and Matilija Creek. The Project includes removal of approximately 43 acres of arundo (*Arundo donax*; giant reed) along 6 miles of the Ventura River. The project will also enhance public recreation and access along the Ventura River.

The project will remove invasive plants (primarily arundo) on parcels owned or maintained by the Ventura County Watershed Protection District (WPD) project partners, Ojai Valley Land Conservancy (OVLC) and Ventura Hillside Conservancy (VHC), and on two parcels held by private property owners. The parcels are important to restoration of the endangered southern steelhead and 40 other special status species. The project will also enhance lands used for public recreation, not only through ecosystem improvement, but by adding a trailhead kiosk and interpretive trail signage; by improving existing restrooms to meet Americans with Disabilities Act (ADA) requirements, and by upgrading an existing road to improve public safety and access to recreational areas.

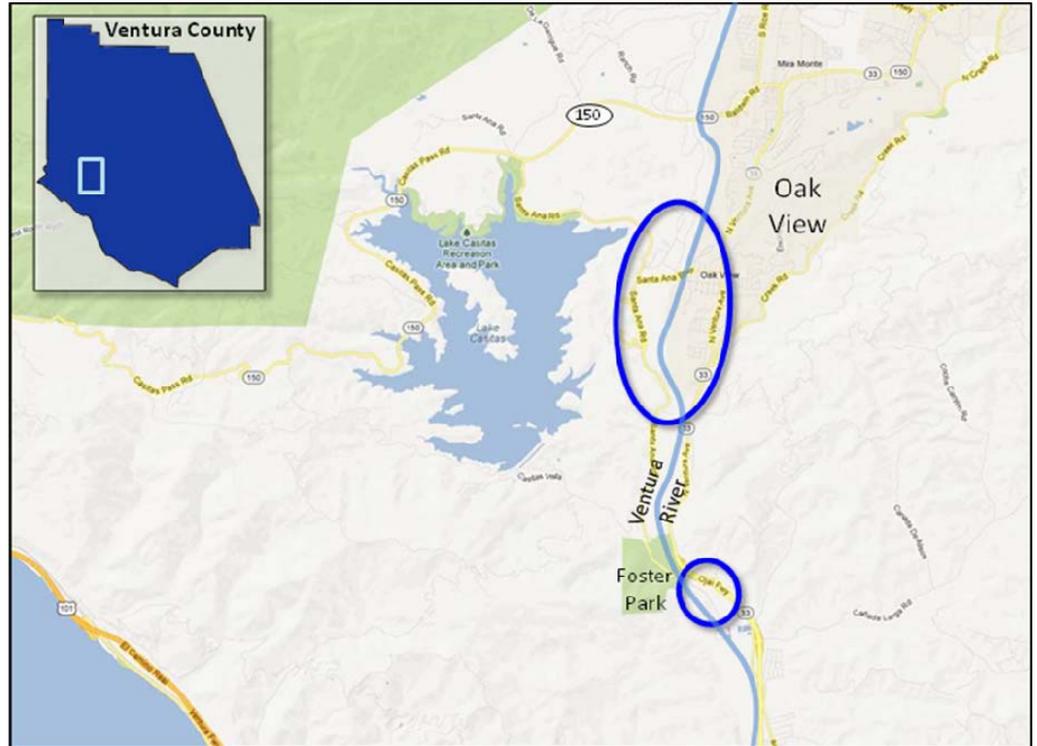
Invasive species removal will conserve approximately 284 AFY of water. Excess water previously consumed by invasive species will instead provide much needed streamflow for beneficial uses and recharge to the Ventura River Groundwater Basin (DWR Basin No. 4-3). The Los Angeles RWQCB considers the Ventura River impaired due to diversion and pumping. Improved streamflow and recharge is necessary to resolve conflicts between urban, agricultural, and environmental water (endangered southern steelhead) demands.

Watershed Coalition of Ventura County Primary Objectives

- Reduce dependence on imported water
- Protect, conserve, and augment water supplies
- Protect and improve water quality
- Protect people, property, and the environment from adverse flooding impacts
- Protect and restore habitat and ecosystems in our watersheds
- Provide water-related public access, recreational, and educational opportunities

Location

The project will be located along the Ventura River, in the northeastern edge of the City of Ventura, from the Highway 150 bridge downstream to just south of Foster Park.



Project Benefits

Invasive species removal and habitat restoration will have a number of significant benefits for the Ventura Clara River ecosystem, water-related public access, and recreational opportunities:

- Removal of invasive species, which consume excessive water volumes compared to native vegetation, will reduce water consumption and conserve local water supplies. Assuming each acre of arundo uses approximately 20 AFY more water than an acre of native vegetation (*Arundo donax Distribution and Impact Report*. 2011. California Invasive Plant Council. 2011), the project will conserve 284 AFY.
- Water savings will help address low surface water flow and augment groundwater supplies in the Ventura River Groundwater Basin, thereby helping to resolve significant water-related conflicts between urban and agricultural users and environmental demands within the Region.
- Invasive species control will reduce the amount of arundo biomass that could act as flood debris and exacerbate river flooding.
- Improved habitat will attract birds and other wildlife, providing enhanced recreational opportunities for wildlife viewing from existing trails.
- Habitat restoration and improved visitor facilities enhance free public recreation along the river while protecting habitat for steelhead and other

sensitive species.

- Improved habitat will benefit species listed as “threatened”, “endangered”, or “special concern” under the federal and California Endangered Species Acts (“sensitive species”). The Ventura River is home to 40 sensitive species, many negatively impacted by arundo (due to lack of shading and poor foraging and nesting habitat). Sensitive species that will benefit from arundo removal include the tidewater goby, southern steelhead, and red legged frog.
- Invasive species control will reduce the amount of flammable biomass in the watershed and allow the river to again act as a fire break.
- Removal of arundo will reduce the establishment of homeless encampments and associated water quality and public safety threats.

Cost and Schedule

Total project cost is approximately \$2,012,991; \$1,500,000 in grant funds are being requested and \$512,991 will be provided from local funds. Project implementation is scheduled to begin February 2014 and will be completed by February 2017.

Project Snapshot

Consistent with Basin Plan	Feasibility Studies	Design
<i>Yes</i>	<i>Complete</i>	<i>75% Complete</i>
CEQA/NEPA	Permits	ROW/Land Acquisition
<i>In progress</i>	<i>Pending</i>	<i>95% Complete</i>

Ventura River Invasive Plant Removal and Ecosystem Restoration Project (Ventura River Restoration)

Project Description

The project will remove non-native, invasive plant species in the Ventura River Watershed and contribute to the broader Matilija Dam Ecosystem Restoration Project. The primary invasive species targeted will be *Arundo donax* (arundo), as shown in the picture below. The project advances and enhances species removal on parcels of land adjacent to the Ventura River beginning at the Highway 150 bridge and moving south to an area below Foster Park (Figure 8). The project will target arundo removal on four preserves which are either owned and/or maintained by the project partners: Ventura County Watershed Protection District (WPD), the Ojai Valley Land Conservancy (OVLC), and the Ventura Hillsides Conservancy (VHC). Arundo removal will also occur on two privately held properties. Specific areas include:

- OVLC's Rio Vista Preserve
- OVLC's Ventura River Steelhead Preserve
- VHC's North Foster Park Preserve
- VHC's South Foster Park Preserve
- Private property upstream of the North Foster Park
- Private property between the North and South Foster Park preserves

In all, the project will remove 43 acres of arundo within a 135 acre project area.



Arundo donax in Ventura River Floodplain

Methods for invasive plant removal will be based on best management practices described in the WPD's *Matilija Dam Giant Reed Removal Plan*. In order to minimize re-establishment of arundo, retreatment will be conducted over three subsequent years upon removal.

The project will also enhance public access to the Ventura River and enhance water-related recreation activities. WPD will improve 1,680 linear feet of an existing access road on the OVLC Steelhead Preserve, upgrade existing bathroom facilities to meet ADA standards, install a trailhead kiosk, and landscape the grounds surrounding the public restrooms and future Education and Conservation Center.

Project Timing and Phasing

The overarching Matilija Dam Ecosystem Restoration Project covers nearly 33 miles of the Ventura River and Matilija Creek from the ocean to the headwaters. The WPD is the local U.S. Army Corps of Engineers sponsor for this ecosystem restoration project, which will eventually open over 17 miles of spawning and rearing habitat to endangered southern steelhead (*Oncorhynchus mykiss*). Through previous projects, the WPD has restored habitat on over 17 miles of Matilija Creek and the upper Ventura River. The initial treatment started at the headwaters of Matilija Creek and extended to the Highway 150 bridge. Over 190 acres of invasive plants were removed.

This project will remove arundo in the next logical downstream reach of the Ventura River

from the Highway 150 bridge to an area south of Foster Park.

The Proposal also includes recreation enhancements on the OVLC Steelhead Preserve. Improvements from this project will support a future Education and Conservation Center proposed at the Steelhead Preserve in a historic ranch building. The future Center will support environmental education, host community meetings and events, provide workspace for researchers studying riparian ecology, and serve as a home base for habitat restoration projects in the Ventura River.

As part of this Proposal, necessary improvements will occur that will directly support the Education and Conservation Center and benefit water-based public recreation. A trailhead kiosk will be constructed in the vicinity of the Center, the historic ranch restroom will be modified as needed to meet ADA standards, 1,680 linear feet of an existing ranch access road will be paved to meet Ventura County standards for an “all-weather” road, and the grounds around the future Center will be landscaped.

Goals and Objectives

The goals of this project are to (1) use scientifically-based methods to restore water and biological resources to the floodplain for the benefit of human and natural systems and (2) provide water-related public access, recreation, and educational opportunities on the Ventura River.

The project objectives are:

1. Control of arundo populations and other non-native, invasive plant species to reduce impacts to native ecosystems and allow native species to reestablish.
2. To achieve arundo control within the project area by removing 90% of invasive non-native plants on 43 acres.
3. Increase surface water flow and groundwater recharge in the Ventura River by removing thirsty invasive plants.
4. Restore habitat and wildlife corridors for over 40 sensitive species.
5. Reduce flood and fire threats.

6. Improve and enhance recreational and educational opportunities.

Purpose and Need

In the Ventura River, invasive plants, particularly arundo, have displaced native riparian vegetation. Arundo has spread rapidly in Ventura’s mild coastal climate, and has quickly replaced native vegetation with nearly monotypic stands. Arundo outcompetes native species such as willows, mulefat, and cottonwoods, species that provide nesting habitat for least Bell's vireo, willow flycatcher, and other native species.

As described in the work plan for the Santa Clara River Restoration, recent studies show that arundo can use up to six times as much water as native vegetation (California Invasive Plant Council. 2011. *Arundo donax Distribution and Impact Report*). The high water consumption is problematic for the Ventura River. There is currently no access to imported water in the Ventura River watershed; residents, agriculture, and businesses are dependent on local supplies, primarily surface water from the Ventura River and local groundwater. The Ventura River system and groundwater system serve many beneficial uses, including water supply and fishery habitat. Currently the water supplies of the Ventura River and Ventura River Valley Groundwater Basin are the subject of scrutiny as water purveyors, private irrigators, and public trust agencies try to balance competing water demands. The Ventura River has been listed by the Los Angeles RWQCB as impaired due to water diversions and pumping.

An additional issue is the relationship of thick arundo colonies to homeless encampments in the Ventura River bottom. As shown in the photo below, because arundo grows in large masses, the homeless have found that they can hollow out clumps and create a semi-protected camp which provides some measure of privacy and safety. Groups of homeless have created “communities” in which they gather for additional security.



Source: California Invasive Plant Council. 2011. *Arundo donax* Distribution and Impact Report.

Transient encampment in arundo.

While on the surface, this seems as if it could be a successful social adaptation, it has inherent problems. First, as mentioned above, it makes the residents extremely vulnerable to both flood and fire dangers. Second, it gives an illusion of safety that does not exist in reality. Perhaps most importantly, it creates major pollution problems. Because there are no sanitary facilities in the river bed, all biological functions take place in the open river bed. Waste materials and trash accumulate in the encampments and become pollutants flushed to the Ventura River estuary during rain and flood events.

Arundo is highly flammable and arundo stands have a significantly higher amount of dry, dead biomass compared to native vegetation. Arundo greatly increases the fuel load of riparian areas. The California Invasive Plant Council estimates the fuel load of arundo is three times greater than that of native vegetation. Arundo can facilitate fire and following fire outcompetes native vegetation. Transient activities are the primary ignition source for fires that start in arundo stands. From 2000 to 2009 there were five documented arundo fires in the Ventura River area started in homeless encampments (California Invasive Plant Council. 2011. *Arundo donax* Distribution and Impact Report).

Arundo also provides little to no habitat for wildlife. As described earlier, the California Invasive Plant Council evaluated arundo impacts to species listed under the federal Endangered Species Act. This evaluation found that arundo changed abiotic and biological functions in a way that moderately to severely impacted species of the Ventura River such as California red-legged frog, tidewater goby and southern steelhead (California Invasive Plant Council. 2011. (*Arundo donax* Distribution and Impact Report)). Similar to a chemical pollutant

in the water, arundo negatively affects physical and biological processes in wetlands and streams. Unlike native riparian plants, arundo provides little shading to the in-stream habitat, leading to increased water temperatures and reduced habitat quality for aquatic wildlife.

Additionally, the large arundo stands create river flow obstruction and debris dams, thereby increasing risks of flooding and related damages (Stillwater Sciences. 2011. *Santa Clara River Parkway Strategic Plan for Arundo Treatment And Post-Treatment Revegetation*).

Removing arundo will increase groundwater recharge, enhance wildlife value of associated wetlands, reduce flooding damage caused by accumulation of arundo biomass, and diminish the risk of and impact from wildfire.

Integrated Elements of Projects

This project, as well as the Santa Clara River Restoration Project, and the South Oxnard Stormwater Flood Management and Community Enhancements Project work toward the common goals of: (1) improved habitat and (2) provision of water-related public access, recreation and educational opportunities. This project and the Santa Clara River Restoration project improve habitat by supporting native vegetation that improve the biological and chemical properties of the floodplain. The South Oxnard Stormwater Flood Management project will improve habitat by reducing the amount of trash flushed into the Ormond Beach lagoon. This project the Santa Clara River Restoration Project, and South Oxnard Stormwater Flood Management Project each contribute to the preservation of hiking opportunities, enhancement of plant and wildlife viewing, and creation of outdoor classrooms.

This project and the Ventura River Restoration project create a framework whereby public agencies, non-profit organizations, and academic institutions act in concert to benefit the Region. These projects create a synergy where such coordination becomes the norm rather than the exception.

Existing Data and Studies/ Completed Work

As described in the following paragraphs, the project will easily proceed to implementation. Necessary feasibility studies are done, planning documents are complete, design is 75 percent complete, and preparation of a CEQA Exemption is underway. Arundo removal will occur on property held by project partners or on private property where the land owners have already indicated their intent to provide right-of-entry (a MOU with one of the property owners is provided with this Work Plan).

Scientific data are available and multiple studies have been completed to facilitate successful invasive species control in the Ventura River. These documents constitute the necessary feasibility studies and planning documents for the project.

Matilija Dam Giant Reed Removal Plan. 2007. Ventura County Watershed Protection District.

This document provides an overview of the invasive species problem in the Ventura River both upstream and downstream of Matilija Dam. This document identifies effective and appropriate invasive species treatment and removal methods which will be used by the project. The document also defines best management practices for invasive species removal; these methods will be used by the project.

Matilija Dam Giant Reed Removal Water Quality Monitoring Plan. 2007. Ventura County Watershed Protection District.

This document provides specific information on the water quality parameters to be measured and sampling protocols to be used when using aquatic herbicides for invasive species removal. This water quality monitoring plan will be used by the project.

Matilija Dam Ecosystem Restoration Feasibility Study EIS/EIR. 2004. Ventura County Watershed Protection District.

Final Report, Matilija Dam Ecosystem Restoration Feasibility Study. US Army Corps of Engineers and Ventura County Watershed Protection District. 2004.

These documents provide the necessary environmental review and evaluation for the project and defines measures to lessen potential impacts from invasive species removal in the Ventura River. The *Matilija Dam Ecosystem Restoration Feasibility Study EIS/EIR* was approved and adopted by the Ventura County Board of Supervisors on December 16, 2004.

Copies of the *Matilija Dam Giant Reed Removal Plan* and *Matilija Dam Giant Reed Removal Water Quality Monitoring Plan* are being provided with this Work Plan. Due to their large size, only the executive summary of the , and *Matilija Dam Ecosystem Restoration Feasibility Study* and *Matilija Dam Ecosystem Restoration Feasibility Study EIS/EIR* are provided.

These studies and plans have already been benefiting the Ventura River. WPD has restored habitat on more than 17 miles of the Ventura River and Matilija Creek.

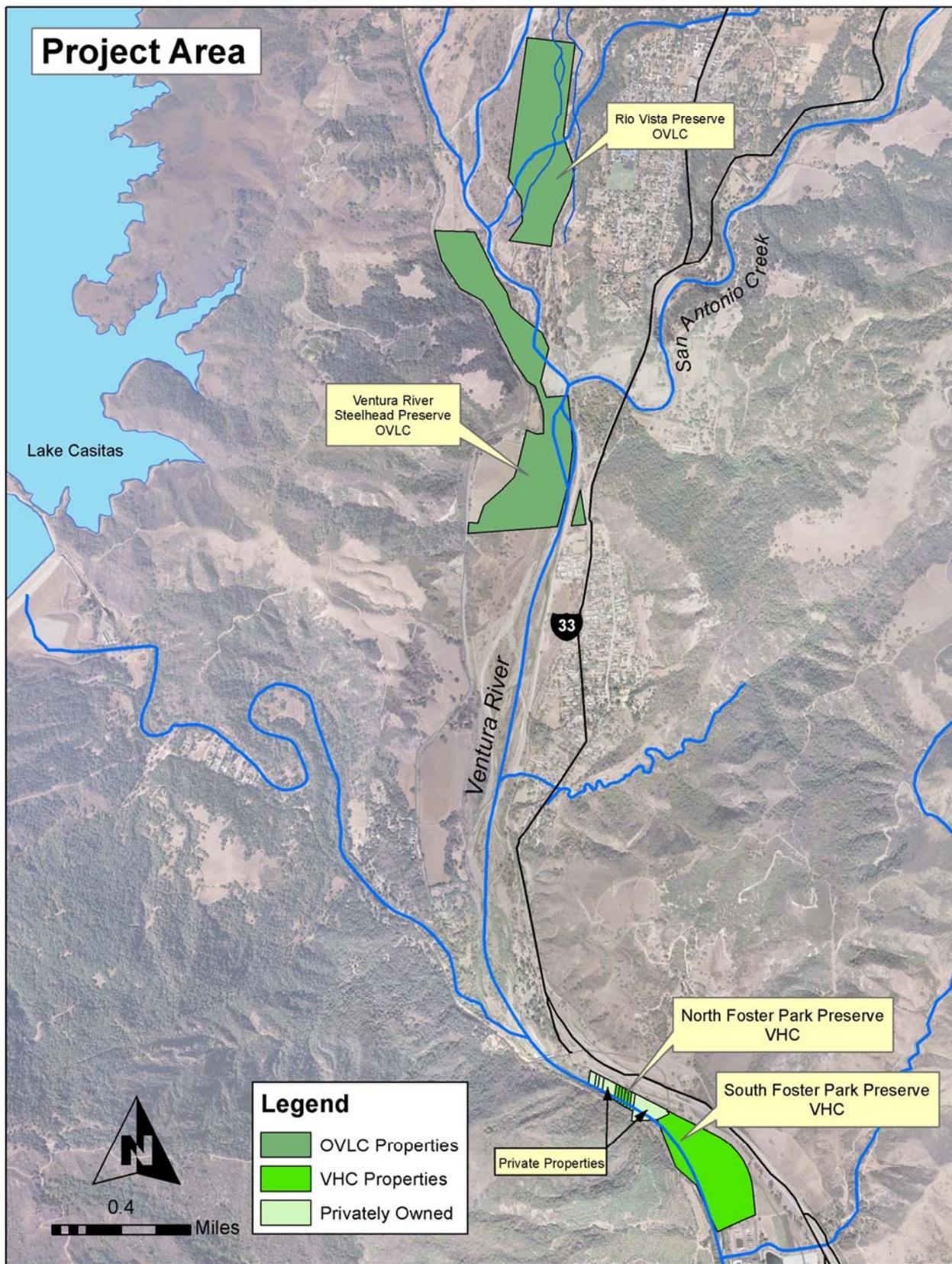
Design related to arundo removal is complete (what plants will be removed, methods for removal). WPD will perform updated vegetation mapping to identify specific removal areas prior to project execution. Design of recreation enhancements at the Steelhead preserve are in progress and are anticipated to be completed by December 2013.

Project implementation could begin as early as February 2014 and will be completed by September 2017.

Project Map

Figure 8 shows the locations for restoration activities.

FIGURE 8
VENTURA RIVER RESTORATION PROJECT AREA



Work Plan

Tasks necessary to implement the Ventura River Invasive Plant Removal and Ecosystem Restoration Project are described in the following table.

TABLE 9

<p>Category (a): Direct Project Administration Costs</p>
<p>Task 1: Administration</p> <p>Prepare and submit invoices.</p> <p>Deliverables: Invoices.</p>
<p>Task 2: Labor Compliance Program</p> <p>Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b).</p> <p>Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.</p>
<p>Task 3: Reporting</p> <p>Prepare quarterly and final reports as specified in the Grant Agreement.</p> <p>Deliverables: Quarterly and final reports as specified in the Grant Agreement.</p>
<p>Category (b): Land Purchase/Easement</p>
<p>Task 4: Land Purchase/Easement</p> <p>The majority of properties where the project will be implemented are already owned by project partners. Minor arundo removal could occur on private property adjacent to the North Foster Park and South Foster Park properties. The VHC currently has MOUs with these property owners, however these must be formalized to conform to County standards for right-of entry. This work will be completed prior to project implementation.</p> <p>Deliverables: Right-of-Entry Agreements.</p>
<p>Category (c): Planning/Design/Engineering/Environmental Documentation</p>
<p>Task 5: Assessment and Evaluation</p> <p>A Monitoring Plan will be prepared in accordance with the granting agency requirements and consistent with monitoring methods developed in the <i>Matilija Dam Giant Reed Removal Water Quality Monitoring Plan</i>. A Project Performance Measures Plan will also be developed.</p> <p>Deliverables: Monitoring Plan; Project Performance Measures Plan; provision of available GIS data to California Environmental Information Clearinghouse.</p>

Task 6: Design

Review of density of invasive plants throughout the construction area, development of final design and specifications. Development of a preliminary design concept for the Education and Conservation Center.

Deliverables: Contract Documents.

Task 7: Environmental Documentation

The *Matilija Dam Ecosystem Restoration Feasibility Study EIS/EIR* was approved and adopted by the Ventura County Board of Supervisors on December 16, 2004. A CEQA Notice of Exemption will be prepared for the recreation enhancements at the Steelhead Preserve.

Deliverables: Copies of approved and adopted CEQA documentation.

Task 8: Permitting

WPD will obtain necessary Streambed Alteration Agreements from the California Department of Fish and Wildlife under Section 1602 of the Fish and Game Code to cover exotic species removal. WPD will also obtain a Regional General Permit No. 41, which authorizes the removal of invasive exotic plants from waters of the United States, from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act. WPD will coordinate with OVLC to obtain a new Conditional Use Permit to allow construction of recreational enhancements at the Steelhead Preserve.

Deliverables: Copies of permits.

Category (d): Construction/Implementation**Task 9. Coordination**

Activities needed to prepare and execute MOUs with The Nature Conservancy and Ventura Hillside Conservancy.

Deliverables: Memoranda of Understanding.

Task 10: Construction Contracting

The construction contract(s) will be bid and awarded in accordance with the Public Contract Code and WPD procedures.

Deliverables: Notice of Award issued to contractor; Notice to Proceed to contractor.

Task 11: Construction/Implementation

Arundo and invasive weeds will be removed consistent with methods described in the *Matilija Giant Reed Removal Plan* and *Matilija Dam Ecosystem Restoration Feasibility Study EIS/EIR*. Forty-three acres of removal will occur within the 135 acre project area. There will be an initial removal with three subsequent years of retreatment.

On the Steelhead Preserve, WPD will build and install a trailhead kiosk and interpretive trail signage; build creative exhibits in the area of the future Education and Conservation Center; landscape the grounds around the areas surrounding the future Education and Conservation Center; perform minor modification of the restroom in the historic ranch building which is the future Education and Conservation Center in order to assure ADA accessibility; and upgrade the existing access road to meet Ventura County standards for all-weather access.

Deliverables: Before, during, and after site photos of arundo removal; record drawings.

Category (e): Environmental Compliance/Mitigation/Enhancement**Task 12: Environmental Compliance/Mitigation/Enhancement**

Best Management Practices described in the *Matilija Dam Giant Reed Removal Plan* and *Matilija Dam Ecosystem Restoration Feasibility Study EIS/EIR* will be followed. Best Management Practices will include pre-construction surveys, training of project personnel on safe use of pesticides, and limiting the amount of cuttings from a native plant.

Deliverables: Summary of best management practices; results of pre-construction surveys summarized in quarterly reports.

Category (f): Construction Administration**Task 13: Construction Administration**

Contract administration will include orienting staff and contractors to the specific work they are undertaking, field inspections of all work by the project manager, reviewing contractor invoices, and ensuring proper payment for contracted tasks.

Deliverables: Same as for Task 11, Construction/Implementation.

Other Required Information

Procedures

WPD will enter into MOUs with both OVLC and the VHC that describe the responsibilities of each entity and ensure access to the necessary project sites to perform invasive species removal and recreation enhancements.

WPD is a member of WCVC and the project proponent. WPD will enter into a subgrant agreement with Ventura County (grant applicant). WPD will coordinate all project activities to ensure that the invasive species removal and recreation enhancements meet the project goals and objectives. The County of Ventura will coordinate all administrative items involved in partnering, organization, reporting, and invoicing related to the grant agreement.

Standards

The approaches used for this restoration project are common to the restoration field in general and have been specifically adapted to the project area. Methods and monitoring protocols will be consistent with the *Matilija Dam Giant Reed Removal Plan* and *Matilija Dam Ecosystem Restoration Feasibility Study EIS/EIR*.

Development of Project Assessment and Evaluation Measures

WPD will prepare a Project Performance Measures Plan, based on Attachment 6, that will include specific metrics to evaluate the success of invasive plant removal and improvements to water-related public access, recreation, and educational opportunities on the Ventura River.

WPD will employ project assessment methods standard to the restoration field. Project assessment will include photo documentation and regular progress monitoring.

Photo Documentation

Photographic reference points for each preserve will be established to document the progress of invasive species removal. Photo-point locations will be recorded with a GPS unit, and included in reference maps that accompany the monitoring reports. When

progress photos are taken, location, direction, and angle of view will be recorded. These will be repeated during subsequent occurrences of photo documentation to provide a time-series of photographs. Photographs will be included in quarterly grant reports.

Progress Monitoring

Progress monitoring will be performed by a biological monitor following initial treatment and each of the three years of retreatment. Reports will contain both qualitative data and quantitative data evaluating the status of the restoration project.

Status of Acquisition of Land or ROWs

The majority of properties where the project will be implemented are already owned by project partners. Minor arundo removal could occur on private property adjacent to the North Foster Park and South Foster Park properties. The VHC currently has MOUs with these property owners, however these must be formalized to conform to County standards for right-of entry.

Permits

The following permits will be obtained prior to project implementation:

- Streambed Alteration Agreements from the California Department of Fish and Wildlife under Section 1602 of the Fish and Game Code
- Regional General Permit No. 41 from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act
- Conditional Use Permit from Ventura County

Status of Preparation and Completion of Environmental Requirements

The *Matilija Dam Ecosystem Restoration Feasibility Study EIS/EIR* was approved and adopted by the Ventura County Board of Supervisors on December 16, 2004. This document provides the necessary evaluation of potential impacts and applicable mitigation measures for invasive species removal in the Ventura River. CEQA review will be performed for the recreation enhancements at the Steelhead Preserve; it is anticipated that a

CEQA Notice of Exemption will be prepared. Native American Tribal Notification will not be required for this project. The CEQA documentation for invasive species removal pre-dates when Native American Tribal Notification went into effect, and projects preparing a CEQA Exemption are not required to do the notification.

Submittals to Granting Agency

WPD will prepare quarterly and final reports as specified in the Grant Agreement. Reports will include information from field notes, invoices, and analysis of qualitative and quantitative monitoring data. Submittals will include those described in the Work Plan (Table 9).

Design Plans and Specifications

Design is more than 75 percent complete for the project. The *Matilija Dam Giant Reed Removal Plan* (provided with the Work Plan) constitutes the necessary design for the arundo removal aspect of the project. WPD will prepare an updated map of invasive species on the target properties. After review of the analysis of density of invasive plants throughout the project area, a final implementation plan will be developed. WPD will prepare a design concept for recreational enhancements in the vicinity of the future Steelhead Preserve/Education and Conservation Center. Work at the Steelhead Preserve will be modifying existing structures and design will be minimal.

Items Provided with this Work Plan

The following items are being provided with this work plan. These items are found in Att3_IG2_WorkPlan_7of7.

- MOU between James Finch and Ventura Hillside Conservancy for the Implementation of Habitat Restoration Projects on Two Finch Properties Along the Ventura River.
- Ventura County Watershed Protection District. 2007. *Matilija Dam Giant Reed Removal Plan*.
- Ventura County Watershed Protection District. 2007. *Matilija Dam Giant Reed Removal Water Quality Monitoring Plan*.
- Ventura County Watershed Protection District. 2004. *Matilija Dam Ecosystem Restoration Feasibility Study EIS/EIR – Executive Summary*.
- US Army Corps of Engineers and Ventura County Watershed Protection District. 2004. Final Report, *Matilija Dam Ecosystem Restoration Feasibility Study – Executive Summary*.

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