

January 5, 2017

Pure Water Soquel

Replenishing Mid-County Groundwater with Purified Recycled Water

Soquel Creek Water District
Santa Cruz County
State of California

WaterSMART: Development of Feasibility
Studies under the Title XVI Water
Reclamation and Reuse Program FY 2017
FOA: BOR-DO-17-F003

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Technical Proposal: Executive Summary

Date: January 5, 2017
Applicant: Soquel Creek Water District
Location: Soquel, Santa Cruz County, California

The Soquel Creek Water District (District) is a public agency that provides potable drinking water and groundwater resource management within its service area in the mid-region of Santa Cruz County, which includes portions of the City of Capitola and the unincorporated communities of Aptos, La Selva Beach, Rio Del Mar, Seascapes, Seacliff Beach and Soquel. The District serves 14,400 connections, of which 94 percent are residential, and a population of 40,400. The forecasted water demand for the District is 3,800 acre-feet per year (AFY). The District obtains 100 percent of its water supply from groundwater aquifers within the Santa Cruz Mid-County Groundwater Basin. The groundwater basin is in overdraft, causing seawater intrusion and threatening the District's drinking water supply wells. The basin is currently listed by the State of California as one of 21 'Critically Overdrafted' groundwater basins in the state and, while the District has significantly reduced its pumping over the last 10 years, the District's long-term proportional overdraft is still approximately 1,500 AFY while the full basin overdraft is 3,000 AFY.

Project Need

Hydrologic analysis and evaluations estimate that continued conservation and a supplemental water supply would be required to restore groundwater levels basinwide and achieve basinwide sustainability by 2040 as mandated by the Sustainable Groundwater Management Act. Based on current hydrologic evaluation, the District plans, over a twenty year period, to limit its *net* groundwater extractions to no more than 2,300 AFY and secure approximately 1,500 AFY of supplemental supply to contribute to basin recovery based on the proportional use and also meet its long-term community water needs of 3,800 AFY. (Water Systems Consulting, 2015). The District has investigated many different supply options to supplement its groundwater supply. From 2006 to 2013 the District participated in an effort to develop a regional desalination project; however, that project did not proceed forward and the District needed to consider other water supply options. In March 2016, the District completed a Groundwater Replenishment Study for developing and replenishing the local groundwater aquifer with 1,500 AFY of purified recycled water, delivering up to 100% of the supplemental supply needed by the District to meet its long-term projected demands. (Carollo, 2016).

Project Summary

This Title XVI Feasibility Study will build upon the Groundwater Replenishment Feasibility Study to further evaluate the feasibility of recharging purified recycled water into the local groundwater aquifer. The Study will be completed within an 18-month timeframe, meeting the Funding Group 1 requirements. Funding through the Title XVI WaterSMART program will accomplish the FOA goal of supporting the feasibility analysis of water recycling and will allow the District to:

- Detailed evaluation of new component alternatives and existing alternatives of recycled water;
- Additional study into water quality considerations with contaminants of emerging concern;
- Outreach efforts and stakeholder workshops to gauge public support;
- Site considerations and renderings to consider impacts of different alternatives;
- Further work on institutional and operational agreements; and
- Financial planning/cost sharing/rate impacts.

Technical Proposal: Study Description

Study Needs

The groundwater basin that Soquel Creek Water District (District) relies on for 100% of its water supply is not sustainable and is experiencing seawater intrusion. The basin is currently listed by the State of California as one of 21 'Critically Overdrafted' groundwater basins in the state and, while the District has significantly reduced its pumping over the last 10 years, the District's long-term proportional overdraft is still estimated to be approximately 1,500 acre-feet per year (AFY) while the full basin overdraft is 3,000 AFY. The District must develop a reliable water supply to address the following water resource challenges:

- Critically overdrafted groundwater basin;
- Seawater intrusion and contamination;
- Meeting the State mandate of basin sustainability by 2040;
- Addressing stricter water quality standards; and
- Planning for future climate change impacts.

Study Objectives

The goal of this Title XVI Feasibility Study is to further investigate the opportunity to use 1,500 AFY of recycled water for groundwater replenishment while meeting the following project objectives:

- Replenish the local groundwater basin to prevent further seawater intrusion and develop a sustainable water supply in a timely manner that meets the District's supply objectives and the State's mandate under the Sustainable Groundwater Management Act.
- Develop an affordable, reliable, and drought-resistant supplemental water source, which contributes to the diversification of the District water supply portfolio and enhances resiliency.
- Continue to provide District customers with a high-quality and safe water supply.
- Provide additional environmental benefits, such as to surface and marine waters.

Study Scope

This Title XVI Feasibility Study will build upon the Groundwater Replenishment Feasibility Study (March 2016). Funding through the Title XVI WaterSMART Program will allow for:

- Consideration of new alternatives;
- More detailed evaluation of all the alternatives, including consideration of renewable energy/efficiency and overall sustainability of alternatives in a watershed context;
- Additional study into water quality considerations with contaminants of emerging concern evaluation;
- Outreach efforts and stakeholder workshops to gauge public support;
- Site considerations and renderings to consider impacts of different alternatives;
- Further work on institutional agreements such as source water contracts and operational agreements; and
- Financial planning/cost sharing/rate impacts.

As significant progress was made on the March 2016 study, the additional work will be completed within an 18-month timeframe, meeting the Funding Group 1 requirements. The scope is designed to address all of the requirements of a Title XVI Feasibility Study as described in the Bureau's Title XVI Directives and Standards manual and are presented in the table below.

Pure Water Soquel Title XVI Feasibility Study Scope Elements

Title XVI Study Element	Status from 3/16 Report	Proposed scope for Title XVI Feasibility Study
(1) Introduction, study area and map	Completed	NA
(2) Statement of Problem and Need	Mostly Complete	Add discussion of regional context, other supply options (surface water diversion) and additional water quality study findings (CEC investigation).
(3) Water Reclamation and Reuse Opportunities	Mostly Complete	Identification of additional users identified along new pipeline alignment. Identify potential for multi-jurisdictional participation. Identify community incentives.
(4) Description of Alternatives	Partially Complete	Evaluation of new alternatives not previously considered. Description of no action options. Non-economic comparison of alternatives to meet objectives including renewable energy/efficiency, sustainability, and regional/watershed benefits.
(5) Economic Analysis	Partially Complete	Evaluation of new alternative. Cost analysis of other projects that could satisfy the demand.
(6) Selection of Proposed Title XVI Project	Incomplete	Description of selected alternatives to meet Title XVI criteria and objectives.
(7) Environmental Consideration and Potential Effects	Partially Complete	Additional environmental evaluation of alternatives, including site renderings. Stakeholder/public outreach and input.
(8) Legal and Institutional Requirements	Partially Complete	Additional effort to identify and resolve legal and institutional issues, including multi-jurisdictional agreements and permitting procedures.
(9) Financial Capability of Sponsor	Partially Complete	Proposing to develop a financial plan/rate study for how to fund project.
(10) Research Needs	Incomplete	Identification of additional research needs, including potential hydrogeological/geochemical research for the recharge sites.

Technical Proposal: Evaluation Criteria

This proposal accomplishes the goals of the Title XVI Feasibility Study funding goals as summarized on the table below and documented in the responses to Evaluation Criteria in the following sections.

Title XVI Feasibility Study for Fiscal Year 2017			
Criterion	How Does the Project Meet This Criterion?		Page
1. Problems and Needs	✓	• Evaluates the feasibility of replenishing the groundwater basin with the 1,500 AFY required to balance the District’s demand and environmental needs.	4
2. Water Reuse Opportunities	✓	• Investigates the use of reclaimed water from available regional sources.	6
3. Alternatives	✓	• Evaluates source water, treatment, and siting alternatives.	9
4. Stretching Water Supplies	✓	• Evaluates the full utilization of available supplies to bring the basin into balance.	12
5. Environment and Water Quality	✓	• Defines the water quality benefits to the groundwater, surface water, and ocean.	14
6. Legal and Institutional	✓	• Defines the requirements and strategies for all institutional and operational agreements.	16
7. Renewable Energy	✓	• Considers energy efficient technologies and use of photovoltaics.	17
8. Watershed Perspective	✓	• Evaluates the feasibility of utilizing regional infrastructure and partnering on new infrastructure to replenish the shared basin.	18

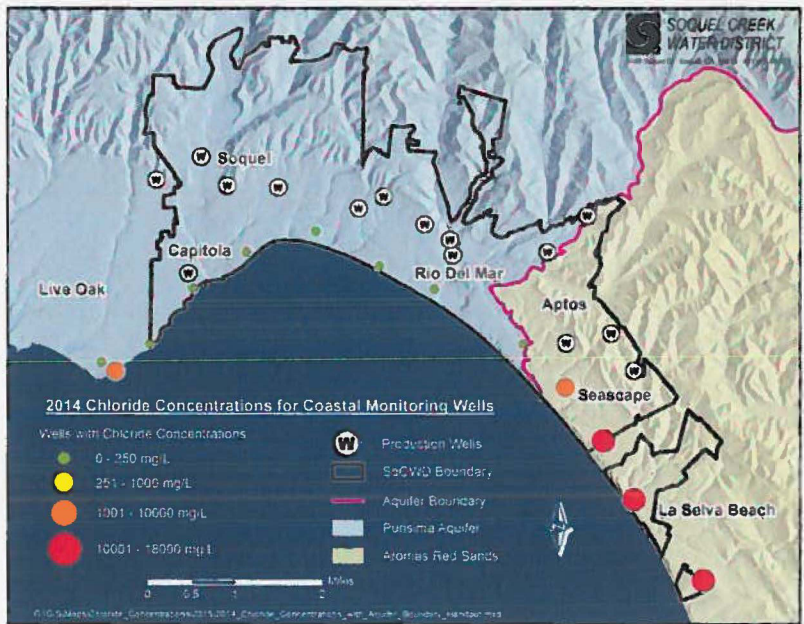
Evaluation Criterion 1: Statement of Problems and Needs (10 Points)

Points will be awarded based on the presence of watershed-based water resource management problems and needs for which water reclamation and reuse may provide a solution.

The Pure Water Soquel Project is being developed in cooperation with our watershed partners the Santa Cruz County Sanitation District and the City of Santa Cruz. The project will help address the basin overdraft and seawater intrusion that is impacting the Santa Cruz Mid-County Groundwater Basin, a critical water supply resource for the Santa Cruz Mid-County region. The study will include a climate change evaluation, considering climate impacts on supply and demand projections.

1. Describe in detail the water resource management problems and needs in the area and explain how water reclamation and reuse may address those problems and needs.

The District is a public agency that provides potable drinking water and groundwater resource management within its service area in mid-region of Santa Cruz County, which includes portions of the City of Capitola and the unincorporated communities of Aptos, La Selva Beach, Rio Del Mar, Seascapes, Seacliff Beach, and Soquel. The District serves approximately 14,400 connections, of which 94 percent are residential, and a population of approximately 40,400 with a projected long-term water demand of 3,800 AFY. The District obtains 100% of its water supply from groundwater.



The District has found seawater intrusion in aquifer along coastline.

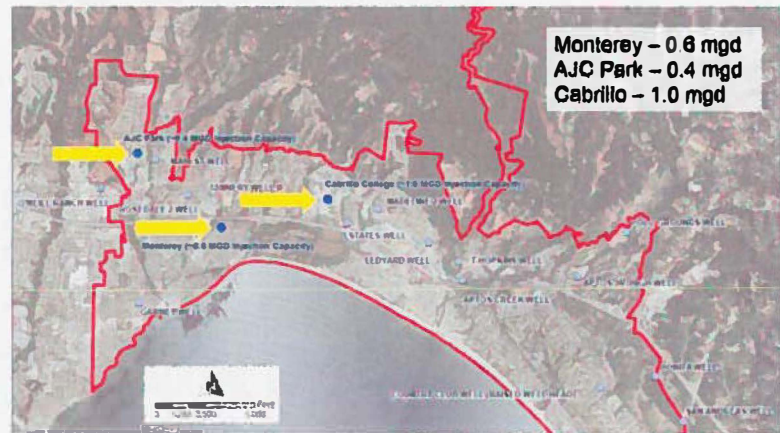
The District and the Santa Cruz mid-county region has a history of water shortage needs dating back several decades to the mid-1980s. The groundwater basin has been operating in overdraft due to pumping exceeding natural recharge rates. This has resulted in falling groundwater levels that has led to seawater intrusion moving inland and contamination of the groundwater basin at the coastline (red and orange dots shown in the figure).

Modeling indicates the overall basin overdraft is 3,000 AFY and the District’s proportionate share of that overdraft is 1,500 AFY. Since 1995, the

District has been working with regional partners that also utilize the groundwater basin and prepared a groundwater management plan, consistent with Assembly Bill 3030. In 2012, the District adopted an Integrated Resource Plan (IRP) designed to provide comprehensive long-term water planning strategies. Based on current hydrologic evaluation, the District plans to limit its net groundwater extractions to no more than 2,300 AFY over the next 20 years and secure approximately 1,500 AFY of supplemental supply. The 1,500 AFY will contribute to basin recovery based on the District’s proportional share of the overdraft and will also meet its long-term projected community water needs of 3,800 AFY. (Water Systems Consulting, 2015).

The District has investigated many different supply options to supplement its groundwater supply. From 2006 to 2013 the District participated in an effort to develop a regional desalination project. However, that project did not proceed forward to implementation due to lack of partner and public support. Since 2013, the District has focused on reducing demand (by 25 percent in the last two years), relocating production wells away from the coast, and evaluating other supply options including purified recycled water, river water transfers and desalination. In 2015, the purified recycled water option was selected to further develop with a feasibility study. The Groundwater Replenishment Feasibility Study, completed in March 2016, recommended an advanced purified groundwater replenishment project – Pure Water Soquel – to supplement natural recharge of the Santa Cruz Mid-County Groundwater Basin with 1,500 AFY purified recycled water. The Pure Water Soquel Project will help increase the sustainability of the District’s groundwater supply, reduce the degree of overdraft conditions in the basin, protect against further seawater intrusion, and promote beneficial reuse by reducing discharge of treated wastewater to the ocean. The proposed project facilities include: water treatment facilities; pump stations and pipelines for the conveyance of source water, purified water, and brine concentrate; and recharge and monitoring wells. The project also includes the potential use of recycled water for landscape irrigation application and redistribution of groundwater pumping from the District’s drinking water wells. The proposed project is to offset the District’s apportioned groundwater deficit of 1,500 AFY. The project will consider the underground infrastructure for potential expansion to provide the full basin’s shortfall of 3,000 AFY, should other basin partners choose to participate in the future.

Potential recharge well locations are identified based on the injection/recharge capacity analysis performed by the District’s hydrologist (HydroMetrics WRI) and will be further refined with a groundwater modeling effort that is currently underway. Recharging the basin with purified recycled water into the area between Anna Jean Cumming Park and the Soquel High School sports fields would help replenish the Purisima AA and TU



aquifer units. These aquifer units supply the District’s Main Street well facility. Recharging with purified recycled water into the central campus area of Cabrillo College would supplement the Purisima BC and A groundwater units. These basin units supply the District’s Estates well. And, purified recycled water into the Monterey Street well facility or at Willowbrook Lane into the A unit of the aquifer would not only act as replenishment but also as a seawater barrier.

While the District is leading the study, this project involves several parties, including the Santa Cruz County Sanitation District (SCCSD), the City of Santa Cruz, the City of Capitola, and the Department of Drinking Water (DDW). The project investigates the service areas of the District, SCCSD, and the Santa Cruz Wastewater Treatment Facility (SCWWTF). SCCSD, one of the main SC WWTF dischargers, was formed in 1973, and serves approximately 83,000 people in a 13.2 square mile area containing Live Oak, Capitola, and parts of the Aptos and Soquel areas. SCCSD constructs and maintains pipelines that

transport about 4 to 5 mgd of sewage to the Santa Cruz WWTF, which lies outside of its service area. SCCSD and the District have roughly the same service area. The SC WWTF, a potential water source for the Pure Water Soquel Project, is located at 110 California Street, Santa Cruz (approximately 6 miles from District's boundary), and provides secondary wastewater treatment and disposal services for both the City of Santa Cruz and SCCSD, serving a total population of approximately 135,000. It has a design capacity of 17 mgd for average dry weather flow (ADWF), although current flows are well below this capacity due to years of conservation efforts. The flow from SCCSD accounts for about 50 percent of the SCWWTF's total flow. A small amount (0.25 mgd) of treated effluent is reused for on-site for process wash-downs and irrigation; however, the majority is released about 1 mile offshore into Monterey Bay.

2. Additional consideration will be given to proposals that explain how the problems and needs in the area may be impacted by climate change, and/or if the feasibility study will include climate change information in the supply and demand projections used.

Previous supply and demand analyses by the District acknowledged qualitatively that climate change impacts would be a factor; however, in 2015, the District commissioned its hydrologist HydroMetrics to quantitatively estimate the effects of climate change on the groundwater basin's sustainable yield using a water balance approach (HydroMetrics, 2015). Based on this report, the estimated reduction in recharge rates is 11% due to climate change. The District also evaluated potential impacts due to sea level rise with climate change. Literature review (Chang et.al, 2011) concluded that long-term effect of sea level rise on the long-term location of the saltwater interface may be relatively minor for confined aquifers (such as the Purisima Formation) but would cause long-term intrusion in unconfined aquifers (conditions more likely to occur in the Aromas Red Sands). This report concluded that the climate change estimates would be refined and evaluated during the groundwater model development.

As part of the groundwater model work, a technical advisory panel was established and one of its tasks is to assist with development of a climate change scenario and evaluation of groundwater model alternatives with the Pure Water Soquel Project. The panel has discussed the relevance of using historical data, temperature weighted scenario, downscaling of a global climate model, the need to address missing data, integrating the transitions to warmer climate, the possible increase in radiation, and the temporal precipitation patterns. The Title XVI Feasibility Study will incorporate the analyses performed within the Groundwater modeling efforts to address how successfully the proposed Pure Water Soquel Project could be in replenishing the basin to protective groundwater levels in the face of these climate change challenges.

Evaluation Criterion 2: Water Reclamation and Reuse Opportunities (15 Pts.)

Points will be awarded based on the extent to which the proposal demonstrates that the feasibility study will explore opportunities for water reclamation and reuse in the study area.

The primary objective of the Pure Water Soquel Study is to identify opportunities for replenishing the overdrafted groundwater basin with purified recycled water while also supplying additional recycled water to offset potable demands.

1. Describe how the feasibility study will investigate potential uses for reclaimed water (e.g., environmental restoration, fish and wildlife, groundwater recharge, municipal, domestic, industrial, agricultural, power generation, and recreation).

This Feasibility Study will further investigate the use of purified recycled water for groundwater replenishment and recharge, as well as the potential direct use of the recycled water for landscape irrigation and redistribution of groundwater pumping from District extraction wells.

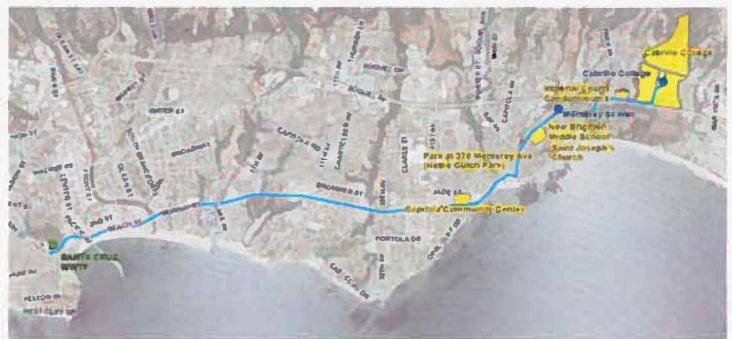
The District has investigated many different supply options to supplement its groundwater over the last decade. From 2006 to 2013, the District participated in a regional effort to develop a desalination project. However, this project did not proceed forward due to lack of partner and public support. Since 2013, the District has focused on reducing demand (by 25 percent in the last two years), relocating production wells away from the coast, and evaluating other supply options including purified recycled water, river water transfers and desalination. In 2015, the purified recycled water was selected to further develop with a feasibility study.

The Groundwater Replenishment Feasibility Study (March 2016) investigated the feasibility of developing an indirect potable reuse (IPR) project. The main objective of the study was to provide 1.3 mgd (approx. 1,500 AFY) of purified recycled water for recharge into the aquifer. Non-potable recycled water customers (e.g., irrigation and commercial/industrial) were included if they were located in close proximity to the distribution pipeline. Treatment systems included in the study focused entirely on advanced treatment to meet potable water reuse standards. The potable reuse projects in this study were composed of several key components: treatment technology, treatment location, distribution/conveyance facilities, and replenishment facilities. These components were combined in different ways to produce various recycled water alternatives.

The focus of this Title XVI Feasibility Study is to build upon the 2016 Replenishment Study by:

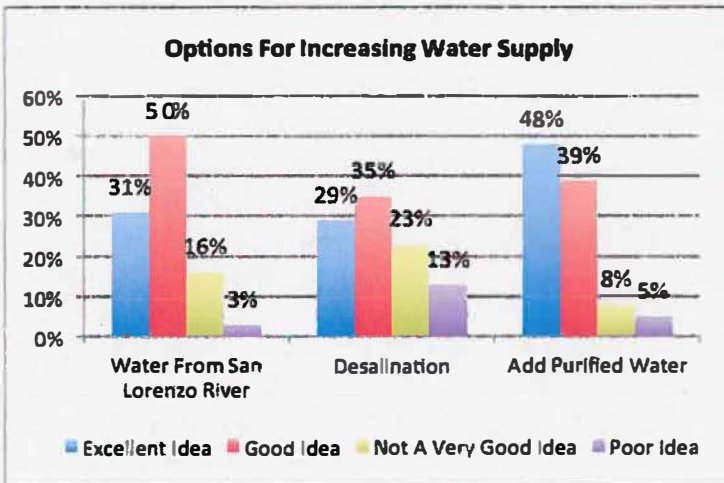
- Considering new alternatives;
- Evaluating all of the alternatives in greater detail, including consideration of renewable energy/efficiency and overall sustainability of alternatives in a watershed context;
- Further studying water quality considerations with a contaminant of emerging concern evaluation;
- Expanding public outreach efforts and stakeholder workshops to educate the public, identify project concerns, and gauge public support;
- Developing site considerations and renderings to consider impacts of different alternatives;
- Continuing development of institutional agreements; and
- Analyzing project financing and cost sharing opportunities.

In addition to identifying opportunities for groundwater replenishment, recycled water use for irrigation and commercial uses are identified to reduce demands on the groundwater supply. Potential recycled water users lie within the District service area and in the City of Santa Cruz. Up to 25 different potential customers have been identified in the District service area alone, with potential



demands up to 830 AFY. Not all of these customers can be readily served due to location away from the proposed pipe alignments and well sites. Additional sites in the City of Santa Cruz will also be identified.

2. Describe the potential water market available to use any recycled water that might be produced upon completion of a water reuse project, as well as potential methods to stimulate recycled water demand and/or methods to eliminate obstacles for use of reclaimed water.



A 2015 survey of customers found support for potable reuse with purified water.

Given that the focus of this project is potable reuse via groundwater replenishment, the primary market driver will be willingness of the District customers to pay for and use the purified recycled water supply to replenish the basin. Creating support for these types of projects requires considerable stakeholder outreach and education. The District has invested significant resources into developing education and outreach materials (including a new website) and proposes to continue outreach activities as part of this study. One of the critical public confidence elements related to use of purified recycled water is concern over

public health and water quality. To address these issues, the District commissioned a study of contaminants of emerging concern (CEC). A technical memorandum detailing the accepted public health targets and typical values found in purified water was completed in 2015. Additionally, Stanford University will be performing benchtop purification of the City of Santa Cruz's effluent followed by CEC testing to identify the quality of the District's proposed water source.

The District has also commissioned a panel of experts to be assembled to provide a peer review of the proposed project and to provide oversight for the CEC testing and data evaluation. The National Water Research Institute (NWRI) panel will be composed of a wide variety of experts including public health officials.

3. Describe the sources of water that will be investigated for potential reclamation, including impaired surface and ground waters.

Several sources of water are under evaluation for this study: 1) secondary or tertiary treated effluent from the City of Santa Cruz wastewater treatment plant, and 2) raw wastewater from the Santa Cruz County



Sanitation District (SCCSD). Both agencies have expressed willingness in letters of support that the District can use their water for the proposed purposes. Each source would require a different level of treatment but would end with purification consisting of reverse osmosis (RO) and advanced oxidation (UV AOP). Treatment is proposed to be located at the District headquarters site and/or a portion at the SCWWTF. Investigations are underway for fitting the treatment options on the site, as shown. The proposed sites shown in the map are already owned by the District.

Evaluation Criterion 3: Description of Potential Alternatives (15 Points)

Points will be awarded based on the extent to which the proposal demonstrates that the feasibility study will develop descriptions of water supply alternatives, including a proposed water reuse project and other water supply alternatives.

Soquel Creek Water District has evaluated the feasibility of many different water supply alternatives for supplementing its groundwater supply, including purified recycled water, river water transfers, desalination, and the no project alternative. This Title XVI Feasibility Study focuses on the investigation of purified recycled water and will compare it to other alternatives.

1. Describe the objectives that all alternatives will be designed to meet. What other water supply alternatives will be investigated as part of the feasibility study.

The goal of this Title XVI Feasibility Study is to further investigate the opportunity to use 1,500 AFY of purified recycled water for groundwater replenishment while meeting the following project objectives:

- Replenish the local groundwater basin to prevent further seawater intrusion and develop a sustainable water supply in a timely manner that meets the District’s supply objectives and the State’s mandate under the Sustainable Groundwater Management Act.
- Develop an affordable, reliable, and drought-resistant supplemental water source, which contributes to the diversification of the District water supply portfolio and enhances resiliency.
- Continue to provide District customers with a high-quality and safe water supply.
- Provide additional environmental benefits, such as to surface and marine waters.

The District’s project goals were integrated into a Triple Bottom Line (TBL) framework, which is a common framework for considering sustainable solutions by considering the environmental, social, and financial impacts of every decision. To better apply the TBL to engineering projects, a technical category was added to be able to consider technical aspects of project alternatives. This framework was used to analyze different alternatives in the Groundwater Replenishment Feasibility Study (March 2016). In this Title XVI Feasibility Study,

Technical	Financial	Social	Environmental
<ul style="list-style-type: none"> ■ Reliable Process Performance ■ Useful Life ■ Efficient Layout ■ Constructability 	<ul style="list-style-type: none"> ■ Capital Costs ■ O&M Costs ■ Lifecycle Costs 	<ul style="list-style-type: none"> ■ High quality, safe water ■ Community and Stakeholder Acceptability ■ Neighbor Impacts (visual, odor, noise, traffic...) 	<ul style="list-style-type: none"> ■ Minimize Environmental Impacts ■ Energy Usage ■ Seawater intrusion Avoidance ■ Groundwater Sustainability

the analysis will be updated for each of the alternatives based on the new information developed in the study and will be completed for the newly identified alternatives.

This Title XVI Feasibility Study will build upon the Groundwater Replenishment Study and Supplemental Supply Options Technical Memoranda (July 2014) that evaluated the following additional water supply alternatives and will be incorporated in this feasibility study:

- Desalination Options
 - Development of scwd² Desalination with the City of Santa Cruz
 - Development of Mid-County Desalination
- Development of DeepWater Desalination from Moss Landing, California
- River Water transfers with City of Santa Cruz
 - Purchase of excess surface water not constrained by water rights
 - Development of in-leiu and aquifer storage and recovery of excess river from City of Santa Cruz
- Water Restrictions and Rationing (No Project)

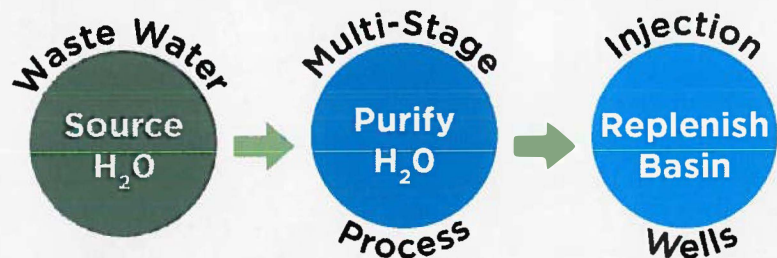
2. Provide a general description of the proposed project that will be the subject of feasibility study.

The District proposes a purified recycled groundwater replenishment project – Pure Water Soquel – to supplement natural recharge of the Santa Cruz Mid-County Groundwater Basin with purified recycled water.

The Pure Water Soquel Project will help increase the sustainability of the District’s groundwater supply, upon which it currently relies for 100 percent of its water supply, reduce the degree of overdraft conditions in the District’s groundwater basin, protect against further seawater intrusion of groundwater aquifers, and promote beneficial reuse by reducing discharge of treated wastewater to the ocean.

The proposed Project facilities that would be the subject of the feasibility study include:

- Source Water acquisition such as raw wastewater from the County of P Santa Cruz or treated (secondary or P tertiary) effluent from the City of P Santa Cruz; P
- Water treatment facilities to purify the wastewater source to potable drinking water standards suitable for groundwater replenishment;
- Recharge/injection and monitoring wells to aid in preventing further seawater intrusion from occurring and replenishing the overdrafted groundwater basin; and
- Pump stations and pipelines for conveyance of source water, purified water, and brine concentrate.



The Project also includes the potential irrigation of recycled water at landscape sites on the way to the purification facility and/or after purification on the way to the recharge sites. The direct use of either recycled water or purified water for irrigation provides a direct offset of potable demands on the groundwater basin.

3. Describe alternative measures or technologies for water reclamation, distribution, and reuse that will be investigated as part of the feasibility study.

There are several alternative measures or technologies for water recycling, distribution, and reuse that will be investigated as part of this feasibility study.

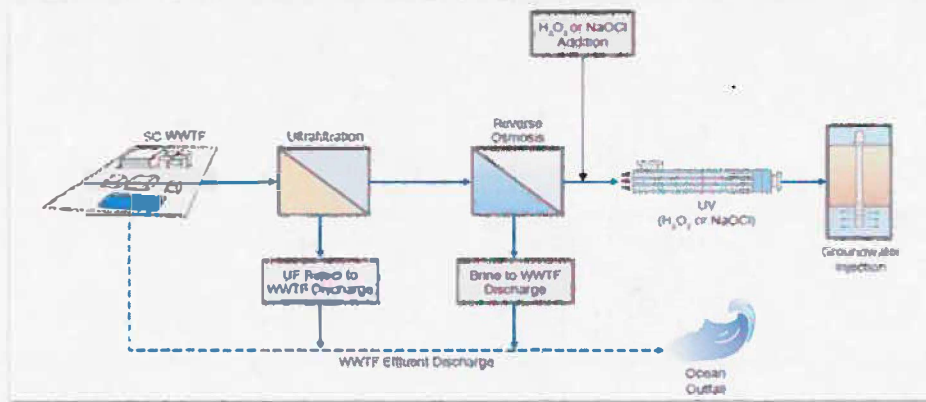
Alternative Source Waters:

- Raw Wastewater from Santa Cruz County Sanitation District (SCCSD)
- Treated Wastewater from the City of Santa Cruz Wastewater Treatment Facility (SC WWTF)

Alternative Treatment Systems:

The District is considering two potential approaches to treating the source water to advanced purified water standards suitable for groundwater replenishment via direct subsurface replenishment. These include an advanced treatment system capable of treating secondary/tertiary effluent or a combination of membrane bioreactor plus advanced treatment system to treat raw wastewater for indirect potable reuse (IPR). An overview of potential treatment technologies is presented below, followed by a discussion of potential system configurations and facility locations.

Option 1: Advanced Purification Treatment

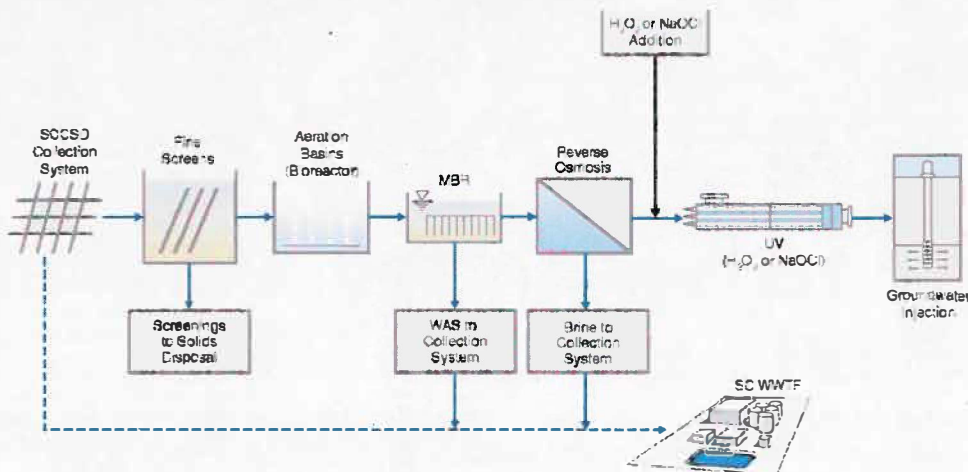


If the District relies upon the SC WWTF treated effluent as a source of water for the Project, it would develop an advanced water purification system capable of treating the WWTF secondary/tertiary effluent to IPR standards. This treatment process requires multiple filtration

and treatment steps including membrane filtration (MF or UF), reverse osmosis (RO) and UV advanced oxidation (UVAOP). Brine concentrate (filter backwash and reverse osmosis concentrate) from the advanced water purification system would be routed back to the SC WWTF for additional treatment, blended with the treated effluent and discharged via the outfall with no additional treatment, or discharged into the SCCSD collection system.

Option 2: Membrane Bioreactor Plus Advanced Purification Treatment

If the District relies upon SCCSD raw wastewater as a source of water for the Project, it would develop a new system capable of treating raw wastewater to IPR standards. The system would use membrane bioreactor technology (MBR) to achieve secondary and tertiary treatment. Following the MBR



treatment, the tertiary treated water would then be processed through an advanced water purification system similar to that described above (RO and UVAOP). Under this approach, screenings from a new headworks facility to support the MBR system would be disposed of in a landfill. Brine concentrate from the MBR plus advanced water purification system would be discharged into the SCCSD collection system.

Conveyance System

The proposed Project would require installation of new infrastructure for the conveyance of source water, brine concentrate, and purified recycled water. The District is presently considering four major conveyance components: 1) a source water pump station and dedicated source water pipeline for conveyance of secondary or tertiary effluent from SC WWTF to the treatment facility; 2) a source water pump station and a dedicated source water main for conveyance of raw wastewater from the SCCSD collection system to treatment facility; 3) a brine concentrate pump station and a dedicated brine concentrate pipeline to SC WWTF or directly into SCCSD collection system; and 4) a purified recycled water pump station and dedicated purified recycled water pipelines to recharge sites and turnouts or connection points for potential future irrigation customer connections.

Recharge and Monitoring Wells

Following treatment, advanced purified water would be conveyed from the treatment facility to the new replenishment wells for recharge into the Purisima Formation (aquifer replenishment). Monitoring wells would be located at or near the recharge well sites.

Evaluation Criterion 4: Stretching Water Supplies (15 Points)

Points will be awarded based on the extent to which the proposal demonstrates that the feasibility study will address activities that will help to secure and stretch water supplies. For each of the following sub-criteria, include descriptions of any specific issues that will be investigated or information that will be developed as part of the feasibility study.

The Pure Water Soquel Project would provide 100% of the supplemental supply needed to contribute to basin recovery based on the District's proportion of basin consumptive use and an estimated 50% of the overall supplemental supply needed to achieve full basinwide

1. Describe the potential for the project to reduce, postpone, or eliminate the development of new or expanded water supplies.

The project will provide 100% of the supplemental supply needed by the District to balance its proportion of basin consumptive use, eliminating the need for the development of new or expanded water supplies for its service area. The District's groundwater supply is its sole source of supply and currently in a state of critical overdraft. The District has declared a local groundwater emergency since water has been extracted from the aquifers faster than its natural rate of recharge, resulting in depressed groundwater levels. In addition, and related to the overdraft condition, the District has detected seawater intrusion in its groundwater supply aquifers at coastal monitoring wells on both sides of its service area. If not stopped, seawater intrusion and contamination of the groundwater supply could move further inland due to the depressed groundwater levels.

Hydrologic analysis and evaluations estimate that a supplemental water supply would be required to restore groundwater levels basinwide, and achieve basinwide sustainability by 2040 as mandated by the Sustainable Groundwater Management Act. Based on current hydrologic evaluation, the District plans, over a twenty year period, to limit its net groundwater extractions to no more than 2,300 AFY and secure approximately 1,500 AFY of supplemental supply to contribute to basin recovery based on the proportional use and also meet its projected long-term community water needs. (Water Systems Consulting, 2015). In March 2016, the District completed a Groundwater Replenishment Study for developing and replenishing the local groundwater aquifer with 1,500 AFY of purified recycled water, delivering up to 100% of the supplemental supply needed by the District and eliminating the need for a future project to meet its demands. This Title XVI Feasibility Study will further evaluate the feasibility of recharging purified water into the local groundwater aquifer.

To address the full, basinwide groundwater overdraft condition, approximately 3,000 AFY of supplemental supply could be required; so this project provides ~50% of the basinwide required supplemental supplies. Plans to achieve basinwide sustainability are currently being evaluated and refined through an independent effort under the Santa Cruz Mid-County Groundwater Agency. To accommodate this potential, the District is planning and evaluating the possibility of expanding the Pure Water Soquel Project to provide the full basin needs in the future.

2. Describe the potential for the project to reduce or eliminate the use of existing diversions from natural watercourses or withdrawals from aquifers.

Development of the Pure Water Soquel Project will allow the District to supplement the groundwater basin with 1,500 AFY, its proportionate share of the basin overdraft, limit its *net* groundwater pumping to no more than 2,300 AFY, while meeting its projected District demands of 3,800 AFY and contributing to basin recovery. Based on the District hydrologists' analysis, there has been over pumping of the Soquel-Aptos groundwater basin since the mid 1980s, which reached a peak in 2003. Over the years, the local agencies have been taking actions to bring the basin back into balance by promoting water conservation and reducing groundwater withdrawals, moving pumping away from the coast, and working collaboratively with partner agencies and private well owners. Pumping has since subsided to a point where, in 2014, the total pumping in the basin is near the level that hydrologists have established as sustainable. However, there is a thirty-year deficit that still needs to be made up, in addition to maintaining total pumping below a sustainable yield level, and achieving target protective groundwater levels along the coast. While the District has been successful with groundwater management and conservation actions, developing a new source of supply has been a very hard challenge in the community. The District has investigated many different supply options to supplement its groundwater supply. From 2006 to 2013 the District participated in a regional effort to develop a desalination project. However, the project did not move forward due to lack of partner and public support. In 2015, the purified recycled water was selected to further develop with a feasibility study. The Groundwater Replenishment Feasibility Study, completed in March 2016, recommended an advanced purified groundwater replenishment project – Pure Water Soquel – to supplement natural recharge of the Santa Cruz Mid-County Groundwater Basin with 1,500 AFY purified recycled water. The Pure Water Soquel Project will help increase the sustainability of the District's groundwater supply, reduce the degree of overdraft conditions in the basin, protect against further seawater intrusion and contamination, and promote beneficial reuse by reducing discharge of treated wastewater to the ocean. The project will allow the District to replenish the basin with 1,500

AFY of purified recycled supplemental supply so the District's *net* groundwater withdrawal will be below the target 2,300 AFY. Groundwater modeling efforts are underway and will be incorporated into this Title XVI Feasibility Study that will further refine the District's target estimates and will evaluate if the District's project (both operating at the District's proportion as well as expanded for full, basinwide supplemental water supply needs) can lead to basin recovery by 2040, as mandated by the Sustainable Groundwater Management Act.

3. Describe, the potential for the project to reduce demand on existing Federal supply facilities.

The water users in the Santa Cruz Mid-County Groundwater Basin do not have direct access to supplies from Federal water facilities. However, this project will be the first of its kind in Northern California, and the District hopes that it can be an example for other agencies to implement similar projects and directly benefit the western states facing the same challenges.

Evaluation Criterion 5: Environment and Water Quality (15 points)

Points will be awarded based on the extent to which the proposal demonstrates that the feasibility study will address the potential for a water reclamation and reuse project to improve surface, groundwater, or effluent discharge quality; restore or enhance habitat for nonlisted species; or provide water or critical habitat for federally listed threatened or endangered species. For each of the following sub-criteria, include descriptions of any specific issues that will be investigated or information that will be developed as part of the feasibility study.

The Pure Water Soquel Project has four project objectives, including the objective to provide additional environmental benefits, such as to surface and marine waters. This will be accomplished by improving the groundwater quality through replenishment with cleaner water, improving surface water flows leading to improved critical habitat for federally listed threatened and endangered species, and reducing effluent discharges to the Monterey Bay.

1. Describe the potential for the project to improve the quality of surface or groundwater, including description of any specific issues that will be investigated or information that will be developed as part of the feasibility study.

The project will improve the quality of the groundwater in two main ways. First, recharging the overdrafted basin with purified recycled water, which is of higher quality water than the existing groundwater, will help the basin. The District has to treat the existing groundwater for naturally occurring arsenic, chromium VI, manganese, and iron because they exceed state and federal standards. The recharge water from the project would be purer than the existing groundwater and thus enhance the overall quality of the water in the aquifers. Second, and most importantly, the project will be designed to recharge the aquifers in a manner that helps create a seawater barrier to prevent further contamination and devastation of the aquifers by seawater intrusion moving farther inland.

The Feasibility Study will identify the types of groundwater and surface water modeling (including geochemical modeling) to be investigated and conducted to determine the most appropriate locations to recharge the groundwater basin to raise groundwater levels, prevent further intrusion and increase base stream flows. The District has over 80 monitoring wells to help empirically indicate the impacts of the injected recharge water to the groundwater basin. Many of these monitoring wells

have data loggers and are monitored on a periodic basis. Most of the monitoring wells are along the coast and thus will indicate if sufficient recharge is occurring to protect groundwater levels to prevent further seawater intrusion.

The Feasibility Study will also indicate how constituents of emerging concern (CECs) will be evaluated and addressed during the project. In addition, evaluation of the potential chemistry interactions of the purified recycled water with the natural groundwater will be considered in the Feasibility Study.

2. Describe the potential for the project to improve flow conditions in a natural stream channel, including a description of any specific issues that will be investigated or information that will be developed as part of the feasibility study.

The project is anticipated to improve surface water stream flow by increasing the water levels in the aquifers and thus allowing more base flow into the several local streams and thus help the biota. There are many water users that draw from the local streams, thus increasing base flow would be a great benefit. The project may be especially beneficial during summers when some of the streams have been stressed due to insufficient water during the drier rainfall months. At least one stream (Soquel Creek) went dry last summer and it contains steelhead trout (see response to sub-criterion below). Groundwater modeling in the adjacent basin has already showed enhanced groundwater recharge would appreciably contribute to increased stream base flow. The feasibility study will identify the types of groundwater and surface water modeling (including geochemical modeling) to be investigated and conducted to determine the most appropriate locations to recharge the groundwater basin to increase base stream flows. Soquel Creek has a U.S. Geological Service Stream gauge located on it, which will provide empirical stream flow data to help substantiate the predications of the modeling for the benefits on streams from the project.

3. Describe the potential for the project to provide water or habitat for federally listed threatened or endangered species, including description of any specific issues that will be investigated or information that will be developed as part of the feasibility study.

The project could help increase stream base flows and prevent seawater intrusion (reducing the potential for losing streams and increasing the potential for gaining streams), thus providing water for federally listed threatened and endangered species. Threatened and endangered species in the Soquel, Aptos and the adjacent areas, which shares part of the overdraft groundwater basin, include:

<u>Plants</u>	<u>Wildlife</u>
<i>Chorizanthe pungens var. pungens</i>	<i>Ambystoma macrodactylum croceum</i>
Monterey spineflower	Santa Cruz long-toed salamander
<i>Chorizanthe robusta var .robust)</i>	<i>Eucyclogobius newberryi</i>
Robust spineflower	Tidewater Goby
<i>Gilia tenuiflora spp. arenaria</i>	<i>Falco peregrinus</i>
Sand Gilia	Peregrine Falcon
<i>Holocarpha macradenia</i>	<i>Oncorhynchus kisutch</i>
Santa Cruz Tarplant	Coho Salmon
<i>Plagiobothrys diffusus</i>	<i>Oncorhynchus mykiss</i>
San Francisco Popcorn-Flower	Steelhead
	<i>Rana aurora draytonii</i>
	California red-legged frog

Fish counts are conducted annually in the streams in the District service area and these surveys may also provide an indication of the effectiveness of the project. Recent stream surveys have shown that the federally listed threatened steelhead trout (*Onchrynchuys mykiss*) have dwindled over the past few years from several hundred to just a handful (2015 Juvenile Steelhead Densities Report). Increased base flows will naturally help many of the endangered species listed above - not just due to increased water quantity, but also for improving other important parameters like water temperature.

Many plants are more sensitive than humans to increased chloride levels, which results from seawater intrusion. Thus the replenishment of the basin by the project would help reduce the potential for higher chloride levels in the groundwater that could impact biota in contact from irrigation water.

Lastly, the project will reduce, by about 20%, the average of 8 million gallons per day of treated effluent that the City of Santa Cruz discharges to the Pacific Ocean. Reduction and reuse of this effluent would appear to provide benefits to the ocean environment. The items discussed above in this section will be investigated or information will be developed as part of the Feasibility Study.

Evaluation Criterion 6: Legal and Institutional Requirements (10 points)

Points will be awarded based on the extent to which the proposal demonstrates that the feasibility study will address legal or institutional requirements or barriers to implementing a project, including water rights issues and any unresolved issues associated with implementation of a water reclamation and reuse project.

The Feasibility Study will address the requirements and strategies for securing all of the legal agreements required to implement the Pure Water Soquel Project including source water agreements, land leasing agreements, and operations agreements. Additionally, the Feasibility Study will identify all of the permitting requirements for implementation of the project.

The Title XVI Feasibility Study will address the numerous interagency agreements that will be needed to implement the project. Currently, the District is a potable water purveyor and wastewater services are provided by the City of Santa Cruz (City) and the Santa Cruz County Sanitation District (SCCSD). Wastewater collection services within the District are provided by SCCSD and treated at the City Wastewater Treatment Facility (WWTF). These two agencies play key roles in implementing the Pure Water Soquel Project. The existing agreement between these agencies is the discharge agreement which allows SCCSD to discharge up to 8 mgd (average dry weather flow, (ADWF)) at the WWTF. In order to implement the project, four new agreements will be required as described below.

Source Water Agreements: Agreements on the source water will be needed to secure that water is reliably available. The District currently holds letters from both the City and SCCSD stating their intent to provide source water; however, firm agreements are required since a fatal flaw of the project could be the inability to secure source water.

Land Leasing Agreements: Proposed facilities have been conceptually sited on several properties that are not owned by the District, the WWTF (Pump station and treatment facility) and Cabrillo College.

Operations Agreements: If any facilities are located at the WWTF, then an agreement pertaining to the operations (staffing, maintenance, ownership of the facilities, etc) is also needed. In addition, the

conveyance system (pipelines, pumpstations) that will transmit the source water and brine concentrate, will need to have operations and responsibility agreements.

Discharge to Ocean Outfall Agreement: The District's increased utilization of recycled water for potable reuse will reduce the amount of secondary effluent pumped and discharged out to the ocean. The City may be able to negotiate dilution credits for the renewal of its NPDES permit considering the potable reuse benefit. Discussions need to be held with the RWQCB regarding the NPDES permit and the changes to the discharge resulting from the proposed project.

Permitting Procedures: Before the proposed Pure Water Soquel Project can begin replenishing the groundwater basin with purified recycled water or distributing it to customers for non-potable irrigation, it will require a permit from the RWQCB (Water Recycling Permit or Master Reclamation Permit). Because the permit will have to cover both potable and non-potable end uses, it is recommended to apply for a Master Permit from the RWQCB. The permit requires an Engineer's Report which is recommended to be submitted to both the RWQCB for purified water and groundwater impacts, and the DDW for drinking water regulations.

Evaluation Criterion 7: Renewable Energy and Energy Efficiency (10 pts)

Points will be awarded based on the extent to which the proposal demonstrates that the feasibility study will address methods to incorporate the use of renewable energy or will otherwise address energy efficiency aspects of the water reclamation and reuse project being investigated.

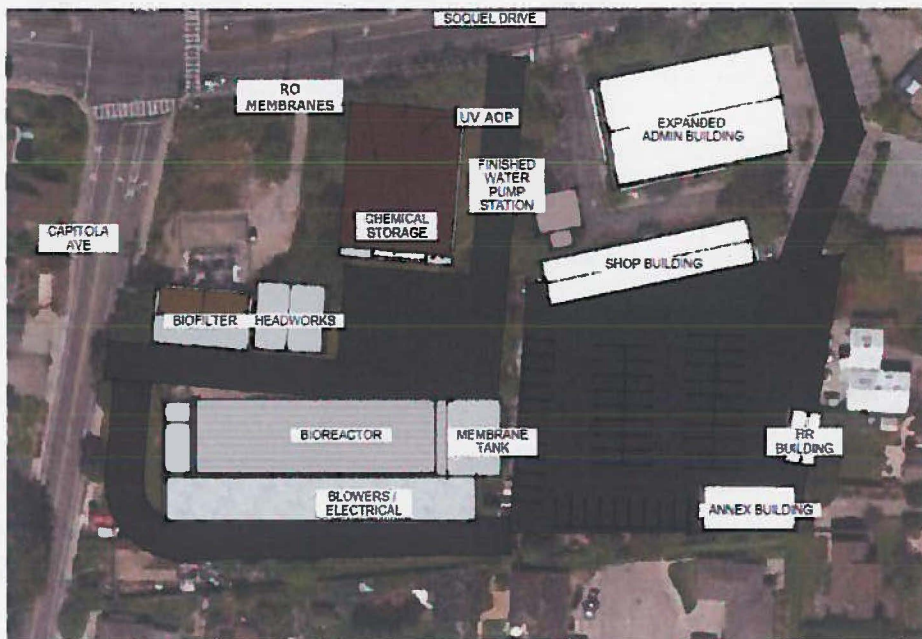
The District's core value of Environmental Stewardship will be addressed in the Feasibility Study through consideration of energy efficient technologies and use of solar photovoltaics.

Soquel Creek Water District has a rich organizational culture defined by a set of five core values and corresponding core value questions that are asked when a major policy decision is being considered or when day-to-day business actions are being conducted. Pertaining to energy and environmental issues, the District's core value of Environmental Stewardship addresses the question: "Does the decision or action consider the impact to the environment and ways to protect it?"

To relate the project's energy requirements to this core value of environmental stewardship, the District evaluated the potential energy increase with the operations of the Pure Water Soquel project and determined that energy use would increase by 2,700 to 5,000 MWh/year depending on the treatment that is required (purification only or full secondary treatment followed by purification) (Carollo, 2016).

As part of this Feasibility Study, the District is committed to evaluating technologies and methods to reduce and offset energy use associated with the implementation of Pure Water Soquel, including renewable energy and energy efficiency.

Potential energy efficiency elements to include as part of this study include identifying design features for pump stations, recharge wells, and treatment facilities. Identified efficiency measures are likely to include variable frequency drives (VFDs), improve monitoring and controls (SCADA), and specification of high efficiency equipment. In addition to identifying energy efficiency measures, the District is considering use of solar photovoltaics (PV) on the buildings of the facility and headquarters as a way to offset the increased energy required to produce the high quality water needed prior to recharge in the aquifer. As shown in the figure of one of the treatment plant layouts, there is significant roof area that could be used for PVs. The parking area can also be used for solar PVs if carports are constructed. Up to 28,750 square feet of roof and parking area could be used for solar panels. For this feasibility study, both energy efficiency and generation opportunities will be identified and summarized in comparison to the overall energy demands anticipated for the new facilities.



Evaluation Criterion 8: Watershed Perspective (10 pts)

Points will be awarded based on the extent to which the proposal demonstrates that the feasibility study will address alternatives that promote and apply a regional or watershed perspective to water resource management.

The District and its watershed partners are evaluating the feasibility of utilizing regional infrastructure and partnering on new infrastructure to replenish the shared groundwater basin and address a basinwide imbalance.

The service areas of Soquel Creek Water District and its regional partners, the City of Santa Cruz Public Works Department and the County of Santa Cruz Sanitation District, are located within the Soquel Creek, Aptos Creek, and San Andreas Watersheds. The Soquel Creek Watershed drainage area is approximately 42 square miles, with elevations ranging from 3,000 feet in the Santa Cruz Mountains to sea level at Monterey Bay. The watershed is triangular, running for 12 miles along the crest of the Santa Cruz Mountains, and only about 1 mile long at its point in Capitola. The Aptos Creek Watershed is composed of two sub-watersheds, Valencia Creek and Aptos Mainstem. Together, they comprise approximately 25 square miles, and converge 1 mile inland of the shoreline. Elevations change from 2,500 ft at the source in the Santa Rosalia Ridge to sea level. Geological points of interest include the San Andreas Fault, Zayante Fault and Glenwood Syncline, which has been a source of many landslides



through the area. Most of the watershed is over the Purisima Formation. Land use is divided between forested park areas and urban residential and commercial areas.

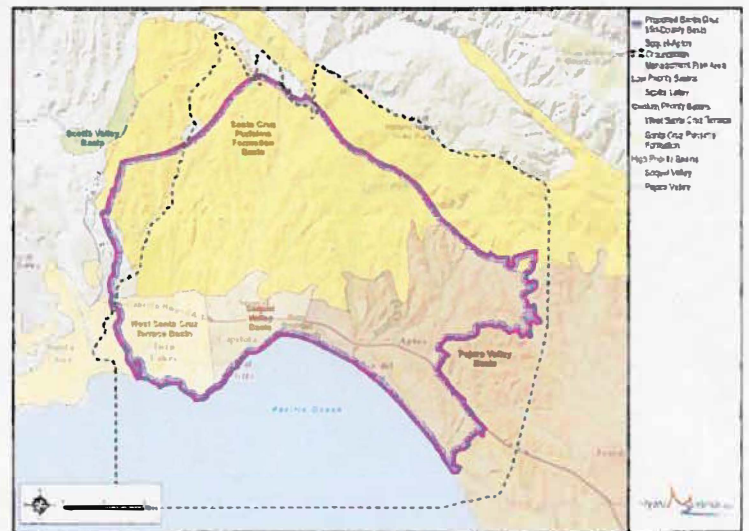
The San Andreas Watershed makes up about 15 square miles and lies along the coast in the southeastern portion of SqCWD's service area. Bush Gulch is the main tributary. The watershed lies predominantly over the Aromas Red Sands Formation. The area is mostly agricultural but has both urban and rural residential areas.

Background on Groundwater Basin

The District's potable water supply portfolio relies solely on groundwater from the Santa Cruz Mid-County Groundwater Basin. The groundwater comes from two formations, drawing approximately 70 percent of its water supply from the Purisima Formation and 30 percent from the Aromas Red Sands aquifer, with all water primarily being treated at the wellheads. These aquifers are shared with adjoining water agencies and a multitude of private well users. Increasing salt concentrations have been detected in coastal monitoring wells for much of the Aromas and at limited locations in the Purisima Formation. In 2016, District entered into a Joint Powers Authority with others to serve as the Groundwater Sustainability Agency (GSA) in the region.

The District's potable water supply

With the basin experiencing long term overdraft and seawater intrusion, basinwide pumping needs to be reduced or augmented to recover the basin. In 2015, the District identified and set a target pumping goal of no more than 2,300 AFY for 20 years to aid in addressing and replenishing its estimated apportionment of the overdraft condition.



Addressing Regional or Watershed Perspective to Water Resource Management

The Title XVI Feasibility Study will include evaluation of the Pure Water Soquel Project that will provide aid to the critical regional groundwater shortage of the Santa Cruz Mid-County Groundwater Basin. As the basin is shared by thousands of private well owners and other municipal water agencies such the City of Santa Cruz, County of Santa Cruz, and Central Water District, the supplemental water from the proposed project could prevent seawater intrusion from moving farther inland and contaminating the drinking water wells for all users. As the District is currently evaluating the project

to be sized to produce approximately 1,500 AFY of purified water (to meet the District’s estimated proportion of overdraft), the project will also be evaluated in the Title XVI feasibility study to be expanded in the future to approximately 3,000 AFY should the other project partners wish to increase the facility’s production to address full-basin recovery needs. The evaluation of this expansion will help regional decision makers to better understand the infrastructure needed, estimated costs, and schedule so they may compare this with other potential supply options or a no-project alternative such as conservation/ration-only. A groundwater model is currently underway (initiated in 2014) so refinement of the proposed project’s capacity will be incorporated into the Study.

The Title XI feasibility study will also address the regional watershed perspective as the entire area’s water is based on the area of land where the water falls and is used. Since Santa Cruz County does not receive any imported water, all the water that is captured on the coastal side of the Santa Cruz Mountains makes up the local supplies of groundwater and surface water. The groundwater replenishment project and other alternatives shall address the resulting health and benefits (or shortcomings) of the watershed once supplemental water is introduced.

Technical Proposal: Required Permits or Approvals

There are no permits required for completion of the Feasibility Study. However, the permits required for construction and operation of the project will be identified and described in the Environmental Impact Report (currently under development) and the Feasibility Study. The District could be required to obtain the permits and approvals identified below for project construction and operation.

US Army Corps of Engineers Nationwide Permit	SWRCB Stormwater General Construction Permit
US Fish and Wildlife Section 7 Consultation	RWQCB Title 22 Water Recycling Report
National Marine Fisheries Section 7 Consultation	RWQCB Section 401 Water Quality Certification
National Historic Preservation Act Consultation	CA Coastal Commission Coastal Development Permit
CA Fish and Wildlife Section 1600 Streambed Agrmt	CA Department of Transportation Encroachment Perm.
Monterey Bay Air Pollution District Permit to Operate	City of Santa Cruz Planning Coastal Development Perm.
City of Santa Cruz Public Works Encroachment Permit	Santa Cruz County Planning Coastal Development Perm.
Santa Cruz County Environmental Health Well Permit	City of Capitola Public Works Encroachment Permit
Santa Cruz County Sanitation District Sewer Connection and Discharge Permit	

Technical Proposal: Letters of Support

The District has received numerous letters of support from regional partners and stakeholders, as identified below. Copies of the letters are included in Appendix A.

City of Capitola	County of Santa Cruz Board of Supervisors
City of Santa Cruz	County of Santa Cruz Public Works Department
Pajaro Valley Water Management Agency	County of Santa Cruz Health Services Agency
Assemblymember Mark Stone	Resource Conservation District of Santa Cruz County

Official Resolution

The Soquel Creek Water District Board of Directors adopted an official resolution on December 20, 2016. As documented in the attached resolution, the District commits to the financial and legal obligations associated with receipt of a financial assistance award under the Title XVI Feasibility Study Funding Opportunity Announcement.

Study Budget

The District initiated a Groundwater Replenishment Feasibility Study in 2015 which was funded in part by the California State Water Resources Control Board. The study investigated the feasibility of developing an indirect potable reuse (IPR) project and was completed in March 2016 (Carollo Engineers). Additional funding through the Title XVI WaterSMART Feasibility Study Program will allow for consideration of additional alternatives that have been identified since March, a more detailed evaluation of alternatives, including consideration of renewable energy/efficiency and overall sustainability of alternatives in a watershed context; additional efforts related to site considerations and renderings to consider impacts of different alternatives; further work on institutional agreements; and financial planning/cost sharing. As significant progress was made on the March 2016 SWRCB funded report, it is anticipated that this study could be completed within an 18-month timeframe, meeting the Funding Group 1 requirements. As documented below, the District will provide all of the non-Federal share of study costs.

The District will provide the \$153,000 in Non-Federal cost share through contracted agreements to provide Feasibility Study services through December 2017. There are no time constraints on the availability of funds or any contingencies associated with the funding commitment.

Funding Plan

The total cost of the study is \$303,000, of which the District is requesting the maximum \$150,000 WaterSMART grant and providing the \$153,000 non-Federal share through budgeted local funds, as documented below. The breakdown of study tasks and budget are detailed below. Because the District already completed a Feasibility Study, this Title XVI study will build off that effort. The District has already budgeted and committed to spending the \$153,000 from July 2016 through December 2017. Additional tasks that would be supported by a Title XVI grant amount to \$150,000 in Federal cost share. There are no other cost sharing partners for these tasks. Lack of funding from the Title XVI program would mean that the Feasibility Study would be completed without additional consideration of alternatives, energy offsets, institutional agreements, stakeholder outreach/input, and cost sharing.

Since 2013, the District has been evaluating several water supply options including purified recycled water, river water transfers and desalination. In 2015, the purified recycled water was selected to further develop and the District initiated the Groundwater Replenishment Feasibility Study. This study was funded in part by the California State Water Resources Control Board. The Groundwater Replenishment Feasibility Study investigated the feasibility of developing an indirect potable reuse (IPR) project. The main objective of the study was to provide 1.3 mgd (approx. 1,500 AFY) of purified water for recharge into the aquifer. Non-potable recycled water customers (e.g., irrigation and commercial/industrial) were included if they were located in close proximity to the distribution

pipeline. The potable reuse projects in this study were composed of several key components: treatment technology, treatment location, distribution/conveyance facilities, and recharge facilities. These components were combined in different ways to produce various recycled water alternatives.

Title XVI Feasibility Study Work Plan and Budget			
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Since completion of the study, the District has been working to further develop the project through work with regional partners and local stakeholder. Through this effort additional alternatives have been discussed with potential partner agencies and the need for additional public stakeholder involvement has been identified. In addition, better water quality information was desired by both the District Board and the public. In an effort to lower rate payer impacts, the District also identified the desire to position for grant funding, including Title XVI. In response to these needs, the District developed the additional scope of work to investigate the water quality of the purified water and to incorporate Title XVI elements into the feasibility study. In addition, the District hired a public outreach consultant in July 2016 to assist with public outreach and stakeholder efforts. District funding of this work will provide the \$153,000 local funding match for the Title XVI feasibility study, as shown in the table above. The costs will be paid by existing budgeted project planning funds that are supported by District ratepayers. There are no pending funding requests that have not yet been approved.

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Budget Proposal

Additional funding through the Title XVI WaterSMART program will allow for consideration of additional alternatives that have been identified since March, a more detailed evaluation of alternatives, including consideration of renewable energy/efficiency and overall sustainability of alternatives in a watershed context; additional efforts related to site considerations and renderings to consider impacts of different alternatives; further work on institutional agreements; and financial planning/cost sharing. As significant progress was made on the March 2016 SWRCB funded report, it is anticipated that this study could be completed within an 18-month timeframe, meeting the Funding Group 1 requirements.

The focus of this Title XVI Study is to build upon the Replenishment Feasibility Study by:

- Considering new alternatives;
- Evaluating all of the alternatives in greater detail, including consideration of renewable energy/efficiency and overall sustainability of alternatives in a watershed context;
- Further studying water quality considerations with a contaminant of emerging concern evaluation;
- Expanding public outreach efforts and stakeholder workshops to gauge public support;
- Developing site considerations and renderings to consider impacts of different alternatives;
- Continuing development of institutional agreements; and
- Analyzing project financing and cost sharing opportunities.

All expenses related to the Feasibility Study will be made by contractors and paid by the District. The contractors were selected prior to this study and contracts have already been executed with each contractor. The contractors were selected through a competitive process and were selected based on their expertise related to reuse, CEC testing, outreach, and environmental analysis. All study costs were included in the District’s adopted budget.

Carollo Engineers, Inc. was selected in 2015 to complete the original feasibility study. They were selected in a competitive proposal process due to their excellent qualifications in water reuse and specifically in purification. SMB Environmental was selected as part of the Carollo team to do initial environmental assessment. Carollo's contract was extended in July 2016 to incorporate Title XVI elements and to investigate water quality further. With that contract extension, Carollo added Stanford University to the contract to perform benchtop purification of the proposed water source and added Eurofins Laboratory to perform the water quality testing. Data Instincts has worked with the District for many years supporting education, outreach, and stakeholder involvement. The District issued Data Instincts a contract to support stakeholder outreach for the groundwater replenishment efforts in July 2016. These costs are all shown in the table below.

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Budget Narrative

All study costs are categorized as contractual costs and detailed in the table below. The costs are broken down by task and include detailed budget estimate of time, rates, supplies and materials that will be required for each task. All consultant contracts were reviewed by the District for reasonableness and are approved.

**APPENDIX 1
RESOLUTION**

RESOLUTION NO. 16-24

**BEFORE THE BOARD OF DIRECTORS OF THE
SOQUEL CREEK WATER DISTRICT**

**AUTHORIZING AND DIRECTING THE GENERAL MANAGER TO
SUBMIT A MAXIMUM \$150,000 U.S. BUREAU OF RECLAMATION
TITLE XVI FEASIBILITY STUDY GRANT APPLICATION FOR THE
PURE WATER SOQUEL PROJECT**

WHEREAS, the Soquel Creek Water District ("District") desires to fund efforts to evaluate and develop the Pure Water Soquel Project (the "Project"); and

WHEREAS, the U.S. Bureau of Reclamation is currently accepting grant applications for studies that evaluate the feasibility of water reclamation and reuse projects to supplement urban and irrigation water supplies under its Title XVI Water Reclamation and Reuse Program; and

WHEREAS, the Project is eligible for funding from the U.S. Bureau of Reclamation Title XVI Water Reclamation and Reuse Feasibility Study Grant Program; and

WHEREAS, the District is capable of providing the amount of funding and/or in-kind contributions specified in the funding plan that will become part of the grant application.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Directors of the Soquel Creek Water District, as follows:

1. That the Board supports and authorizes the General Manager, or his designee, to review and submit a maximum \$150,000 grant application for the Project on behalf of the Soquel Creek Water District to the U.S. Bureau of Reclamation.
2. That in the event such grant funding is awarded for the Project, the General Manager, or designee, is hereby authorized and directed to work with the U.S. Bureau of Reclamation to meet established deadlines and enter into a cooperative agreement.

PASSED AND ADOPTED, by the Board of Directors of the Soquel
Creek Water District this 20th day of December, 2016 by the following vote:

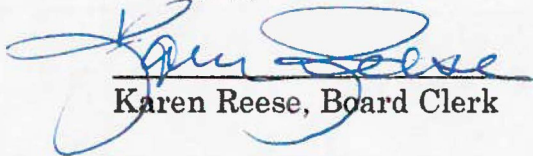
AYES: Directors LaHue, Daniels, Jaffe, Christensen, Lather
NOES: None
ABSENT: None
ABSTAIN: None

APPROVE:



Dr. Bruce Daniels, President

ATTEST:



Karen Reese, Board Clerk

**APPENDIX 2
LETTERS OF SUPPORT**

COMMITTEES
BANKING AND FINANCE
HUMAN SERVICES
NATURAL RESOURCES

SELECT COMMITTEES
CHAIR: COASTAL PROTECTION
CHAIR: EXPANDING ACCESS TO
CALIFORNIA'S NATURAL RESOURCES

Assembly California Legislature



MARK STONE
CHAIR, JUDICIARY
ASSEMBLYMEMBER TWENTY-NINTH DISTRICT

STATE CAPITOL
PO BOX 942849
SACRAMENTO, CA 94249-0029
916) 319-2029
FAX (916) 319-2129

DISTRICT OFFICES
701 OCEAN STREET, SUITE 318B
SANTA CRUZ, CA 95060
(831) 425-1503
FAX (831) 425-2570

99 PACIFIC STREET, SUITE 575G
MONTEREY, CA 93940
(831) 649-2832
FAX (831) 649-2935

December 12, 2016

Bureau of Reclamation
Financial Assistance Operations Section
Attn: Matthew Reichert
Mail Code: 84-27852
P.O. Box 25007
Denver, Colorado 80225

RE: Soquel Creek Water District Pure Water Soquel Project

Dear Mr. Reichert:

I am writing to express my support for the application submitted by the Soquel Creek Water District for funding under the United States Bureau of Reclamation, Policy, and Administration WaterSMART Grant.

Groundwater is the sole source of water in the Mid-Santa Cruz County region and relied upon by Soquel Creek Water District, other municipal water purveyors, small mutual well owners, and over a thousand other private well pumpers. The Santa Cruz Mid-County Groundwater basin is critically overdrafted with seawater intrusion and contamination occurring at the coastline. Due to the overdraft condition and water quality impacts of seawater intrusion occurring within the basin, the District declared a groundwater emergency in 2014 and the Department of Water Resources identified Basin 3-1 Soquel Valley as critically overdrafted.

To meet the Sustainable Groundwater Management Act's long-term sustainability of the basin by 2040, the District developed its Community Water Plan in 2015, which includes the Pure Water Soquel groundwater replenishment project (Pure Water Soquel). This project would take municipal wastewater and use advanced water treatment methods to produce 1,500 acre-feet annually of purified water. This purified water would then be injected into the ground to replenish the groundwater basin.

Pure Water Soquel will aid in replenishing the groundwater basin, provide a barrier against seawater contamination, and provide a safe, high-quality, reliable, and sustainable water supply to support current and future generations in the Mid-Santa Cruz County region.

Thank you for considering this very worthy and critically important project. If you have any questions or need additional information, please contact me at my District Office at 831.425.1503.

Sincerely,

Mark Stone
Assembly member
29th District





420 CAPITOLA AVENUE
CAPITOLA, CALIFORNIA 95010
TELEPHONE (831) 475-7300
FAX (831) 479-8879

December 16, 2016

Bureau of Reclamation
Financial Assistance Operations Section
Attn: Matthew Reichert, Grants Management Specialist
Mail Code: 84-27852
P.O. Box 25007
Denver, Colorado 80225

RE: PURE WATER SOQUEL CREEK PROJECT

Dear Mr. Reichert,

I am writing to express my support for the Soquel Creek Water District's application for the United States Bureau of Reclamation WaterSMART Program Grant for their Pure Water Soquel Project. Soquel Creek Water District (District) provides water to a large portion of the City of Capitola.

Groundwater is the sole source of water in the mid-Santa Cruz County region and relied upon by the District, other municipal water purveyors, small mutual well owners, and over a thousand other private well pumpers. The Santa Cruz Mid-County Groundwater Basin is critically over drafted with seawater intrusion and contamination occurring at the coastline. Due to the overdraft condition and water quality impacts of seawater intrusion occurring within the basin, the District declared a groundwater emergency in 2014 and the Department of Water Resources identified Basin 3-1 Soquel Valley as critically over drafted.

To meet the Sustainable Groundwater Management Act's long-term sustainability of the basin by 2040, the District developed its Community Water Plan in 2015 which includes the "Pure Water Soquel Project." Pure Water Soquel would take municipal wastewater and use advanced water treatment methods to produce 1,500 acre-feet annually of purified water. This purified water would then be injected into the ground to replenish the groundwater basin.

The Pure Water Soquel Project will aid in replenishing the groundwater basin, provide a barrier against seawater contamination, and provide a safe, high-quality, reliable, and sustainable water supply to support current and future generations in Capitola and the entire the Mid-Santa Cruz County region. Thank you for considering the Soquel Creek Water District's request for Bureau of Reclamation Water Smart Program funds.

Sincerely,

Stephanie Harlan, Mayor
City of Capitola

c. Senator Bill Monning
Santa Cruz District Office
701 Ocean St. Suite 318A
Santa Cruz, CA 95060

First District Supervisor John Leopold
701 Ocean Street, Room 500
Santa Cruz, CA 95060

✓ Soquel Creek Water District
5180 Soquel Drive
Soquel, CA 95073



PUBLIC WORKS DEPARTMENT
809 Center Street, Room 201, Santa Cruz, CA 95060 • 831 420-5160 • Fax: 831 420-5161

December 13, 2016

**Bureau of Reclamation
Financial Assistance Operations Section
Attn: Matthew Reichert
Mail Code: 84-27852
P.O. Box 25007
Denver, Colorado 80225**

Dear Mr. Reichert:

I am writing to express my support for the Soquel Creek Water District's application for the US Bureau of Reclamation Water Smart Program grant for their Pure Water Soquel project.

Groundwater is the sole source of water in the Mid-Santa Cruz County region and relied upon by Soquel Creek Water (District), other municipal water purveyors, small mutual well owners, and over a thousand other private well pumpers. The Santa Cruz Mid-County Groundwater basin is critically overdrafted with seawater intrusion and contamination occurring at the coastline. Due to the overdraft condition and water quality impacts of seawater intrusion occurring within the basin, the District declared a groundwater emergency in 2014 and the Department of Water Resources identified Basin 3- 1 Soquel Valley as critically overdrafted.

To meet the Sustainable Groundwater Management Act's long-term sustainability of the basin by 2040, the District developed its Community Water Plan in 2015 which includes the Pure Water Soquel Project. Pure Water Soquel would take municipal wastewater and use advanced water treatment methods to produce 1,500 acre-feet annually of purified water. This purified water would then be injected into the ground to replenish the groundwater basin. The City of Santa Cruz Public Works Department, manages the Regional Wastewater Treatment Facility and we have been working with Soquel Creek Water District on the Pure Water Soquel project as a potential supplier of treated water for the project. This project will aid in the replenishment of the groundwater basin and is a beneficial reuse of treated wastewater.

The Pure Water Soquel project will aid in replenishing the groundwater basin, provide a barrier against seawater contamination, and provide a safe, high-quality, reliable, and sustainable water supply to support current and future generations in the Mid-Santa Cruz County region. Thank you for considering the Soquel Creek Water District's request for Water Smart Program Funding.

Sincerely,

Mark R. Dettle
Director of Public Works
City of Santa Cruz



County of Santa Cruz

BOARD OF SUPERVISORS

701 OCEAN STREET, SUITE 500, SANTA CRUZ, CA 95060-4069
(831) 454-2200 • FAX: (831) 454-3262 TDD: (831) 454-2123

JOHN LEOPOLD
FIRST DISTRICT

ZACH FRIEND
SECOND DISTRICT

RYAN COONERTY
THIRD DISTRICT

GREG CAPUT
FOURTH DISTRICT

BRUCE MCPHERSON
FIFTH DISTRICT

December 20, 2016

Bureau of Reclamation
Financial Assistance Operations Section
Attn: Matthew Reichert
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

Dear Mr. Reichert:

I am writing to express my support for the Soquel Creek Water District's application for the U.S. Bureau of Reclamation Water Smart Program grant for their Pure Water Soquel project.

Groundwater is the sole source of water in the mid-Santa Cruz County region and relied upon by Soquel Creek Water District, other municipal water purveyors, small mutual well owners, and over a thousand other private well pumpers. The Santa Cruz Mid-County Groundwater Basin is critically over-drafted with seawater intrusion and contamination occurring at the coastline. Due to the overdraft condition and water quality impacts of seawater intrusion occurring within the basin, the District declared a groundwater emergency in 2014 and the California Department of Water Resources identified Basin 3-1 Soquel Valley as critically over-drafted.

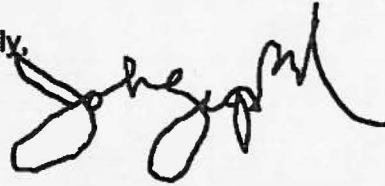
To meet the Sustainable Groundwater Management Act's long-term sustainability of the basin by 2040, the District developed its Community Water Plan in 2015 which includes the Pure Water Soquel project. Pure Water Soquel would take municipal wastewater and use advanced water treatment methods to produce 1,500 acre-feet of purified water annually. This purified water would be distributed to our recharge wells to replenish the groundwater basin.

The Pure Water Soquel project will aid in replenishing the groundwater basin, provide a barrier against seawater contamination, and provide a safe, high-quality, reliable, and

December 20, 2016
Page 2

sustainable water supply to support current and future generations in the mid-Santa Cruz County region. Thank you for considering the Soquel Creek Water District's request for Bureau of Reclamation Water Smart Program funds.

Sincerely,

A handwritten signature in black ink, appearing to read "John Leopold", written in a cursive style.

JOHN LEOPOLD, Supervisor
First District

JL:jfr



County of Santa Cruz

HEALTH SERVICES AGENCY

701 OCEAN STREET, ROOM 312, SANTA CRUZ, CA 95060-4073

(831) 454-2022 FAX: (831) 454-3128

<http://scceh.com/htm>

ENVIRONMENTAL HEALTH

December 19, 2016

Bureau of Reclamation
Financial Assistance Operations Section
Attn: Matthew Reichert
Mail Code: 84-27852
P.O. Box 25007
Denver, Colorado 80225

Dear Mr. Reichert,

I am writing to express my support for the Soquel Creek Water District's application for the US Bureau of Reclamation Water Smart Program grant for their Pure Water Soquel project.

Groundwater is the sole source of water in the Mid-Santa Cruz County region and relied upon by Soquel Creek Water (District), other municipal water purveyors, small mutual well owners, and over a thousand other private well pumpers. The Santa Cruz Mid-County Groundwater basin is critically overdrafted with seawater intrusion and contamination occurring at the coastline. Due to the overdraft condition and water quality impacts of seawater intrusion occurring within the basin, the District declared a groundwater emergency in 2014 and the Department of Water Resources identified Basin 3- 1 Soquel Valley as critically overdrafted.

To meet the Sustainable Groundwater Management Act's long-term sustainability of the basin by 2040, the District developed its Community Water Plan in 2015 which includes the Pure Water Soquel Project. Pure Water Soquel would take municipal wastewater and use advanced water treatment methods to produce 1,500 acre-feet annually of purified water. This purified water would then be injected into the ground to replenish the groundwater basin.

The Pure Water Soquel project will aid in replenishing the groundwater basin, provide a barrier against seawater contamination, and provide a safe, high-quality, reliable, and sustainable water supply to support current and future generations in the Mid-Santa Cruz County region. Thank you for considering the Soquel Creek Water District's request for Bureau of Reclamation Water Smart Program funds.

Sincerely,

John A. Ricker

Water Resources Division Director



County of Santa Cruz

DEPARTMENT OF PUBLIC WORKS

701 OCEAN STREET, ROOM 410, SANTA CRUZ, CA 95060-4070
(831) 454-2180 FAX (831) 454-2385 TDD (831) 454-2123

JOHN J. PRESLEIGH
DIRECTOR OF PUBLIC WORKS

BUREAU OF RECLAMATION
FINANCIAL ASSISTANCE OPERATIONS SECTION
Matthew Reichert
P.O. Box 25007 (84-27852)
Denver, Colorado 80225

December 21, 2016

Dear Mr. Reichert:

I would like to express my support for the Soquel Creek Water District's application for the US Bureau of Reclamation Water Smart Program grant for their Pure Water Soquel Project.

Groundwater is the sole source of water in the Mid-Santa Cruz County region and is relied upon by Soquel Creek Water (District), other municipal water purveyors, small mutual well owners, and over a thousand other private well pumpers. The Santa Cruz Mid-County Groundwater basin is critically overdrafted with seawater intrusion and contamination occurring at the coastline. Due to the overdraft condition and water quality impacts of seawater intrusion occurring within the basin, the District declared a groundwater emergency in 2014 and the Department of Water Resources identified Basin 3- 1 Soquel Valley as critically overdrafted.

To meet the Sustainable Groundwater Management Act's long-term sustainability of the basin by 2040, the District developed its Community Water Plan in 2015 which includes the Pure Water Soquel Project. Pure Water Soquel would take municipal wastewater and use advanced water treatment methods to produce 1,500 acre-feet annually of purified water. This purified water would then be injected into the ground to replenish the groundwater basin.

The Pure Water Soquel project will aid in replenishing the groundwater basin, provide a barrier against seawater contamination, and provide a safe, high-quality, reliable, and sustainable water supply to support current and future generations in the Mid-Santa Cruz County region. Thank you for considering the Soquel Creek Water District's request for Bureau of Reclamation Water Smart Program funds.

Yours truly,

JOHN J. PRESLEIGH
Director of Public Work

DCE:cb

Letter of Support Pure Water.doc



PAJARO VALLEY WATER MANAGEMENT AGENCY

36 BRENNAN STREET • WATSONVILLE, CA 95076

TEL: (831) 722-9292 FAX: (831) 722-3139

email: info@pvwater.org • <http://www.pvwater.org>

December 20, 2016

Bureau of Reclamation
Financial Assistance Operations Section
Attn: Matthew Reichert
Mail Code: 84-27852
P.O. Box 25007
Denver, Colorado 80225

Dear Mr. Reichert,

I am writing on behalf of the Pajaro Valley Water Management Agency (PV Water) to express our strong support for the Soquel Creek Water District's application to the US Bureau of Reclamation Water Smart Program grant for their Pure Water Soquel Project.

Groundwater is the sole source of water in the Mid-Santa Cruz County region and is the major source of water supply (98%) in the South County region. Groundwater is relied upon by Soquel Creek Water (District), other municipal water purveyors, small mutual well owners, and over a thousand other private well pumpers. The Santa Cruz Mid-County Groundwater basin is critically overdrafted with seawater intrusion and contamination occurring at the coastline. Due to the overdraft condition and water quality impacts of seawater intrusion occurring within the basin, the District declared a groundwater emergency in 2014 and the Department of Water Resources identified Basin 3- 1 Soquel Valley as critically overdrafted.

To meet the Sustainable Groundwater Management Act's long-term goal of achieving a sustainable groundwater basin by 2040, the District developed a Community Water Plan in 2015, which includes the Pure Water Soquel Project. Pure Water Soquel would put municipal wastewater to beneficial use through advanced water treatment methods and produce 1,500 acre-feet annually of purified water. Purified water would then be injected into the aquifers to serve as an additional source of recharge the groundwater basin.

In the Pajaro Valley Groundwater Subbasin, located in the South Santa Cruz County

region, the PV Water has had great success in treating and reusing wastewater. The Watsonville Area Water Recycling Facility, constructed in collaboration between the City of Watsonville and PV Water, would not have been possible without Bureau of Reclamation Title XVI / Water Smart funding. The uniqueness of the collaboration between a municipality and a state chartered special district are similar to what is proposed in the Pure Water Soquel Project. Since 2009 when the facility became operational, PV Water has distributed nearly 19,000 acre-feet of disinfected, Title 22 compliant recycled water for use in-lieu of groundwater production by coastal growers as a means of reducing groundwater overdraft and seawater intrusion.

The Pure Water Soquel Project will aid in replenishing the overdrafted groundwater basin, provide a barrier against seawater contamination, and provide a safe, high-quality, reliable, and sustainable water supply to support current and future generations in the Mid-Santa Cruz County region. Thank you for considering the Soquel Creek Water District's request for Bureau of Reclamation Water Smart Program funds.

Sincerely,

A handwritten signature in blue ink, appearing to read "Brian Lockwood".

Brian Lockwood, PG, CHg
Senior Water Resources Hydrologist



December 19, 2016

Bureau of Reclamation
Financial Assistance Operations Section
Attn: Matthew Reichert
Mail Code: 84-27852
P.O. Box 25007
Denver, Colorado 80225

Dear Mr. Reichert:

I am writing to express my support on behalf of the Resource Conservation District of Santa Cruz County (RCD) for the Soquel Creek Water District's application for the US Bureau of Reclamation Water Smart Program grant for their Pure Water Soquel project. The RCD is a non-regulatory, special district that works collaboratively with landowners to protect and restore the County's natural resources.

Groundwater is the sole source of water in the Mid-Santa Cruz County region and relied upon by water districts as well as private well users for supply. Also, surface water streams overlying the basin are important habitat for a number of threatened and endangered species. The Santa Cruz Mid-County Groundwater basin is critically overdrafted with seawater intrusion and contamination occurring at the coastline, threatening domestic water supply as well as environmental resources.

To meet the Sustainable Groundwater Management Act's long-term sustainability of the basin by 2040, the District developed its Community Water Plan in 2015 that includes the Pure Water Soquel Project. Pure Water Soquel would take municipal wastewater and use advanced water treatment methods to produce 1,500 acre-feet annually of purified water that would then be injected into the ground.

The project will aid in replenishing basin, provide a barrier against seawater contamination, and provide a safe, high-quality, reliable, and sustainable water supply. Our hope is that this source of supplemental water will not only support current and future generations, but also complement ongoing efforts to restore critical natural resources. On behalf of the RCD, I urge your support for the Soquel Creek Water District's request for Bureau of Reclamation Water Smart Program funds.

Sincerely,

Chris Coburn
Executive Director



County of Santa Cruz

BOARD OF SUPERVISORS

701 OCEAN STREET, SUITE 500, SANTA CRUZ, CA 95060-4069
(831) 454-2200 • FAX: (831) 454-3262 TDD: (831) 454-2123

JOHN LEOPOLD
FIRST DISTRICT

ZACH FRIEND
SECOND DISTRICT

RYAN COONERTY
THIRD DISTRICT

GREG CAPUT
FOURTH DISTRICT

BRUCE MCPHERSON
FIFTH DISTRICT

December 20, 2016

Bureau of Reclamation
Financial Assistance Operations Section
Attn: Matthew Reichert
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

Dear Mr. Reichert:

We are writing to express our support for the Soquel Creek Water District's application for the U.S. Bureau of Reclamation Water Smart Program grant for their Pure Water Soquel project.

In the mid-Santa Cruz County region, groundwater is the sole source of water and relied upon by the Soquel Creek Water (District), other municipal water purveyors, small mutual well owners, and over a thousand other private well pumpers. Over the past several decades, groundwater pumping has led to an overdraft of the aquifer, with seawater intrusion and contamination occurring at the coastline. Due to the overdraft condition of the basin and concerns about water quality, the District declared a groundwater emergency in 2014 and the Department of Water Resources identified Basin 3-1 Soquel Valley as critically over-drafted.

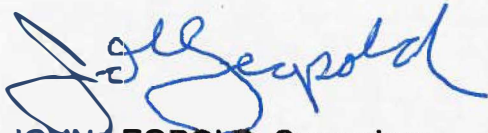
To meet the Sustainable Groundwater Management Act's long-term sustainability of the basin by 2040, the District developed its Community Water Plan in 2015 which includes the Pure Water Soquel project. Pure Water Soquel would take municipal wastewater and use advanced water treatment methods to produce 1,500 acre-feet of purified water annually. This purified water would be distributed to our recharge wells to replenish the groundwater basin.

We are supportive of the Pure Water Soquel project as an important mechanism for

December 20, 2016
Page 2

achieving sustainability in the Santa Cruz Mid-County Groundwater basin and urge your consideration of this proposal for funding.

Sincerely,



JOHN LEOPOLD, Supervisor
First District



ZACH FRIEND, Supervisor
Second District

JL/ZF:jfr