Antelope Valley

2014 IRWM Drought Solicitation

Project Questionnaire

Via Email to Tim Chen at TCHEN@dpw.lacounty.gov.

A. General Information

Project Name: Install Nitrate Treatment System at Well Station 1-06 in Leona Valley

Has this project already been accepted into the Antelope Valley IRWMP: No

Is the information for this project in the www.avwaterplan.org database up to date: We will be submitting the IRWMP Project Identification Form.

Project Proponent (agency): California Water Service Company, Antelope Valley

Contact Person/Phone/Email: Darin Duncan, dduncan@calwater.com, 408-367-8227

Will the contact person be available during normal business hours during the month of June 2014: Yes

Total project cost: $875,706
Total amount requested in grant funds: $656,779

Have matching funds been secured (please explain): Cal Water will request matching funds through rates from the Public Utilities Commission.

B. Eligibility

Eligible Project Type under 2014 IRWM Drought Grant Solicitation (select all that apply):

•Provide immediate regional drought preparedness

•Increase local water supply reliability and the delivery of safe drinking water

Discuss how the project will address the drought impact(s) presented above and how it can be considered as one or more of the four eligible project types, and why expedited funding is needed:

Well 1-06 in Leona Valley is impacted by nitrates. This project will allow Cal Water to treat extracted groundwater from existing well 1-06 to drinking water standards and then use this treated local supply for potable water use. Treating water that is currently undrinkable will contribute to easing drought pressures in California. Under the 2014, IRWMP Drought Guidelines, this project will provide immediate regional drought preparedness and increase local water supply reliability and the delivery of safe drinking water. The project will allow Cal Water access to groundwater that is currently not available. Cal Water will be able to reduce their reliability on imported water from AVEK via the state water project, which is currently in short

supply. This conjunctive use project meets the priorities outlined by the State for Drought Preparedness.

C. Project Information

Project Description/Summary:

The California Water Service Company (Cal Water), Antelope Valley District is a collection of four separate water systems that services the communities of Lancaster, Lake Hughes, Fremont Valley, and Leona Valley. Cal Water purchased these systems which primarily serve rural single family residential communities from Antelope Valley Water Company in 2000.

Leona Valley System is a small water system with approximately 420 service connections and in 2013 had a total demand of 177 acre-ft/year (AFY). The system is supplied by two active local wells at 67 AFY and water purchased from Antelope Valley-East Kern Water Agency (AVEK), a State Water Project (SWP) contractor, at 110 AFY. Water purchased from AVEK supplies approximately 62 percent of the system demand.

Due to the water allocation for the State Water Project remaining at 0 percent, AVEK has establishing a 2014 dry year program that will reduce water allocation to the Leona Valley System from approximately 110 to 34 AFY. The reduction in AVEK allocation would result in supply shortage of approximately 75 AFY. Banked water supply would be available for purchase but at a much higher rate.

To offset the anticipated supply shortage, Cal Water is proposing to install a nitrate treatment system at an existing production well at Station 1-06 in Leona Valley. The production well was constructed and equipped in 2007 but has not placed in-service due to high levels of nitrate concentration above the State requirement. Nitrate is an acute contaminant that is primarily found in fertilizers and manures.

With the proposed nitrate treatment system, the production well at Station 1-06 will be placed in-service to provide an additional supply of 32 AFY to offset the anticipated supply shortage of 75 AFY from AVEK. Treating the nitrate contamination at well Station 1-06 and placing it in-service will benefit the Leona Valley community by a reliable local supply and it will also relieve demands of imported water that are highly impacted by the drought.

Overall Antelope Valley District is a relatively small water district with a total of approximately 1,300 customers. Without financial assistance, construction of this treatment project would result in a significant water rate increase for the Antelope Valley District.

Current Project Phase (select all that apply):

•Feasibility Study

Projected Start Date: October 2014

What level of CEQA is required: To be determined

Are other permits required for the project (if yes, please list and describe progress):

Yes, see below.

- Department of Public Health Permit – Will be submitted in 2014.
- Environmental Permit – Will be submitted in 2014.
- Discharge Permit – Will be submitted in 2014.
- Planning/Building Permit – Will be submitted in 2014.

Has a detailed budget been prepared for the project: A planning level cost estimate has been prepared for this project. A detailed cost estimate will be prepared after further design is completed.

What is the basis for costs used to derive the budget: the planning level cost estimate is based on budgetary costs from a treatment vendor and projects with similar scope of work.

D. Justification and Technical Basis

List all studies, plans, and designs completed for the project:

This project will need planning and design/construction documents.

Summarize the projected physical benefits of the project (i.e., AFY of new supply, acres, amount of storage space, etc.):

1. Increase Local Water Supply: Treating the nitrate contamination at Well Station 1-06 will allow the production well to be connected to the Leona Valley System and provide additional local supply of 32 AFY.

2. Improves Water Quality: The proposed units will treat high levels of nitrate contamination in the well. Nitrate analyzers will be installed to monitor the performance of the treatment system and better safeguard for public health.

3. Improves Water Supply Reliability: Water purchased from AVEK supplies approximately 62 percent of the Leona Valley System. AVEK supplies are dependent upon SWP conditions and are interruptible based on hydrologic conditions and other issues. The proposed treatment at well Station 1-06 will provide additional local supply of 32 AFY and improve water supply reliability.

Describe how the performance of the project will be monitored:

Nitrate analyzers would be installed to monitor the performance of the treatment system.

E. Cost Analysis

Have alternative methods been considered to achieve the same types and amounts of physical benefits as the proposed project: No

If no, why not: The only alternative is treating the entire plume, which is cost prohibitive.

If yes, describe the alternative methods and estimated costs of the alternatives(s): n/a

Is the project the least cost alternative to achieve the physical benefits (please explain): Yes, wellhead treatment is much less expensive than cleaning up the entire plume.

If not the least cost alternative, why is it the preferred alternative: n/a

F. Climate Change and DAC

Does the project address climate change adaptation and/or mitigation (i.e., energy efficiency, reduction of greenhouse gases, reduction of carbon, reduction in water demand):

Yes, the project allows Cal Water to expand conjunctive management of multiple water supply sources and changes can be made to adjust the supply, if necessary, due to climate change.

Does the project provide benefits to a disadvantaged community (DAC): No

Antelope Valley

2014 IRWM Project Identification Form

Project Information

Project Name: Installation of Nitrate Treatment at Well 1-06 in Leona Valley

Project Sponsor(s): California Water Service Company – Antelope Valley

Contact First Name: Darin

Contact Last Name: Duncan

Phone: 408-367-8227

Email: dduncan@calwater.com

Has Project Sponsor Adopted or will adopt the AV IRWMP? N/A

If joint project, other sponsors?: None

Project Description, Location & Benefits

Project Description:

Well 1-06 in Leona Valley is impacted by nitrates. This project will allow Cal Water to treat extracted groundwater at well 1-06 to drinking water standards and then use the treated water directly for potable water supply. Treating water that is currently undrinkable will contribute to easing drought pressures in California.

Project Source:

This project is described in Cal Water's Water Supply and Facilities Master Plan, Antelope Valley District, 2009. Cal Water is pursuing grant funds to limit impact on low income ratepayers.

Project Location:

Station 1-06, 40200 90th St. West, Leona Valley, CA 93551

Latitude:

Longitude:

Project Benefits

Water Supply: (New Supply Created) = 32 AFY

Water Quality Improved:

Volume Treated: 0.03 MGD

Public Access Open Space, Habitat, Recreation Area Created or Restored: N/A

Does the project offset supply from the Sacramento-San Joaquin Delta? Yes

Does the project provide flood management/protection? No

Does the project reduce energy consumption? Yes

Does the project reduce greenhouse gas (GHG) emissions? Yes

Select the IRWM Plan objectives the project will help to achieve:

Objectives

Water Supply

- Provide reliable water supply to meet the Antelope Valley Region's expected demand between now and 2035; and adapt to climate change
- Establish a contingency plan to meet water supply needs of the Antelope Valley Region during a plausible disruption of SWP deliveries

Water Quality

- Provide drinking water that meets regulatory requirements and customer expectations
- Protect and maintain aquifers

Flood Management

- N/A

Environmental Resources Management

- N/A

Land Use Planning/Management

- N/A

Climate Change Mitigation

- Mitigate against climate change

Resource Management Strategies

Reduce Water Demand

- Urban water use efficiency

Improve Operational Efficiency and Transfers

- Conveyance-regional/local
- System reoperation
- Water transfers

Increase Water Supply

- Conjunctive management & groundwater

Improve Water Quality

- Drinking water treatment and distribution
- Groundwater and aquifer remediation

Practice Resources Stewardship

- Economic incentives (Loans, grants, and water pricing)
- Watershed management

Other

- N/A

Project Feasibility

Provide a list of studies/reports/documents that have been prepared for the Project:

Water Supply and Facilities Master Plan, Antelope Valley District, 2009

Reliability Analysis in the Water Supply and Facilities Master Plan recommends adding 100 gpm in new capacity to the Leona Valley System to improve supply reliability. Well 1-06 constructed in 2007 is shown as a future well for this purpose. Groundwater is a very reliable source of water for the Antelope Valley.

Explain why there is sufficient technical documentation to support each of the benefits claimed above:

This is a fairly straightforward project and well head nitrate treatment has been utilized throughout the State of California. The benefits claimed above are widely accepted in the water community.

Describe the level of information known about the geologic conditions, hydrology, ecology or other aspects of the system where the project is located:

Groundwater also supplies approximately 35 percent in Leona Valley. Leona Valley is located along the southwest border of the Antelope Valley Groundwater Basin directly at the base of the San Gabriel Mountains. Surface deposits shift from unconsolidated alluvial materials in the east part of the valley to the bedrock of the San Gabriel Mountains in the west. Additional information is included in the Urban Water Management Plan for Antelope Valley which is available at

https://www.calwater.com/docs/uwmp/av/2010_Urban_Water_Management_Plan_(AV).pdf

Explain data gaps that require additional studies to be developed for the project

There are no data gaps.

Projects Costs, Financing and Economic Feasibility

Estimated Capital Cost: $876,000

Estimated Project annual operations and maintenance costs: $20,000

Estimated year of construction and year of Project startup: 2015

Provide a link to the cost estimate, if available: N/A

Explain potential funding sources/financing for the Project (e.g., State funding, regional assessments, CIP, etc.): Rate payers.

Has a cost-effectiveness or benefit-cost analysis been performed for the Project? No

Provide a link to the economic analysis, if available: N/A

Disadvantaged Communities, Native American Tribal Communities, and Environmental Justice Considerations

Describe how the project addresses water supply and water quality needs of Disadvantaged Communities (DACs): N/A

Describe how the Project addresses water supply and water quality needs of Native American tribal communities: N/A

Explain any environmental justice issues related to implementation of the project: (Environmental justice seeks to redress inequitable distribution of environmental burdens (i.e., pollution, industrial facilities) and access to environmental good (i.e., clean water and air, parks, recreation, etc.).

Project Status (i.e. readiness to proceed)

Project Start Date October 2014

Ready to Proceed April 2015

Submitted Priority: 1

CEQA/NEPA Status: Not yet completed.

CEQA/NEPA Compliance Date: N/A

Strategic Considerations for IRWM Plan Implementation

Project Integration: (Describe how your project does or could integrate with other projects in the region.)

Not that we know of at this time.

Explain how the project addresses climate change:

The project allows Cal Water to expand conjunctive management of multiple water supply sources and changes can be made to adjust the supply, if necessary, due to climate change.

Has any kind of climate change analysis been completed? No

If so, please provide a link to the analysis: N/A

Explain how the project will aid the IRWM region reducing GHG emissions:

The project gives Cal Water access to another water source. This water source is closer to their customers and will reduce energy usage. In addition, the project will allow Cal Water to reduce reliance on the State Water project which will also reduce energy usage.