



## RANCHO MURIETA COMMUNITY SERVICES DISTRICT

15160 JACKSON ROAD  
RANCHO MURIETA, CA 95683  
916-354-3700  
FAX – 916-354-2082

**NOTICE IS HEREBY GIVEN** that the President of the Board of Directors of the Rancho Murieta Community Services District has called a Special Meeting of the Board to be held on December 3, 2015 at 4:00 p.m., at the Rancho Murieta Community Services District Board Room at 15160 Jackson Road, Rancho Murieta.

### AGENDA

*“Your Independent Local Government Agency Providing  
Water, Wastewater, Drainage, Security, and Solid Waste Services”*

### SPECIAL BOARD MEETING DECEMBER 3, 2015

Open Session 4:00 p.m.  
RMCS Administration Building – Board Room  
15160 Jackson Road  
Rancho Murieta, CA 95683

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#### BOARD MEMBERS

Gerald Pasek	President
Betty Ferraro	Vice President
Morrison Graf	Director
Michael Martel	Director
Mark Pecotich	Director

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#### STAFF

Darlene J. Gillum	General Manager
Greg Remson	Security Chief
Paul Siebensohn	Director of Field Operations
Eric Thompson	Controller
Suzanne Lindenfeld	District Secretary

**RANCHO MURIETA COMMUNITY SERVICES DISTRICT**  
**SPECIAL BOARD MEETING**  
**DECEMBER 3, 2015**  
**Open Session 4:00 p.m.**

All persons present at District meetings will place their cellular devices in silent and/or vibrate mode (no ringing/sound of any kind). During meetings, these devices will be used only for emergency purposes and, if used, the party called/calling will exit the meeting room for conversation. Other electronic and internet enabled devices are to be used in the "silent" mode. Under no circumstances will recording devices or problems associated with them be permitted to interrupt or delay District meetings.

**AGENDA**

- |   | RUNNING TIME |
|---|--------------|
| <b>1. CALL TO ORDER</b> - Determination of Quorum - President Pasek <b>(Roll Call)</b>  | 4:00         |
| <b>2. ADOPT AGENDA</b> <i>(Motion)</i>  |              |
| <b>3. SPECIAL ANNOUNCEMENTS AND ACTIVITIES</b>  |              |
| <b>4. COMMENTS FROM THE PUBLIC</b>  | 4:05         |
| <i>For this Special Meeting, members of the public may <b>ONLY</b> comment on items specifically agendized. Members of the public wishing to address a specific agendized item are encouraged to offer their public comment during consideration of that item. With certain exceptions, the Board may not discuss or take action on items that are not on the agenda.</i> |              |
| <i>If you wish to address the Board at the time of the agendized item, as a courtesy, please state your name and address, and reserve your comments to no more than 3 minutes so that others may be allowed to speak. (5 min.)</i>  |              |
| <b>5. CONSIDER APPROVAL OF TITLE XVI WATER RECLAMATION AND REUSE PROGRAM FUNDING APPLICATION - Presentation by Kevin Kennedy, Tom Guinn, and Michael Gabaldon, AECOM</b> <i>(Discussion/Action) (Motion) (45 min.)</i>  | 4:10         |
| <b>6. CONSIDER APPROVAL OF CEQA SERVICES, SUPPORT AND DOCUMENTATION PROPOSAL FOR THE SOLAR POWER PROJECT</b> <i>(Discussion/Action) (Motion) (Roll Call Vote) (15 min.)</i>   | 4:55         |
| <b>7. REVIEW DISTRICT RESPONSE TO SACRAMENTO COUNTY NOTICE OF PREPARATION CONCERNING THE RANCHO MURIETA NORTH PROJECT, NUMBER CONTROL PLN2014-00206</b> <i>(Discussion/Action) (5 min.)</i>   | 5:10         |
| <b>8. COMMENTS/SUGGESTIONS – BOARD MEMBERS AND STAFF</b>  | 5:15         |
| <i>In accordance with Government Code 54954.2(a), Directors and staff may make brief announcements or brief reports of their own activities. They may ask questions for clarification, make a referral to staff or take action to have staff place a matter of business on a future agenda.</i>   |              |
| <b>9. ADJOURNMENT</b> <i>(Motion)</i>   | 5:20         |

"In accordance with California Government Code Section 54957.5, any writing or document that is a public record, relates to an open session agenda item and is distributed less than 72 hours prior to a regular meeting, will be made available for public inspection in the District offices during normal business hours. If, however, the document is not distributed until the regular meeting to which it relates, then the document or writing will be made available to the public at the location of the meeting."

Note: This agenda is posted pursuant to the provisions of the Government Code commencing at Section 54950. The date of this posting is December 2, 2015. Posting locations are: 1) District Office; 2) Plaza Foods; 3) Rancho Murieta Association; 4) Murieta Village Association.

## MEMORANDUM

Date: December 2, 2015  
To: Board of Directors  
From: Paul Siebensohn, Director of Field Operations  
Subject: Consider Approval of Title XVI Water Reclamation and Reuse Program Funding Application

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### RECOMMENDED ACTION

Approve USBR funding application from AECOM for the 2016 WaterSMART - Title XV1 Water Reclamation funding.

### BACKGROUND

As new water and sewer connections come online from homes or businesses, these new connections not only use water but send wastewater to our Reclamation Facility for treatment and ultimately for disposal as reclaimed water. This reclaimed water is not only needed to be disposed of, but may be used by the District for irrigation which offsets potable water use. The District has been working towards implementing the District Recycled Water Program for several years. The process began with the adoption of Policy #2011-07, and then proceeded with the Title XVI Feasibility Study, which then transitioned to the application and receipt of the Master Reclamation Permit. With the pending near term future development, the District must now proceed with the actual implementation and construction of the identified recycled water system infrastructure and improvements. It is important for the infrastructure and improvements to be completed and online prior to the need/demand created by development. Funding for these infrastructure and improvements will be provided through a combination of Water Supply Augmentation Reserves, developer funding, and grant funding.

We have requested that AECOM pursue grant funding on behalf of the District from the US Bureau of Reclamation's WaterSMART: Title XVI Water Reclamation and Reuse Program Funding (Tile XVI) as a potential source to supplement the costs for implementation of the District's recycled water service program. General information regarding the Title XVI program is included below for reference.

The Title XVI application to the US Bureau of Reclamation in coordination with and on behalf of the District is attached for your review. It provides current estimates of projects and costs that may be pursued within Phase 1 of development only, in no particular order. This includes improvements necessary to provide Stonehouse Park recycled water irrigation service. A summary table of the projects is also provided for ease of reference as well.

**Information Regarding WaterSMART program from the US Bureau of Reclamation:**

*The WaterSMART program allows all bureaus of the US department to work with states, tribes, local governments, water agencies and non-governmental organizations to pursue a sustainable water supply for the nation by establishing a framework to provide federal assistance on the efficient use of water, integrating water and energy policies to support the sustainable use of all natural resources, and coordinating the water conservation activities of the various department offices.*

*Reclamation plays a key role in the WaterSMART program as the department's main water management agency. Focused on improving water conservation and helping water and resource managers make wise decisions about water use, Reclamation's portion of the WaterSMART program is achieved through administration of grants, scientific studies, technical assistance and scientific expertise.*

*WaterSMART provides funding, combined with grant recipient cost-share funds that support the following types of grants awarded by the Region in 2013: Water and Energy Efficiency Grants, Cooperative Watershed Management Program Grants, and Title XVI Program Water Reclamation and Reuse Projects. (Title XVI is also known as the Reclamation Wastewater and Groundwater Study and Facilities Act of 1992.)"*

**Application for Federal Assistance SF-424**

* 1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application	* 2. Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision	* If Revision, select appropriate letter(s): <input type="text"/> * Other (Specify): <input type="text"/>
--	--	--

* 3. Date Received: <input type="text"/>	4. Applicant Identifier: <input type="text"/>
---	--

5a. Federal Entity Identifier: <input type="text"/>	5b. Federal Award Identifier: <input type="text"/>
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**State Use Only:**

6. Date Received by State: <input type="text"/>	7. State Application Identifier: <input type="text"/>
---	---

**8. APPLICANT INFORMATION:**

\* a. Legal Name:

* b. Employer/Taxpayer Identification Number (EIN/TIN): <input type="text" value="68-0000805"/>	* c. Organizational DUNS: <input type="text" value="105918460000"/>
--	--

**d. Address:**

* Street1:	<input type="text" value="15160 Jackson Road"/>
Street2:	<input type="text" value="PO Box 1050"/>
* City:	<input type="text" value="Rancho Murieta"/>
County/Parish:	<input type="text"/>
* State:	<input type="text" value="CA: California"/>
Province:	<input type="text"/>
* Country:	<input type="text" value="USA: UNITED STATES"/>
* Zip / Postal Code:	<input type="text" value="956683-1050"/>

**e. Organizational Unit:**

Department Name: <input type="text"/>	Division Name: <input type="text"/>
--	--

**f. Name and contact information of person to be contacted on matters involving this application:**

Prefix: <input type="text"/>	* First Name: <input type="text" value="Thomas"/>
Middle Name: <input type="text"/>	
* Last Name: <input type="text" value="Guinn"/>	
Suffix: <input type="text"/>	
Title: <input type="text" value="Project Manager"/>	

Organizational Affiliation:

* Telephone Number: <input type="text" value="(775) 722-5095"/>	Fax Number: <input type="text" value="(916) 679-2900"/>
---	---

\* Email:

## Application for Federal Assistance SF-424

### \* 9. Type of Applicant 1: Select Applicant Type:

D: Special District Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\* Other (specify):

### \* 10. Name of Federal Agency:

Bureau of Reclamation

### 11. Catalog of Federal Domestic Assistance Number:

15.504

CFDA Title:

Title XVI Water Reclamation and Reuse Program

### \* 12. Funding Opportunity Number:

R16-FOA-DO-003

\* Title:

WaterSMART: Title XVI Water Reclamation and Reuse Program Funding for Fiscal Year 2016

### 13. Competition Identification Number:

Title:

### 14. Areas Affected by Project (Cities, Counties, States, etc.):

Rancho\_Murieta-Sacramento\_County-CA.pdf

Add Attachment

Delete Attachment

View Attachment

### \* 15. Descriptive Title of Applicant's Project:

The project consists of the expansion of the existing recycled water program to serve future residential developments, existing parks and commercial landscaping.

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

**Application for Federal Assistance SF-424**

**16. Congressional Districts Of:**

\* a. Applicant

\* b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

Delete Attachment

View Attachment

**17. Proposed Project:**

\* a. Start Date:

\* b. End Date:

**18. Estimated Funding (\$):**

* a. Federal	<input type="text" value="2,941,733.00"/>
* b. Applicant	<input type="text" value="8,825,200.00"/>
* c. State	<input type="text" value="0.00"/>
* d. Local	<input type="text" value="0.00"/>
* e. Other	<input type="text" value="0.00"/>
* f. Program Income	<input type="text" value="0.00"/>
* g. TOTAL	<input type="text" value="11,766,933.00"/>

**\* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

a. This application was made available to the State under the Executive Order 12372 Process for review on

b. Program is subject to E.O. 12372 but has not been selected by the State for review.

c. Program is not covered by E.O. 12372.

**\* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

Yes  No

If "Yes", provide explanation and attach

Add Attachment

Delete Attachment

View Attachment

**21. \*By signing this application, I certify (1) to the statements contained in the list of certifications\*\* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances\*\* and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

\*\* I AGREE

\*\* The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

**Authorized Representative:**

Prefix:  \* First Name:

Middle Name:

\* Last Name:

Suffix:

\* Title:

\* Telephone Number:

Fax Number:

\* Email:

\* Signature of Authorized Representative:

\* Date Signed:



## ASSURANCES - CONSTRUCTION PROGRAMS

OMB Number: 4040-0009  
Expiration Date: 06/30/2014

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.**

**NOTE:** Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant:, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.
14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq).
18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.
20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL  	TITLE GENERAL MANAGER
APPLICANT ORGANIZATION RANCHO MURIETA COMMUNITY SERVICES DISTRICT	DATE SUBMITTED 12/07/2015

# RANCHO MURIETA COMMUNITY SERVICES DISTRICT PHASE 1 RECYCLED WATER SYSTEM EXPANSION PROJECT



Bureau of Reclamation Financial Assistance Agreement Number 12AC20051

Applicant:  
Rancho Murieta Community Services District  
Attn: Darlene Gillum, General Manager  
15160 Jackson Highway  
Rancho Murieta, CA 95683  
Email: [dgillum@ranchomurietacsd.com](mailto:dgillum@ranchomurietacsd.com)  
Telephone: (916) 354-3709  
Fax: (916) 314-3530

Submitted By:  
AECOM  
Attn: Tom Guinn, Project Manager  
1 East First Street 16<sup>th</sup> Floor  
Reno, NV 89501  
Email: [tom.guinn@aecom.com](mailto:tom.guinn@aecom.com)  
Telephone: (775) 870-4923  
Fax: (916) 679-2900

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## ACRONYMS AND OTHER ABBREVIATIONS

AF	acre-foot
AFY	acre-foot per year
Basin Plan	Sacramento River and the San Joaquin River Basins
CALFED (formerly)	California Bay-Delta Authority
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CVRWQCB	Central Valley Regional Water Quality Control Board
Delta	Sacramento-San Joaquin Delta
DIP	ductile iron pipe
District	Rancho Murieta Community Services District
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FOA	Funding Opportunity Announcement
ft	feet
gpm	gallons per minute
hp	horse power
in	inch
IWMP	Integrated Water Master Plan
lb	pounds
MGD	gallon per day
MRP	Master Reclamation Permit
N	nitrogen
Project	Recycled Water System Expansion Project
RV	recreational vehicle
RWQCB	Regional Water Quality Control Board
RWQCB) and CDPH	Central Valley Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition
sf	square feet
Study	Title XVI Recycled Water Feasibility Study, Rancho Murieta Community Services District, dated June 2014

# 1 EXECUTIVE SUMMARY

On December 10, 2015, the Rancho Murieta Community Services District (“District”), located in the City of Rancho Murieta, Sacramento County, California, elected to implement the District’s Phase 1 Recycled Water System Expansion Project (“Project”). The Project will ultimately offset potable water demands by 370 acre-feet (AF) per year.

The Project consists of the expansion of the existing recycled water program to serve future residential developments, existing parks, common areas and other landscaping consistent with the District’s recently adopted Waste Discharge Requirements (WDR)<sup>1</sup>. Service would be provided by expanding the existing North and South Golf Course Conveyance Systems through the addition of recycled water transmission mains and service pipelines, storage tanks, and booster pumping; condition assessment of the existing recycled water assets; and disinfection facility upgrades.

## 2 TECHNICAL PROJECT DESCRIPTION

### 2.1 INTRODUCTION

#### 2.1.1 District Service Area and Study Area Boundaries

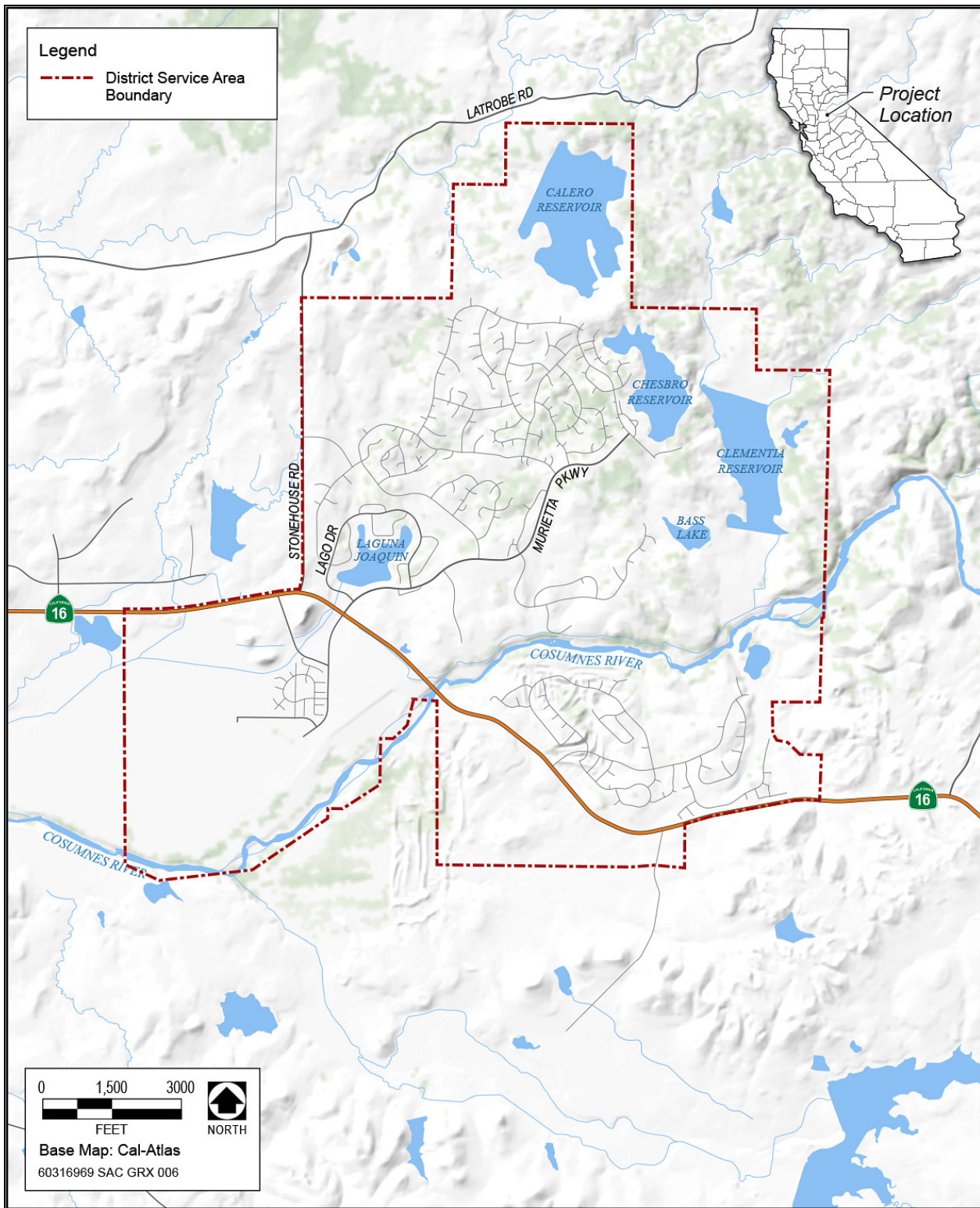
The District was formed in 1982 to provide water supply conveyance, treatment, and distribution; wastewater collection, treatment, and reuse; as well as storm drainage capture, collection, disposal and flood control services for the community of Rancho Murieta. This community is located approximately 20 miles east of Sacramento on State Highway 16. The area served by the District is illustrated in Figure 1 and encompasses approximately 3,500 acres. Land uses within this service area include approximately 2,000 acres for single family residences, townhouses, apartments, duplexes and mobile homes. The District currently serves 2,604 sewer connections comprised of 2,502 residential, 97 commercial, and 5 park connections. At buildout, according to Sacramento County’s approved Planned Unit Development Plan, the development of the District’s service area potentially represents roughly 5,189 residential units.

#### 2.1.2 Existing Wastewater Treatment and Recycled Water Systems

The existing Wastewater Reclamation Plant (WWRP) receives domestic wastewater and a relatively small amount of commercial wastewater from the community of Rancho Murieta as well as recreational vehicles (RVs) from two RV dump stations. There are no industries or industrial activities that discharge wastewater to the WWRP.

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<sup>1</sup> Order R5-2014-0149 - Waste Discharge Requirements and Master Recycling Permit for Rancho Murieta Community Services District Wastewater Treatment and Reclamation Plant ,Sacramento County, CVRWQCB, December 4, 2014.



**Figure 1. District Service Area and Study Area Boundary**



Raw wastewater is pumped to the WWRP through three main pumping stations located throughout Rancho Murieta. The WWRP provides secondary and tertiary treatment suitable for the production of *Disinfected Tertiary Recycled Water* as defined by Title 22 of the California Code of Regulations. Treatment processes and their locations are shown in Figure 2.

The secondary wastewater treatment plant has an average dry weather permitted flow capacity of 1.55 million gallon per day (MGD) and a 3.0 MGD a peak wet weather flow capacity. Secondary treatment takes place in a series of five clay-lined aerated facultative ponds (Aeration Ponds 1 through 5). Secondary effluent is stored in two clay-lined storage reservoirs (Reservoirs 1 and 2) with a combined storage capacity of approximately 747 AF prior to tertiary treatment and disinfection. Wastewater is stored in the reservoirs during the rainy season (typically between the months of October and March) until needed for irrigation of the golf courses during the dry season. Tertiary treatment and disinfection, typically operated from April through November, consists of two dissolved air floatation units, two rapid sand filters, a chlorine gas feed system, chlorine contact basin, and 6,600 linear feet of chlorine contact pipe installed in a concrete lined equalization basin. The design capacity of the tertiary treatment plant is 3.0 MGD and the disinfection system has a rated capacity of only 2.3 MGD. After going through tertiary and disinfection facilities, the final effluent is stored in the equalization basin prior to reuse.

Disinfected tertiary treated wastewater is used to irrigate two 18-hole golf course properties, the North and South Golf Courses (250 acres combined area), operated by the Rancho Murieta Country Club. The locations of these golf courses are shown in Figure 3. The recycled water is pumped to the golf courses and stored in five unlined irrigation storage reservoirs (Lake Ten, Lake Eleven, Lake Sixteen, Lake Seventeen, and Bass Lake) situated around the golf courses prior to use. The two golf courses have a combined total annual irrigation demand of 550 acre feet (AF) during a typical year.

The District has over 20 years of experience as a recycled water producer and distributor. The proposed Project will be an expansion of the District's existing and successful recycled water program which serves the two existing golf courses located within the community.

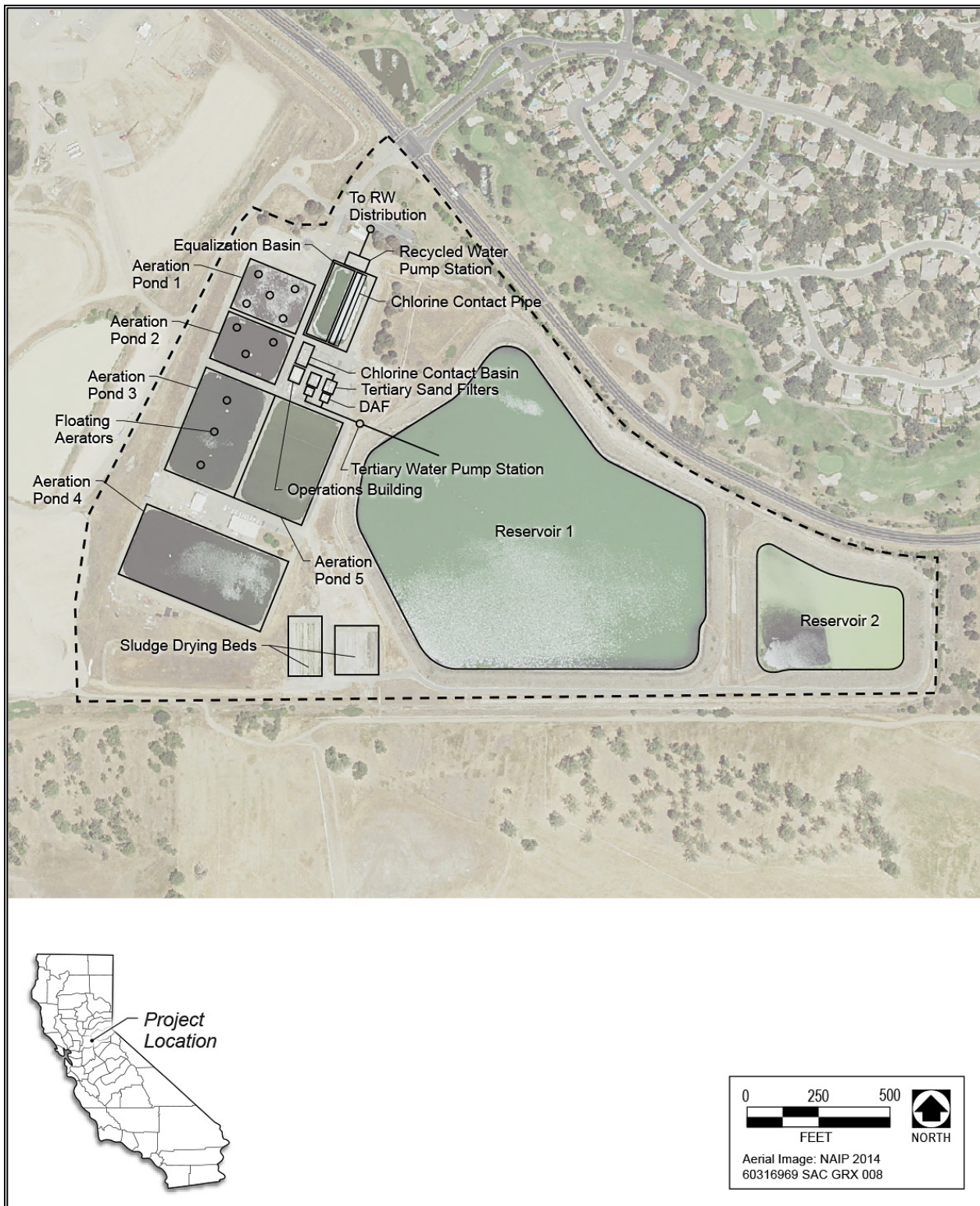
Disinfected tertiary treated wastewater is also used to irrigate three separate pasture lands on the Van Vleck Ranch. Distribution and use of recycled water at the Van Vleck Ranch is managed by the District. The locations of Field 1 (49 acres (ac)), Field 2 (25 ac), and Field 3 (22 ac) are shown on Figure 3. The existing Van Vleck Ranch fields have a combined total annual irrigation demand of 215 AF during a typical year. An above ground spray irrigation system is used to discharge the recycled water onto these fields.

### **2.1.3 Project Background**

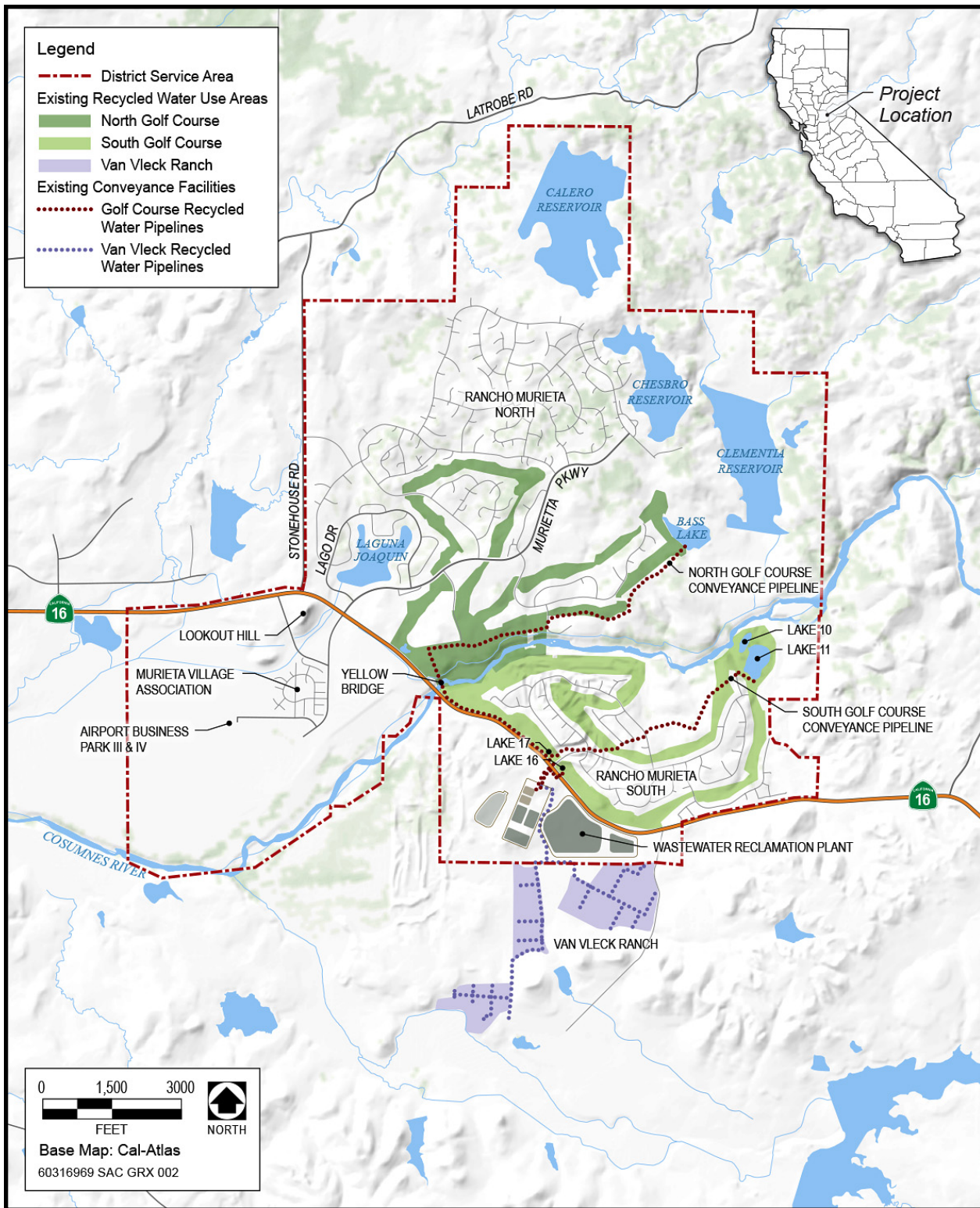
A series of studies commissioned by the District, which culminated in the preparation of the Title XVI Recycled Water Feasibility Study<sup>2</sup> recommended the expansion of the existing recycled water system to

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<sup>2</sup> Title XVI Recycled Water Feasibility Study, Rancho Murieta Community Services District, June 2014.



**Figure 2. Existing WWRP Facilities**



**Figure 3. Existing Recycled Water Use Areas and Conveyance System**

serve select future residential developments<sup>3</sup> and existing parks and commercial landscaping. The selected developments were identified by ranking the developments against one another with respect to estimated service costs and selecting those deemed to be cost-effective. Service to these residential developments would be provided by expanding the existing recycled water system, including the North Golf Course conveyance system through the addition of recycled water transmission mains and service pipelines, storage tanks, and booster pumping stations.

The implementation of this project will provide the following significant benefits:

- ▶ Reduce future Cosumnes River diversions, offset potable water demands by 370 AFY per year, and conserve surface water supplies.
- ▶ Help the District meet its 20x2020 Water Conservation Goals.
- ▶ Provide opportunities to serve other potential customers along the recycled water transmission pipeline alignment.
- ▶ Support regional water planning efforts.
- ▶ Providing a sustainable and long-term means for treated effluent disposal that is directly linked to strengthening the local economy.
- ▶ Increase water supply reliability.
- ▶ Reduce drought deficits and greenhouse gas emissions as well as the District's overall carbon footprint by minimizing potable water treatment requirements.
- ▶ Contribute to the statewide recycled water goals and demonstrate the District's willingness to manage its available resources in a responsible and progressive manner.
- ▶ Contribute to the recovery of the Central Sacramento County Groundwater Basin and Sacramento-San Joaquin Delta and Cosumnes River ecosystems.

#### **2.1.4 Project Sponsors**

The non-federal sponsor is defined as being the entity, or entities, that construct, own, operate, and maintain all or a portion of the recommended project to be funded in part by a Title XVI grant. The non-federal sponsor of the proposed Recycled Water System Expansion Project (Project)<sup>4</sup> is the District.

## **2.2 CURRENT AND PROJECTED RECYCLED WATER DEMANDS**

Recycled water production and reuse is approved by the Central Valley Regional Water Quality Control Board (CVRWQCB).

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<sup>3</sup> The recommended developments for recycled water service are Murieta Gardens, Retreats, Residences of Murieta Hills, Industrial / Commercial / Residential, Apartments, Escuela, Terrace, Highlands, and River Canyon.

<sup>4</sup> See Chapter 4 for a description of the proposed Recycled Water System Expansion Project.

In Rancho Murieta, existing water recycling is limited to irrigation of fairways and greens as well as filling the ponds of the two community golf courses.

Planned landscape irrigation and ancillary recycled water uses include the irrigation of parks; greenbelts; playgrounds; athletic fields; residential front and backyard landscaping; common areas; commercial, highway, and street landscaping; and dust control. Residential front and backyard irrigation use areas will be limited to the developments shown in Figure 4.

Future community developments are broken down into two phases. Phase 1 includes all the developments planned to be constructed within the 2016-2020 period. To meet Phase 1 recycled water needs, the necessary WWRP improvements and storage and conveyance expansions need to be operational by late 2018. Similarly, Phase 2 includes all the developments planned to be constructed within the 2022-2025 period. The locations of the developments included in each phase are shown in Figure 4.

To meet Phase 2 recycled water needs, the necessary WWRP improvements and storage and conveyance expansions need to be operational by 2021.

The existing and planned recycled water use areas as well as the estimated water recycling use for irrigation for these areas are summarized in Table 1.

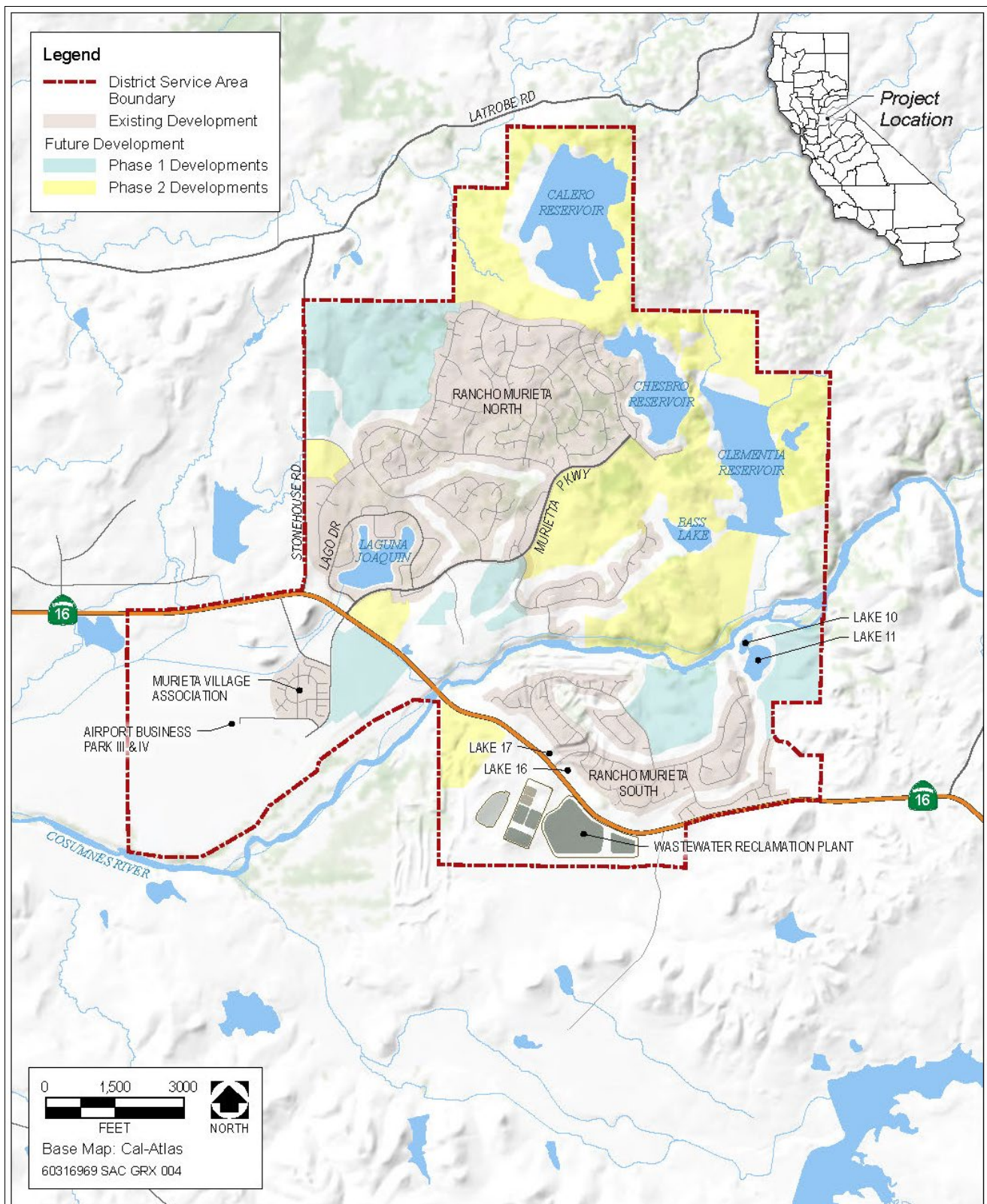
The projected recycled water demands for a typical year (i.e., average levels of precipitation) are estimated to be the following:

- ▶ Existing Golf Courses (North and South) = 550 AFY
- ▶ Phase 1 Residential Developments = 165 AFY<sup>5</sup>
- ▶ Phase 2 Residential Developments = 249 AFY

At buildout, the projected recycled water production, based on projected wastewater generation and average levels of precipitation and evaporation, is estimated to be limited to 920 AFY which is roughly 45 AFY less than the sum of the three demands listed above (i.e., approximately 964 AFY). Of this amount, the North and South Golf Courses have the highest priority for recycled water service. The total combined disposal capacity (irrigation demand) of the existing and proposed recycled water use areas is 1,589 AFY. However, this disposal need is only anticipated to occur following periods of unusually high levels of precipitation.

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<sup>5</sup> Not including Riverview and Lakeview developments.



Source: AECOM 2015

**Figure 4. Location of Planned Developments for Phase 1 and 2**

<b>Table 1. Summary of Existing and Proposed Recycled Water Use Areas and Associated Irrigation Demands</b>		
Name	Proposed Expanded Recycled Water Use Areas <sup>1, 2</sup>	
	Description	Estimated Annual Irrigation Demand <sup>3</sup> (AFY)
<b>Existing Recycled Water Use Areas</b>		
Rancho Murieta North Golf Course	18-hole golf course (~125 ac)	275
Rancho Murieta South Golf Course	18-hole golf course (~125 ac)	275
Van Vleck Ranch <sup>4</sup> (Field 1, Field 2, and Field 3)	Field 1 (49 ac), Field 2 (25 ac), Field 3 (22 ac)	215
<b>Sub Total</b>		<b>765</b>
<b>Phase 1 Proposed Expanded Recycled Water Use Areas (~2016-2020)</b>		
Lakeview	99 residential units	15.8
Murieta Gardens	99 residential units, 50 commercial units, 1-acre park	19.6
Residences of Murieta Hills	198 residential units	73.8
Retreats	84 residential units	18.8
Riverview	140 residential unit	22.4
Stonehouse Park	4-acre park (existing)	14.4
<b>Sub Total</b>		<b>165</b>
<b>Phase 2 Proposed Expanded Recycled Water Use Areas (~2021-2035)</b>		
Apartments	170 residential units	23.8
Escuela	40 residential units, 4-acre park	25.9
Highlands	110 residential units	42.1
Industrial/Commercial/ Residential	100 residential units, 125 commercial units	50.9
River Canyon	120 residential units	46.4
Terrace	177 residential units	59.9
Van Vleck Ranch <sup>4</sup> Field 4	410 (Max.)	
<b>Sub Total</b>		<b>659</b>
<b>Grand Total</b>		<b>1,589</b>
Notes:		
<sup>1</sup> Use of recycled water for residential developments will be time-phased into two project phases.		
<sup>2</sup> Total irrigation demand does not include potential irrigation demand needs for the Estates of Lake Calero, Estates of Lake Chesbro, and Estates of Lake Clementia developments (~113 AFY). Recycled water service to these developments was not included due to higher estimated service costs.		
<sup>3</sup> Irrigation demands are based on an average year rainfall year.		
<sup>4</sup> Van Vleck Ranch only receives recycled water during exceptionally wet years (such as 100-year rainfall years) to meet CVRWQCB disposal requirements.		

## **2.3 WASTEWATER TREATMENT, STORAGE, AND WATER RECYCLING**

### **2.3.1 Existing Wastewater Treatment and Recycled Water Systems**

The existing WWRP receives domestic wastewater and a relatively small amount of commercial wastewater from the community of Rancho Murieta as well as recreational vehicle (RV) from two RV dump stations. There are no industries or industrial activities that discharge wastewater to the WWRP.

Raw wastewater is pumped to the WWRP through three main pumping stations located throughout Rancho Murieta. The WWRP provides secondary and tertiary treatment and disinfection. The treatment process systems are described below and their locations are shown in Figure 2.

The secondary wastewater treatment plant has an average dry weather permitted flow capacity of 1.55 MGD and a 3.0 MGD a peak wet weather flow capacity. Secondary treatment takes place in a series of five clay-lined aerated facultative ponds (Aeration Ponds 1 through 4). Secondary effluent is stored in two clay-lined storage reservoirs (Reservoirs 1 and 2) with a combined storage capacity of approximately 747 AF prior to tertiary treatment and disinfection. Wastewater is stored in the reservoirs during the rainy season (typically between the months of October and March) until needed for irrigation of the golf courses during the dry season. Tertiary treatment and disinfection consists of two dissolved air floatation units, two rapid sand filters, a chlorine gas feed system, chlorine contact basin, and 6,600 linear feet of chlorine contact pipe installed in a concrete lined equalization basin. The design capacity of the tertiary treatment plant is 3.0 MGD and the disinfection system has a design capacity of 2.3 MGD. Disinfected tertiary treated wastewater is stored in the equalization basin prior to reuse. The tertiary treatment plant is typically operated from April through November.

Disinfected tertiary effluent is used to irrigate two 18-hole golf course properties (approximately 250 acres) operated by the Rancho Murieta Country Club. The recycled water is pumped to the golf course and stored in five unlined irrigation storage reservoirs (Lake Ten, Lake Eleven, Lake Sixteen, Lake Seventeen, and Bass Lake) situated around the golf courses prior to use. The location of the storage reservoirs is shown in Figure 3. The two golf courses have a combined total annual irrigation demand of 550 AF during a typical year.

CVRWQCB requires RMCS D to provide suitable disposal capacity for 100-year rainfall years though average levels of precipitation is (typical). Ultimately, this requirement results in more land being needed beyond that needed to accommodate average levels of rainfall and thus some of this land will not receive recycled water during periods of annual average level of rainfall. To address imbalance, District staff have elected to require developers to provide suitable land areas to accommodate average levels of precipitation within their developments (or within the District's service area in some case); the difference in land requirements for 100-year and average levels of annual precipitation is to be accommodate at Van Vleck. Higher levels of precipitation (e.g., 100-year rainfall years) will require the use of Van Vleck. The advantages of this approach are that (a) irrigation demands are based on average levels of rainfall as opposed to abnormally high levels, which (b) minimizes the need for potable water



supplementation, and (c) minimize new developments land needs and costs while maximizing all of District's available water resources.

Disinfected tertiary effluent is also used to irrigate three separate pasture lands on the Van Vleck Ranch. Distribution and use of recycled water at the Van Vleck Ranch is managed by the District.

### 2.3.2 Proposed Improvements to Wastewater Treatment and Recycled Water Systems to provide Residential Irrigation

This application focuses only on the improvements necessary to meet forecasted recycled water demands for Phase 1.

The improvements to the WWRP are illustrated in Figure 5. The following is a description of these improvements:

1. **Disinfection Facilities Upgrade:** Currently the disinfection facilities have a rated capacity of 2.3 MGD, which limits recycled water production capabilities at the WWRP. These facilities will be upgraded to provide a rated capacity of 3.0 MGD in accordance with Title 22 requirements<sup>6</sup>. To this end, a new concrete chlorine contact basin will be constructed next to the existing equalization basin.

The new chlorine contact basin will provide approximately 200,000 of additional active volume and will include three passes following a serpentine configuration. The preliminary dimensions of this basin are:

Total Length	=	120 feet (ft)
Width	=	30 ft
Depth	=	8 ft (Surface Water Depth) + 2 ft (Freeboard) = 10 ft

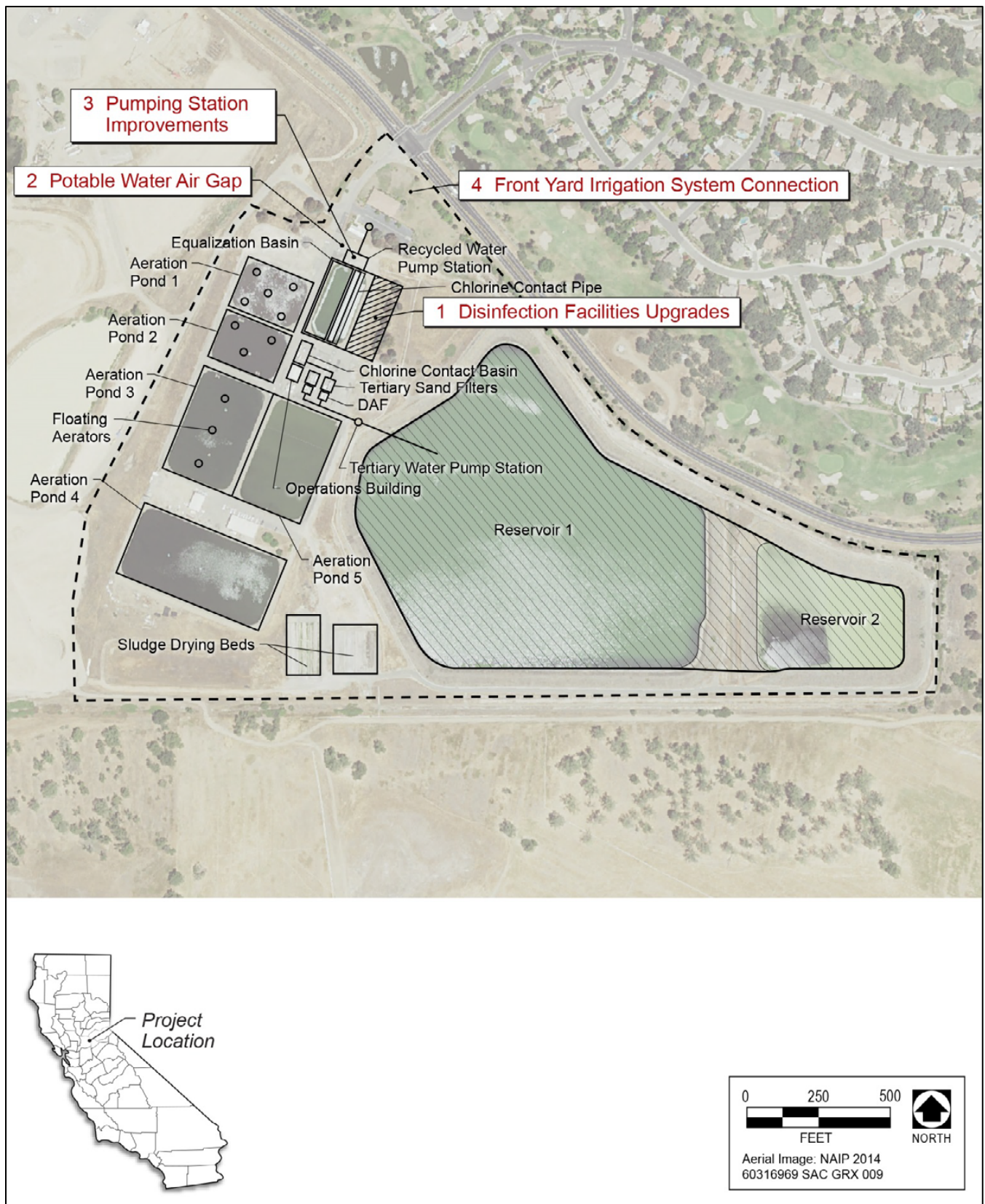
The water surface water elevation of this basin will approximately match the elevation of the existing chlorine contact basin.

This improvement also includes the removal and disposal of the chlorine contact piping inside the equalization basin.

2. **Installation of a Potable Water System Connection via an Air Gap to the Equalization Basin:** This improvement will provide the ability to supplement available recycled water from the potable system to meet peak irrigation demands. This will involve tapping into the existing 8-inch (in) potable water pipeline located immediately next to the north of the equalization basin and providing an 8-in air gap connection to deliver potable water to the equalization basin. The connection between the existing potable water pipeline and the air gap will be accomplished by adding approximately 15 ft of 8-in ductile iron pipe (DIP).

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<sup>6</sup> For chlorine disinfection and *Disinfected Tertiary Recycled Water* production, Title 22 requires a minimum CT of 450 mg-min/L and 90-minute (minimum) modal contact time.



**Figure 5. Proposed WWRP Improvements to Increase Capacity to Treat Projected Wastewater Flows and Produce Recycled Water**

3. **Pumping Station Improvements:** Currently this facility is configured to pump recycled water to either the North Golf Course or to the Van Vleck Ranch.

The objective is to provide independent pumping capabilities with sufficient firm capacity<sup>7</sup> to serve the a) North Golf Course and associated developments and b) Van Vleck Ranch as described below.

- a) North Golf Course Pumping Station: Involves improvements and enlargement of the existing wet well to accommodate two new vertical axial flow pumps. This facility will be able to deliver up to 2,100 gallons per minute (gpm) to the North Golf Course and the Lookout Hill Tank as well as Murieta Gardens. These new pumps will be powered by variable frequency drives.
  - b) The modified wet well will also house one of the existing 100 horse power (hp) pumps that will be rehabilitated to provide irrigation flows to Van Vleck during years with above average precipitation.
4. Connection irrigation system of front yard of District's headquarters to recycled water system.

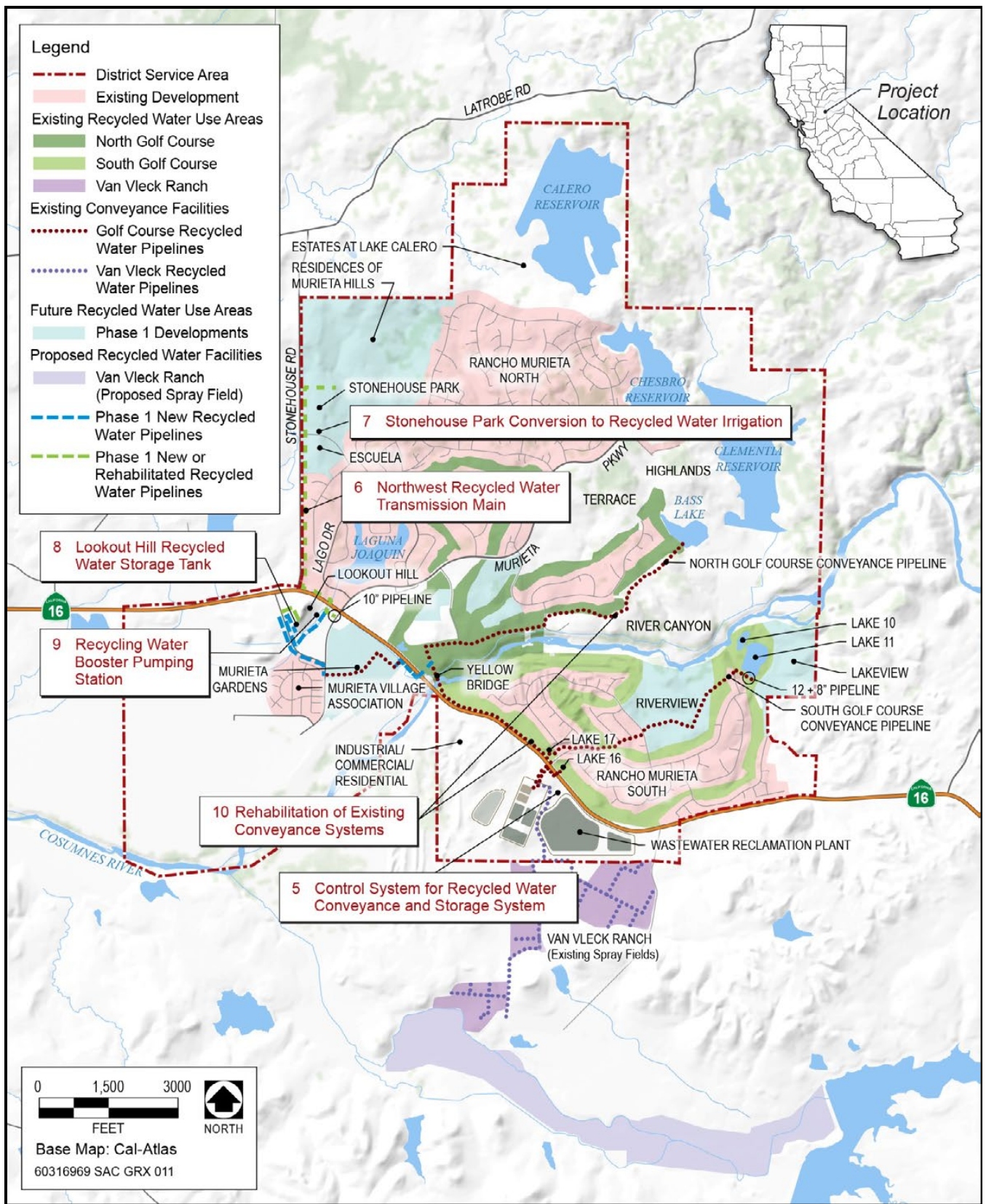
The irrigation system for the front yard of the District's headquarters will be isolated from the potable water system and connected to the North Golf Pumping Station. Cross connection tests will be used to verify that only the irrigation system is receiving recycled water and to ensure that potable water facilities are not connected to the recycled water system. Up to 200 ft of new 2-in PVC pipeline and associated appurtenances has been allocated for this effort.

The improvements to the recycled water conveyance system are illustrated in Figure 6. The following is a description of these improvements:

5. **Control System for Recycled Water Conveyance and Storage System:** A Supervisory Control and Data Acquisition (SCADA) system and telemetry to control delivery of water throughout the existing and proposed recycled water storage and conveyance system. This also includes installation of additional valves and actuators to manage conveyance and distribution of recycled water throughout the recycled water system.
6. **Northwest Recycled Water Transmission Main:** A new recycled water transmission main will be installed to serve future developments located along the northwest portion of Jackson Highway and Stonehouse Road. It is envisioned that this main will also serve recycled water to Stonehouse Park for irrigation as well as the Apartments and Escuela in the future.

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<sup>7</sup> The firm pumping capacity is defined as a station's capacity with the largest pump out of service.



**Figure 6. Proposed New Recycled Water Use Areas and Expansions of Recycled Water System for Phase 1**

This new transmission main will be connected to the existing 12-in North Golf Course conveyance pipeline immediately north of the Yellow Bridge. A 12-in highway undercrossing will be used to connect this pipeline to a recently constructed 12-in recycled water pipeline along Legacy Lane approximately 700 ft, PVC).

The Legacy Lane pipeline will be continued northwest with a new 12-in pipeline along Lone Pine Drive that will be used to feed the new Lookout Hill Tank (approximately 2,300 ft, PVC).

A new 12-in gravity line will connect the new Lookout Hill Tank to the new Booster Pumping Station planned at Jackson Road and Murieta Parkway (approximately 2,400 ft, PVC).

From the booster pumping station, the transmission main will be reduced to 10-in diameter PVC pipe and will follow the alignment of Stonehouse Drive all the way to Stonehouse Park and Escuela. The length of this 10-in is estimated to be 5,600 ft.

The District desires to expedite the delivery of recycled water for Stonehouse Park irrigation. Currently this demand is served by potable water. There is an existing 12-in sewer line (no longer in use) that parallels Stonehouse Road. If this pipeline can be rehabilitated and repurposed, it could be used for recycled water delivery relatively soon. However, Stonehouse Road is scheduled to be realigned within the next few years and this pipeline may require replacement and/or relocation, thus the need to install the 10-inch pipeline described above. A condition assessment of 12-in existing sewer pipeline is needed to evaluate the feasibility of this concept and better estimate rehabilitation costs.

7. **Stonehouse Park Conversion:** The irrigation system for existing Stonehouse Park will be isolated from the potable water system and connected to the Northwest Recycled Water Transmission Main. Cross connection test will be used to verify that only the irrigation system is receiving recycled water and to ensure that potable water facilities are not connected to the recycled water system. Up to 200 ft of new 4-in PVC pipeline and associated appurtenances has been allocated for this effort. Cross-connection testing is also included in this improvement.
8. **Lookout Hill Recycled Water Storage Tank:** Recycled water storage is required to supplement recycled water production capacities needed to satisfy peak irrigation demands. It is recommended that a total capacity of 200,000 gallons be provided to satisfy Phase 1 demands.

The existing tank will be demolished and a new tank made of bolted panels with powder coated finish will be erected in its place. The preliminary external dimensions of this tank are 39 ft diameter by 24 ft height.

9. **Recycled Water Booster Pumping Station:** A new booster pumping station, with a 1,000 gpm of firm capacity, is needed to deliver recycled water to the developments located in the northwest corner of the District's service area.

This new pumping station will be located at the existing District's facilities at Jackson Road and Murieta Parkway and will house two new booster pumps. These new pumps will be powered by variable frequency drives.

**10. Rehabilitation of Existing Conveyance Systems to North & South Golf Courses:** The conveyance pipelines that serve the North Golf Course are the backbone of the existing recycled water system and will be used to convey recycled water to other areas. These pipelines have been in service for over 30 years. It is necessary to conduct a condition assessment of these conveyance systems to determine rehabilitation needs and ensure future performance. A budget of \$930,000 has been allocated for conveyance rehabilitation, which includes replacement of up to 2,700 ft of 12-inch pipelines, approximately 15 percent of the length of the conveyance system that serves the North Golf Course (approximately 10,800 ft). The actual needs will be determined from the condition assessment of these pipelines.

## **2.4 IMPLEMENTATION SCHEDULE**

The implementation schedule for the improvements included in Phase 1 is provided in Appendix A. Construction of the improvements for both the WWRP and the Recycled Water Conveyance System will be completed by mid-2018, after a period of testing and inspection, all improvements will be fully operational by November 2018 and delivering recycled water for residential irrigation.

# **3 EVALUATION CRITERIA**

## **3.1 EVALUATION CRITERION 1A: STRETCH WATER SUPPLIES**

**3.1.1 How many acre-feet of water are expected to be made available each year upon completion of the Title XVI Project? Please use the total Title XVI Project water savings, not just projected water savings for the Project Activities that will be completed by September 30, 2018.**

The Project will offset potable water demands by approximately 370 AFY by expanding the existing North Golf Course Conveyance System through the addition of recycled water transmission mains and service pipelines, storage tanks, and booster pumping; condition assessment of the existing recycled water system; disinfection facility upgrades; and seasonal storage expansion. The completed Project will serve future residential developments, existing parks and commercial landscaping.

**3.1.2 Will the Title XVI Project reduce, postpone, or eliminate the development of new or expanded non-recycled water supplies?**

The Project will provide the following significant benefits:

- ▶ Reduce future Consumnes River diversions, offset potable water demands and conserve surface water supplies,
- ▶ Help the District meet its 20x2020 Water Conservation Goals,
- ▶ Provide opportunities to serve other potential customers along the recycled water transmission pipeline alignment,

- ▶ Support regional water planning efforts,
- ▶ Providing a sustainable and long-term means for treated effluent disposal that is directly linked to strengthening the local economy,
- ▶ Increase water supply reliability,
- ▶ Reduce drought deficits and greenhouse gas emissions as well as the District’s overall carbon footprint by minimizing potable water treatment requirements,
- ▶ Contribute to the statewide recycled water goals and demonstrate the District’s willingness to manage its available resources in a responsible and progressive manner, and

**3.1.3 How significantly will the demand on existing Federal water supplies be reduced? List the expected reduction to Federal water supply demand (in acre-feet) and the amount of water currently supplied directly or indirectly by a Federal facility to the project sponsor. Provide calculations.**

No Federal water supplies will be directly affected by the Project; however, reducing surface and diversion intake will contribute to the recovery of the Central Sacramento County Groundwater Basin and Sacramento-San Joaquin Delta and Cosumnes River ecosystems.

**3.1.4 How will the project reduce diversions from natural watercourses or withdrawals from aquifers? Responses should be specific (including number of acre-feet) and should include the percentage by which diversions or withdrawals will be reduced.**

It is estimated that the proposed Project will reduce annual Cosumnes River diversions by approximately 450 AFY under both normal and drought conditions.

The District’s potable water supply consists of seasonal diversions from the Cosumnes River that are normally diverted to and stored in three surface storage reservoirs (Calero, Chesbro, and Clementia). These three reservoirs have an estimated total combined storage volume of 5,132 acre-foot (AF) with flashboards, of which 4,732 AF is considered to be usable for domestic and commercial potable water purposes. The District’s water rights permit 16762 (State of California Water Right Permit No. 16762), includes the following stipulations:

- a. Surface water can be diverted from the Cosumnes River into the District’s storage reservoirs between November 1 and May 31. This diversion season coincides with the critical fall period as well as the period in which over bank flooding is most likely to occur.
- b. Diversions are limited as follows:
  - i. No water may be diverted when river flows are less than 70 cubic feet per second (cfs).
  - ii. For river flows between 70 and 175 cfs, a maximum diversion rate of 6 cfs is allowed provided this diversion does not reduce downstream flow below 70 cfs,

- iii. When river flows exceed 175 cfs, diversion of up to 46 cfs is allowed for direct use plus an additional 3,900 AF for storage as follows:
  - 1) 1,250 AF to Chesbro Reservoir.
  - 2) 2,610 AF to Calero Reservoir.
  - 3) 850 AF to Clementia Reservoir.
  - 4) 40 AF to South Golf Course Lake 10.
- iv. The combined amount of items 2, 3, and 4 cannot exceed 2,650 AFY.
- v. The total amount of water taken from the Cosumnes River cannot exceed 6,368 AFY from October 1 to September 30.

Taking into account the allowable storages (Item iv. above) for the Calero and Clementia Reservoirs, and South Golf Course Lake 10, the Cosumnes River diversions would be reduced by 17%.

### **3.1.5 What performance measures will be used to quantify actual benefits upon completion of the Title XVI Project?**

Each of the three reservoirs are regulated under State of California Water Right Permit No. 16762. The permit was issued in 1969 and amended in 1980. In 2001, the permit was renewed and extended with no new permit requirements through 2020 in consideration that the community was not at full buildout. Per the permit, the District is responsible for reporting storage and potable water usage.

The Project will install meters at each recycled water service point of connection and will be compared to recorded storage and potable water usage as a performance measure to quantify benefits.

## **3.2 EVALUATION CRITERION 1B: CONTRIBUTIONS TO WATER SUPPLY SUSTAINABILITY**

- 3.2.1 Will the Title XVI Project make water available to address a specific concern (e.g., water supply shortages due to climate variability and/or heightened competition for limited water supplies)? Consider the number of acre-feet of water to be made available. Explain the specific concern and its severity. Also explain the role of the Title XVI Project in addressing that concern and the extent to which the Project will address it.**

### **REGIONAL SURFACE AND GROUND WATER BENEFITS**

The Cosumnes River watershed is located within the Sacramento-San Joaquin Basin. This particular watershed has been a major focus of conservation efforts and has been identified as a priority for ecosystem protection and restoration by the California Bay-Delta Authority (formerly CALFED), the US Fish and Wildlife Service Anadromous Fish Recovery Program, and the Sacramento County (as part



of the Sacramento County General Plan). The Cosumnes River channel and its associated floodplain are major sources of recharge for the Central Basin. The Central Basin has experienced declining groundwater levels which have adversely affected the river's fishery, (e.g., salmon), wildlife, recreational, and aesthetic values.

Although the Cosumnes River can be considered relatively small with respect to its length (approximately 80 miles) and watershed area (approximately 1,265 square miles), it is far more important than its size would indicate given that:

- ▶ This particular river is the only remaining unregulated river (e.g., no major dams) on the western slope of the Sierra Nevada Mountain Range which allows frequent and regular winter and spring over bank flooding which fosters the growth of native riparian vegetation and helps to sustain wildlife dependent on these riparian habitats.
- ▶ This particular river flows through and supports one of the biologically richest regions in California's Central Valley before merging with the Mokelumne River, and
- ▶ This particular river recharges the Central Basin and contributes a significant amount of water to the Sacramento-San Joaquin Delta (Delta).

## **STATEWIDE BENEFITS**

The Delta faces multiple challenges related to ecosystem health, water quality, climate change, and water supply reliability. In late 2008, the Governor of California proposed a comprehensive water plan to address long-term water supply needs. The Project is directly and consistently aligned with the actions needed to (1) deal with California's dwindling water supply, (2) aggressively promote water programs that stretch California's available potable water supplies, and (3) contribute to the long-term recovery of the Central Basin and Delta and Cosumnes River ecosystems.

The Water Control Plan for the Sacramento River and the San Joaquin River Basins, Fourth Edition (Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin and incorporates plans and policies adopted by the State Water Resources Control Board. The Basin Plan encourages water recycling as a means to conserve and reduce demands on ground and surface water supplies; postpone, or eliminate costly investments for the development of new sources of water supply; enhance water supply reliability during drought; and reduce or eliminate treated effluent surface water discharges.

The District's Project would:

- ▶ Reduce future Cosumnes River diversions by 450 AFY,
- ▶ Offset potable water demands by approximately 370 AFY and conserve surface water supplies,
- ▶ Help the District meet the 20x2020 Water Conservation Goals,

- ▶ Provide opportunities to serve other potential users along the recycled water transmission pipeline alignment,
- ▶ Support regional water planning efforts,
- ▶ Provide a sustainable and long-term means for treated effluent disposal that is directly linked to strengthening the local economy,
- ▶ Increase water supply reliability and reduce drought deficits,
- ▶ Reduce greenhouse gas emissions as well as the District's overall carbon footprint due to reduced potable water diversions and treatment requirements,
- ▶ Contribute to the statewide recycled water goals and demonstrate the District's willingness to manage its available resources in a responsible and progressive manner, and
- ▶ Contribute to the recovery of the Central Basin and Delta and Cosumnes River ecosystems.

**3.2.2 Will water made available by this Title XVI Project continue to be available during periods of drought? To what extent is the water made available by this Title XVI Project more drought resistant than alternative water supply options? Explain.**

The District owns and operates the WWRP which provides wastewater treatment and disposal/recycled water services for the entire Project area. Raw wastewater sources processed as recycled water are residential homes and commercial facilities such as stores and restaurants which serve the community.

The WWRP consists of a secondary wastewater treatment facility and a tertiary treatment plant. Wastewater undergoing secondary treatment is stored in two storage reservoirs before undergoing tertiary treatment during the dry season. The tertiary treatment plant produces treated effluent meeting Title 22 requirements for Disinfected Tertiary Recycled Water. Currently, the WWRP currently processes and delivers approximately 455 AFY of recycled water. Following the completion of the Project and once development is established, the WWRP will be able to process and deliver approximately 920 AFY of recycled water.

The wastewater sources mentioned above will continue to produce wastewater independent of meteorological conditions, thus the production of recycled water from wastewater is more consistent and reliable than surface water diversion.

Additionally, the WWRP is generally operated each year from April through November. During the winter, secondary treated effluent is stored in the WWRP's two storage reservoirs which have a total capacity of 756 AF. The Project includes expanding the seasonal storage by 240 AF, thus providing sufficient recycled water for future development.

### **3.3 EVALUATION CRITERION 2A: PROGRESS TOWARD COMPLETION OF TITLE XVI PROJECT**

#### **3.3.1 How much Federal funding has been provided for the Title XVI Project to date?**

The District utilized \$ 33,168.50 of Federal funding (Financial Assistance Agreement No. 12AC20051) to supplement the preparation of the preliminary study titled: Title XVI Recycled Water Feasibility Study, Rancho Murieta Community Services District, dated June 2014 (Study).

The purposes of the Study was to (1) determine which particular future residential developments are the most cost-effective for recycled water service, (2) determine whether expansion of the existing recycled water program is cost-effective when compared to the “No Project” alternative, and (3) develop a feasibility study that satisfies the provisions of Public Law 102-575 sections 1603(b) and 1604(c) so that additional Title XVI grant funding can be requested from the Bureau of Reclamation.

#### **3.3.2 How much Federal funding is necessary to fully satisfy the authorized Federal cost share?**

The Project total cost to Plan, Design, Permit, Construction, Inspect and Administer is \$ 11,766,933. Per the WaterSMART: Title XVI Water Reclamation and Reuse Program Funding for Fiscal Year 2016 (Funding Opportunity Number R16-FOA-DO-003) Funding Opportunity Announcement (FOA), the U.S. Department of Interior, Bureau of Reclamation, Policy and Administration (Federal Agency) will fund up to 25% of the Project Cost, up to \$4,000,000; however, the announcement states “*if funding is sufficient, Reclamation may also consider awards of more than \$4,000,000 per applicant.*” The District is requesting the Federal Agency to fund \$ 2,941,733 (25% of the Project Total) to fully satisfy the authorized Federal cost share.

#### **3.3.3 Will the funding requested under this FOA satisfy the Federal cost share?**

The requested funding is within the specified funding limits as specified above. Furthermore, the improvements required for the Project are time-phased to correspond with development and the District is requesting funding for Phase 1. The following two phases have been established for the addition of facilities and implementation planning based on the assumed occupancy of Phase 1 and 2 residential developments:

- ▶ Phase 1: 2016-2018
- ▶ Phase 2: 2022-2025

### **3.4 EVALUATION CRITERION 2B: READINESS TO PROCEED**

#### **3.4.1 What is the status of necessary environmental compliance measures?**

- ▶ When is environmental compliance expected to be complete? Provide a detailed schedule of all environmental compliance activities and a schedule that indicates when construction is expected to begin.

The Project consists of expanding an existing recycled water system within the District's boundaries (and within the easement to the Van Vleck Ranch field 4) only. All improvements associated with the Project are either in District Right-of-ways and easements, and/or are on District property that has been previously approved for environmental compliance. The District will abide by California State Environmental Protection Agency (EPA) requirements and regulations for construction activities and submit each improvement plan to the EPA for Storm Water Prevention Pollution review and approval; however, it is anticipated that each component of the Project will receive a Notice of Exemption.

The environmental compliance activities and anticipated construction schedule is located in Appendix A, Recycled System Expansion Implementation Schedule.

### **3.4.2 What is the status of required State and Federal permits for the Project Activities?**

- ▶ When are all required permits expected to be obtained?

The District has sole jurisdiction related to potable water supply and wastewater treatment within the Project area. Both the District and the Rancho Murieta Country Club have jurisdiction related to the existing use of recycled water within the Project area. For the Project, the District has sole jurisdiction related to the use of recycled water for front and backyard irrigation of future residential units within its service area as well as the potential irrigation of existing parks, roadway medians and commercial landscaping. The use of recycled water has been permitted by a Master Reclamation Permit (MRP) issued by the Regional Water Quality Control Board (RWQCB). The MRP was attained by submitting a Title 22 Engineering Report and a Report of Waste Discharge. The District prepared a Title 22 Engineering Report and Report of Waste Discharge and submitted these documents prior to the end of 2013 to the California Department of Public Health (CDPH) and RWQCB for approval. These documents were approved and the District was granted in December 2014.<sup>8</sup>

The District's Engineer of Record will be required to submit, and have approved, District Encroachment and/or grading permits prior to any construction activities being conducted. Air quality and pollution control permits during construction activities will be required to be obtained by the contractor prior to commencing any work.

Other than consultation with the RWQCB, CDPH, and the Rancho Murieta Country Club, no other consultation has occurred between the District and federal, state, regional, and local authorities. Prior to Project implementation, consultation with the appropriate agency or agencies will be made, as deemed necessary.

Environmental compliance with the California Environmental Quality Act will be required prior to construction to evaluate the environmental impacts associated with the improvements. Compliance with the National Environmental Policy Act will be required for the Project to receive federal funding or other federal approvals. Neither of these efforts has been initiated. However, an environmental constraints analysis will be completed within the next phases to gain a preliminary understanding of impacts associated with the Project. The required environmental compliance documents will be initiated after facility planning and in conjunction with predesign.

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<sup>8</sup> Order R5-2014-0149 – Waste Discharge Requirements and Master Reclamation Permit for Rancho Murieta Community Services District. Wastewater Treatment and Reclamation Plan, Sacramento County, CVRWQCB, December 4, 2014.

To facilitate implementation of proposed improvements, a programmatic environmental impact report will be considered as an initiate step. Communication with regulatory agencies (e.g., RWQCB and CDPH) will continue during all subsequent phases.

When the District is ready to move forward with the Project, it will prepare a checklist to document the evaluation of the proposed activity and would use the checklist to determine the appropriate type of tiered environmental review document. If significant impacts are anticipated, then an Environmental Impact Report (EIR) would be prepared; if less-than-significant effects are expected to occur, a Negative Declaration would be prepared. In either case, the EIR or Negative Declaration will be completed before the completion of detailed design so that the Project can be modified to address environmental impacts and considerations.

Numerous federal, state and local permits will also be required for implementation. The required permits will be identified during the preparation of the predesign report and environmental compliance documents. A permitting strategy will be developed to minimize project delays and potential mitigation costs.

The Project will meet all federal, state, and local requirements. The schedule of the Project, including permits, is located in Appendix A (Recycled Water System Expansion Implementation Schedule).

### **3.5 EVALUATION CRITERION 3: ENVIRONMENTAL AND WATER QUALITY**

#### **3.5.1 Will the Title XVI Project improve the quality of surface or groundwater? To what extent will the project improve effluent quality beyond levels necessary to meet State or Federal discharge requirements?**

Recycled water has been used for residential landscape irrigation in California since the early 1990s. In 1999, Serrano, a master-planned community located approximately 20 miles north of the District's service area in El Dorado Hills, became the first community in California, and among the first in the nation, to provide recycled water for irrigation of residents' front and back yards. Other agencies that have dual plumbed residences include the Irvine Ranch Water District in Orange County; Rancho California Water District in Riverside County; City of Windsor, California; and City of Pompano, Florida.

The Project will deliver recycled water for landscape irrigation of new residential homes and existing parks, roadway medians, and commercial accounts. The recycled water will be treated to meet Disinfected Tertiary Recycled Water standards as described by the California Code of Regulations, Title 22, Chapter 3, Water Recycling Criteria (Title 22). This level of treatment is accepted by the applicable regulatory agencies for the intended uses. In addition, the Project is supported and encouraged by California's Recycled Water Policy and is permissible under the State Water Resources Control Board's General Recycled Water Permit (WQO No. 2009-006-DWQ).

Recycling treated effluent for landscape irrigation results in the beneficial reuse of both the water and associated nutrients (i.e. nitrogen and phosphorus) for landscape fertilization by providing additional source of nutrients and lessening the need to apply synthetic fertilizers. For example, at the projected irrigation rate of 2.95 feet/year, it is estimated that recycled water provides an equivalent nitrogen (N) load of 4 to 6.5 pounds (lb)-N/1,000 square feet (sf)-year which is comparable to recommended fertilization rates of 4 lb N/1000 sf per application for established lawns.

**3.5.2 Will the Title XVI Project improve flow conditions in a natural stream channel? Will the project restore or enhance habitat for nonlisted species? If so, how?**

The Project will expand the use of recycled water for residential irrigation; resulting in decreased surface water diversions from the Cosumnes River and Delta and increased potential for recharge of the Central Basin. Other environmental benefits include decreased wastewater discharges and the associated potential risk of surface water degradation and species interaction with toxic pollutants.

**3.5.3 Will the Title XVI Project provide water or habitat for federally listed threatened or endangered species? If so, how?**

It is unknown if any federally listed threatened or endangered species frequent the WWRP's two storage reservoirs which have a total capacity of 756 AF.

**3.6 EVALUATION CRITERION 4: RENEWABLE ENERGY AND ENERGY EFFICIENCY**

**3.6.1 Will the Title XVI Project include installing low-impact hydroelectric, solar-electric, wind energy, or geothermal power systems or other facilities that enable use of these or other renewable energy sources to provide power to components of the Project? Are any energy recovery devices or processes included in the Project? Provide the amount of energy expected to be generated through renewable energy sources (in kilowatt-hours). What percentage of the Title XVI Project's total energy consumption will be provided by installing renewable energy components?**

The Project does not include installing any renewable energy and/or energy efficiency improvements; however, the District has proactively coordinated the installation of two solar panel fields in anticipation of this Project. The solar panel field will be in place prior to the Project being completed and are intended to facilitate the operation of the WWRP. SolarCit will install two (2) solar power arrays on District-owned property for the generation of solar power. These solar power facilities will be located at the Distrcion Wastewater Treatment Facility and the District Water Treatment Plant.

The Wastewater Treatment Facility solar array installation will be adjacent to the Waterwater Treatment Facility and is estimated to be approximately 2.5 – 3.0 acres in size. The solar array will produce approximately 1.2 KWh a year.

The solar array installation at the Water Treatment Plant is estimated to be approximately 1.5 – 2.0 acres in size and will produce approximately 0.58 kWh per year.

**3.6.2 If the Title XVI Project does not itself include renewable energy, will the Title XVI Project facilitate power generation in the water delivery system by making more water available? If so, explain the relationship between this Title XVI Project and any potential renewable energy improvements in the water delivery system.**

The District's water system does not generate power directly; however, due to the reduction in Diversion, downstream power generators flow capacity will be increased by 450 AFY.

**3.6.3 Will completion of the Title XVI Project lead to a reduction in energy consumption as compared to current water supply options?**

- ▶ Provide calculations and describe assumptions and methodology.

The District assumes wastewater secondary treatment power costs would be incurred whether the Project is constructed or not. In 2014, the District spent \$106,703.65 in power costs for 139 MG of Secondary Treatment and 132 MG of Tertiary Treatment (see Appendix D). Taking annual costs into consideration, the District spends approximately \$767.65 per 1 MG ( $\$106,703.65 / 139 \text{ MG}$ ) to treat Secondary, and an additional \$40.71 ( $(\$106,703.65 / 132 \text{ MG}) - \$767.65$ ) per 1 MG for Tertiary Treatment. The project would eliminate approximately 370 AFY (120.565 MG) of Tertiary Treatment, thus reducing energy consumption by approximately \$4,908 per year ( $\$40.71 * 120.65487 \text{ MG}$ ).

Additionally, in 2014, the District spent \$70,370 in power costs to treat 622.208 MG of surface water (see Appendix D). Taking annual costs into consideration, the District spends approximately \$113.10 per 1 MG in power costs to treat surface water. The Project will offset potable water demands by approximately 370 AFY (120.565 MG), thus reducing energy consumption by approximately \$13,635 per year ( $\$113.10 * 120.56487 \text{ MG}$ ).

Overall power saving for the District would be approximately **\$18,544 per year** ( $\$13,635 + \$4,908$ ).

- **Will the Title XVI Project include any innovative components to reduce energy consumption or to recover energy?**

Pump stations will have Variable Frequency Drives (VFD) installed. Centrifugal loads offer the greatest potential for energy savings by using VFDs to control speed. Energy consumption in centrifugal fan and pump applications follows the affinity laws, which means that flow is proportional to speed, pressure is proportional to the square of speed, and horsepower is proportional to the cube of speed. That means if an application only needs 80 percent flow, the fan or pump will run at 80 percent of rated speed and only requires 50 percent of rated power. In other words, reducing speed by 20 percent requires only 50 percent of the power.

**3.6.4 How does the Title XVI Project's energy consumption compare to other water supply options that would satisfy the same demand as the Project?**

The District would utilize treated surface water as the Project alternative, thus increasing energy costs by approximately \$18,544 per year (see Section 3.6.3).

### 3.7 EVALUATION CRITERION 5: COST PER ACRE-FOOT OF WATER AND OTHER PROJECT BENEFITS

3.7.1 Reclamation will calculate the cost per acre-foot of water produced by the Title XVI Project using information provided by project sponsors. Please provide the following information for this calculation:

- a) The total estimated construction costs, by year, for the Title XVI Project (include all previous and planned work)

Calendar Year	Construction Cost
2017	\$ 4,609,737
2018	\$ 4,609,737

Refer to Appendix B – Engineering Estimates, for below costs

Construction Total = \$ 8,608,486

Construction Management Total = \$1,425,639 \* 7.5%/17.5%  
 (17.5% Engineering & Construction Management) = \$610,988

2 Years to Complete Construction:  
 (\$ 8,608,486 + \$ 610,988) / 2 years = \$ 4,609,737 / Year

- b) The total estimated or actual costs to plan and design the Title XVI Project (note: this should include the cost to complete a Title XVI feasibility study)

Title XVI Recycled Water Feasibility Study = \$ 86,418

Implementation Plan = \$ 50,371

Funding Application and Documentation = \$ 24,084

Refer to Appendix B – Engineering Estimates, for below costs

Administrative Fees = \$ 511,812

Regulatory (CEQA) Compliance = \$ 290,951

Engineering = \$ 1,425,639 \*10%/17.5%  
 (17.5% Engineering & Construction Management) = \$ 814,651

Soft Costs = \$ 769,172

**TOTAL = \$ 2,547,460**



- c) The average annual operation and maintenance costs for the life of the Title XVI Project (note: this is an annual not total cost)

\$185,000/Year

- d) The year the Title XVI Project will begin to deliver recycled water

2018

- e) The projected life (in years) that the Title XVI Project is expected to last (note: this should be measured from the time the Title XVI Project starts delivering water)

70 Years – See Appendix C (Reference American Water Works Association – West Medium & Small, PVC)

- f) All estimated replacement costs by year

Description of Replacement Requirement	Year	Cost

- g) The maximum volume of water (in acre-feet) that will be produced upon completion of the Title XVI Project

370 Acre-Foot/Year \* 70 Years = 259,000 Acre-Feet

**3.7.2 Comparison of the cost per acre-foot of the Title XVI Project to the cost per acre-foot of one alternative (i.e., nonrecycled water option) that would satisfy the same demand as the proposed project. Provide the cost per acre-foot for one nonrecycled water alternative that would satisfy the same demand. Reclamation will compare the cost per acre-foot that it calculates using the information requested in question No. 1 to the cost per acre-foot for the nonrecycled water alternative provided by the project sponsor.**

The District would use treated surface water as the alternative to the Project. Currently, surface water treatment costs are approximately \$244 per 1 MG (see Appendix D), which equals \$79.38 per acre-foot. Additionally, the District would need to expand their water treatment capacity by 1.2 MGD. Expanding the District water treatment plant would cost approximately \$24 million.

**3.7.3 Some Title XVI project benefits may be difficult to quantify. Describe any economic benefits of the project that are not captured by the cost per acre-foot analysis or that are difficult to quantify. Points will be awarded based on the potential economic impact of the project-related benefits.**

- ▶ Reduce future Cosumnes River diversions by 450 AFY,
- ▶ Offset potable water demands by approximately 370 AFY and conserve surface water supplies,
- ▶ Help the District meet the 20x2020 Water Conservation Goals,
- ▶ Provide opportunities to serve other potential users along the recycled water transmission pipeline alignment,
- ▶ Support regional water planning efforts,
- ▶ Provide a sustainable and long-term means for treated effluent disposal that is directly linked to strengthening the local economy,
- ▶ Increase water supply reliability and reduce drought deficits,
- ▶ Reduce greenhouse gas emissions as well as the District's overall carbon footprint due to reduced potable water diversions and treatment requirements,
- ▶ Contribute to the statewide recycled water goals and demonstrate the District's willingness to manage its available resources in a responsible and progressive manner, and
- ▶ Contribute to the recovery of the Central Basin and Delta and Cosumnes River ecosystems.

**3.8 EVALUATION CRITERION 6A: LEGAL AND CONTRACTUAL WATER SUPPLY OBLIGATIONS**

**3.8.1 Does the Title XVI Project help fulfill any of Reclamation's legal or contractual obligations such as providing water for Indian tribes, water right settlements, river restoration, minimum flows, legal court orders, or other obligations? Explain.**

No legal or contractual obligation have been identified and associated with this Project; however, in July 2011, the District's Board adopted a policy regarding the use of recycled water. This policy requires the following:

- ▶ Future use of recycled water, wherever economically and physically feasible, as determined by the District's Board, for non-domestic purposes when such water is of adequate quality and quantity, available at a reasonable cost, not detrimental to public health, and not injurious to plant life, fish, and wildlife. The type of use is defined by Title 22 of the California Code of regulations. In general, the lands subject to mandatory recycled water use are defined as undeveloped parcels within the existing service area.
- ▶ Irrigation of existing parks, roadway median, and commercial landscaping areas may be converted to recycled water wherever economically and physically feasible, as determined by the District's Board. As previously

described, it is recommended that recycled water irrigation of existing roadway medians and commercial landscaping be determined on a case by case basis once the recommended residential developments for service, and the general alignment of their associated recycled water conveyance system, have been identified.

### **3.9 EVALUATION SUBCRITERION NO. 6B - BENEFITS TO RURAL OR ECONOMICALLY DISADVANTAGED COMMUNITIES**

#### **3.9.1 Does the Title XVI Project serve a rural or economically disadvantaged community? (A rural community is defined as a community with fewer than 50,000 people.)**

This Project serves a rural community. District is located 20 miles east of Sacramento on State Highway 16. The area served by the District, which is also defined as the Project Area encompasses approximately 3,500 acres. Land uses within this service area include approximately 2,000 acres for single family residences, townhouses, apartments, duplexes and mobile homes. The District currently serves 2,604 connections comprised of 2,502 residential, 97 commercial, and 5 park connections. According to Sacramento County's approved Planned Unit Development Plan, the development of the District's service area represents a potential for roughly 5,189 residential units at buildout.

#### **3.9.2 Are any rural or economically disadvantaged communities within the Title XVI Project sponsor's service area?**

A rural community is with the District's service area. See 3.9.1 above.

In practice, there is no universal definition for disadvantaged communities. The state of California has used the term disadvantaged communities in several state laws, but the underlying criteria used to identify these communities have not been consistent. In general, the term 'disadvantaged' is commonly associated with economic indicators related to poverty and income. The term 'community' has numerous definitions ranging from a neighborhood within a city to a small town or unincorporated area.

The Office of Environmental Health Hazard Assessment prepared the California Communities Environmental Health Screening Tool (CalEnviroScreen) which identified disadvantaged communities within California<sup>9</sup>.

Per CalEnviroScreen, the Rancho Murieta CalEnviroScreen Score is 26-30% with the highest score being 91% to 100%<sup>10</sup>. The higher percentile indicates a higher relative burden. Based on this information, there are no disadvantaged communities within the Districts service area. Refer to Figure 7 below.

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<sup>9</sup> <http://oehha.ca.gov/ej/ces2.html>

<sup>10</sup> <http://oehha.maps.arcgis.com/apps/Viewer/index.html?appid=112d915348834263ab8ecd5c6da67f68>

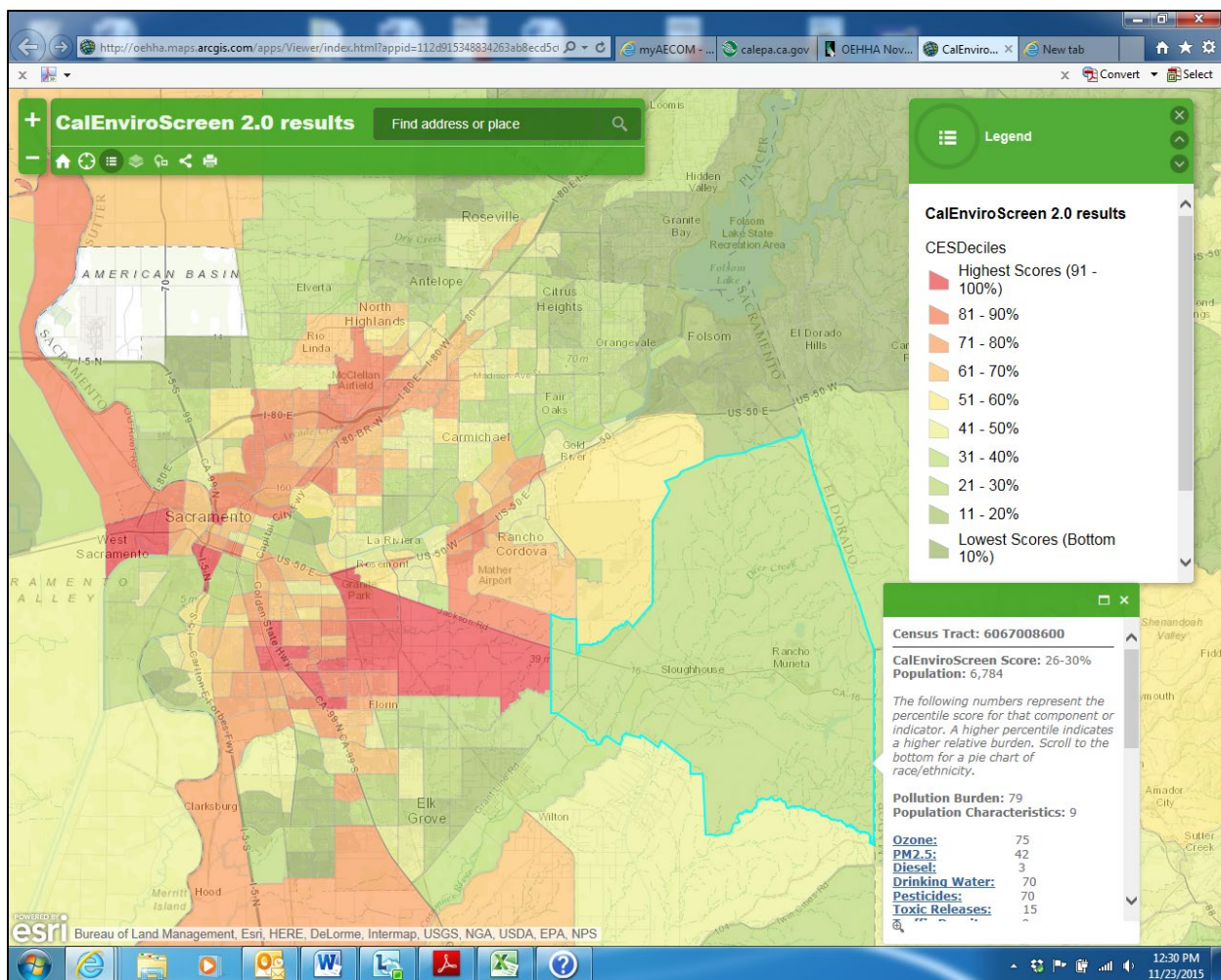


Figure 7. CalEnviroScreen 2.0 results for Ranch Murieta.

### 3.10 EVALUATION CRITERION 7: WATERSHED PERSPECTIVE

#### 3.10.1 Does the Title XVI Project implement a regional or State water plan or an integrated resource management plan? Explain.

The Project integrates an Integrated Water Master Plan (IWMP) that was initiated in 2005 to address the projected drought deficits, improve storage reservoir aesthetics, and identify methods to encourage reductions in residential potable water demands. A total of ten strategies/components were identified to alleviate drought deficits, including the following three which dealt specifically with treated effluent disposal/expanded recycled water use:

- ▶ Expand recycled water program to offset potable water demands based on serving existing and future urban demands (residential, commercial, parks, common area irrigation)
- ▶ Exchange treated effluent/recycled water for groundwater
- ▶ Recharge local aquifer with recycled water

Workshops, open to the public, were held as part of the project to review preliminary findings and results and to identify and describe potential components and strategies that could achieve the project goals.

The IWMP Update was completed in 2010 and addressed changes in state legislation regarding water use targets and greenhouse gas emissions, federal and state guidance regarding recycled water use, and water supply reliability risks associated with climate change. The primary outcome of these studies was the recognition of the benefits (e.g., reduced costs and environmental impacts and improved storage reservoir aesthetics) recycled water provided when used to offset potable water demands within the community as compared to irrigation of agricultural lands located outside of the District's service area.

### **3.10.2 Does the Title XVI Project promote collaborative partnerships to address water-related issues? Explain.**

District staff have met with the local development community and regulatory agencies (e.g., Central Valley Regional Water Quality Control Board (RWQCB) and CDPH) to (1) describe the proposed expanded recycled water program; (2) identify data and information (e.g., development timelines, phasing, parcel sizes, water supply needs, etc.) pertaining to the specific developments anticipated in the future (3) identify and discuss specific items which may be problematic from the standpoints of development and regulatory compliance, and (4) discuss potential methods for reducing costs.

With regard to public acceptance, it is the District's impression that the Project has been well received by the community. Moreover, in addition to having a drought proof water supply for irrigation, it is anticipated that future recycled water customers will save money as recycled water rates are typically priced at about 80 to 90% of potable water rates. It is likely that this anticipated savings will be greater in times of drought when the District has its Drought Management Plan in effect.

## **4 ENVIRONMENTAL COMPLIANCE**

### **4.1 WILL THE PROJECT ACTIVITIES IMPACT THE SURROUNDING ENVIRONMENT (I.E., SOIL [DUST], AIR, WATER [QUALITY AND QUANTITY], ANIMAL HABITAT, ETC.)?**

Improvements associated with the Project are either in District Right-of-ways and easements, and/or are on District property that has been previously approved for environmental compliance. However, there is a proposed 1,280 linear feet of aboveground 12-inch Certa-Lok™ PVC irrigation pipe needed to convey water to the Van Vleck Ranch Field 4, however this should not impact the surrounding environment.

- ▶ Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area.

Construction would include activities such as site preparation, grading, excavation, and site restoration and would have relatively short-term, temporary impacts. The extent of impact to the air, water, and/or animal habitat would vary with project components (e.g., treatment plant upgrades, pipelines, storage

tanks, and pump stations). Because the proposed improvements lie within the WWRP, District Right-of-ways and easements, and along roadways, the impacts are anticipated to be minimal.

- ▶ Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

Project construction impacts will be consistent with those of any construction project and are anticipated to include short-term impacts to hydrology and water quality, biological resources, land use, traffic and transportation, air quality, noise, utilities, and temporary access to existing facilities within the community. Environmental permits such as air quality and pollution control permits during construction activities will be required to be obtained by the contractor prior to commencing any work. These permits will have required best management practices to minimize impacts to the surrounding environment.

#### **4.2 ARE YOU AWARE OF ANY SPECIES LISTED, OR PROPOSED TO BE LISTED AS A FEDERAL ENDANGERED OR THREATENED SPECIES, OR DESIGNATED CRITICAL HABITAT IN THE PROJECT AREA? IF SO, HOW WOULD THEY BE AFFECTED BY ACTIVITIES ASSOCIATED WITH THE PROPOSED PROJECT ACTIVITIES?**

Since improvements associated with the Project are either in District Right-of-ways and easements, and/or are on District property that has been previously approved for environmental compliance and the Van Vleck Ranch Field 4 will have aboveground PVC irrigation piping there should be no species listed or proposed to be listed as a Federal endangered or threatened species or designated Critical Habitat affected.

#### **4.3 ARE THERE WETLANDS OR OTHER SURFACE WATERS INSIDE THE PROJECT BOUNDARIES THAT POTENTIALLY FALL UNDER FEDERAL CLEAN WATER ACT JURISDICTION AS “WATERS OF THE UNITED STATES?” IF SO, PLEASE DESCRIBE AND ESTIMATE ANY IMPACTS THE PROJECT ACTIVITIES MAY HAVE.**

Improvements associated with the Project are either in District Right-of-ways and easements, and/or are on District property that has been previously approved for environmental compliance. Waters of the United States are present within the project boundaries, however, no wetlands or surface waters are proposed to be impacted. The Van Vleck Ranch Field 4 improvement is aboveground and therefore will not impact a waters of the United States.

#### **4.4 ARE THERE ANY KNOWN ARCHEOLOGICAL SITES IN THE PROJECT ACTIVITIES AREA? IF SO, PLEASE DESCRIBE AND ESTIMATE ANY IMPACTS THE PROJECT MAY HAVE.**

Improvements associated with the Project are either in District Right-of-ways and easements, and/or are on District property that has been previously approved for environmental compliance. The Van Vleck Ranch Field 4 improvements includes approximately 1,280 linear feet of aboveground 12-inch Certa-

Lok™ PVC irrigation pipe. Due to the previously approved environmental compliance and the aboveground improvements, there should be no impacts to archeological sites.

**4.5 WILL THE PROPOSED PROJECT ACTIVITIES HAVE A DISPROPORTIONATELY HIGH AND ADVERSE EFFECT ON LOW INCOME OR MINORITY POPULATIONS? IF SO, PLEASE DESCRIBE AND ESTIMATE ANY IMPACTS THE PROJECT MAY HAVE.**

It is not anticipated that the Project will have a disproportionately high and adverse effect on low income or minority populations.

**4.6 WILL THE PROJECT ACTIVITIES LIMIT ACCESS TO AND CEREMONIAL USE OF INDIAN SACRED SITES OR RESULT IN OTHER IMPACTS ON TRIBAL LANDS? IF SO, PLEASE DESCRIBE AND ESTIMATE ANY IMPACTS THE PROJECT ACTIVITIES MAY HAVE.**

It is not anticipated that the Project will limit access to and ceremonial use of Indian sacred sites or result in impacts on tribal lands.

**4.7 WILL THE PROJECT ACTIVITIES CONTRIBUTE TO THE INTRODUCTION, CONTINUED EXISTENCE, OR SPREAD OF NOXIOUS WEEDS OR NON-NATIVE INVASIVE SPECIES KNOWN TO OCCUR IN THE AREA? IF SO, PLEASE DESCRIBE AND ESTIMATE ANY IMPACTS THE PROJECT ACTIVITIES MAY HAVE.**

Improvements associated with the Project are either in District Right-of-ways and easements, and/or are on District property (with the exception of the aboveground PVC irrigation piping at the Van Vleck Ranch). The proposed improvements will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species.

## **5 REQUIRED PERMITS OR APPROVALS**

Environmental compliance with the California Environmental Quality Act will be required prior to construction to evaluate the environmental impacts associated with the improvements. Compliance with the National Environmental Policy Act will be required for the Project to receive federal funding or other federal approvals. Neither of these efforts has been initiated. However, an environmental constraints analysis will be completed within the next phases to gain a preliminary understanding of impacts associated with the Project. The required environmental compliance documents will be initiated after facility planning and in conjunction with predesign. To facilitate implementation of proposed improvements, a programmatic environmental impact report will be considered as an initiate step. Communication with regulatory agencies (e.g., RWQCB and CDPH) will continue during all subsequent phases.

When the District is ready to move forward with the Project, it will prepare a checklist to document the evaluation of the proposed activity and would use the checklist to determine the appropriate type of tiered environmental review document. If significant impacts are anticipated, then an Environmental Impact Report (EIR) would be prepared; if less-than-significant effects are expected to occur, a Negative Declaration would be prepared. In either case, the EIR or Negative Declaration will be completed before the completion of detailed design so that the Project can be modified to address environmental impacts and considerations.

Numerous federal, state and local permits will also be required for implementation. The required permits will be identified during the preparation of the predesign report and environmental compliance documents. A permitting strategy will be developed to minimize project delays and potential mitigation costs.

## **6 BUDGET FORM SF-424C**



**BUDGET INFORMATION - Construction Programs**

*NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.*

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	\$ 511,812.00	\$	\$ 511,812.00
2. Land, structures, rights-of-way, appraisals, etc.	\$ 290,951.00	\$	\$ 290,951.00
3. Relocation expenses and payments	\$	\$	\$
4. Architectural and engineering fees	\$ 814,651.00	\$	\$ 814,651.00
5. Other architectural and engineering fees	\$ 160,873.00	\$	\$ 160,873.00
6. Project inspection fees	\$ 610,988.00	\$	\$ 610,988.00
7. Site work	\$	\$	\$
8. Demolition and removal	\$	\$	\$
9. Construction	\$ 8,608,486.00	\$	\$ 8,608,486.00
10. Equipment	\$	\$	\$
11. Miscellaneous	\$	\$	\$
12. SUBTOTAL (sum of lines 1-11)	\$ 10,997,761.00	\$	\$ 10,997,761.00
13. Contingencies	\$ 769,172.00	\$	\$ 769,172.00
14. SUBTOTAL	\$ 11,766,933.00	\$	\$ 11,766,933.00
15. Project (program) income	\$	\$	\$
16. TOTAL PROJECT COSTS (subtract #15 from #14)	\$ 11,766,933.00	\$	\$ 11,766,933.00
<b>FEDERAL FUNDING</b>			
17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter eligible costs from line 16c Multiply X 25 % Enter the resulting Federal share.			\$ 2,941,733.25

## 7 DESCRIPTION OF EXPENDITURES PLANNED THROUGH SEPTEMBER 2018

Prepared Title XVI Recycled Water Feasibility Study	\$ 86,418
Prepare Funding Application and Documentation	\$ 24,084
Prepare Implementation Plan	\$ 50,371
Project Construction	\$ 8,608,486
Administrative Fees	\$ 511,812
Regulatory (CEQA)	\$ 290,951
Engineering & Construction Management	\$ 1,425,639
Contingency Soft Costs	\$ 769,172

## 8 FUNDING PLAN

Funding Sources	Funding Amount
<b>Non-Federal Entities</b>	
Rancho Murieta Community Services District	\$ 8,825,200
<i>Non-Federal Subtotal:</i>	\$ 8,828,200
<b>Other Federal Entities</b>	
None	
<i>Other Federal Subtotal:</i>	\$ 0.00
<i>Requested Reclamation Funding:</i>	\$ 2,941,733
<i>Total Project Funding:</i>	\$ 11,766,933

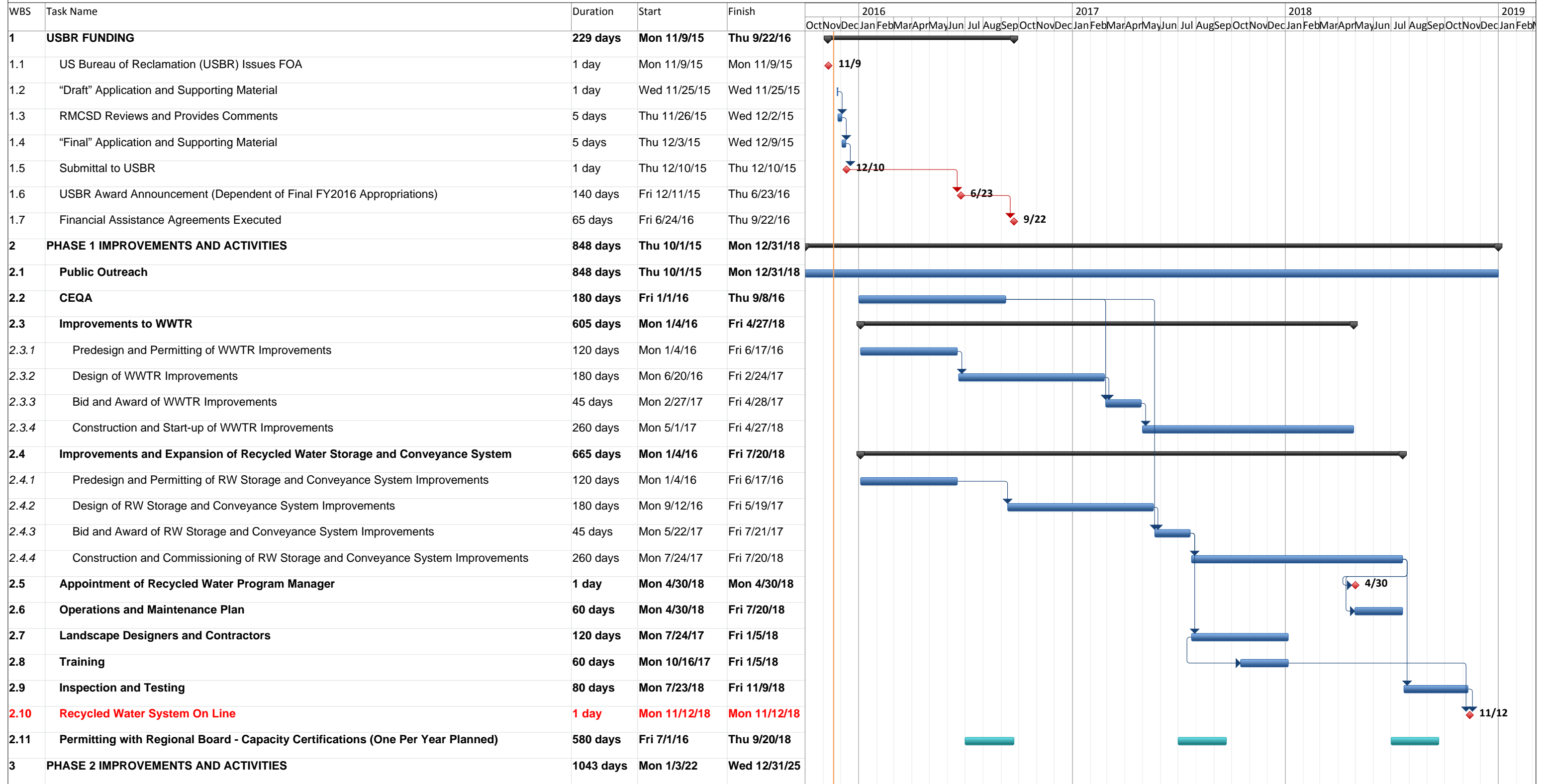
The planning documents (Title XVI Recycled Water Feasibility Study, Funding Application and Documentation and Implementation Plan) have been completed to-date, totaling \$160,873. The Project is expected to be completed prior to September 2018, thus all funding will be utilized by then.

## **APPENDIX A**

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### Recycled Water System Expansion Implementation Schedule

### RECYCLED WATER SYSTEM EXPANSION IMPLEMENTATION SCHEDULE



Date: Thu 11/19/15

Task		Summary		External Milestone		Inactive Summary		Manual Summary Rollup		Finish-only	
Split		Project Summary		Inactive Task		Manual Task		Manual Summary		Deadline	
Milestone		External Tasks		Inactive Milestone		Duration-only		Start-only		Progress	

## **APPENDIX B**

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Engineering Estimates

**Project:** Rancho Murieta Title XVI Implementation Plan **Date:** 11/23/2015  
**Job Number:** 60446041 **Developed By:** J. Gabriel Perigault  
**Improvement:** 1. Disinfection Facilities Upgrade (New 195,000 Gallon Chlorine Contact Basin) **Checked By:** Kevin Kennedy

**Path:** \\s019nas02.us.ie.urs\Water\Rancho Murieta Projects\60446041\_RMCS D Recycled Water Project\Cost Data

Specification Section/Description	Quantity	Units	Unit Cost	Subtotal	Total
Division 1 - General Requirements					\$148,757
Mobilization (5%)	5%	LS	\$1,109,468	\$55,473	
Bid, Bonds, and Insurance (3%)	3%	LS	\$1,109,468	\$33,284	
Submittals	10	Number	\$5,000	\$50,000	
O&M Manuals	1	LS	\$10,000	\$10,000	
Division 2 - Site Work					\$114,301
Removal and Disposal Chlorine Contact Piping from EQ Basi	1	LS	\$10,000	\$10,000	
Excavation (unclassified, 1.5 cy bucket)	2,083	CY	\$6	\$12,188	
Offsite Hauling (30 miles) and Disposal (20 % of Material)	417	CY	\$20	\$8,333	
Unconfined Backfill and Compaction	200	CY	\$2	\$300	
Trenching	33	CY	\$5	\$167	
Confined Backfill and Compaction	4,533	CY	\$3	\$11,333	
Aggregate Base	161	CY	\$15	\$2,420	
14-inch DIP	100	LF	\$150	\$15,000	
Miscellaneous Piping	1	LS	\$35,000	\$35,000	
Grading	3260	SF	\$6	\$19,560	
Repaving	100	SY	\$32	\$3,200	
Division 3 - Concrete					\$761,667
Interior Walls	122.2	CY	\$1,350	\$165,000	
Exterior Walls	222.2	CY	\$1,350	\$300,000	
Slab on Grade	266.7	CY	\$550	\$146,667	
Inlet/Outlet Structures	100	LS	\$1,350	\$135,000	
Miscellaneous Concrete	1	LS	\$15,000	\$15,000	
Division 4 - Masonry			NOT USED		\$0
Division 5 - Metals					\$86,000
Effluent Weir Plate	8	LF	\$125	\$1,000	
Miscellaneous Metals - Allocation (Platforms, etc.)	1	LS	\$25,000	\$25,000	
Access Stairs	2	LS	\$12,500	\$25,000	
Walkways	1	LS	\$20,000	\$20,000	
Handrail	300	LF	\$50	\$15,000	
Division 6 - Wood and Plastics					\$6,000
Baffles	2	EA	\$3,000	\$6,000	
Division 7 - Thermal and Moisture Protection			NOT USED		\$0
Division 8 - Doors and Windows			NOT USED		\$0
Division 9 - Finishes			NOT USED		\$0
Division 10 - Specialties			NOT USED		\$0
Division 11 - Equipment					\$15,000
Induction Mixer	1	EA	\$15,000	\$15,000	
Division 12 - Furnishings			NOT USED		\$0
Division 13 - Special Construction			NOT USED		\$0
Division 14 - Conveying Systems			NOT USED		\$0
Division 15 - Mechanical					\$50,000
Miscellaneous Valves and Apputernances	1	LS	\$50,000	\$50,000	
Division 16 - Electrical and Instrumentation					\$76,500
Electrical - Allocation	1	LS	\$45,000	\$45,000	
Chlorine Residual Analyzer	1	EA	\$6,500	\$6,500	
Instrumentation and Controls	1	LS	\$25,000	\$25,000	
				Subtotal (Includes Overhead & Profit)	\$1,258,225
				Midpoint to Construction (5%)	\$62,911
				Contingency - Construction Costs (25%)	\$314,556
				<b>Estimate of Probable Construction Costs</b>	<b>\$1,635,692</b>
				Administrative Fees (10%)	\$163,569
				Regulatory (CEQA) Compliance (2.5%)	\$40,892
				Engineering and Construction Management (17.5%)	\$245,354
				Contingency - Soft Costs (10%)	\$163,569
				<b>Grand Total</b>	<b>\$2,249,077</b>

**Project:** Rancho Murieta Title XVI Implementation Plan  
**Job Number:** 60446041  
**Improvement:** 2. Installation of a Potable Water System Connection Via an Air Gap to the Equalization Basin  
**Date:** 11/23/2015  
**Developed By:** J. Gabriel Perigault  
**Checked By:** Kevin Kennedy  
**Path:** \\s019nas02.us.ie.urs\Water\Rancho Murieta Projects\60446041\_RMCS D Recycled Water Project\Cost Data

Specification Section/Description	Quantity	Units	Unit Cost	Subtotal	Total
Division 1 - General Requirements					\$3,904
Mobilization (5%)	5%	LS	\$11,295	\$565	
Bid, Bonds, and Insurance (3%)	3%	LS	\$11,295	\$339	
Submittals (includes cross-connection test)	5	EA	\$500	\$2,500	
O&M Manuals	1	EA	\$500	\$500	
Division 2 - Site Work					\$6,295
Offsite Hauling (30 miles) and Disposal	10	CY	\$20	\$200	
8-inch DIP	15	LF	\$93	\$1,395	
8" Air Gap Assembly	1	LS	\$1,200	\$1,200	
8" BF Valve	1	EA	\$1,500	\$1,500	
Miscellaneous DIP Fittings	1	LS	\$2,000	\$2,000	
Division 3 - Concrete					\$5,000
Demolition and Pavement Patching	1	LS	\$5,000	\$5,000	
Division 4 - Masonry		NOT USED			\$0
Division 5 - Metals		NOT USED			\$0
Division 6 - Wood and Plastics		NOT USED			\$0
Division 7 - Thermal and Moisture Protection		NOT USED			\$0
Division 8 - Doors and Windows		NOT USED			\$0
Division 9 - Finishes		NOT USED			\$0
Division 10 - Specialties		NOT USED			\$0
Division 11 - Equipment		NOT USED			\$0
Division 12 - Furnishings		NOT USED			\$0
Division 13 - Special Construction		NOT USED			\$0
Division 15 - Mechanical		NOT USED			\$0
Division 16 - Electrical and Instrumentation		NOT USED			\$0
				Subtotal (Includes Overhead & Profit)	\$15,199
				Midpoint to Construction (5%)	\$760
				Contingency - Construction Costs (25%)	\$3,800
				<b>Estimate of Probable Construction Costs</b>	<b>\$19,758</b>
				Administrative Fees (0%)	\$0
				Regulatory (CEQA) Compliance (2.5%)	\$0
				Engineering and Construction Management (17.5%)	\$3,458
				Contingency - Soft Costs (10%)	\$1,976
				<b>Grand Total</b>	<b>\$25,192</b>

**Project:** Rancho Murieta Title XVI Implementation Plan  
**Job Number:** 60446041  
**Improvement:** 3. Pumping Station Improvement - North Golf Course Pumping Station (2,100 gpm)  
**Date:** 11/23/2015  
**Developed By:** J. Gabriel Perigault  
**Checked By:** Kevin Kennedy  
**Path:** \\s019nas02.us.ie.urs\Water\Rancho Murieta Projects\60446041\_RMCS D Recycled Water Project\Cost Data

Specification Section/Description	Quantity	Units	Unit Cost	Subtotal	Total
Division 1 - General Requirements					\$89,603
Mobilization (5%)	5%	LS	\$495,040	\$24,752	
Bid, Bonds, and Insurance (3%)	3%	LS	\$495,040	\$14,851	
Submittals	5	EA	\$5,000	\$25,000	
O&M Manuals	5	EA	\$5,000	\$25,000	
Division 2 - Site Work					\$5,161
Offsite Hauling (30 miles) and Disposal	91	CY	\$20	\$1,818	
Trenching	5	CY	\$13	\$63	
Confined Backfill and Compaction	1	LS	\$1,000	\$1,000	
Aggregate Base	1	LS	\$1,000	\$1,000	
Repaving	40	SY	\$32	\$1,280	
Division 3 - Concrete					\$50,000
Miscellaneous Concrete	1	LS	\$50,000	\$50,000	
Division 4 - Masonry			NOT USED		\$0
Division 5 - Metals			NOT USED		\$0
Division 6 - Wood and Plastics			NOT USED		\$0
Division 7 - Thermal and Moisture Protection			NOT USED		\$0
Division 8 - Doors and Windows			NOT USED		\$0
Division 9 - Finishes			NOT USED		\$0
Division 10 - Specialties			NOT USED		\$0
Division 11 - Equipment					\$220,000
Pumps (~ 2,100 gpm, 200 ft)	2	EA	\$100,000	\$200,000	
Valves and Appurtenances	1	LS	\$20,000	\$20,000	
Division 12 - Furnishings			NOT USED		\$0
Division 13 - Special Construction			NOT USED		\$0
Division 14 - Conveying Systems			NOT USED		\$0
Division 15 - Mechanical					\$125,000
Miscellaneous Piping	1	LS	\$125,000	\$125,000	
Division 16 - Electrical and Instrumentation					\$100,040
Electrical	20%	EA	\$80,032	\$80,032	
Instrumentation and Controls	5%	EA	\$20,008	\$20,008	
			Subtotal (Includes Overhead & Profit)		\$589,804
			Midpoint to Construction (5%)		\$29,490
			Contingency - Construction Costs (20%)		\$117,961
			Estimate of Probable Construction Costs		<b>\$737,255</b>
			Administrative Fees (5%)		\$36,863
			Regulatory (CEQA) Compliance (2.5%)		\$0
			Engineering and Construction Management (17.5%)		\$129,020
			Contingency - Soft Costs (5%)		\$36,863
			Grand Total		<b>\$940,000</b>



**Project:** Rancho Murieta Title XVI Implementation Plan  
**Job Number:** 60446041  
**Improvement:** 3. Pumping Station Improvement - Van Vleck Pumping Station (100 hp Pump Rehabilitation)  
**Date:** 11/23/2015  
**Developed By:** J. Gabriel Perigault  
**Checked By:** Kevin Kennedy  
**Path:** \\s019nas02.us.ie.urs\Water\Rancho Murieta Projects\60446041\_RMCS D Recycled Water Project\Cost Data

Specification Section/Description	Quantity	Units	Unit Cost	Subtotal	Total
Division 1 - General Requirements					\$12,880
Mobilization (5%)	5%	LS	\$36,000	\$1,800	
Bid, Bonds, and Insurance (3%)	3%	LS	\$36,000	\$1,080	
Submittals	1	EA	\$5,000	\$5,000	
O&M Manuals	1	EA	\$5,000	\$5,000	
Division 2 - Site Work					\$0
Offsite Hauling (30 miles) and Disposal	0	CY	\$20	\$0	
Trenching	0	CY	\$13	\$0	
Confined Backfill and Compaction	0	LS	\$1,000	\$0	
Aggregate Base	0	LS	\$1,000	\$0	
Division 3 - Concrete		NOT USED			\$0
Division 4 - Masonry		NOT USED			\$0
Division 5 - Metals		NOT USED			\$0
Division 6 - Wood and Plastics		NOT USED			\$0
Division 7 - Thermal and Moisture Protection		NOT USED			\$0
Division 8 - Doors and Windows		NOT USED			\$0
Division 9 - Finishes		NOT USED			\$0
Division 10 - Specialties		NOT USED			\$0
Division 11 - Equipment					\$15,000
Pumps (Rehab one of existing 100hp pumps)	1	EA	\$10,000	\$10,000	
Valves and Appurtenances	1	LS	\$5,000	\$5,000	
Division 12 - Furnishings		NOT USED			\$0
Division 14 - Conveying Systems		NOT USED			\$0
Division 15 - Mechanical					\$15,000
Miscellaneous Piping	1	LS	\$15,000	\$15,000	
Division 16 - Electrical and Instrumentation					\$6,000
Electrical	15%	EA	\$4,500	\$4,500	
Instrumentation and Controls	5%	EA	\$1,500	\$1,500	
				Subtotal (Includes Overhead & Profit)	\$48,880
				Midpoint to Construction (5%)	\$2,444
				Contingency - Construction Costs (10%)	\$4,888
				<b>Estimate of Probable Construction Costs</b>	<b>\$56,212</b>
				Administrative Fees (5%)	\$2,811
				Regulatory (CEQA) Compliance (0%)	\$0
				Engineering and Construction Management (10%)	\$5,621
				Contingency - Soft Costs (5%)	\$2,811
				<b>Grand Total</b>	<b>\$67,454</b>

**Project:** Rancho Murieta Title XVI Implementation Plan  
**Job Number:** 60446041  
**Improvement:** 3. Pumping Station Improvement - South Golf Course Pumping Station (1,000 gpm)  
**Date:** 11/23/2015  
**Developed By:** J. Gabriel Perigault  
**Checked By:** Kevin Kennedy  
**Path:** \\s019nas02.us.ie.urs\Water\Rancho Murieta Projects\60446041\_RMCS D Recycled Water Project\Cost Data

Specification Section/Description	Quantity	Units	Unit Cost	Subtotal	Total
Division 1 - General Requirements					\$80,091
Mobilization (5%)	5%	LS	\$376,141	\$18,807	
Bid, Bonds, and Insurance (3%)	3%	LS	\$376,141	\$11,284	
Submittals	500%	EA	\$5,000	\$25,000	
O&M Manuals	500%	EA	\$5,000	\$25,000	
Division 2 - Site Work					\$18,838
Removal and Disposal Chlorine Contact Piping from EQ Basi	1	LS	\$15,000	\$15,000	
Excavation (unclassified, 1.5 cy bucket)	223	CY	\$6	\$1,303	
Offsite Hauling (30 miles) and Disposal	50	CY	\$20	\$1,000	
Unconfined Backfill and Compaction	0	CY	\$2	\$0	
Trenching	30	CY	\$5	\$150	
Confined Backfill and Compaction	6	CY	\$3	\$15	
Aggregate Base	6	CY	\$15	\$90	
Division 3 - Concrete					\$75,398
Wet Well Cover	15	CY	\$1,350	\$20,106	
wet Well Wall	56	CY	\$1,350	\$75,398	
Wet Well Slab	15	CY	\$550	\$8,191	
Miscellaneous Concrete	1	LS	\$15,000	\$15,000	
Division 4 - Masonry		NOT USED			\$0
Division 5 - Metals		NOT USED			\$0
Division 6 - Wood and Plastics		NOT USED			\$0
Division 7 - Thermal and Moisture Protection		NOT USED			\$0
Division 8 - Doors and Windows		NOT USED			\$0
Division 9 - Finishes		NOT USED			\$0
Division 10 - Specialties		NOT USED			\$0
Division 11 - Equipment					\$120,000
Pumps (~ 1,000 gpm, 100 ft)	2	EA	\$50,000	\$100,000	
Valves and Apputernances	1	LS	\$20,000	\$20,000	
Division 12 - Furnishings		NOT USED			\$0
Division 13 - Special Construction		NOT USED			\$0
Division 13 - Special Construction		NOT USED			\$0
Division 14 - Conveying Systems		NOT USED			\$0
Division 15 - Mechanical					\$50,000
Miscellaneous Piping	1	LS	\$50,000	\$50,000	
Division 16 - Electrical and Instrumentation					\$61,905
Electrical	15%	EA	\$314,236	\$47,135	
Instrumentation and Controls	5%	EA	\$295,398	\$14,770	
				Subtotal (Includes Overhead & Profit)	\$356,233
				Midpoint to Construction (5%)	\$17,812
				Contingency - Construction Costs (20%)	\$71,247
				<b>Estimate of Probable Construction Costs</b>	<b>\$445,291</b>
				Administrative Fees (5%)	\$22,265
				Regulatory (CEQA) Compliance (0%)	\$0
				Engineering and Construction Management (17.5%)	\$77,926
				Contingency - Soft Costs (5%)	\$22,265
				<b>Grand Total</b>	<b>\$567,746</b>

**Project:** Rancho Murieta Title XVI Implementation Plan  
**Job Number:** 60446041  
**Improvement:** 4. Connection Irrigation System of Front Yard of District's headquarters to Recycled Water System  
**Path:** \\s019nas02.us.ie.urs\Water\Rancho Murieta Projects\60446041\_RMCS D Recycled Water Project\Cost Data

**Date:** 11/23/2015  
**Developed By:** J. Gabriel Perigault  
**Checked By:** Kevin Kennedy

Specification Section/Description	Quantity	Units	Unit Cost	Subtotal	Total
Division 1 - General Requirements					\$3,480
Mobilization (5%)	5%	LS	\$18,500	\$925	
Bid, Bonds, and Insurance (3%)	3%	LS	\$18,500	\$555	
Submittals (includes cross-connection test)	3	EA	\$500	\$1,500	
O&M Manuals	1	EA	\$500	\$500	
Division 2 - Site Work					\$13,500
Offsite Hauling (30 miles) and Disposal	10	CY	\$50	\$500	
2-inch PVC pipeline	200	LF	\$60	\$12,000	
Miscellaneous PVC Fittings	1	LS	\$1,000	\$1,000	
Division 3 - Concrete					\$5,000
Demolition and Pavement Patching	1	LS	\$5,000	\$5,000	
Division 4 - Masonry		NOT USED			\$0
Division 5 - Metals		NOT USED			\$0
Division 6 - Wood and Plastics		NOT USED			\$0
Division 7 - Thermal and Moisture Protection		NOT USED			\$0
Division 8 - Doors and Windows		NOT USED			\$0
Division 9 - Finishes		NOT USED			\$0
Division 10 - Specialties		NOT USED			\$0
Division 11 - Equipment		NOT USED			\$0
Division 12 - Furnishings		NOT USED			\$0
Division 13 - Special Construction		NOT USED			\$0
Division 14 - Conveying Systems		NOT USED			\$0
Division 15 - Mechanical		NOT USED			\$0
Division 16 - Electrical and Instrumentation		NOT USED			\$0
				Subtotal (Includes Overhead & Profit)	\$21,980
				Midpoint to Construction (5%)	\$1,099
				Contingency - Construction Costs (15%)	\$5,495
				<b>Estimate of Probable Construction Costs</b>	<b>\$28,574</b>
				Administrative Fees (0%)	\$0
				Regulatory (CEQA) Compliance (2.5%)	\$0
				Engineering and Construction Management (17.5%)	\$5,000
				Contingency - Soft Costs (10%)	\$2,857
				<b>Grand Total</b>	<b>\$36,432</b>

**Project:**  
**Job Number:**  
**Improvement:**

Rancho Murieta Title XVI Implementation Plan  
 60273784  
 5. Control System for Recycled Water Conveyance and Storage System

**Date:** 11/23/2015  
**Developed By:** J. Gabriel Perigault  
**Checked By:** Kevin Kennedy

**Path:** \\s019nas02.us.ie.urs\Water\Rancho Murieta Projects\60446041\_RMCS D Recycled Water Project\Cost Data

Specification Section/Description	Quantity	Units	Unit Cost	Subtotal	Total
Division 1 - General Requirements					\$17,200
Mobilization (5%)	3%	LS	90,000	\$4,500	
Bid, Bonds, and Insurance (3%)	3%	LS	90,000	\$2,700	
Submittals	1	EA	5,000	\$5,000	
O&M Manuals	1	EA	5,000	\$5,000	
Division 2 - Site Work		NOT USED			\$0
Division 3 - Concrete		NOT USED			\$0
Division 4 - Masonry		NOT USED			\$0
Division 5 - Metals		NOT USED			\$0
Division 6 - Wood and Plastics		NOT USED			\$0
Division 7 - Thermal and Moisture Protection		NOT USED			\$0
Division 8 - Doors and Windows		NOT USED			\$0
Division 9 - Finishes		NOT USED			\$0
Division 10 - Specialties		NOT USED			\$0
Division 11 - Equipment		NOT USED			\$0
Division 12 - Furnishings		NOT USED			\$0
Division 13 - Special Construction		NOT USED			\$0
Division 14 - Conveying Systems		NOT USED			\$0
Division 15 - Mechanical					\$30,000
12-inch Distribution Motorized Valves and Appurtenances	5	EA	6,000	\$30,000	
Division 16 - Electrical and Instrumentation					\$60,000
Electrical	5	EA	7,000	\$35,000	
SCADA and Instrumentation	5	EA	5,000	\$25,000	
				Subtotal (Includes Overhead & Profit)	\$149,531
				Midpoint to Construction (5%)	\$7,477
				Contingency - Construction Costs (10%)	\$14,953
				<b>Estimate of Probable Construction Costs</b>	<b>\$171,961</b>
				Administrative Fees (5%)	\$8,598
				Regulatory (CEQA) Compliance (0%)	\$0
				Engineering and Construction Management (15%)	\$30,093
				Contingency - Soft Costs (5%)	\$8,598
				<b>Grand Total</b>	<b>\$219,250</b>

**Project:**  
**Job Number:**  
**Improvement:**

Rancho Murieta Title XVI Implementation Plan  
 60273784  
 6. Northwest Recycled Water Transmission Main

**Date:** 11/23/2015  
**Developed By:** J. Gabriel Perigault  
**Checked By:** Kevin Kennedy

**Path:** \\s019nas02.us.ie.urs\Water\Rancho Murieta Projects\60446041\_RMCS D Recycled Water Project\Cost Data

Specification Section/Description	Quantity	Units	Unit Cost	Subtotal	Total
Division 1 - General Requirements					\$272,541
Mobilization (5%)	5%	LS	\$2,781,760	\$139,088	
Bid, Bonds, and Insurance (3%)	3%	LS	\$2,781,760	\$83,453	
Submittals	5	EA	\$5,000	\$25,000	
O&M Manuals	5	EA	\$5,000	\$25,000	
Division 2 - Site Work					\$2,656,760
Conditions Assessments	1	LS	\$25,000	\$25,000	
Rehab of Existing Pipeline Along Stonehouse Road	1080	LF	\$212	\$228,960	
12-inch PVC pipeline	5,400	LF	\$212	\$1,144,800	
10-inch PVC pipeline	5,600	LF	\$180	\$1,008,000	
Valves and Appurtenances	1	LS	\$250,000	\$250,000	
Division 3 - Concrete		NOT USED			\$0
Division 4 - Masonry		NOT USED			\$0
Division 5 - Metals		NOT USED			\$0
Division 6 - Wood and Plastics		NOT USED			\$0
Division 7 - Thermal and Moisture Protection		NOT USED			\$0
Division 8 - Doors and Windows		NOT USED			\$0
Division 9 - Finishes		NOT USED			\$0
Division 10 - Specialties		NOT USED			\$0
Division 11 - Equipment		NOT USED			\$0
Division 12 - Furnishings		NOT USED			\$0
Division 13 - Special Construction		NOT USED			\$0
Division 14 - Conveying Systems		NOT USED			\$0
Division 15 - Mechanical					\$125,000
Valves and Appurtenances	1	LS	125,000	\$125,000	
Division 16 - Electrical and Instrumentation		NOT USED			\$0
				Subtotal (Includes Overhead & Profit)	\$3,054,301
				Midpoint to Construction (5%)	\$152,715
				Contingency - Construction Costs (25%)	\$763,575
				<b>Estimate of Probable Construction Costs</b>	<b>\$3,970,591</b>
				Administrative Fees (5%)	\$198,530
				Regulatory (CEQA) Compliance (2.5%)	\$99,265
				Engineering and Construction Management (17.5%)	\$694,853
				Contingency - Soft Costs (5%)	\$397,059
				<b>Grand Total</b>	<b>\$5,360,298</b>

**Project:**  
**Job Number:**  
**Improvement:**

Rancho Murieta Title XVI Implementation Plan  
 60446041  
 7. Stonehouse Park Conversion to Recycled Water Irrigation

**Date:** 11/23/2015  
**Developed By:** J. Gabriel Perigault  
**Checked By:** Kevin Kennedy

**Path:** \\s019nas02.us.ie.urs\Water\Rancho Murieta Projects\60446041\_RMCS D Recycled Water Project\Cost Data

Specification Section/Description	Quantity	Units	Unit Cost	Subtotal	Total
Division 1 - General Requirements					\$5,080
5. (Mobilization (5%)	5%	LS	\$26,000	\$1,300	
Bid, Bonds, and Insurance (3%)	3%	LS	\$26,000	\$780	
Submittals (includes cross-connection test)	5	EA	\$500	\$2,500	
O&M Manuals	1	EA	\$500	\$500	
Division 2 - Site Work					\$21,000
4-inch PVC pipeline	200	LF	\$100	\$20,000	
Miscellaneous PVC Fittings	1	LS	\$1,000	\$1,000	
Division 3 - Concrete					\$5,000
Demolition and Pavement Patching	1	LS	\$5,000	\$5,000	
Division 4 - Masonry			NOT USED		\$0
Division 5 - Metals			NOT USED		\$0
Division 6 - Wood and Plastics			NOT USED		\$0
Division 7 - Thermal and Moisture Protection			NOT USED		\$0
Division 8 - Doors and Windows			NOT USED		\$0
Division 9 - Finishes			NOT USED		\$0
Division 10 - Specialties			NOT USED		\$0
Division 11 - Equipment			NOT USED		\$0
Division 12 - Furnishings			NOT USED		\$0
Division 13 - Special Construction			NOT USED		\$0
Division 14 - Conveying Systems			NOT USED		\$0
Division 15 - Mechanical			NOT USED		\$0
Division 16 - Electrical and Instrumentation			NOT USED		\$0
				Subtotal (Includes Overhead & Profit)	\$31,080
				Midpoint to Construction (5%)	\$1,554
				Contingency - Construction Costs (25%)	\$7,770
				<b>Estimate of Probable Construction Costs</b>	<b>\$40,404</b>
				Administrative Fees (10%)	\$4,040
				Regulatory (CEQA) Compliance (0%)	\$0
				Engineering and Construction Management (10%)	\$4,040
				Contingency - Soft Costs (10%)	\$4,040
				<b>Grand Total</b>	<b>\$52,525</b>

**Project:**  
**Job Number:**  
**Improvement:**

Rancho Murieta Title XVI Implementation Plan  
 60273784  
 8. Lookout Hill Recycled Water Storage Tank

**Date:** 11/23/2015  
**Developed By:** J. Gabriel Perigault  
**Checked By:** Kevin Kennedy

**Path:** \\s019nas02.us.ie.urs\Water\Rancho Murieta Projects\60446041\_RMCS D Recycled Water Project\Cost Data

Specification Section/Description	Quantity	Units	Unit Cost	Subtotal	Total
Division 1 - General Requirements					\$24,564
Mobilization (7% not including tank)	5%	LS	\$182,056	\$9,103	
Bid, Bonds, and Insurance (3% not incl. new tank)	3%	LS	\$182,056	\$5,462	
Submittals	1	LS	\$5,000	\$5,000	
O&M Manuals	1	LS	\$5,000	\$5,000	
Division 2 - Site Work					\$85,332
Exiting Tank Demolition	1	LS	\$35,400	\$35,400	
Existing Tank Foundation Demolition	1257	LF	\$30	\$37,071	
Offsite Hauling (30 miles) and Disposal	119	CY	\$50	\$5,927	
Excavation	352	CY	\$13	\$4,400	
Backfill and Compaction	225	CY	\$8	\$1,689	
Aggregate Base	56	CY	\$15	\$845	
Miscellaneous Piping and apputernances	1	LS	\$20,000	\$20,000	
Division 3 - Concrete					\$51,724
Tank Base/Foundation	31	CY	\$1,350	\$41,724	
Miscellaneous Concrete	1	LS	\$10,000	\$10,000	
Division 4 - Masonry			NOT USED		\$0
Division 5 - Metals			NOT USED		\$0
Division 6 - Wood and Plastics			NOT USED		\$0
Division 7 - Thermal and Mositure Protection			NOT USED		\$0
Division 8 - Doors and Windows			NOT USED		\$0
Division 9 - Finishes			NOT USED		\$0
Division 10 - Specialties					\$125,000
New Tank (200,000 gallons, includes installation)	1	EA	\$125,000	\$125,000	
Division 11 - Equipment			NOT USED		\$0
Division 12 - Furnishings			NOT USED		\$0
Division 13 - Special Construction			NOT USED		\$0
Division 14 - Conveying Systems			NOT USED		\$0
Division 15 - Mechanical					\$20,000
12-inch Motorized Butterfly Valve	2	EA	\$10,000	\$20,000	
Division 16 - Electrical and Instrumentation					\$25,000
Electrical	1	LS	\$10,000	\$10,000	
Instrumentation and Controls ( Sensors/Telemetry)	1	LS	\$15,000	\$15,000	
				Subtotal	\$331,621
				Midpoint to Construction (5%)	\$16,581
				Contingency - Construction Costs (25%)	\$82,905
				<b>Estimate of Probable Construction Costs (Rounded)</b>	<b>\$431,107</b>
				Administrative Fees (5%)	\$21,555
				Regulatory (CEQA) Compliance (2.5%)	\$10,778
				Engineering and Construction Management (10%)	\$43,111
				Contingency - Soft Costs (5%)	\$21,555
				<b>Grand Total (Rounded)</b>	<b>\$528,106</b>

**Project:** Rancho Murieta Title XVI Implementation Plan  
**Job Number:** 60446041  
**Improvement:** 9. Recycled Water Booster Pumping Station

**Date:** 11/23/2015  
**Developed By:** J. Gabriel Perigault  
**Checked By:** Kevin Kennedy

**Path:** \\s019nas02.us.ie.urs\Water\Rancho Murieta Projects\60446041\_RMCD Recycled Water Project\Cost Data

Specification Section/Description	Quantity	Units	Unit Cost	Subtotal	Total
Division 1 - General Requirements					\$52,320
Mobilization (5%)	5%	LS	\$279,000	\$13,950	
Bid, Bonds, and Insurance (3%)	3%	LS	\$279,000	\$8,370	
Submittals	5	EA	\$5,000	\$25,000	
O&M Manuals	1	EA	\$5,000	\$5,000	
Division 2 - Site Work					\$15,000
Site Preparation	1	LS	\$15,000	\$15,000	
Division 3 - Concrete					\$20,000
Miscellaneous Concrete (slab, access, parking)	1	LS	\$20,000	\$20,000	
Division 4 - Masonry					\$0
Division 5 - Metals					\$0
Division 6 - Wood and Plastics					\$0
Division 7 - Thermal and Moisture Protection					\$0
Division 8 - Doors and Windows					\$0
Division 9 - Finishes					\$0
Division 10 - Specialties					\$40,000
PS Metal Building	1	LS	\$40,000	\$40,000	
Division 11 - Equipment					\$107,500
Pumps (~ 1,000 gpm)	2	LS	\$43,750	\$87,500	
Valves and Apputernances	1	LS	\$20,000	\$20,000	
Division 12 - Furnishings					\$0
Division 13 - Special Construction					\$0
Division 14 - Conveying Systems					\$0
Division 15 - Mechanical					\$50,000
Miscellaneous Piping and Apputernances	1	LS	\$50,000	\$50,000	
Division 16 - Electrical and Instrumentation					\$46,500
Electrical (15% of Pumping Station)	15%	LS	\$232,500	\$34,875	
Instrumentation and Controls (5% of Pumping Station)	5%	LS	\$232,500	\$11,625	
				Subtotal (Includes Overhead & Profit)	\$331,320
				Midpoint to Construction (5%)	\$16,566
				Contingency - Construction Costs (20%)	\$66,264
				<b>Estimate of Probable Construction Costs</b>	<b>\$414,150</b>
				Administrative Fees (5%)	\$20,708
				Regulatory (CEQA) Compliance (2.5%)	\$10,354
				Engineering and Construction Management (17.5%)	\$72,476
				Contingency - Soft Costs (5%)	\$20,708
				<b>Grand Total</b>	<b>\$538,395</b>



**Project:** Rancho Murieta Title XVI Implementation Plan **Date:** 11/23/2015  
**Job Number:** 60446041 **Developed By:** J. Gabriel Perigault  
**Improvement:** 10. Expanded Irrigation System to Serve Van Vleck Ranch Field 4 (16 Additional Acres) **Checked By:** Kevin Kennedy  
**Path:** \\s019nas02.us.ie.urs\Water\Rancho Murieta Projects\60446041\_RMCS D Recycled Water Project\Cost Data

Specification Section/Description	Quantity	Units	Unit Cost	Subtotal	Total
Division 1 - General Requirements					\$61,600
Mobilization (5%)	5%	LS	\$145,000	\$7,250	
Bid, Bonds, and Insurance (3%)	3%	LS	\$145,000	\$4,350	
Submittals	5	EA	\$5,000	\$25,000	
O&M Manuals	5	EA	\$5,000	\$25,000	
Division 2 - Site Work					\$100,000
Grading	1	LF	\$100,000	\$100,000	
12-inch PVC pipeline	1,280	LF	\$137	\$175,360	
Division 3 - Concrete		NOT USED			\$0
Division 4 - Masonry		NOT USED			\$0
Division 5 - Metals		NOT USED			\$0
Division 6 - Wood and Plastics		NOT USED			\$0
Division 7 - Thermal and Moisture Protection		NOT USED			\$0
Division 8 - Doors and Windows		NOT USED			\$0
Division 9 - Finishes		NOT USED			\$0
Division 10 - Specialties		NOT USED			\$0
Division 11 - Equipment		NOT USED			\$0
Division 12 - Furnishings		NOT USED			\$0
Division 13 - Special Construction					\$20,000
Sprayfield Irrigation System	16	Acres	\$1,250	\$20,000	
Division 14 - Conveying Systems		NOT USED			\$0
Division 15 - Mechanical		NOT USED			\$0
Division 16 - Electrical and Instrumentation					\$25,000
Electrical	1	LS	\$10,000	\$10,000	
Instrumentation and Controls (Level Sensors and telemetry)	1	LS	\$15,000	\$15,000	
				Subtotal (Includes Overhead & Profit)	\$206,600
				Midpoint to Construction (5%)	\$10,330
				Contingency - Construction Costs (25%)	\$51,650
				<b>Estimate of Probable Construction Costs</b>	<b>\$268,580</b>
				Administrative Fees (5%)	\$13,429
				Regulatory (CEQA) Compliance (5%)	\$13,429
				Engineering and Construction Management (17.5%)	\$47,002
				Contingency - Soft Costs (5%)	\$13,429
				<b>Grand Total</b>	<b>\$355,869</b>

**Project:**  
**Job Number:**  
**Improvement:**

Rancho Murieta Title XVI Implementation Plan  
 60446041  
 11. Rehabilitation of Existing Conveyance Systems to  
 North & South Golf Courses

**Date:** 11/23/2015  
**Developed By:** J. Gabriel Perigault  
**Checked By:** Kevin Kennedy

**Path:** \\s019nas02.us.ie.urs\Water\Rancho Murieta Projects\60446041\_RMCS D Recycled Water Project\Cost Data

Specification Section/Description	Quantity	Units	Unit Cost	Subtotal	Total
Division 1 - General Requirements					\$106,380
Mobilization (5%)	5%	LS	\$704,750	\$35,238	
Bid, Bonds, and Insurance (3%)	3%	LS	\$704,750	\$21,143	
Submittals	5	EA	\$5,000	\$25,000	
O&M Manuals	5	EA	\$5,000	\$25,000	
Division 2 - Site Work					\$684,750
Condition Assessment South Golf Course	1	LS	\$50,000	\$50,000	
Condition Assessment North Golf Course	1	LS	\$25,000	\$25,000	
12-inch PVC Pipeline North Golf Course	1,613	LF	\$212	\$341,850	
12-inch PVC Pipeline South Golf Course	825	LF	\$212	\$174,900	
12-inch PVC Pipeline to Interconnect Gravity and Main Force Section in South Golf Course System	250	LF	\$212	\$53,000	
Valves and Appurtenances	1	LS	\$40,000	\$40,000	
Division 3 - Concrete		NOT USED			\$0
Division 4 - Masonry		NOT USED			\$0
Division 5 - Metals		NOT USED			\$0
Division 6 - Wood and Plastics		NOT USED			\$0
Division 7 - Thermal and Moisture Protection		NOT USED			\$0
Division 8 - Doors and Windows		NOT USED			\$0
Division 9 - Finishes		NOT USED			\$0
Division 10 - Specialties		NOT USED			\$0
Division 11 - Equipment		NOT USED			\$0
Division 12 - Furnishings		NOT USED			\$0
Division 13 - Special Construction		NOT USED			\$0
Division 14 - Conveying Systems		NOT USED			\$0
Division 15 - Mechanical					\$20,000
Valves and Appurtenances	1	LS	20,000	\$20,000	
Division 16 - Electrical and Instrumentation		NOT USED			\$0
				Subtotal (Includes Overhead & Profit)	\$811,130
				Midpoint to Construction (5%)	\$40,557
				Contingency - Construction Costs (25%)	\$202,783
				<b>Estimate of Probable Construction Costs</b>	<b>\$1,054,469</b>
				Administrative Fees (5%)	\$52,723
				Regulatory (CEQA) Compliance (0%)	\$0
				Engineering and Construction Management (17.5%)	\$184,532
				Contingency - Soft Costs (5%)	\$105,447
				<b>Grand Total</b>	<b>\$1,397,171</b>

## **APPENDIX C**

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Service Life (Reference American Water Works Association – West  
Medium & Small, PVC)



projections of demographic trends allowed the development of infrastructure need profiles for growth through 2050 in each of the regions and utility size categories (for the latter purpose, city size was used as a proxy for utility size).

The study generally assumes that utilities continue efforts to manage the number of main breaks that occur per mile of pipe rather than absorb increases in pipe failures. That is, the study assumes utilities will strive to maintain current levels of service rather than allow increasing water service outages. We assume that each utility’s objective is to make these investments at the optimal time for maintaining current service levels and to avoid replacing pipes while the repairs are still cost-effective. Ideally, pipe replacement occurs at the end of a pipe’s “useful life”; that is, the point in time

when replacement or rehabilitation becomes less expensive in going forward than the costs of numerous unscheduled breaks and associated emergency repairs.

With this data in hand and using the assumptions above, we projected the “typical” useful service life of the pipes in our inventory using the “Nessie Model”™. The model embodies pipe failure probability distributions based on many utilities’ current operating experiences, coupled with insights from extensive research and professional experiences with typical pipe

conditions at different ages and sizes, according to pipe material. The analysis used seven different types of pipe in three diameters and addressed pipe inventories dating back to 1870. Estimated typical service lives of pipes are

**Figure 5: Average Estimated Service Lives by Pipe Materials (average years of service)**

Derived Current Service Lives (Years)	CI	CICL (LSL)	CICL (SSL)	DI (LSL)	DI (SSL)	AC (LSL)	AC (SSL)	PVC	Steel	Conc & PCCP
Northeast Large	130	120	100	110	50	80	80	100	100	100
Midwest Large	125	120	85	110	50	100	85	55	80	105
South Large	110	100	100	105	55	100	80	55	70	105
West Large	115	100	75	110	60	105	75	70	95	75
Northeast Medium & Small	115	120	100	110	55	100	85	100	100	100
Midwest Medium & Small	125	120	85	110	50	70	70	55	80	105
South Medium & Small	105	100	100	105	55	100	80	55	70	105
West Medium & Small	105	100	75	110	60	105	75	70	95	75
Northeast Very Small	115	120	100	120	60	100	85	100	100	100
Midwest Very Small	135	120	85	110	60	80	75	55	80	105
South Very Small	130	110	100	105	55	100	80	55	70	105
West Very Small	130	100	75	110	60	105	65	70	95	75

*LSL indicates a relatively long service life for the material resulting from some combination of benign ground conditions and evolved laying practices etc.  
 SSL indicates a relatively short service life for the material resulting from some combination of harsh ground conditions and early laying practices, etc.*

## **APPENDIX D**

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### District Plant Operations Costs

## Rancho Murietta Community Services District Wastewater Treatment Plant Operations Costs - 2014

	January	February	March	April	May	June	July	August	September	October	November	December	Totals	
Secondary Inflow MG	10.693	11.527	13.393	12.310	11.320	10.892	11.303	11.143	10.713	10.635	10.521	14.909	139	MG
Tertiary Production MG	0.000	0.000	0.000	0.000	0.000	22.679	35.285	39.739	26.340	8.202			132	MG
Total Chlorine used in lbs						4,473	5,906	6,901	3,770	1,500			22,550	lbs
Alum in lbs						42,019	45,966	62,309	40,457	14,172			204,923	lbs
Total Sodium Hydroxide in lbs						3,026	1,538	0	0	508			5,072	lbs
Electrical Per Month (\$)	10,471	10,119	8,972	8,043	8,986	11,570	13,096	14,027	10,777	8,352	8,412	7,550	\$120,375	Secondary + T

Calculated Costs														
	January	February	March	April	May	June	July	August	September	October	November	December	Chemical	
Chlorine \$	\$0	\$0	\$0	\$0	\$0	\$1,566	\$2,067	\$2,415	\$1,320	\$525	\$0	\$0	\$7,892.50	Chlorine
Alum \$	\$0	\$0	\$0	\$0	\$0	\$1,979	\$2,165	\$2,935	\$1,906	\$668	\$0	\$0	\$9,651.87	Alum
Sodium Hydroxide 50% \$	\$0	\$0	\$0	\$0	\$0	\$903	\$459	\$0	\$0	\$152	\$0	\$0	\$1,513.61	Sodium Hydr
													Total	Chemical
													Cost per MG	\$144.11

General Ledger Data														
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	
Wages - ST & D	9,670.44	5,971.44	5,389.75	8,492.39	14,509.50	17,917.42	5,575.69	18,102.13	6,992.07	9,618.12	8,697.42	9,921.92	120,858.29	
Employers Cost - ST&D	4,987.78	3,617.71	3,677.79	5,916.95	4,046.45	6,292.39	5,016.21	7,266.33	4,174.00	4,995.24	4,022.86	5,438.88	59,452.59	
Purchased Power - ST&D	9,797.83	9,815.15	9,469.12	8,325.84	7,353.48	8,181.45	2,729.47	12,257.38	13,273.87	10,117.86	7,720.91	7,661.29	106,703.65	
Supplies - ST&D	0.00	0.00	0.00	0.00	0.00	2,484.00	772.47	0.00	0.00	0.00	0.00	0.00	3,256.47	
Equipment Rental - ST&D	0.00	0.00	0.00	7,087.40	3,027.31	0.00	0.00	264.60	793.80	0.00	0.00	0.00	11,173.11	
Maintenance/Repairs - ST&D	1,500.38	2,927.99	1,512.29	7,937.31	17,042.99	7,325.94	2,632.79	2,569.45	13,113.11	14.90	1,321.92	5,126.91	63,025.98	
Chemicals - ST & D	616.56	0.00	0.00	0.00	9,236.68	277.16	15,106.66	5,852.42	10,870.50	0.00	0.00	0.00	41,959.98	
Lab Tests - ST&D	2,409.40	2,280.64	2,580.34	950.60	4,287.92	4,058.60	3,611.30	8,712.06	7,198.10	7,800.24	3,685.78	4,462.92	52,037.90	
Sludge Removal - ST&D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9,572.01	0.00	9,572.01	
Miscellaneous - ST&D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total per Month	28,982.39	24,612.93	22,629.29	38,710.49	59,504.33	46,536.96	34,672.12	55,796.84	56,415.45	32,546.36	35,020.90	32,611.92		
													Total	468,039.98
													Cost per MG Secondary Influent	3,358.55
													Cost per MG Tertiary Treated	3,539.19

**Rancho Murieta Community Services District  
Water Treatment Plant Operations Costs - 2014**

Pounds of Chemical	January		February		March		April		May		June		July		August		September		October		November		December		Total Pounds
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	
Treatment Plant	27.809	0.000	18.195	0.000	21.483	0.000	15.999	11.350	20.391	27.240	22.425	37.790	26.423	39.620	24.428	36.840	8.506	40.780	0.000	42.540	0.000	29.010	0.000	171.379	622.208
Chlorine	602	0	438	0	555	0	467	306	677	771	827	1,177	1,002	1,284	826	1,064	291	1,161	0	1,072	0	686	0	494	13,700
Alum	15,235	0	9,993	0	11,816	0	8,825	6,444	11,272	15,101	12,374	20,986	14,580	22,078	13,650	20,705	4,866	23,184	0	23,907	0	16,146	0	11,335	262,497
Polymer	463	0	306	0	363	0	271	182	349	463	382	634	449	658	416	611	140	675	0	698	0	475	0	336	7,871
Zinc Phosphate	439	0	487	0	340	0	254	179	320	423	348	553	408	585	377	163	138	599	0	625	0	406	0	260	6,904
Activated Carbon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sodium Hydroxide 50%	6,434	0	4,281	0	5,462	0	2,518	1,770	3,136	4,755	3,692	7,107	4,231	7,051	3,912	6,735	1,242	6,829	0	2,883	0	2,049	0	1,746	75,833
Potassium Permanganate	127	0	86	0	102	0	94	51	126	121	129	164	141	175	130	163	52	180	0	190	0	130	0	94	2,255
Electrical (calculated on flow)																									
Total Electrical Per Month (\$)		\$4,571.11		\$3,848.75		\$3,984.34		\$5,707.62		\$7,754.79		\$8,324.98		\$7,701.04		\$8,138.78		\$6,194.29		\$5,281.69		\$4,586.80		\$4,275.60	\$70,370

Total Calculated Costs	January		February		March		April		May		June		July		August		September		October		November		December		Total
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	
Treatment Plant	27.809	0.000	18.195	0.000	21.483	0.000	15.999	11.350	20.391	27.240	22.425	37.790	26.423	39.620	24.428	36.840	8.506	40.780	0.000	42.540	0.000	29.010	0.000	171.379	622.208
Chlorine \$	\$169	\$0	\$123	\$0	\$155	\$0	\$131	\$86	\$190	\$216	\$232	\$330	\$281	\$360	\$231	\$298	\$81	\$325	\$0	\$300	\$0	\$192	\$0	\$138	\$3,836
Alum \$	\$1,813	\$0	\$1,189	\$0	\$1,406	\$0	\$1,050	\$767	\$1,341	\$1,797	\$1,473	\$2,497	\$1,735	\$2,627	\$1,624	\$2,464	\$579	\$2,759	\$0	\$2,845	\$0	\$1,921	\$0	\$1,349	\$31,237
Polymer \$	\$537	\$0	\$355	\$0	\$421	\$0	\$314	\$211	\$405	\$537	\$443	\$735	\$521	\$763	\$483	\$709	\$162	\$783	\$0	\$810	\$0	\$551	\$0	\$390	\$9,130
Zinc Phosphate \$	\$378	\$0	\$419	\$0	\$292	\$0	\$218	\$154	\$275	\$364	\$299	\$476	\$351	\$503	\$324	\$140	\$119	\$515	\$0	\$538	\$0	\$349	\$0	\$224	\$5,937
Activated Carbon \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sodium Hydroxide 50% \$	\$1,920	\$0	\$1,278	\$0	\$1,630	\$0	\$751	\$528	\$936	\$1,419	\$1,102	\$2,121	\$1,263	\$2,104	\$1,167	\$2,010	\$371	\$2,038	\$0	\$860	\$0	\$611	\$0	\$521	\$22,630
Potassium Permanganate \$	\$475	\$0	\$322	\$0	\$381	\$0	\$352	\$191	\$471	\$453	\$482	\$613	\$527	\$655	\$486	\$610	\$194	\$673	\$0	\$711	\$0	\$486	\$0	\$352	\$8,434
Electrical (calculated on flow)	\$4,571	\$0	\$3,849	\$0	\$3,984	\$0	\$3,339	\$2,369	\$3,320	\$4,435	\$3,100	\$5,225	\$3,081	\$4,620	\$3,245	\$4,894	\$1,069	\$5,125	\$0	\$5,282	\$0	\$4,587	\$0	\$4,276	\$70,370
Total																									\$151,575
Cost per MG																									\$244

Plant 1 Calculated Costs	January		February		March		April		May		June		July		August		September		October		November		December		Total
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	
Treatment Plant	27.809		18.195		21.483		15.999		20.391		22.425		26.423		24.428		8.506		0.000		0.000		0.000		185.659
Chlorine \$	\$169		\$123		\$155		\$131		\$190		\$232		\$281		\$231		\$81		\$0		\$0		\$0		\$1,592
Alum \$	\$1,813		\$1,189		\$1,406		\$1,050		\$1,341		\$1,473		\$1,735		\$1,624		\$579		\$0		\$0		\$0		\$12,211
Polymer \$	\$537		\$355		\$421		\$314		\$405		\$443		\$521		\$483		\$162		\$0		\$0		\$0		\$3,641
Zinc Phosphate \$	\$378		\$419		\$292		\$218		\$275		\$299		\$351		\$324		\$119		\$0		\$0		\$0		\$2,675
Activated Carbon \$	\$0		\$0		\$0		\$0		\$0		\$0		\$0		\$0		\$0		\$0		\$0		\$0		\$0
Sodium Hydroxide 50% \$	\$1,920		\$1,278		\$1,630		\$751		\$936		\$1,102		\$1,263		\$1,167		\$371		\$0		\$0		\$0		\$10,417
Potassium Permanganate \$	\$475		\$322		\$381		\$352		\$471		\$482		\$527		\$486		\$194		\$0		\$0		\$0		\$3,691
Electrical (calculated on flow)	\$4,571		\$3,849		\$3,984		\$3,339		\$3,320		\$3,100		\$3,081		\$3,245		\$1,069		\$0		\$0		\$0		\$29,558
Total																									\$63,786
Cost per MG																									\$344

Plant 2 Calculated Costs	January		February		March		April		May		June		July		August		September		October		November		December		Total
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	
Treatment Plant		0.000		0.000		0.000		11.350		27.240		37.790		39.620		36.840		40.780		42.540		29.010		171.379	436.549
Chlorine \$		\$0		\$0		\$0		\$86		\$216		\$330		\$360		\$298		\$325		\$300		\$192		\$138	\$2,244
Alum \$		\$0		\$0		\$0		\$211		\$537		\$735		\$763		\$709		\$783		\$810		\$551		\$390	\$5,489
Polymer \$		\$0		\$0		\$0		\$154		\$364		\$476		\$503		\$140		\$515		\$538		\$349		\$224	\$3,262
Zinc Phosphate \$		\$0		\$0		\$0		\$0		\$0		\$0		\$0		\$0		\$0		\$0		\$0		\$0	\$0
Activated Carbon \$		\$0		\$0		\$0		\$528		\$1,419		\$2,121		\$2,104		\$2,010		\$2,038		\$860		\$611		\$521	\$12,213
Sodium Hydroxide 50% \$		\$0		\$0		\$0		\$191		\$453		\$613		\$655		\$610		\$673		\$711		\$486		\$352	\$4,742
Potassium Permanganate \$		\$0		\$0		\$0		\$2,369		\$4,435		\$5,225		\$4,620		\$4,894		\$5,125		\$5,282		\$4,587		\$4,276	\$40,811
Electrical (calculated on flow)		\$0		\$0		\$0		\$2,369		\$4,435		\$5,225		\$4,620		\$4,894		\$5,125		\$5,282		\$4,587		\$4,276	\$40,811
Total																									\$87,788
Cost per MG																									\$201

Table 1. shows the proposed improvements and costs currently described in the draft Title XVI report. Table 2 shows the comparable improvements and costs described in the Title XVI Recycled Water Feasibility Study (June 2014). Recycled water service to all future developments except Riverview, Lakeview, and the three Lake Estates (same as previous study) is assumed for both cases.

Below is a summary of the changes/revisions from the Title XVI Recycled Water Feasibility Study.

- A. Comparison of proposed and past costs is \$11,606,000 and \$9,030,000 (based on today's dollars); difference of roughly \$2,575,000
- B. A 5% escalation (inflation) has been added to reflect the midpoint of construction.
- C. Of the \$2,575,000 difference, approximately \$1,030,000 (w/o soft costs) represent added or new improvements (Improvements 2, 4, 5, 7, 11, and part of 6), with rehabilitation and repair (15%) of the North Golf Course Conveyance System (\$1.4 million) and Northwest Recycled Water Transmission Main (\$250,000 unescalated; \$480,000 escalated) being the two largest differences between the listed improvement:
- D. The recycled water pipeline alignment near Murieta Garden and Lookout Hill has been revised to (a) accommodate developer proposal and (b) locating booster pump station at the Fire Station. These two changes have increased overall recycled water pipeline

Below is a summary of recommended improvements and changes from the Title XVI Recycled Water Feasibility Study (June 2014)

- 1. Chlorine Contact Basin: Originally basin was going to be partially inside the existing equalization basin. Proposed basin is next to (outside) of equalization basin to maintain existing levels of recycled water storage. Original cost did not include earthwork, new structural codes, and removal and disposal of chlorine contact pipe inside basin. Cost increase is about \$950k. Increased chlorine contact basin construction cost contingency from 15 to 25% to account for moving the basin completely outside of the existing equalization basin, thus creating the opportunity for changes in site conditions. This cost represents a change of roughly \$125,000 unescalated; \$175,000 escalated
- 2. Air Gap for PW Allocation: This improvements and cost was not included in the Title XVI Recycled Water Feasibility Report (+\$ 25k). The need to supplement with potable water came about after the completion of this report, during negotiations with the RWWQCB and DDW.
- 3. Pumping Station Improvements: Represents significantly lower costs than estimated in the previous report.
- 4. Recycled Water Connection to RMCCSD Office Front Yard Allocation: This cost item represents an allocation and was not include in original estimate (+\$36k).
- 5. SCADA System for Recycled Water Conveyance System: This cost item was not include in previous report (+ ~\$ 220k) and represents an allocation (placeholder estimate) and was based on controlling up to 5 valves within the recycled water production and distribution system.
- 6. North West Recycled Water Transmission Main: Original cost did not include condition assessment, rehabilitating portions of existing pipeline (\$250k unescalated; \$480k escalated) or proposed location of new booster pump station (near the Fire Station). Includes longer conveyance to new Booster PS and Connection to existing North West Transmission pipeline.
- 7. Stonehouse Park Conversion to RW Irrigation allocation: New item not included in previous report; assumed to be provided by developer. Budget is an allocation (+\$53k).
- 8 & 9. Lookout Hill RW Storage Tank & Booster Pumping Station: Cost is lower than original estimate. This is due to elimination of one storage tank (now there is just one) and the allocation of conveyance piping to the booster pump station and to the North West Transmission Pipeline to this cost item (~\$970k). This cost item includes one 200,000 gallon tank, demolition of existing tank, and booster PS at Firehouse.
- 10. Van Vleck Ranch Field 4 Expansion: No required for Phase 1
- 11. Rehabilitation of Existing North Golf Course Conveyance Systems: Not included in previous study; RMCC/EMCCSD ownership dialogue. Funding for condition and rehabilitation of existing conveyance system to supply recycled water to the North Golf Courses was added after the previous report was completed. A placeholder for this improvement considers condition assessment activities and replacement of approximately 15 percent of the length of the existing conveyance system that serves the North Golf Course.

FUNDING APPLICATION AND ORIGINAL TITLE XVI REPORTS COST ESTIMATE

TABLE 1. FUNDING APPLICATION DRAFT ESTIMATE FOR PHASE 1

Cost Description	WWRP IMPROVEMENTS							RECYCLED WATER CONVEYANCE IMPROVEMENTS							GRAND TOTAL	
	1. Disinfection Facilities Upgrade	2. Installation of a PW System Connection via an Air Gap to the Equalization Basin	3. Pumping Station Improvements			4. Connection of irrigation system of front yard of RMCCSD HQ to RW system	SUB TOTAL WWRP	5. Control System for RW C&S System	6. North West Recycled Water Trans. Main	7. Stonehouse Park Conversion to RW Irrigation	8. Lookout Hill RW Storage Tank	9. RW Booster PS	10. Van Vleck Ranch Field 4 Expansion	11. Rehabilitation of Existing Conveyance Systems to North & South GC		SUB TOTAL RW CONVEYANCE SYSTEM
			3.1 North Golf Course PS	3.2 Van Vleck PS	3.3 South Golf Course PS											
Construction Subtotal (Includes Overhead & Profit)	1,258,225	15,199	589,804	48,880	0	21,980	1,934,087	149,532	3,054,301	31,080	331,621	331,320	0	537,998	4,435,851	6,369,939
Midpoint to Construction	62,911	760	29,490	2,444	0	1,099	96,704	7,477	167,351	1,554	16,773	17,280	0	26,900	237,335	334,039
Contingency - Construction Costs	314,556	3,800	117,961	4,888	0	5,495	446,700	14,953	836,756	7,770	83,865	69,120	0	134,500	1,146,964	1,593,664
<b>Estimate of Probable Construction Costs</b>	<b>1,635,692</b>	<b>19,758</b>	<b>737,255</b>	<b>56,212</b>	<b>0</b>	<b>28,574</b>	<b>2,477,491</b>	<b>171,962</b>	<b>4,351,131</b>	<b>40,404</b>	<b>436,100</b>	<b>432,000</b>	<b>0</b>	<b>699,397</b>	<b>6,130,994</b>	<b>8,608,486</b>
Administrative Fees	163,569	0	36,863	2,811	0	0	203,243	8,598	217,557	4,040	21,805	21,600	0	34,970	308,570	511,812
Regulatory (CEQA) Compliance	40,892	0	0	0	0	0	40,892	0	217,557	0	10,902	21,600	0	0	250,059	290,951
Engineering and Construction Management	245,354	3,458	129,020	5,621	0	5,000	388,453	30,093	761,448	4,040	43,610	75,600	0	122,395	1,037,186	1,425,639
Contingency - Soft Costs	163,569	1,976	36,863	2,811	0	2,857	208,076	8,598	435,113	4,040	21,805	21,600	0	69,940	561,096	769,172
<b>GRAND TOTAL</b>	<b>2,249,077</b>	<b>25,192</b>	<b>940,000</b>	<b>67,454</b>	<b>0</b>	<b>36,432</b>	<b>3,318,155</b>	<b>219,251</b>	<b>5,982,805</b>	<b>52,525</b>	<b>534,222</b>	<b>572,400</b>	<b>0</b>	<b>926,702</b>	<b>8,287,906</b>	<b>11,606,060</b>
			1,007,454								1,106,622					

TABLE 2. ORIGINAL COST ESTIMATE FROM TITLE XVI RECYCLED WATER FEASIBILITY STUDY FOR PHASE 1

Cost Description	WWRP IMPROVEMENTS							RECYCLED WATER CONVEYANCE IMPROVEMENTS							GRAND TOTAL	
	1. Disinfection Facilities Upgrade	2. Installation of a PW System Connection via an	3. Pumping Station Improvements			4. Connection of irrigation system of front yard of	SUB TOTAL WWRP	5. Control System for RW C&S System	6. North West Recycled Water Trans. Main	7. Stonehouse Park Conversion to RW Irrigation	8. Lookout Hill RW Storage Tank	9. RW Booster PS	10. Van Vleck Ranch Field 4 Expansion	11. Rehabilitation of Existing Conveyance		SUB TOTAL RW CONVEYANCE SYSTEM
			3.1 North Golf Course PS	3.2 South Golf Course PS	3.3 Van Vleck PS											
Comment	Included in Title XVI Report	Added After Title XVI Report	Included in Title XVI Report	Added After Title XVI Report	Included in North GC Improvements	Added After Title XVI Report		Added After Title XVI Report	Included in Title XVI Report. See Discussion of Cost for Explanation of Differences	Added After Title XVI Report	Included in Title XVI Report. See Discussion of Cost for Explanation of Differences	Not Included in Phase 1 Title XVI Report	Added After Title XVI Report			
<b>GRAND TOTAL</b>	<b>\$1,300,000</b>	<b>\$0</b>	<b>\$1,700,000</b>			<b>\$0</b>	<b>\$3,000,000</b>	<b>\$0</b>	<b>\$3,530,000</b>	<b>\$0</b>	<b>2,080,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$5,610,000</b>	<b>\$ 8,610,000</b>	
<b>DIFFERENCE</b>	<b>949,077</b>	<b>25,192</b>	<b>(\$692,546)</b>			<b>36,432</b>	<b>318,155</b>	<b>219,251</b>	<b>2,452,805</b>	<b>52,525</b>	<b>(\$973,378)</b>	<b>0</b>	<b>926,702</b>	<b>\$2,677,906</b>	<b>\$ 2,996,060</b>	



**MEMORANDUM**

Date: December 3, 2015  
To: Board of Directors  
From: Darlene J. Gillum, General Manager  
Subject: Consider Approval of CEQA Services, Support and Documentation Proposal for the Solar Power Project

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**RECOMMENDED ACTION**

Approve proposal from Aspen Environmental Group (pending reference checks) and authorize the General Manager to execute the services agreement with Aspen Environmental Group for CEQA Services, Support and Documentation for the Solar Power Project, in an amount not to exceed \$42,106 which includes a 5% contingency. Funding to come fifty percent (50%) from Water Operating Budget and fifty percent (50%) from Sewer Operating Budget.

**BACKGROUND**

The District released Request for Proposal (RFP) #2015-1001 on November 2, 2015 for CEQA Services in support of the solar power projects at the Wastewater Treatment Plant and the Water Treatment Plant. The District received nine (9) bids in response to the RFP.

The RFP required proposals to address six areas in order to be considered “responsive” to the RFP. These six (6) items are: project title, applicant or firm name, address, contact information and website, firm qualifications, understanding and approach to the Project, insurance summary, and level of effort and fees. Three (3) of the proposals omitted one or more of the mandatory items and were therefore deemed “non-responsive” to the RFP.

The remaining six (6) proposals went on to the detailed evaluation phase of review. This phase rated each proposal on the following areas:

1. Understanding of Scope of Work to include understanding of Project objectives, approach to accomplishing the Scope of Work, and schedule.
2. Methods and procedures used to include general approach to evaluating site specific needs.
3. Management, personnel, and experience to include qualifications of each assigned consultant, experience and performance of similar projects, and reference checks.
4. Cost estimates to include appropriate use of professionals and non-professionals, product deliverable quality, and cost estimate.

## MEMORANDUM

Date: December 2, 2015  
To: Board of Directors  
From: Darlene J. Gillum, General Manager  
Subject: Review District Response to Sacramento County Notice of Preparation Concerning the Rancho Murieta North Project, Control No. PLNP2014-00206

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### RECOMMENDED ACTION

No action needed - review District response to Sacramento County Notice of Preparation Concerning the Rancho Murieta North Project, Control No. PLNP2014-00206.

### BACKGROUND

Sacramento County Department of Community Development released the Notice of Preparation of a Draft Environmental Impact Report for Rancho Murieta North, Control Number PLNP2014-00206. The District received the NOP on November 6, 2015 and has thirty days to provide comment. Attached is the response letter I have prepared and Richard Shanahan has reviewed.

December 4, 2015

Catherine Hack  
Environmental Coordinator  
Department of Community Development  
Planning and Environmental Review Division  
827 7<sup>th</sup> Street, Room 225  
Sacramento, CA 95814

Subject: Notice of Preparation of a Draft Environmental Impact Report For Rancho Murieta North Control No: PLNP2014-00206

Dear Ms. Hack:

We have completed our review of the Notice of Preparation of a Draft Environmental Impact Report (DEIR) on the subject tentative map and development plan. The Rancho Murieta Community Services District (District) provides water, reclaimed water, sewer, storm drainage, security, solid waste collection and disposal (through a contract service provider), and limited park/recreation services to the project area. If the County approves the proposed Rancho Murieta North project (the Project), then the District will be expected to provide these utility and other services to the developer and future homeowners and residents. The following are our comments on the scope and content of issues that should be addressed in the DEIR:

1. The DEIR should evaluate Project impacts on the District's water, reclaimed water, sewer, storm drainage, security, solid waste collection and disposal, and park/recreation services, facilities, improvements, and staffing and on the District's capability and capacity to provide those services to the Project.
2. The DEIR should evaluate Project impacts on the existing District utility pipelines (and related pumps and appurtenances) and the capacity of those pipelines to accommodate the Project.
3. The DEIR should evaluate Project impacts on the District's water supply. As you know, the District is preparing a water supply assessment for the Project to assist in this evaluation.

4. The DEIR should evaluate the capacity of the District wastewater treatment plant to store, treat and dispose of wastewater to be generated by the Project.
5. The DEIR should evaluate the impacts of a major 200-year storm event over the Project on the existing District storm drainage system.
6. The DEIR should evaluate the impacts of the Project storm drainage system, roads and runoff on the nearby District water supply reservoirs.
7. The DEIR should set forth appropriate mitigation measures, prepared in consultation with the District, to mitigate any identified Project impacts on the District's water, sewer, storm drainage, security, solid waste collection and disposal, and park/recreation services, facilities, improvements, or staffing.
8. The DEIR should evaluate the presence of naturally occurring asbestos in and around the Project area, the potential for the asbestos to be disturbed during Project development and construction, and the potential impacts to water quality in the nearby District water supply reservoirs and to air quality.
9. The DEIR should include a traffic engineering study to evaluate Project vehicle trip impacts on current and future Highway 16 traffic and to recommend mitigation measures appropriate to maintain the current level of service on the highway, and the County should adopt and impose any such mitigation measures.
10. Rancho Murieta is a golf course community and many local residents use golf carts for local transportation. The County should expect future Project residents to do the same. The DEIR therefore should evaluate the capacity of the local street system and golf cart parking areas to accommodate golf cart traffic from the Project (and including golf cart traffic crossing Highway 16 to access the commercial areas located south of the highway) and impose appropriate mitigation measures to accommodate the Project golf cart traffic and parking.

All potential Project impacts should be evaluated based on the full, ultimate Project build-out scenario.

The District also recommends and requests that the County impose the following CEQA mitigation measures and conditions of Project approval in connection with any County approval of the Project (this list is preliminary and subject to revision and addition):

1. Developer shall design, install and dedicate to the District sewer, water, reclaimed water and storm drainage facilities and improvements appropriate to provide for and accommodate sewer, water, reclaimed water and storm drainage services to the Project. The facilities and improvements will be designed in accordance with District design standards, specification, ordinances and policies and to the satisfaction of the District. Developer shall enter into a mainline extension or similar agreement with District governing the design, installation and dedication of subdivision onsite and offsite sewer, water, reclaimed water and storm drainage facilities and improvements.

2. Developer shall pay all District connection and capacity fees and charges in accordance with District ordinances and resolutions.
3. Developer shall comply with all District ordinances, resolutions and policies concerning sewer, water, reclaimed water, drainage, parks and recreation, solid waste collection, and security.
4. Developer shall provide access arrangements and install fire hydrants meeting the required fire flow demands pursuant to the standards and specifications of the District and Sacramento Metro Fire District.
5. Developer shall dedicate a standard on-center 12-½ foot Public Utility Easement for all underground utilities, facilities and appurtenances adjacent to all private and public Project roads, subject to the approval of the District and in consultation with the county engineer.
6. Developer shall obtain all other lands, easements, rights-of-way, and temporary rights-of-entry that may be required or appropriate in order for the District to provide water, reclaimed water, sewer, storm drainage, security, and solid waste collection and disposal services to the Project and its residents.
7. Developer shall pay the District community park fees in accordance with District Ordinance 2014-02, as may be amended, or enter into an agreement for construction of park and recreation facilities in-lieu of payment of the fee.
8. Developer shall design and prepare master storm water runoff and water quality management plans for the Project (including recommended improvements for onsite water quality measures and onsite detention measures), consistent with the Rancho Murieta North Master Infrastructure Plan, Sacramento County Drainage Design Manual, and District standards and specifications.
9. Developer shall design, install and dedicate onsite and offsite storm drainage facilities and improvements to the satisfaction of District.
10. Developer shall design and prepare a sewer and water master plan for the Project to ensure adequate conveyance, transmission, and storage facilities based on the Rancho Murieta North Master Infrastructure Plan and District standards and specifications.
11. Developer shall design and prepare a recycled water master plan for the Project relating to the use of reclaimed water as determined by the District for irrigation purposes, consistent with the District's Title 22 Engineering Report and Master Reclamation Permit (WDR #xxxx), as the same may be amended from time to time, and District standards and specifications.
12. Developer shall relocate any existing District utilities, improvements or facilities that may need to be relocated in order for District to provide service to the Project.

13. Developer shall design and prepare an erosion and sedimentation control plan prior to any preliminary or final grading plan or improvement plan approvals.

Thank you for the opportunity to review the Notice of Preparation. Although the above comments are our initial comments, continuing District evaluation and dialogue with the developer and community may yield more comments which will be forwarded to your office for consideration.

If you have any questions, please contact me at (916) 354-3700 or by email at [dgillum@rmcsd.com](mailto:dgillum@rmcsd.com).

Sincerely,

Darlene J. Gillum  
General Manager

DJG

cc: John Sullivan, Rancho Murieta Properties, LLC