

Appendix A: Pilot Project Monitoring Plan

RECLAMATION

Managing Water in the West

Widren Water District's Water Quality, Supply, and Drainage Enhancement Pilot Project Monitoring Plan



U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region
South-Central California Area Office

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Mission Statements

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Widren Water District's Water Quality, Supply, and Drainage Enhancement Pilot Project Monitoring Plan

Background

The Grassland Drainage Area (GDA) encompasses approximately 97,000 acres of irrigated agricultural land on the west side of the San Joaquin Valley in Fresno and Merced Counties. The region is overlain by coastal range sediments that are generally heavy clays and contain a variety of dissolved minerals including boron and selenium. These soil conditions have contributed to a productive agricultural environment, but due to their heavy clay nature has also created a perched water table that threatens this productivity. The perched water table in the GDA is often managed with subsurface (tile) drain systems and deep earthen channels which provide an outlet for the shallow groundwater (Exchange Contractors 2003). It has been shown in the region that the removal of shallow groundwater can assist in reducing drainage impacts by lowering poor-quality drain water below the crop root zone (Reclamation 2008). The subsurface drain water can be high in dissolved minerals including salt and selenium.

Water agencies and farmers within the GDA, which includes Widren Water District (District) and its landowners, have implemented several activities aimed at reducing discharge of subsurface drainage waters to the San Joaquin River (SJR), including the Grassland Bypass Project (GBP) which consolidates subsurface drainage flows (among other things), as part of the Westside Regional Drainage Plan (WRDP, Exchange Contractors 2003). The District, located in northwestern Fresno County west of the City of Firebaugh (Figure 1), historically was provided Central Valley Project (CVP) water via the Delta-Mendota Canal (DMC) from the Bureau of Reclamation (Reclamation) for agricultural use within the district. However, the District fully assigned its CVP water to Westlands Water District in 2003 (Contract # 14-06-200-8018-1R8), and now the lands in Widren Water District are currently dry farmed or irrigated with groundwater or imported surface water.

The District has recently constructed a reverse osmosis (RO) Treatment Plant to extract and treat their in-district shallow groundwater, consistent with the WRDP. The District will make this treated water available to others for irrigation purposes outside of federal facilities.

The District initially requested authorization from Reclamation to use the DMC for their proposed long-term (10-year) project to deliver their treated groundwater to South-of-Delta contractors (see Figure 2). Treatment of shallow groundwater would occur through the District's existing Treatment Plant. The District anticipates their RO treated groundwater will meet DMC water quality standards required for introduction of non-Project water into federal facilities.

Introduction

Reclamation would issue a one-year Exchange Agreement and/or one-year Warren Act contract to the District for the introduction and conveyance of up to 1,000 acre-feet (AF) of treated

groundwater (non-Project water) into the DMC as well as potential storage in San Luis Reservoir. As the District is located within the same area as the DMC Pump-in Program participants (Reclamation 2013), Reclamation would include any groundwater introduced into the DMC by the District under the 50,000 acre-foot per year cumulative total. Water introduced into the DMC will need to meet then current DMC Water Quality Standards. Reclamation would also issue a land use authorization to for the proposed connection of a new water pipeline to an existing turnout at milepost (MP) 102.04R on the DMC. Data will be collected during the one-year Pilot Project as described in this Monitoring Plan. The collected data would be used by Reclamation to evaluate Widren Water District's proposed longer term project under separate environmental review.

Once treated the non-Project water would be provided to willing buyers along the DMC. The following South-of-Delta CVP contractors could potentially be recipients under the Proposed Action as shown in Figure 1:

- Banta-Carbona Irrigation District
- Byron Bethany Irrigation District
- Del Puerto Water District
- Mercy Springs Water District
- Pacheco Water District
- Panoche Water District
- San Luis Water District
- West Stanislaus Irrigation District
- Westlands Water District

An exchange of treated water (non-Project) for CVP water would need to be done by Reclamation for any non-Project water delivered to contractors located upstream of the introduction point (i.e., MP 102.04R) or for storage in San Luis Reservoir. Under these conditions, Reclamation would use the introduced non-Project water to meet downstream CVP demands and a like amount of CVP water would then be conveyed to CVP contractors located upstream of MP 102.04R and/or stored in San Luis Reservoir for later delivery to participants in the Proposed Action, including Widren Water District.

Introduction and storage of non-Project water is subject to available capacity, water quality requirements, and spill.

Over the one-year Pilot Project, up to 1,700 AF of groundwater can be pumped from one existing well (project well). The well is 340-ft and is perforated in two sections between 220'-240' and 280'-340'. According to project proponents, in September 2017 the standing water level in the well was 72' and the well has not been active for approximately 10 years.

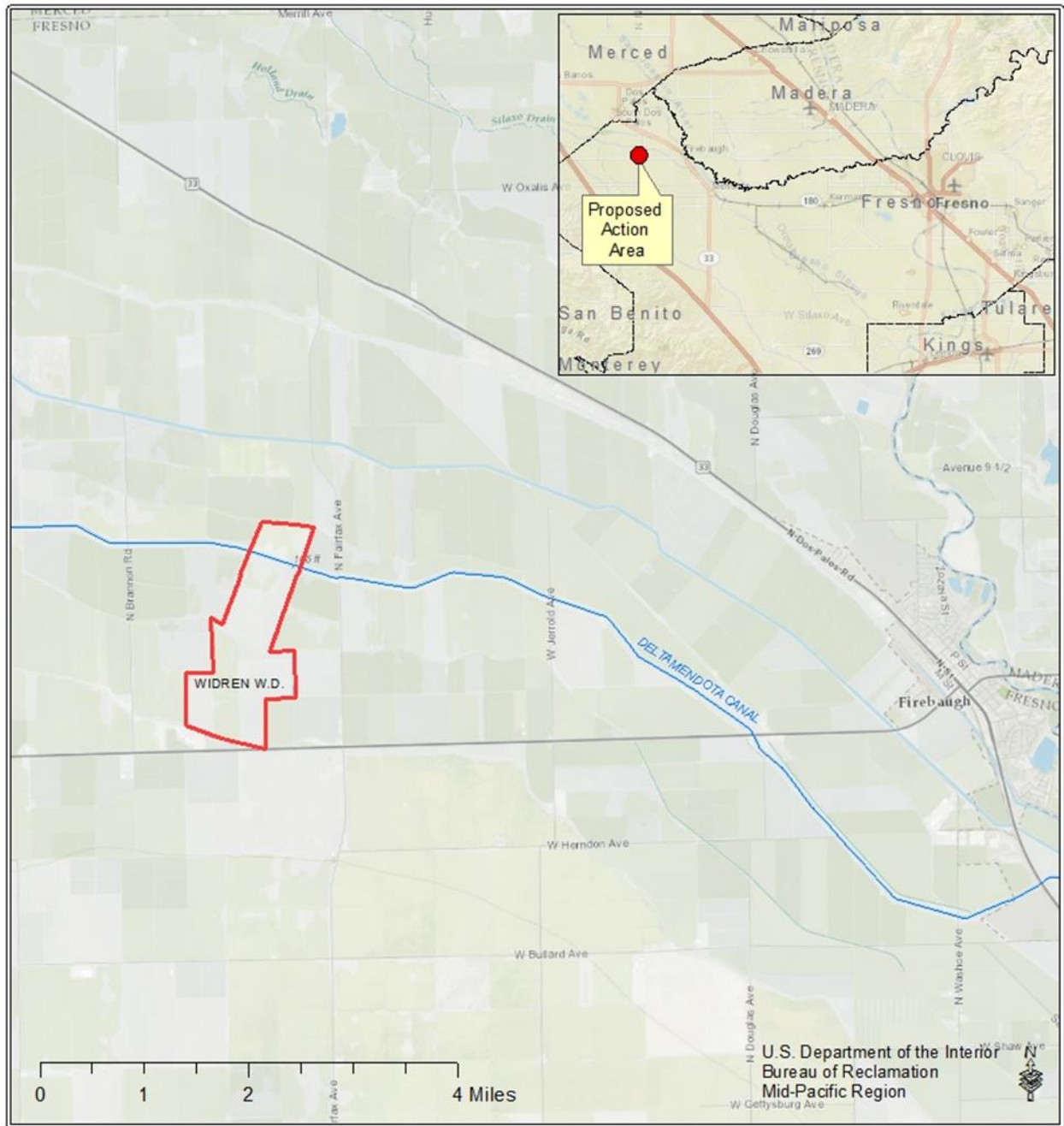


Figure 1: Project vicinity map.

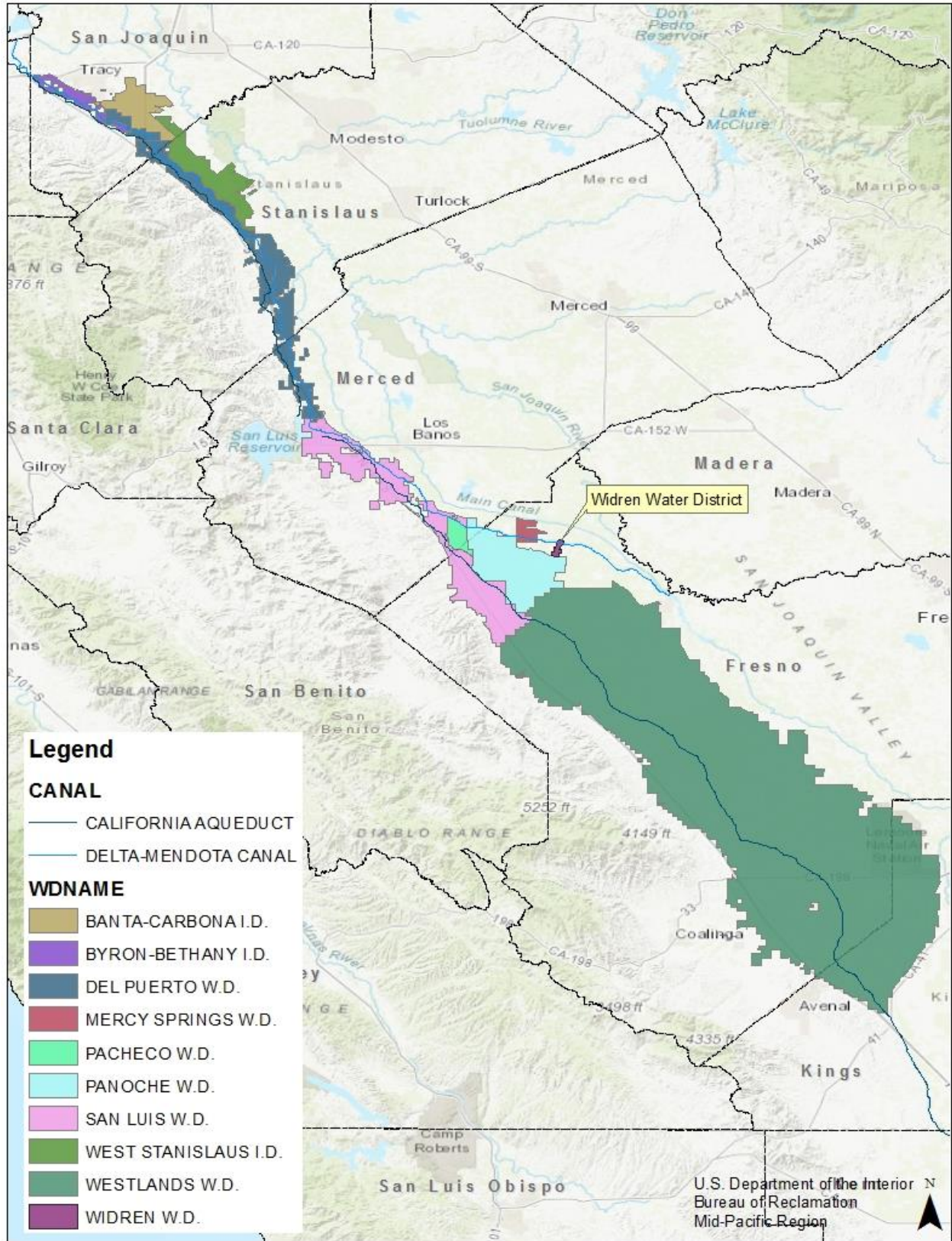


Figure 2 Participating South-of-Delta CVP Contractors

At the Treatment Plant, the raw groundwater would be pretreated under high pressure (~80 pounds per square inch [psi]) using high performance multi-media filtration (NextSand Media¹) to remove suspended solids down to 3-5 microns. Then, the (3-5 microns) filtered water would pass through a multi-bag filtration system (150 psi), removing suspended solids down to 1 micron. An antiscalant chemical would be injected into the water at low levels (3-5 milligram/liter) to prevent precipitation of natural soluble salts in the treated water. The water would then be sent to the RO membranes which would remove any remaining dissolved constituents in the water. The RO treated groundwater would be conveyed in the Treated Water Pipeline that would be connected to the existing turnout at milepost 102.04R on the Delta-Mendota Canal.

The effluent or backflush water produced by the RO Treatment Plant (estimated at 300 AF) would be blended with up to 400 AF of groundwater from the same existing well or from imported surface water and then utilized within Widren Water District for irrigation of salt tolerant crops in the reuse area. The imported surface water used for blending would come from excess surface water made available by neighboring agencies, and would be conveyed through existing non-federal facilities that connect to Widren Water District.

Water quality for the existing well, as well as estimates of the treated water and blended water, and Reclamation's water quality standards are included in Table 1.

Monitoring Mission and Goals

The purpose of this monitoring plan is to produce physical measurements that will determine the effectiveness of this project. Project goals are:

- Reducing the perched water table below drainage impaired lands
- Meeting DMC water quality requirements
- Preventing local land subsidence

The general goals for this monitoring effort will include:

- Evaluating water quality of the project well, perched water table, and treated groundwater entering the DMC
- Monitoring groundwater levels in the project well and perched water table
- Surveying project land for subsidence

¹ <http://www.nextsand.com/>

Monitoring Requirements

Although a standalone document, this project relates to the DMC Non-Project Water Pump-in Program and is subject to the water quality standards of that program. Monitoring standards and requirements relating to this project and the DMC Non-Project Water Pump-in Program are subject to change.

In addition to the monitoring requirements listed below, routine flow measurements from the discharge pipe into the DMC will be collect by the San Luis Delta-Mendota Water Authority and sent to Reclamation each month.

Reverse Osmosis Treated Water

In order to discharge treated well water into the DMC, the water must meet the then current DMC water quality standards. Tables 2 and 3 list the water quality constituents to be measured by the well owner. Table 3 standards have been developed by Reclamation to measure constituents of concern that would affect downstream water users. In particular, the concentration of selenium in any pump-in water shall not exceed 2 µg/L, the limit for the Grasslands wetlands water supply channels specified in the 1998 Basin Plan. Table 2 constituents are mainly agricultural chemicals listed in the California Drinking Water Standards (Title 22)².

The frequency of sampling the RO treated water is as follows:

Constituents	Frequency
Table 2 (Long List) Title 22 Standards	Once a year, prior to discharge into the DMC
Table 3 (Short List) Constituents of Concern	Weekly for the first month, than monthly if data is consistent

Perched Water Table

To determine how the project is affecting the perched water table, a monitoring well must be installed in order to record groundwater levels and collect water quality samples. The monitoring well must be installed in such a way that it captures water from the perched water table. Prior to pumping, the monitoring well will be sampled for the constituents listed in Table 3.

In addition to water quality testing, groundwater level measurements shall also be collected from the monitoring well. Groundwater level measurements should be made prior to water quality sampling.

² California Code of Regulations, Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010 4037), and Administrative Code (Sections 64401 et seq.), as amended.
http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/lawbook/dwregulations-2016-09-23.pdf

This data will be used to determine if pumping from the project well is lowering the perched water table and to monitor the potential of pumping induced seepage from the DMC.

The frequency of sampling the perched water table is as follows:

Constituents	Frequency
Table 3 (Short List) Constituents of Concern	Prior to pumping, monthly while pumping and when water is available in well.
Groundwater Level Measurement	Prior to pumping, monthly while pumping (measurement should be made prior to water quality sampling)

Project Well

Groundwater level shall be measured in the project well. Water quality testing is not necessary as the treated water will already be tested.

The frequency of sampling the project well is as follows:

Constituents	Frequency
Groundwater Level Measurement	Prior to pumping, monthly while pumping (measurement should be made prior to water quality sampling)

Surveying

The project proponents will submit a surveying plan and baseline data set to Reclamation for approval prior to pumping. The plan should focus on surveying for potential localized subsidence, particularly around the project well. The plan should include collection of a baseline dataset, a mid-project data-set, and a post-pumping dataset. The surveying plan should include a proposed reporting section.

Water Quality Laboratories and Quality Control

Reclamation strongly recommends using a laboratory from the list of Reclamation Approved Laboratories, Tables 4 and 5. These laboratories have been inspected and approved by Reclamation Quality Assurance Specialists. Selected laboratories must include quality control samples.

Reporting

Water quality laboratory results should be submitted by email to Reclamation South-Central California Area Office (SCCAO) staff. They should be submitted as they are received. SCCAO staff will process and review the data. Reclamation requests any additional data collected by the RO manufacturer or the District as it relates to the performance of the RO unit.

Groundwater level measurements should be submitted to SCCAO staff by email. Measurements should be placed in a spreadsheet and sent to SCCAO staff as they are recorded.

The surveying plan should include a proposed reporting section.

Project Constraints

The following project constraints focus on protecting water quality in the DMC and preventing subsidence due to project activities.

Water Quality

At any time the treated water quality does not meet the DMC water quality standards, the water will not be allowed into the DMC. Prior to reintroduction into the DMC, water quality standards must be met. At any time during operation, if the water quality standards are not met, weekly water quality sampling for constituents listed in Table 3 will be reinitiated. Any water discharged to the DMC that does not meet water quality standards, or discharge prior to Reclamation receiving initial water quality report will not be credited.

Groundwater Level

Groundwater levels in the project well must remain 10% above the historic low groundwater level. The drilling log provided by the District lists a static water level at 108' below ground surface. At any point the groundwater level in the well is measured lower than 97' below ground surface, the well must be shut off and allowed to recover. If this occurs, additional groundwater level measurements may be required.

Reclamation reserves the right to modify this monitoring program at any time.

References Cited

California Regional Water Quality Control Board, Central Valley Region, Fourth Edition of the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins. Revised

http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr.pdf

Exchange Contractors (San Joaquin River Exchange Contractors Water Authority, Broadview Water District, Panoche Water District, Westlands Water District). 2003. Westside Regional Drainage Plan. May. Available at:

http://www.waterboards.ca.gov/centralvalley/water_issues/salinity/library_reports_programs/westsd_regnl_drng_plan_may2003.pdf.

Reclamation (Bureau of Reclamation). 2008. Finding of No Significant Impact and Environmental Assessment/Initial Study 07-140 for the San Joaquin Exchange Contractors-Groundwater Pumping/Water Transfer Project for 25 Consecutive Years. Signed January 2008. South-Central California Area Office. Fresno, California.R

Reclamation (Bureau of Reclamation). 2013. Finding of No Significant Impact and Environmental Assessment 12-061 for the Exchange Agreements and/or Warren Act Contracts for Conveyance of Groundwater in the Delta-Mendota Canal – Contract Years 2013 through 2023 (March 1, 2013 – February 29, 2024). Signed January 2013. South-Central California Area Office. Fresno, California.

Table 1: Water Quality Projections for Reverse Osmosis Treatment Plant

Analyte	Units ¹	Well Water ²	Blended Effluent Water ³	Treated Water ⁴	Delta-Mendota Canal Standards ⁵
Barium	mg/L	0.026	0.08 – 0.10	6.06E-05	no standard
Bicarbonate	mg/L	170	560 - 600	1.779	61
Boron	mg/L	2	5.3 – 5.8	0.455	0.7
Calcium	mg/L	360	1,050 – 1,600	0.839	80
Chloride	mg/L	735	2,000 – 2,400	3.906	40
Chlorpyrifos	µg/L	ND	ND	ND	0.025
Chromium, total	µg/L	ND	ND	ND	50
Diazinon	µg/L	ND	ND	ND	0.16
Fluoride	mg/L	0.2	0.50 - 0.10	0.0028	no standard
Magnesium	mg/L	160	500 - 600	0.373	16
Mercury	µg/L	ND	ND	ND	2
Molybdenum	µg/L	ND	ND	ND	10
Nickel	µg/L	ND	ND	ND	100
Nitrate (as NO3)	mg/L	ND	ND	ND	45
Nitrite	mg/L	not tested	not tested	not tested	1
pH		7.6	7.9 – 8.0	5.563	5.0 - 7.0
Potassium	mg/L	6.8		0.062	4.5
Sodium adsorption ratio		not tested	Not tested	not tested	1
Selenium	µg/L	18	56	0.09	2
Sodium	mg/L	401.2	1,200 – 1,400	2.595	69
Specific Conductivity	µS/cm	4,654	1,2000 – 1,4000	27.1	1230
Sulfate	mg/L	1,200	3,500 – 3,800	2.498	250
Total dissolved solids	mg/L	3,037	7,000 – 9,000	12.51	800

1 Units: mg/L = milligrams per liter, µg/L = micrograms per liter, µS/cm = micro Siemens per centimeter

2 Water Quality Data from Widren Water District's pre-treatment well water on April 22, 2015

3 Estimated water quality of blended effluent from the RO Treatment Plant for use on reuse lands

4 Estimated water quality of treated well water

5 Data from the Appendix A Pilot Project Monitoring Plan, but may change during the life of the project.

Table 2: DMC Non-Project Pump-in Water Quality Standards-Long List

Constituent	Units	Maximum Contaminant Level		Detection Limit for Reporting		CAS Registry Number	Recommended Analytical Method
Primary							
Aluminum	mg/L	1	(1)	0.05	(2)	7429-90-5	EPA 200.7
Antimony	mg/L	0.006	(1)	0.006	(2)	7440-36-0	EPA 200.8
Arsenic	mg/L	0.01	(1)	0.002	(2)	7440-38-2	EPA 200.8
Asbestos	MFL	7	(1)	0.2 MFL>10um	(2)	1332-21-4	EPA 100.2
Barium	mg/L	1	(1)	0.1	(2)	7440-39-3	EPA 200.7
Beryllium	mg/L	0.004	(1)	0.001	(2)	7440-41-7	EPA 200.7
Cadmium	mg/L	0.005	(1)	0.001	(2)	7440-43-9	EPA 200.7
Chromium, total	mg/L	0.05	(1)	0.01	(2)	7440-47-3	EPA 200.7
Copper	mg/L	1.3				7440-50-8	EPA 200.7
Cyanide	mg/L	0.15	(1)	0.1	(2)	57-12-5	EPA 335.2
Fluoride	mg/L	2.0	(1)	0.1	(2)	16984-48-8	EPA 300.1
Hexavalent Chromium	mg/L	0.010	(1)	0.001	(2)	18540-29-9	EPA 218.7
Lead	mg/L	0.015	(9)	0.005	(8)	7439-92-1	EPA 200.8
Mercury	mg/L	0.002	(1)	0.001	(2)	7439-97-6	EPA 245.1
Nickel	mg/L	0.1	(1)	0.01	(2)	7440-02-0	EPA 200.7
Nitrate (as nitrogen)	mg/L	10	(1)	0.4	(2)	7727-37-9	EPA 300.1
Nitrate + Nitrite (sum as nitrogen)	mg/L	10	(1)			14797-55-8	EPA 353.2
Nitrite (as nitrogen)	mg/L	1	(1)	0.4	(2)	14797-65-0	EPA 300.1
Perchlorate	mg/L	0.006	(1)	0.004	(2)	14797-73-0	EPA 314/331/332
Selenium	mg/L	0.002	(10)	0.0004	(2)	7782-49-2	EPA 200.8
Thallium	mg/L	0.002	(1)	0.001	(2)	7440-28-0	EPA 200.8
Thiobencarb	mg/L	0.07				28249-77-6	EPA 527
Secondary							
Aluminum	mg/L	200	(6)			7429-90-5	EPA 200.7
Chloride	mg/L	500	(7)			16887-00-6	EPA 300.1
Color	units	15	(6)				EPA 110
Copper	mg/L	1	(6)	0.05	(8)	7440-50-8	EPA 200.7
Iron	mg/L	0.3	(6)			7439-89-6	EPA 200.7
Manganese	mg/L	0.05	(6)			7439-96-5	EPA 200.7
Methyl-tert-butyl ether (MTBE)	mg/L	0.013	(4)			1634-04-4	EPA 502.2/524.2
Odor -threshold	units	3	(6)				SM 2150B
Silver	mg/L	0.1	(6)			7440-22-4	EPA 200.7
Specific Conductance	µS/cm	1,600	(7)				SM 2510 B
Sulfate	mg/L	500	(7)			14808-79-8	EPA 300.1
Thiobencarb	mg/L	0.001	(6)			28249-77-6	EPA 527
Total Dissolved Solids	mg/L	1,000	(7)				SM 2540 C
Turbidity	units	5	(6)				EPA 190.1/SM2130B
Zinc	mg/L	5	(6)			7440-66-6	EPA 200.7
Other Required Analyses							
Boron	mg/L	0.7	(13)			7440-42-8	EPA 200.7
Molybdenum	mg/L	0.01	(11)			7439-98-7	EPA 200.7

Sodium	mg/L	69	(12)			7440-23-5	EPA 200.7
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Radioactivity

Gross Alpha	pCi/L	15	(3)	3	(3)		SM 7110C
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Constituent	Units	Maximum Contaminant Level		Detection Limit for Reporting		CAS Registry Number	Recommended Analytical Method
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Organic Chemicals

(a) Volatile Organic Chemicals (VOCs)

Benzene	mg/L	0.001	(4)	0.0005	(5)	71-43-2	EPA 502.2/524.2
Carbon Tetrachloride	mg/L	0.0005	(4)	0.0005	(5)	56-23-5	EPA 502.2/524.2
1,2-Dichlorobenzene.	mg/L	0.6	(4)	0.0005	(5)	95-50-1	EPA 502.2/524.2
1,4-Dichlorobenzene.	mg/L	0.005	(4)	0.0005	(5)	106-46-7	EPA 502.2/524.2
1,1-Dichloroethane	mg/L	0.005	(4)	0.0005	(5)	75-34-3	EPA 502.2/524.2
1,2-Dichloroethane	mg/L	0.0005	(4)	0.0005	(5)	107-06-2	EPA 502.2/524.2
1,1-Dichloroethylene	mg/L	0.006	(4)	0.0005	(5)	75-35-4	EPA 502.2/524.2
cis-1,2-Dichloroethylene	mg/L	0.006	(4)	0.0005	(5)	156-59-2	EPA 502.2/524.2
trans-1,2-Dichloroethylene	mg/L	0.01	(4)	0.0005	(5)	156-60-5	EPA 502.2/524.2
Dichloromethane.	mg/L	0.005	(4)	0.0005	(5)	75-09-2	EPA 502.2/524.2
1,2-Dichloropropane.	mg/L	0.005	(4)	0.0005	(5)	78-87-5	EPA 502.2/524.2
1,3-Dichloropropene.	mg/L	0.0005	(4)	0.0005	(5)	542-75-6	EPA 502.2/524.2
Ethylbenzene.	mg/L	0.3	(4)	0.0005	(5)	100-41-4	EPA 502.2/524.2
Methyl-tert-butyl ether	mg/L	0.013	(4)	0.003	(5)	1634-04-4	EPA 502.2/524.2
Monochlorobenzene	mg/L	0.07	(4)	0.0005	(5)	108-90-7	EPA 502.2/524.2
Styrene.	mg/L	0.1	(4)	0.0005	(5)	100-42-5	EPA 502.2/524.2
1,1,2,2-Tetrachloroethane.	mg/L	0.001	(4)	0.0005	(5)	79-34-5	EPA 502.2/524.2
Tetrachloroethylene (PCE)	mg/L	0.005	(4)	0.0005	(5)	127-18-4	EPA 502.2/524.2
Toluene	mg/L	0.15	(4)	0.0005	(5)	108-88-3	EPA 502.2/524.2
1,2,4-Trichlorobenzene	mg/L	0.005	(4)	0.0005	(5)	120-82-1	EPA 502.2/524.2
1,1,1-Trichloroethane	mg/L	0.2	(4)	0.0005	(5)	71-55-6	EPA 502.2/524.2
1,1,2-Trichloroethane	mg/L	0.005	(4)	0.0005	(5)	79-00-5	EPA 502.2/524.2
Trichloroethylene (TCE)	mg/L	0.005	(4)	0.0005	(5)	79-01-6	EPA 502.2/524.2
Trichlorofluoromethane	mg/L	0.15	(4)	0.005	(5)	75-69-4	EPA 502.2/524.2
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/L	1.2	(4)	0.01	(5)	76-13-1	SM 6200B
Vinyl Chloride	mg/L	0.0005	(4)	0.0005	(5)	75-01-4	EPA 502.2/524.2
Xylenes	mg/L	1.750*	(4)	0.0005	(5)	1330-20-7	EPA 502.2/524.2

(b) Non-Volatile Synthetic Organic Chemicals (SOCs)

Alachlor	mg/L	0.002	(4)	0.001	(5)	15972-60-8	EPA 505/507/508
Atrazine	mg/L	0.001	(4)	0.0005	(5)	1912-24-9	EPA 505/507/508
Bentazon	mg/L	0.018	(4)	0.002	(5)	25057-89-0	EPA 515.1
Benzo(a)pyrene	mg/L	0.0002	(4)	0.0001	(5)	50-32-8	EPA 525.2
Carbofuran	mg/L	0.018	(4)	0.005	(5)	1563-66-2	EPA 531.1
Chlordane	mg/L	0.0001	(4)	0.0001	(5)	57-74-9	EPA 505/508
2,4-D	mg/L	0.07	(4)	0.01	(5)	94-75-7	EPA 515.1
Dalapon	mg/L	0.2	(4)	0.01	(5)	75-99-0	EPA 515.1
Dibromochloropropane	mg/L	0.0002	(4)	0.00001	(5)	96-12-8	EPA 502.2/504.1
Di(2-ethylhexyl)adipate	mg/L	0.4	(4)	0.005	(5)	103-23-1	EPA 506

Di(2-ethylhexyl)phthalate	mg/L	0.004	(4)	0.003	(5)	117-81-7	EPA 506
Dinoseb	mg/L	0.007	(4)	0.002	(5)	88-85-7	EPA 5151-4
Diquat	mg/L	0.02	(4)	0.004	(5)	85-00-7	EPA 549.2
Endothall	mg/L	0.1	(4)	0.045	(5)	145-73-3	EPA 548.1
Endrin.	mg/L	0.002	(4)	0.0001	(5)	72-20-8	EPA 505/508
Ethylene Dibromide	mg/L	0.00005	(4)	0.00002	(5)	106-93-4	EPA 502.2/504.1
Glyphosate (Roundup)	mg/L	0.7	(4)	0.025	(5)	1071-83-6	EPA 547
Heptachlor.	mg/L	0.00001	(4)	0.00001	(5)	76-44-8	EPA 508
Heptachlor Epoxide	mg/L	0.00001	(4)	0.00001	(5)	1024-57-3	EPA 508
Hexachlorobenzene	mg/L	0.001	(4)	0.0005	(5)	118-74-1	EPA 505/508
Hexachlorocyclopentadiene	mg/L	0.05	(4)	0.001	(5)	77-47-4	EPA 505/508
Lindane (gamma-BHC)	mg/L	0.0002	(4)	0.0002	(5)	58-89-9	EPA 505/508
Methoxychlor	mg/L	0.03	(4)	0.01	(5)	72-43-5	EPA 505/508
Molinate	mg/L	0.02	(4)	0.002	(5)	2212-67-1	EPA 525.1
Constituent	Units	Maximum Contaminant Level		Detection Limit for Reporting		CAS Registry Number	Recommended Analytical Method
Oxamyl	mg/L	0.05	(4)	0.02	(5)	23135-22-0	EPA 531.1
Pentachlorophenol	mg/L	0.001	(4)	0.0001	(5)	87-86-5	EPA 515.1-3
Picloram	mg/L	0.5	(4)	0.001	(5)	1918-02-1	EPA 515.1-3
Polychlorinated Biphenyls	mg/L	0.0005	(4)	0.0005	(5)	1336-36-3	EPA 130.1
Simazine	mg/L	0.004	(4)	0.001	(5)	122-34-9	EPA 505
Thiobencarb (Bolero)	mg/L	0.07	(4)	0.001	(5)	28249-77-6	EPA 527
Toxaphene	mg/L	0.003	(4)	0.001	(5)	8001-35-2	EPA 505
2,3,7,8-TCDD (Dioxin)	mg/L	3 x 10 ⁻⁸	(4)	5 x 10 ⁻⁹	(5)	1746-01-6	EPA 130.3
2,4,5-TP (Silvex)	mg/L	0.05	(4)	0.001	(5)	93-72-1	EPA 515.1
Other Organic Chemicals							
Chlorpyrifos	ug/L	0.015	(11)			2921-88-2	EPA 8141A
Diazinon	ug/L	0.10	(11)			333-41-5	EPA 8141A

Sources:

Recommended Analytical Methods: <https://www.nemi.gov/home/>

Maximum Contaminant Levels:

Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010-4027) and Administrative Code (Sections 64401 et seq.), as amended.

- (1) Title 22. Table 64431-A Maximum Contaminant Levels, Inorganic Chemicals
- (2) Title 22. Table 64432-A Detection Limits for Reporting (DLRs) for Regulated Inorganic Chemicals
- (3) Title 22. Table 64442 Radionuclide Maximum Contaminant Levels (MCLs) and Detection Levels for Purposes of Reporting (DLRs)
- (4) Title 22. Table 64444-A Maximum Contaminant Levels, Organic Chemicals
- (5) Title 22. Table 64445.1-A Detection Limits for Purposes of Reporting (DLRs) for Regulated Organic Chemicals
- (6) Title 22. Table 64449-A Secondary Maximum Contaminant Levels "Consumer Acceptance Contaminant Levels"
- (7) Title 22. Table 64449-B Secondary Maximum Contaminant Levels "Consumer Acceptance Contaminant Level Ranges"
- (8) Title 22. Table 64678-A DLRs for Lead and Copper
- (9) Title 22. Section 64678 (d) Lead Action level

http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/lawbook/dwregulations-2015-07-16.pdf

(10) Basin Plan, Table III-1 (ug/L) (selenium in Grasslands water supply channels)

(11) Basin Plan, Table III-2A. 4-day average (chronic) concentrations of chlorpyrifos & diazinon in San Joaquin River from Mendota to Vernalis

http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr.pdf

Ayers, R. S. and D. W. Westcot, *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations - Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985).

(12) Ayers, Table 1 (mg/L) (sodium)

(13) Ayers, Table 21 (mg/L) (boron)

<http://www.fao.org/DOCREP/003/T0234E/T0234E00.HTM>

revised: 05 July 2017

Table 3: DMC Non-Project Water Pump-in Water Quality Standards-Constituents of Concern

Constituent	Units	Maximum Contaminant Level		Detection Limit for Reporting		CAS Registry Number	Recommended Analytical Method
Arsenic	mg/L	0.01	(1)	0.002	(2)	7440-38-2	EPA 200.8
Boron	mg/L	0.7	(13)			7440-42-8	EPA 200.7
Nitrate (as nitrogen)	mg/L	10	(1)	0.4	(2)	7727-37-9	EPA 300.1
Selenium	mg/L	0.002	(10)	0.0004	(2)	7782-49-2	EPA 200.8
Sodium	mg/L	69	(12)			7440-23-5	EPA 200.7
Specific Conductance	µS/cm	1,600	(7)				SM 2510 B
Sulfate	mg/L	500	(7)			14808-79-8	EPA 300.1
Total Dissolved Solids	mg/L	1,000	(7)				SM 2540 C

Sources:

Recommended Analytical Methods: <https://www.nemi.gov/home/>

Maximum Contaminant Levels:

Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010-4037), and Administrative Code (Sections 64401 et seq.), as amended.

- (1) Title 22. Table 64431-A Maximum Contaminant Levels, Inorganic Chemicals
- (2) Title 22. Table 64432-A Detection Limits for Reporting (DLRs) for Regulated Inorganic Chemicals
- (3) Title 22. Table 64442 Radionuclide Maximum Contaminant Levels (MCLs) and Detection Levels for Purposes of Reporting (DLRs)
- (4) Title 22. Table 64444-A Maximum Contaminant Levels, Organic Chemicals
- (5) Title 22. Table 64445.1-A Detection Limits for Purposes of Reporting (DLRs) for Regulated Organic Chemicals
- (6) Title 22. Table 64449-A Secondary Maximum Contaminant Levels "Consumer Acceptance Contaminant Levels"
- (7) Title 22. Table 64449-B Secondary Maximum Contaminant Levels "Consumer Acceptance Contaminant Level Ranges"
- (8) Title 22. Table 64678-A DLRs for Lead and Copper
- (9) Title 22. Section 64678 (d) Lead Action level

http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/lawbook/dwregulations-2017-04-10.pdf

California Regional Water Quality Control Board, Central Valley Region, Fourth Edition of the Water Quality

- (10) Basin Plan, Table III-1 (ug/L) (selenium in Grasslands water supply channels)
- (11) Basin Plan, Table III-2A (ug/L) (chlorpyrifos & diazinon in San Joaquin River from Mendota to Vernalis)

Sacramento & San Joaquin River Basin Plan 2009

http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr.pdf

Ayers, R. S. and D. W. Westcot, *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations - Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985).

- (12) Ayers, Table 1 (mg/L) (sodium)
- (13) Ayers, Table 21 (mg/L) (boron)

Water Quality Standards for Agriculture 1985

<http://www.fao.org/DOCREP/003/T0234E/T0234E00.HTM>

revised: 05 July 2017

RECLAMATION

Managing Water in the West

**Table 4. Approved Laboratory List for the Mid-Pacific Region
Quality Assurance and Data Management Branch (MP-156)
Environmental Monitoring and Hazardous Materials Branch
(MP-157)**

APPL Laboratory	<u>Address</u>	908 North Temperance Avenue, Clovis, CA 93611
	<u>Contact</u>	Renee' Patterson, Project Manager
	<u>P/F</u>	(559) 275-2175 / (559) 275-4422
	<u>Email</u>	rpatterson@applinc.com; danderson@applinc.com;
	<u>Methods</u>	<i>Approved for inorganic and organic parameters in water and soil</i>
Applied Speciation and Consulting	<u>Address</u>	18804 North Creek Parkway Bothell, WA 98011
	<u>Contact</u>	Russell Gerads
	<u>P/F</u>	(425) 483-3300
	<u>Email</u>	russ@appliedspeciation.com
	<u>Methods</u>	<i>Approved for selenium speciation and mercury speciation in water, solids, and tissue</i>
Basic Laboratory	<u>Address</u>	2218 Railroad Avenue Redding, CA 96001
	<u>Contact</u>	Josh Kirkpatrick, Nathan Hawley, Melissa Hawley
	<u>P/F</u>	(530) 243-7234 / (530) 243-7494
	<u>Email</u>	jkirkpatrick@basiclab.com (QAO and PM); nhawley@basiclab.com, mhawley@basiclab.com (invoices); poilar@basiclab.com (sample custody), khawley@basiclab.com (sample custody)
	<u>Methods</u>	<i>Approved for inorganic/organic parameters</i>
California Laboratory Services	<u>Address</u>	3249 Fitzgerald Road Rancho Cordova, CA 95742
	<u>Contact</u>	Scott Furnas
	<u>P/F</u>	(916) 638-7301 / (916) 638-4510
	<u>Email</u>	janetm@californialab.com (QA); scottf@californialab.com (PM)
	<u>Methods</u>	<i>Approved for inorganic, organic, and microbiological parameters in water</i>
Calscience Environmental Laboratories	<u>Address</u>	7440 Lincoln Way; Garden Grove, CA 92841
	<u>Contact</u>	Don Burley
	<u>P/F</u>	714-895-5494 (ext. 203)/714-894-7501
	<u>Email</u>	DBurley@calscience.com
	<u>Methods</u>	<i>Approved for inorganic and organic parameters in water, sediment, and soil.</i>
Caltest Analytical Laboratory	<u>Address</u>	1885 N. Kelly Rd. Napa, CA 94558
	<u>Contact</u>	Eli Greenwald, Patrick Ingram (Lab Director)
	<u>P/F</u>	(707) 258-4000/(707) 226-1001
	<u>Email</u>	eli_greenwald@caltestlabs.com; Patrick_Ingram@caltestlabs.com info@caltestlabs.com
	<u>Methods</u>	<i>Approved for inorganic and microbiological parameters</i>
Eurofins Eaton Analytical, Inc. (formerly MWH Laboratories)	<u>Address</u>	750 Royal Oaks Drive Ste. 100 Monrovia, CA 91016 USA
	<u>Contact</u>	Joline Neal
	<u>P/F</u>	(626) 386-1100, Linda - (626) 386-1163, Rick - (626) 386-1157
	<u>Email</u>	JolineNeal@eurofinsus.com
	<u>Methods</u>	<i>Approved for all inorganic, organic, and radiochemistry parameters in water</i>
Fruit Growers Laboratory	<u>Address</u>	853 Corporation Street Santa Paula, CA 93060 USA
	<u>Contact</u>	David Terz, QA Director

**Table 4. Approved Laboratory List for the Mid-Pacific Region
Quality Assurance and Data Management Branch (MP-156)
Environmental Monitoring and Hazardous Materials Branch
(MP-157)**

Laboratory	<u>P/F</u>	(805) 392-2024 / (805) 525-4172
	<u>Email</u>	davidt@fglinc.com
	<u>Methods</u>	<i>Approved for general physical analysis in soils and most inorganic and organic parameters in water and soil; not approved for mercury in water or silver in soil.</i>
Moore Twining Associates, Inc.	<u>Address</u>	2527 Fresno St., Fresno, CA 93721 USA
	<u>Contact</u>	Juli Adams (Lab Director), Maria Manuel (QA Manager)
	<u>P/F</u>	(559) 268-7021
	<u>Email</u>	julia@mooretwining.com, mariam@mooretwining.com
	<u>Methods</u>	<i>Approved for BOD analysis.</i>
Sierra Foothill Laboratory, Inc.	<u>Address</u>	255 Scottsville Blvd, Jackson, CA 95642
	<u>Contact</u>	Sandy Nurse (Owner) or Karen Lantz (Program Manager)
	<u>P/F</u>	(209) 223-2800 / (209) 223-2747
	<u>Email</u>	sandy@sierrafoothilllab.com, CC: dale@sierrafoothilllab.com
	<u>Methods</u>	<i>Approved for all inorganic parameters (except low level TKN), microbiological parameters, acute and chronic toxicity.</i>
South Dakota Agricultural Laboratories	<u>Address</u>	Brookings Biospace, 1006 32nd Avenue, Suites 103,105, Brookings, SD 57006-4728
	<u>Contact</u>	Regina Wixon, Jessie Davis, Steven Hauger (sample custodian)
	<u>P/F</u>	(605) 692-7325/(605) 692-7326
	<u>Email</u>	regina.wixon@sdaglabs.com, annie.mouw@sdaglabs.com, emily.weissenfluh@sdaglabs.com, darin.wixon@sdaglabs.com
	<u>Methods</u>	<i>Approved for selenium analysis</i>
TestAmerica	<u>Address</u>	880 Riverside Parkway West Sacramento, CA 95605 USA
	<u>Contact</u>	Linda Laver
	<u>P/F</u>	(916) 374-4362 / (916) 372-1059 fax
	<u>Email</u>	Linda.Laver@TestAmericaInc.com
	<u>Methods</u>	<i>Approved for all inorganic parameters and hazardous waste organics . Ag analysis in sediment, when known quantity is present, request 6010B</i>
Western Environmental Testing Laboratories	<u>Address</u>	475 East Greg Street # 119 Sparks, NV 89431 USA
	<u>Contact</u>	Kurt Clarkson/Logan Greenwood (Client Services), Andy Smith (Lab Director)
	<u>P/F</u>	(775) 355-0202 / (775) 355-0817
	<u>Email</u>	kurtc@wetlaboratory.com, logang@wetlaboratory.com, andy@wetlaboratory.com
	<u>Methods</u>	<i>Approved for inorganic parameters (metals, general chemistry) and coliforms.</i>

Table 5. Approved Laboratory Matrix for the Mid-Pacific Region
 Quality Assurance and Data Management Branch (MP-156)
 Environmental Monitoring and Hazardous Materials Branch (MP-157)

Laboratory	Water					Sediment/Soil				Tissue/Vegetation	
	Inorganic	Organic	Micro-biological	Radio-chemistry	Toxicity	Inorganic	Organic	General physical	Toxicity	Inorganics	Organics
APPL Laboratory	X	X				X	X				
Applied Speciation and Consulting	X*	X*				X*	X*			X*	X*
Basic Laboratory	X	X				X	X				
California Laboratory Services	X	X	X								
Calscience Environmental Laboratories	X	X				X	X				
Caltest Analytical Laboratory	X		X								
Eurofins Eaton Analytical, Inc. (formerly MWH Laboratories)	X	X		X							
Fruit Growers Laboratory	X (not for mercury)	X				X (not for silver)	X	X			
Moore Twining Associates	BOD										
Sierra Foothill Laboratory, Inc.	X (not for TKN)		X		X				X		
South Dakota Agricultural Laboratories	selenium					selenium				selenium	
TestAmerica	X	X				X	X				
Western Environmental Testing Laboratories	X		X								

*Approved for only selenium and mercury speciation

Appendix B: Cultural Resources Determination

CULTURAL RESOURCE COMPLIANCE
Mid-Pacific Region
Division of Environmental Affairs
Cultural Resources Branch

MP-153 Tracking Number: 17-SCAO-030

Project Name: Widren Water District (WWD) Water Quality, Supply, and Drainage Enhancement Project

NEPA Document: EA Number 16-035

MP 153 Cultural Resources Reviewer: Amy J. Barnes

Date: June 20, 2017

This proposed undertaking by Reclamation is to approve WWD's water quality, supply, and drainage enhancement project through the issuance of Exchange Agreements and/or Warren Act contracts to WWD. In addition, Reclamation would issue a land use authorization to allow WWD to discharge pumped and treated groundwater into the Delta-Mendota Canal (DMC), approximately 2 miles west of Firebaugh, California. This is the type of action that has the potential to cause effects to historic properties pursuant to 36 CFR §800.3 of the Section 106 implementing regulations. As a result of this determination, Reclamation implemented the steps in the Section 106 process as outlined at §800.3 to §800.6.

WWD's enhancement project is proposed to address water supply needs of South of Delta Central Valley Project (CVP) contractors during water management challenges (such as drought events) and to mitigate local drainage impacts by reducing discharge flows containing high dissolved minerals (such as salt and selenium). WWD will need to construct a treatment plant to treat their non-CVP water to meet Reclamation's water quality standards, prior to discharging it into the DMC. The WWD proposes to pump groundwater from one pre-existing well, and treat the water by reverse osmosis. The treated water will be discharged into the DMC at mile post (MP) 102.04R via an existing turnout. The water will be exchanged for Reclamation's CVP water at San Luis Reservoir. To facilitate the treatment and transfer of water, WWD proposes to install a prefabricated treatment plant on a concrete pad with associated underground pipelines for raw and treated water and waste water. Electrical power will connect via a new power pole and new underground conduits to a transformer and meter box set on concrete pads. A detailed description for the proposed design elements are provided in Barnes (2017).

The area of potential effects (APE) includes an approximately 3.7-acre area where the new treatment plant, pipelines, and electrical facilities will be constructed as well as the existing DMC turnout at MP102.04R. The APE is located in Section 20, T. 12 S., R. 13 E., Mount Diablo Baseline and Meridian, as depicted on the Oxalis 7.5' U.S. Geological Survey topographic quadrangle map. The maximum vertical extent of the APE (four feet deep) would be the result of digging the trenches for the water lines, and entirely within the existing 5-6-foot deep plow zone of the agricultural field.

The historic property identification efforts included a review of Reclamation project records, internal records of cultural resources surveys, sites, and project data. A Reclamation archaeologist conducted a site inspection and survey of the APE on March 17, 2017 to verify the extent of the built environment and to identify any other cultural resources that might be present. The only cultural resource identified in the APE is the DMC. No other cultural resources were identified other than contemporary infrastructure.

The DMC was completed in 1951 as part of the Delta Division of Reclamation's CVP to convey irrigation water southeast from the Tracy Pumping Plant along the west side of the San Joaquin Valley.

CULTURAL RESOURCE COMPLIANCE
Mid-Pacific Region
Division of Environmental Affairs
Cultural Resources Branch

Reclamation treats the DMC as significant under the theme of development, construction, and operation of the CVP, with a period of significance of 1946-1971. Under this theme and within this period, the DMC, as a water conveyance component of the CVP, contributed to California's economic and agricultural development and growth.

Reclamation applied the criteria of adverse effect [36 CFR § 800.5(a)] for the current undertaking and found that the proposed activities would result in no significant alterations to the historic characteristics that make the CVP or DMC eligible for the National Register. The proposed actions of connecting a new pipeline to an existing DMC turnout will not alter any physical characteristics of the canal or its berm. Since there will be no alterations to the DMC, the CVP will also be unaffected.

Pursuant to the regulations at 36 CFR § 800.3(f)(2), Reclamation identified the Big Sandy Rancheria, Cold Springs Rancheria of Mono Indians, Picayune Rancheria of the Chukchansi Indians of California, Santa Rosa Rancheria, Table Mountain Rancheria, and Tule River Indian Tribe as Indian tribes who might attach religious and cultural significance to historic properties within the APE, and sent letters to invite their participation in the Section 106 process pursuant to 36 CFR § 800.4(a)(4). Reclamation also sent letters to the Choinumni Tribe, North Valley Yokuts Tribe, Dumna Wo-Wah Tribal Government, Dunlap Band of Mono Indians, North Fork Mono Tribe, Southern Sierra Miwuk Nation, and Wuksache Indian Tribe of Eshorn Valley, which are identified as Native American organizations likely to have knowledge or concerns with historic properties in the area, requesting their assistance in identifying historic properties which may be affected by the proposed undertaking pursuant to 36 CFR § 800.4(a)(3). No such properties have been identified through consultations with these Indian tribes.

Reclamation entered into consultation with the California State Historic Preservation Officer (SHPO) on June 22, 2017, notifying them regarding a finding of "no adverse effects to historic properties pursuant to 36 CFR Part 800.5(b)." SHPO responded on June 19, 2017 concurring with Reclamations' findings and determination (consultations attached).

After reviewing the EA, dated March 2017 entitled *Multi-Year Warren Act Contract for Widren Water District's Water Quality, Supply, and Drainage Enhancement Project* (EA Number 16-035), I concur that this action would not have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places.

This memorandum is intended to convey the completion of the NHPA Section 106 process for this undertaking. Please retain a copy in the administrative record for this action. Should changes be made to this project, additional NHPA Section 106 review, possibly including consultation with the State Historic Preservation Officer, may be necessary. Thank you for providing the opportunity to comment.

**OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION**

1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
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calshpo@parks.ca.gov
www.ohp.parks.ca.gov



June 19, 2017

Reply to: BUR_2017_0523_002

Ms. Anastasia T. Leigh, Regional Environmental Officer
U.S. Bureau of Reclamation, Mid-Pacific Regional Office
2800 Cottage Way, Sacramento, CA 95825-1898

Subject: Section 106 Consultation for the Widren Water District (WWD) Water Quality, Supply, and Drainage Enhancement Project, Fresno County, CA (17-SCAO-030)

Dear Ms. Leigh:

The Office of Historic Preservation (OHP) received on May 23, 2017 your letter initiating consultation on the above referenced project to comply with Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulations that are found at 36 CFR Part 800. Reclamation proposes to approve a WWD water quality, supply, and drainage enhancement project by issuing a 10-year Exchange Agreement and/or Warren Act contract and then to issue a 10-year land use authorization to allow WWD to discharge treated groundwater into the Delta-Mendota Canal (DMC), at an existing turn-out point located about two (2) miles west of Firebaugh, California.

Pursuant to 36 CFR 800.5(b) Reclamation has determined a finding of no adverse effects to historic properties affected and requests concurrence. Documents included are:

- *Cultural Resources Investigation for the Widren Water District Water Quality, Supply and Drainage Enhancement Project (Project Tracking No. 17-SCAO-030); Fresno, CA; April 29, 2017 [By: A.J. Barnes, Archaeologist, Mid-Pacific Region, Sacramento, CA]*

WWD intends to address water supply needs of South of Delta Central Valley Project (CVP) contractors during water management challenges (such as drought events) by providing treated groundwater, with a reduced amount of dissolved minerals (such as salt and selenium), to mitigate local drainage impacts. It is planned to build a treatment plant to process the non-CVP water to meet Reclamation's water quality standards for discharge. The process is to pump groundwater from one pre-existing well, treat the water by reverse osmosis and then release the treated water into the DMC via an existing turnout. The components to be installed include a prefabricated treatment plant on a concrete pad with associated underground pipelines for raw and treated water and wastewater. Electrical power will require a new power pole and new underground conduits to a transformer and meter box set on concrete pads. Project details are included in the provided report.

The area of potential effects (APE) includes about 3.7-acres where the new treatment plant, pipelines, and electrical facilities will be constructed, including the existing DMC turnout. The maximum vertical APE will be about four feet deep to dig the trenches for the water lines. This depth is within an existing 5-6-foot deep plow zone of the agricultural field.

The cultural resources survey report indicates that a Reclamation archaeologist reviewed Reclamation's project records, internal records of cultural resources surveys, sites, and

project data. A pedestrian field survey of the APE was done on March 17, 2017 to verify the extent of the built environment and to identify any other cultural resources that might be present. The only cultural resource identified in the APE is the DMC. No other cultural resources were identified other than contemporary infrastructure.

The 117 mile long DMC was completed in 1951, as part of Reclamation's CVP Delta Division. Reclamation treats the DMC as significant for a theme of development, construction, and operation of the CVP, with a period of significance from 1946-1971. Under this theme and within this period the DMC, as a water conveyance component of the CVP, contributed to California's economic and agricultural growth and development.

Reclamation identified the Big Sandy Rancheria, Cold Springs Rancheria of Mono Indians, Picayune Rancheria of the Chukchansi Indians of California, Santa Rosa Rancheria, Table Mountain Rancheria, and Tule River Indian Tribe as Indian tribes who might attach religious and cultural significance to historic properties and invited their participation in the Section 106 process. Letters were also sent to the Choinumni Tribe, North Valley Yokuts Tribe, Dumna Wo-Wah Tribal Government, Dunlap Band of Mono Indians, North Fork Mono Tribe, Southern Sierra Miwuk Nation, and Wuksache Indian Tribe of Eshom Valley, identified as Native American organizations likely to also have knowledge or concerns. No properties have been identified. If concerns are raised subsequently, Reclamation will work to address them and make required notifications.

The DMC, a contributing component of the CVP, is the only identified historic property. Reclamation finds that the proposed actions of connecting a new pipeline to an existing DMC turnout will not unduly alter any historic physical characteristics of the canal or its berm. As the alterations to the DMC will be very minimal, the CVP system will also be unaffected. Reclamation invites comments on delineation of the APE, efforts to identify historic properties and requests concurrence with the finding of no adverse effects.

OHP reviewed the submitted documentation and offers the following comments:

- Pursuant to 36 CFR 800.4(a)(1), there are no objections to the APE as defined;
- Pursuant to 36 CFR 800.4(b), Reclamation has documented a reasonable and good faith effort to identify historic properties within the area of potential effects.
- Reclamation has determined that the proposed undertaking will result in no adverse effect to the historic properties affected. Pursuant to 36 CFR 800.5(b), **I concur.**

Please be advised that under certain circumstances, such as unanticipated discovery or a change in project description, Reclamation may have additional future responsibilities for this undertaking under 36 CFR Part 800 (as amended). Should you require further information, please contact Jeanette Schulz at Jeanette.Schulz@parks.ca.gov or (916) 445-7031.

Sincerely,



Julianne Polanco
State Historic Preservation Officer