US Bureau of Reclamation

WaterSMART Title XVI Water Reclamation and Reuse
Program Funding FY 2017, FOA BOR-DO-17-F002

South Santa Clara County Recycled Water Project

(Phases 1B and 2A)

GRANT PROPOSAL • DECEMBER 15, 2016

Santa Clara Valley Water District

December 15, 2016

South Santa Clara County Recycled Water Project
(Previously Funded as R10AC20R53 and R16AP00206)
Santa Clara Valley Water District
Santa Clara County
State of California
WaterSMART: Title XVI Water Reclamation and Reuse Program Funding for Fiscal Year 2017
FOA: BOR-DO-17-F002

Project Partners and Communities:
Santa Clara Valley Water District
South County Regional Wastewater Authority
City of Gilroy
City of Morgan Hill

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SANTA CLARA VALLEY WATER DISTRICT

SOUTH SANTA CLARA COUNTY RECYCLED WATER PROJECT

WaterSMART: TITLE XVI WATER RECLAMATION AND REUSE PROGRAM FUNDING FOR FISCAL YEAR 2017
FOA: BOR-DO-17-F002

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ES.1 TECHNICAL PROPOSAL: EXECUTIVE SUMMARY

The Santa Clara Valley Water District (District) is pleased to submit this grant application to the United States Bureau of Reclamation (Bureau) on December 15, 2016 for the South Santa Clara County Recycled Water Project (South County Project). The South County Project is a collaborative project between the District, South County Regional Wastewater Authority (SCRWA), City of Gilroy, and the City of Morgan Hill. The $41.1 million project will serve to expand the use of recycled water in south Santa Clara County, California.

The South County Project was authorized for a $7 million grant, under Section 1647 of the Consolidated Natural Resources Act of 2008 (Public Law 110-229, 43 U.S.C. 390h-30) and under the Bureau's Title XVI funding (Public Law 102-575, as amended (43 U.S.C. 390h through 390h-39). Of the $7 million Bureau obligation, approximately $5.3 million has been awarded, leaving an obligation amount of approximately $1.7 million. This application is seeking the balance of the Bureau obligation (approximately $1.7 million) to construct Phases 1B and 2A of the project ($31.2 million construction cost). The District funded construction of the South County Project through the Water Enterprise Fund in the District's FY 2015-2026 Budget. A grant will significantly reduce that debt burden; allow the District to continue to develop drought tolerant water supplies needed to balance the basin and mitigate against the variability of imported supplies; and satisfy the authorized Federal cost share for this project.

PROJECT SUMMARY

In 2004, the District and SCRWA, with participation from the cities of Gilroy and Morgan Hill, jointly prepared the South County Recycled Water Master Plan (Master Plan) which defined Immediate-, Short- and Long-term capital investment projects (CIPs) to expand the use of recycled water in the cities of Gilroy and Morgan Hill. These CIPs were included in the South County Project Title XVI authorization. The construction of the Immediate-term project was completed in conjunction with SCRWA's recycled water plant expansion project in 2006. The Short-term projects were sectioned into multiple phases. The Short-term Phase 1A project was completed in 2012 with a 25% federal cost share. Implementation of the Short-term Phases 1B and 2A and the South Pipeline projects will bring the District closer to completing the Short-term CIPs of the Master Plan and will expand the existing recycled water system within south Santa Clara County. The completion of the Title XVI authorized project's Short-term CIPs provides approximately 1,900 acre feet per year (AFY) of new recycled water supply. In addition, the South County Project Improvements will rectify distribution system constraints, allowing the full and reliable utilization of 1,200 AFY of existing supply. With the completion of the South Pipeline, Immediate-term, and Short-term CIPs, the District will achieve a total system capacity of 3,100 AFY of reliable recycled water deliveries based on the 2015 Master Plan update. Upon completion of Long-term CIPs, the authorized Title XVI Project may achieve a total system capacity of approximately 3,700 AFY (2015 Master Plan update), which is higher than the recycled water capacity projected (3,400 AFY) in the 2009 South County Project Feasibility Study.

The South County Project provides for the continuation and completion of an existing federally authorized project. With the completion of Short-term Phases 1B and 2A, which includes construction of 14,500 linear foot of pipeline, the District will be able to:

- Mitigate the current recycled water distribution systems operation deficiencies.
- Improve the system's reliability.
- Expand the system to serve new customers.
- Allow increased use by existing customers.
- Optimize performance of existing system high efficiency equipment.

Table ES.1 Project Highlights

Category	Highlights
1. Water Supply	• Title XVI authorized project produces approx. 2,500 AFY of new recycled water supply and allows for the full utilization of 1,200 AFY of existing water supply, for a total of 3,700 AFY, which is a reliable, drought tolerant, sustainable water supply. • Reduces groundwater pumping. • Reduces reliance on imported State Water Project (SWP) and Central Valley Project (CVP) supplies.
2. Status of Project	• Funding of this project will fully satisfy the federal cost share.
3. Environment and Water Quality	• Benefits the Pajaro River by reducing discharges. • Reduces demands on groundwater, which allows for potential reservoir releases that would have been used to recharge the groundwater. • Uvas Creek supports federally threatened South-Central California Coast Steelhead, which could benefit from additional reservoir releases.
4. Renewable Energy and Energy Efficiency	• Includes energy efficiency improvements related to treatment/pumping/transport of recycled water. • Provides a more energy efficient water supply than the current water supply (imported water and groundwater pumping).
5. Cost Per Acre Foot of Water	• Decreases reliance on projects such as desalination or increases in CVP/SWP imports through implementing the South Pipeline and Short-term Phases 1B and 2A components at $898/AF delivered.
6. Reclamations Obligation and Benefits to a DAC	• Mitigates the Bureau's CVP obligation, by reducing reliance on these federal facilities. • Serves and directly benefits rural and disadvantaged communities of Gilroy and Morgan Hill.
7. Watershed Benefit	• Implements a regionally developed Recycled Water Master Plan and meets a high priority of the Pajaro River Watershed IRWM Plan. • Implements a project developed by a collaborative partnership of District, SCRWA, and the Cities of Gilroy and Morgan Hill.

PROJECT READINESS

The South County Project is a cost effective project ready for implementation. Phases 1B and 2A have 100% design documents completed (October 2016), the environmental clearance to be completed by January 2017, and permits/agreements/right of ways to be acquired by December 2016. The District is ready to start construction in January 2017 with an anticipated construction completion date of June 2018.

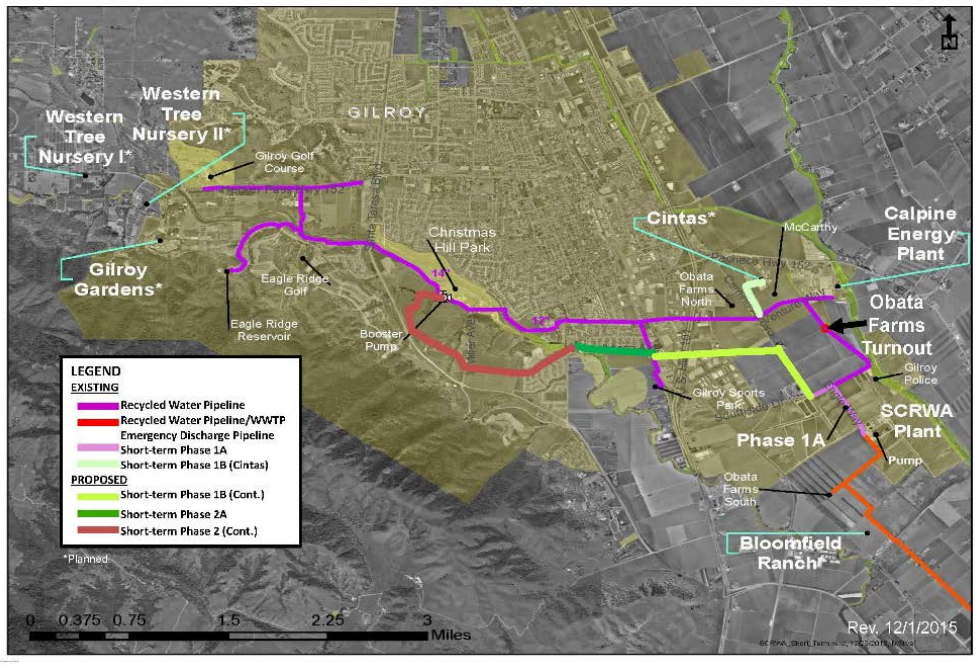
1.0 TECHNICAL PROPOSAL: TECHNICAL PROJECT DESCRIPTION

PROJECT OVERVIEW

In 2004, the Santa Clara Valley Water District (District) and the South County Regional Wastewater Authority (SCRWA), with participation from the cities of Gilroy and Morgan Hill, jointly prepared the Santa Clara County Recycled Water Master Plan (Master Plan) which defined Immediate-, Short- and Long-term capital investment projects (CIPs) to expand the use of recycled water in the cities of Gilroy and Morgan Hill. The main objective for the Master Plan is to maximize the use of recycled water in south Santa Clara County and limit use of potable water for uses in which recycled water is a reasonable alternative. The Master Plan laid out an implementation plan that expanded recycled water deliveries from 711 acre feet per year (AFY) in 2004 to approximately 3,437 AFY. Figure 1 shows the District project area boundary, the proposed project, and recycled water service area.

In 2006, the construction of the Immediate-term facilities were completed in conjunction with SCRWA's recycled wastewater treatment plant (WWTP) expansion project which expanded the tertiary treated recycled water capacity by 6 million gallons per day (mgd). Immediate-term projects included the construction of 4,680 feet of 20-inch recycled water distribution pipeline and a 3 million gallon (MG) recycled water reservoir. In addition, SCRWA added a 3 mgd pump station that feeds the new distribution pipeline. The District and SCRWA leveraged local dollars with a $2.2 million State of California Department of Water Resources (DWR) grant to complete the approximate $3.3 million project. This expansion project was critical and immediately needed to expand recycled water capacity and improve operational efficiency. The completion of the Immediate-term project increased recycled water use by up to 50% or approximately 500 AFY.

Figure 1 South County Service Area and Project Study Area



In 2008, the South Santa Clara County Recycled Water Project (South County Project) was authorized by Congress through the Bureau of Reclamation's (Bureau) Title XVI program under Section 1647 of the Consolidated Natural Resources Act of 2008 (Public Law 110-229, 43 U.S.C. 390h-30) (*South Santa Clara County Recycled Water Project, as added by Public Law 110-229, Title V, Section 512(a)(1)*) and under the Bureau's Title XVI funding (Public Law 102-575, as amended (43 U.S.C. 390h through 390h-39). The Federal cost share of the project authorized by this section shall not exceed 25% of the total cost of the project, or $7 million. At the time of original authorization, the Title XVI authorized project included the South Pipeline and the Immediate-term, Short-term and the Long-term capital improvement projects (CIPs) of the Master Plan, as

well as identified improvements to address system limitations and reliability at an estimated total cost of $28 million. This authorized project, was analyzed in the Bureau approved Santa Clara County Recycled Water - Determination of Feasibility Study (August 31, 2009) (Feasibility Study) and Final Environmental Assessment Recovery Act Funding for the Short-term Phase 1 Component of the South County Recycled Water Master Plan Project (June 2010).

The South Pipeline portion of the South County Project, completed in 2012, provides 320 AFY of new recycled water supplies and is projected to provide for an additional 74 AFY, for a total of 394 AFY. The South Pipeline project serves a dual purpose and was designed to meet both wastewater discharge and recycled water deliveries. The pipeline serves as a discharge pipeline, for excess tertiary treated water from the WWTP during moderately high inflow conditions, to the Pajaro River between November and April. The pipeline also delivers recycled water, primarily to agricultural users, in spring, summer, and fall.

The Short-term CIPs, which was split into Phases 1A and 1B in early 2011, consists of the following:

- Phase 1A (Completed) - consists of 2,700 feet of recycled water pipeline and appurtenances. The pipeline connects to an existing pipeline located just north of the water recycling facility and heads northerly along Engle Way to Southside Drive, continues westerly along Southside Drive and ends at the northern Boundary of SCRWA's property.
- Phase 1B - consists of 11,100 feet of recycled water pipeline that is further subdivided into four segments. The four segments include: Camino Arroyo Service Line Extension, Wastewater Treatment Plant Line, Trunk Sewer Alignment, and the East Luchessa Avenue Line.
- Phase 2A – consists of 3,400 feet of recycled water pipeline and appurtenances (the West Luchessa Line), and extends service along West Luchessa Avenue from Monterey Road to Thomas Road.
- Phase 2B - Improvements include 2.9 miles of recycled water pipeline, assorted appurtenances, 3 million gallon reservoir, and a three-million-per-day pump station/booster station. *Implementation of all segments of the Short-term Phase 2B is currently uncertain due to lack of secured funding, changes in customer demand and delayed development of infrastructure.*

In 2010, federal funds were approved for the Short-term Phase 1A and 1B projects, under two separate Federal Funding Agreements (R10AC20R53 and R10AC20104). However, as project design proceeded, the District had to delay Phase 1B, due to significant utility conflicts within the proposed alignments, to meet the ARRA grant completion date requirements. District staff approached the Bureau to obtain an extension of grant authorization timelines, however, due to resource constraints, the Bureau was not able to process the paperwork to extend the two agreements. In 2012, the District completed the Short-term Phase 1A facilities and was reimbursed with a 25% match under the R10AC20R53 grant agreement, and the reimbursement amount was $1,295,407.16 which included the Bureau in-kind fees. Due to the expiration of the grant agreements, segments of the federally approved Phase 1B project were not completed. A segment of Phase 1B project, Camino Arroyo Service Line, was later completed in June 2015 with District funding only.

In 2016, under Federal Funding Agreement R16AP00206, federal funds were approved for the Short-term Phases 1B and 2A projects for a total of $4 million. The District completed the design

of Phases 1B and 2A in October 2016, and intends to begin construction on both phases in January 2017. This funding proposal seeks Federal cost share of the following authorized Title XVI project elements.

Short-term Phase 1B:

- Phase 1B - Camino Arroyo Service Line Extension: Installation of approximately 2,100 linear feet of 18-inch diameter pipe and associated appurtenances starting at the existing recycled water pipeline near the Princeville Storm Drain, traversing Venture Way to Camino Arroyo, to Holloway Road, and ending at Sillaci Way extending service to a new Industrial Customer, Cintas Corporation **(completed in June 2015)**.
- Phase 1B - Wastewater Treatment Plant Line: Installation of approximately 800 linear feet of 36-inch pipeline and associated appurtenances that extends northwesterly from the existing South County Regional Wastewater Authority (SCRWA) Wastewater Treatment Plant (WWTP) and connecting to the existing Phase 1A recycled water pipeline (installed in 2012) on Engle Way.
- Phase 1B - Trunk Sewer Alignment: Installation of approximately 3,100 linear feet of 30-inch pipeline and associated appurtenances starting at the Phase 1A pipeline on Southside Drive northwest and extending parallel to SCRWA's Trunk Sewer to the Luchessa Avenue Rights of Way.
- Phase 1B East Luchessa Avenue Line: Installation of approximately 5,100 linear feet of 30-inch pipeline and associated appurtenances that starts at the Phase 1B Trunk Sewer Alignment segment and extends west along Luchessa Avenue to Monterey Road.

Short-term Phase 2A:

- Phase 2A- West Luchessa Line: Installation of approximately 3,400 linear feet of 30-inch pipeline and associated appurtenances starting at the Phase 1B East Luchessa Avenue Line at Monterey Road and extending recycled water service west along West Luchessa Avenue to Thomas Road.

In summary, the proposed funding proposal includes the design and construction of approximately 14,500 linear feet of recycled water pipeline (ranging from 18 inches through 36 inches in diameter) and appurtenances, and includes multiple turnouts for future service areas. Upon completion of the Short-term CIPs and South Pipeline, the project will increase recycled water use to approximately 3,100 acre-feet (based on the 2015 Master Plan update) through the expansion of the recycled water distribution system. The only component of the Short-term CIP Phase of the Title XVI authorized project remaining to be completed in the future is Phase 2B. The implementation of this phase of the project is pending the confirmation of recycled water demands and development of use agreements.

The Long-term CIPs include 4 miles of recycled water pipeline, assorted appurtenances, and a 2 million gallon per day pump station/booster station expansion. Implementation of the Long-term CIPs is currently uncertain due to lack of secured funding, changes in customer demand and delayed development of infrastructure.

PROJECT SPONSORS

The District is an independent special district with jurisdiction throughout Santa Clara County and is the county's primary water resources agency. The District acts not only as the county's

principal water wholesaler, but also as its flood protection agency and is the steward for its watersheds, streams and creeks, underground aquifers and District's reservoirs. The District owns and manages 10 local surface reservoirs and associated creeks and recharges facilities, manages the county's groundwater sub-basins and three water treatment plants, imports water from the CVP and the SWP, and delivers recycled water to parts of Santa Clara County. In 1999, the District's Board of Directors (Board) approved a policy that recycled water is an integral part of its comprehensive water management project, and the District will, in a cost-effective manner consistent with its overall water supply mix, aggressively pursue opportunities to expand water recycling in Santa Clara County in partnership with other public entities as appropriate. The District has a goal of 10% of total water used in the county coming from recycled water by year 2025.

SCRWA treats wastewater from the cities of Gilroy and Morgan Hill. SCRWA owns and operates the existing WWTP which is located 2 miles southeast of downtown Gilroy, on Southside Drive. SCWRA provides recycled water to customers to irrigate local parks, golf courses, sports complex, landscape medians, and for agricultural and industrial uses. SCRWA plant operations and landscape irrigation represents the largest category of recycled water use at about 50% of total water use. Agricultural, industrial, and landscape irrigation uses of recycled water account for the rest. In 1999, the District, the City of Gilroy, the City of Morgan Hill, and SCRWA entered into partnership agreements with SCRWA as the producer, the District as the wholesaler and the cities of Gilroy and Morgan Hill as retailers for the recycled water project. Figure 2 shows the SCRWA WWTP and recycled water pumps.

Figure 2 SCRWA WWTP & Recycled Water Pumps

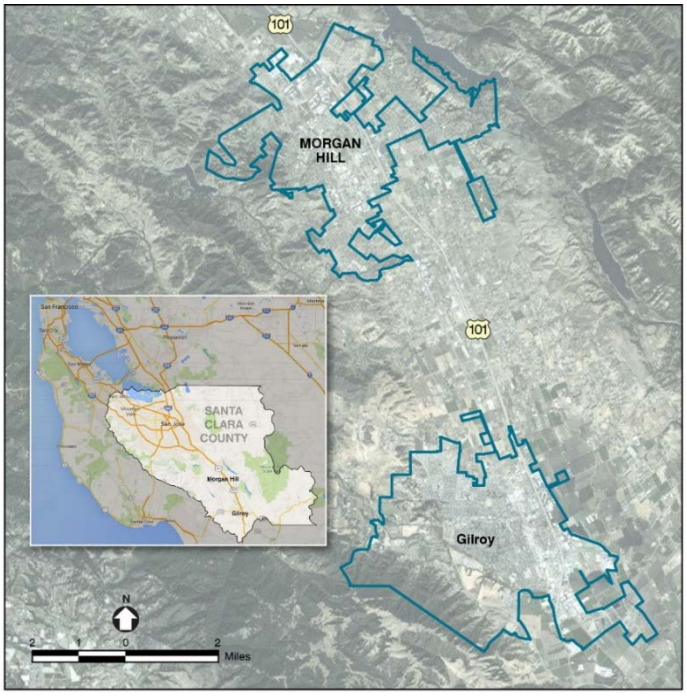
PROJECT SETTING

The proposed project is located in Gilroy, California, which is located in southern Santa Clara County (South County) (Figure 3) The project area is located in the southwestern portion of the Santa Clara Valley within a broad, gently sloping valley floor, enclosed on the northeast by the Diablo Mountains of the Contra Costa Range and on the west by the Santa Cruz Mountains. Gilroy is located in the eastern foothills of the Santa Cruz Range and is bordered by the Llagas and Uvas Creeks. Uvas Creek is an intermittent stream that originates near Loma Prieta peak, in the Santa Cruz Mountains, before flowing into the Pajaro River and Monterey Bay. The proposed project and recycled water customers all lie in the Llagas and Uvas Creek sub watersheds. Virtually, the entire southern Santa Clara valley floor draining to the Pajaro River is underlain by the Llagas groundwater Sub-basin.

The predominant source of consumptive water supply in the Llagas Sub-basin is groundwater, with small amounts from raw surface water and recycled water deliveries making up the balance. Groundwater is the sole source of drinking water. Current water demand in the sub-basin is approximately 44,000 AFY, with about half the demand being for agricultural irrigation.

Groundwater levels fluctuate due to hydrology, groundwater withdrawals or recharge, and other factors. Natural recharge includes rainfall, sub-surface inflow, irrigation return flows, and deep percolation of streams. Controlled recharge, via the District managed recharge program, replenishes the Llagas Sub-basin by releasing both local and imported water in streams and percolation ponds. Planning studies have indicated some shortfalls between existing water supplies and anticipated future water demands. Recommendations include continuing to use the groundwater basin as the predominant water supply and providing additional groundwater recharge as necessary to meet growing demands. An assumption used in estimating future groundwater levels was increased use of recycled water that offsets groundwater pumping per the Master Plan.

Figure 3 Project Location



PROJECT EXISTING FACILITIES

The SCWRA WWTP, serving approximately 80,000 people, can treat an average dry weather flow (ADWF) of up to 8.5 mgd to secondary and tertiary standards that meets the recycled water criteria of California's Title 22 unrestricted use classification. The tertiary treatment process consists of coagulation, filtration with sand filters, chlorination, and dechlorination. As part of the WWTP project expansion, completed in 2005, the tertiary filtration capacity was increased to 9 mgd. However, due to diurnal flow fluctuations and the distribution pump capacity, the average daily production of tertiary effluent is 6 mgd. In addition there is an on-site treated recycled water storage capacity of 3 million gallons. The existing distribution pipeline system consists of 8.9 miles of 12-inch through 36-inch diameter pipeline, a booster pump station, and a 1.5 million gallon storage tank. Modeling results indicated that the existing distribution system did not have capacity for additional flow, preventing additional customers from being connected. Actual demand for recycled water far exceeds the current system capacity resulting in the inefficient operation of the existing distribution system, as well as its inability to meet current demands.

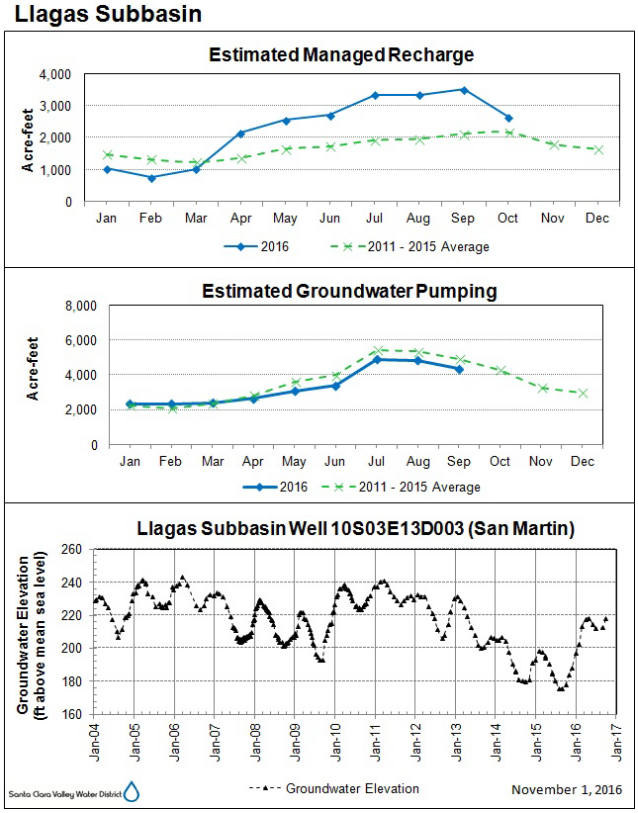
PROJECT NEED

Dependable water supplies in California are becoming increasingly limited. Multiple year droughts, which are experienced periodically, further stress the water system and make balancing among these needs even more difficult. Santa Clara County and the State of California are experiencing an unprecedented prolonged drought (now extending into its fifth year) with little relief in sight. The drought conditions continue to place additional strain on local and state-wide water supplies and have reduced State and Federal water allocations to the District. In 2016, the allocations were reduced to 60% of the SWP allocation and to 55% of historical demands for the CVP and 5% of historical agricultural demands for the CVP - for an anticipated total of 133,200 AFY. This water supply shortfall was exacerbated by the environmental and legal constraints in the Sacramento San Joaquin Delta (Bay Delta). Climate

change is projected to reduce Sierra and Cascade snowpack, further reducing the reliability of District's imported water supply. Groundwater levels have also significantly declined, during the last several years, resulting in a storage level at the end of 2015 falling within Stage 3 (Severe) of the Water Shortage Contingency Plan. However, groundwater levels and storage are recovering due to significant water use reduction and improved water supply conditions in 2016, with projected end of 2016 groundwater storage near Stage 1 (Normal) of the Water Shortage Contingency Plan. The District continues to evaluate potential measures to mitigate the impact of the current and future droughts.

Based on historical groundwater production data it can be demonstrated that with a decrease in rainfall, but sustained system demands, the result is an impact to the groundwater table. The Llagas Sub-basin groundwater elevations are still recovering from declines caused by the drought, as shown in Figure 4. Significant decreases in groundwater elevations can lead to drying out of wells and increased pumping costs for well owners. The District manages groundwater levels through managed recharge, recycled water and other measures to the extent feasible. The reduction in imported water allocations paired with the depressed groundwater elevations due to the extended drought and concerns of climate impacts on water supply sources has prompted the District to expedite its development and implementation of recycled and purified water projects.

Figure 4 Llagas Groundwater Conditions as of October 2016



The District's South County Water Supply Planning Project, Project Report (July 2010) supported the need for the project. Findings included:

- Groundwater demands in the Llagas Sub-basin are expected to increase by about 7,000 AFY from about 44,000 AFY in 2001 to about 51,000 AFY in 2030. These projections include about 4,100 AFY of additional conservation and 1,900 AFY of additional recycling by 2030.

- Additional supplies are needed to meet future demands. District staff anticipates a water supply shortfall of 4,000 (likely) -16,000 (conservative) AFY of the 2030 demands.
- Groundwater elevations should be maintained at levels above those seen in 1990 to avoid adverse groundwater impacts such as minimizing the sub-basin exchange between Llagas and Bolsa Sub-basins and to avoid significant drawdown in the groundwater wells.
- Recommending implementation of additional groundwater recharge and recycling as a means to meet additional water supply demands.

The District and SCRWA, with the support of federal funding assistance, plan to expand the use of recycled water to meet short and long-term water supply and wastewater needs in Santa Clara County. The implementation of the proposed project will increase a local, reliable water supply in the southern portion of Santa Clara County and reduce reliance on the Bay Delta. It will allow the District to increase the capacity of the recycled water distribution system, expand the availability of recycled water, and reduce the use of potable water where recycled water does not present a health or safety risk. In addition, the project allows the District to expand its recycled water use to a broader market of commercial, industrial, irrigation, and agricultural users.

PROJECT SOLUTIONS

The District, the Groundwater Sustainability Agency for the groundwater basin, and SCRWA partnered to develop the Santa Clara County Recycled Water Master Plan (2004) to facilitate the expansion of the recycled water use in south Santa Clara County, specifically in and near the cities of Gilroy and Morgan Hill, which both rely on the Llagas groundwater sub-basin for supply. The 2004 Master Plan defined Immediate-, Short- and Long-term capital investment projects (CIPs) to expand the use of recycled water. Projects identified in the Master Plan serve to increase the reliability of the County's long term water supplies. Increased recycled water usage will also lessen the demand on the groundwater basin and provide SCRWA with additional discharge alternatives.

The Master Plan presented a CIP program to expand the use of recycled water in south Santa Clara County, over a 20 year planning horizon, in order to meet recycled water demand projections. In April 2004, South County had a total of 5 approved application sites including: 2 agricultural irrigation users, 1 landscape irrigation user, 1 industrial user, and 1 cooling tower. In the 2015 South County Recycled Water Master Plan Update (June 2016), over 70 potential recycled water customers were identified within the study area including commercial and industrial, landscape irrigation users and agricultural users for a total demand of approximately 3,100 AFY. The District is also investigating the potential for groundwater recharge using recycled water (not part of the Master Plan).

The Title XVI authorized project, analyzed in the Bureau approved Santa Clara County Recycled Water - Determination of Feasibility Study (August 31, 2009) (Feasibility Study), includes the Immediate-term, Short-term, Long-term CIPs and the South Pipeline project. The Title XIV authorized project also included improvements designed to address flow capacity limitations and reliability of the existing system. As discussed below, the District has been implementing the Master Plan's recommended CIP projects since 2006.

- Immediate-term CIPs: In 2006, the District completed the construction of the Immediate-term CIPs in conjunction with SCRWA's Reclamation Plant Expansion Project, with

assistance from state grant funding. In 2007, the Sports Park Pipeline extension from the existing recycled water main line to the Gilroy Sports Park at Monterey and Luchessa was completed as part of the sports park construction. Completion of the Immediate-term CIPs increased the actual demand to 1,200 AFY. Actual demand for recycled water far exceeds the current system capacity resulting in the inefficient operation of the existing distribution system, as well as the inability of the system to meet current demands.

- Short-term CIPs: The Short-term projects targeted to resolve the recycled water distribution system's operation deficiencies, expand the system to serve new customers, allow for increased use by existing customers, and improve the system reliability. The Short-term CIPs consists of the following:
    - Phase 1A (Completed) - Leveraging federal grant dollars, District completed Phase 1A in 2012 with a 25% federal cost share. Phase 1A currently delivers 0 AFY and requires the completion of the entire Short-term CIP to achieve the anticipated deliveries.
    - Phases 1B and 2A - Due to significant utility conflicts, additional engineering analysis was required for the Phases 1B and 2A alignment and District subsequently prepared the South County Recycled Water Pipeline Short-Term Phases 1B and 2A Project, Project No. 91094009, Engineers Report, August 2015, which was approved at the October 13, 2015 Public Hearing. The Phases 1B and 2A project includes: Camino Arroyo Service Line Extension (Phase 1B)(Completed in June 2015); Wastewater Treatment Plant Line (Phase 1B); Trunk Sewer Alignment (Phase 1B); the East Luchessa Avenue Line (Phase 1B) and the West Luchessa Line (Phase 2A).
    - Phase 2B - Improvements include 2.9 miles of recycled water pipeline, assorted appurtenances, 3 million gallon reservoir, and a 3-million gallon per day (mgd) pump station/booster station. Implementation of all segments of the Short-term Phase 2B is currently uncertain due to lack of secured funding, changes in customer demand and delayed development of infrastructure.
- South Pipeline Project: The South Pipeline project was completed in 2012 and serves a dual purpose. The pipeline serves as a discharge pipeline, for excess tertiary treated water from the WWTP during moderately high inflow conditions, to the Pajaro River between November and April. The pipeline also delivers recycled water, primarily to agricultural users, in spring, summer, and fall.
- Long-term CIPs: Improvements include 4 miles of recycled water pipeline, assorted appurtenances, and a 2 mgd pump station/booster station expansion. Implementation of the Long-term CIPs is currently uncertain due to lack of secured funding, changes in customer demand and delayed development of infrastructure.

The Feasibility Study detailed a proposal to deliver a total of 3,437 AFY of recycled water upon completion of the South County Project. Table 1 summarizes the recycled water deliveries anticipated with the implementation of each of the CIP phases discussed above, the total recycled water deliveries associated with the implementation of the entire authorized Title XVI project, and the current projections from the 2015 Master Plan update.

Upon completion of the Short-term CIPs and the South Pipeline, the Title XVI authorized project will deliver a total of approximately 1,900 AFY (with the Short-term CIPs (1,480 AFY) and South Pipeline (394 AFY)) of new recycled water supplies. In addition, the full construction of the Title

XIV authorized project will rectify distribution system constraints, and address flow capacity limitations and reliability of the existing system, hence allowing for the full and reliable utilization of 1,200 AFY of existing supply. With the completion of the proposed Short-term CIP (including Phases 1B and 2A) of the South County Project Title XVI Authorized project, the District will achieve a total system capacity of 3,100 AFY of reliable recycled water deliveries based on the 2015 Master Plan update. Upon completion of the Long-Term CIP of the authorized Title XVI project, the District will achieve a total system capacity of 3,700 AFY, based on the 2015 Master Plan update, which is higher than that projected in the 2009 Feasibility Study (3,400 AFY).

The District is set to start construction on Phases 1B and 2A, of this federally authorized project, in January 2017. With the construction of the South County Short-term CIPs, the total amount of recycled water after completion of this project will be approximately 3,100 AFY or 1,010,000 gallons per year. As demonstrated, this expansion will enable the District to meet short-term recycled water demand projections (approximately 3,100 AFY) in south Santa Clara County.

Table 1 Title XVI Authorized Project Recycled Water Deliveries

Phase	2009 Annual Projected Recycled Water Delivery per CIP Phase(1) (Acre-Feet)	2015 Annual Projected Recycled Water Delivery(2) (Acre-Feet)
Existing Recycled Water Supplies		
2004 Existing Supply	--	711
Immediate-term CIP(1)	855	500
Total Existing Recycled Water Supply		1,211
New Recycled Water Supplies		
Short-term CIP	934	1480
South Pipeline	1000	394
Long-term CIP(3)	648	611
Total New Recycled Water Supply	2,582	2,485
TOTAL	**3,437**	**3,696**

Notes:
(1) Deliveries are based on the Santa Clara County Recycled Water - Determination of Feasibility Study (August 31, 2009).
(2) Deliveries are based on the 2015 South County Recycled Water Master Plan Update (May 2016).
(3) The implementation of the Long-term CIP component is currently uncertain due to lack of secured funding, changes in customer demand and delayed development of infrastructure and therefore is not included in the New Recycled Water Delivery total.

PROJECT ENHANCEMENTS

With the construction of the South County Short-term CIPs (including Phases 1B and 2A), it is anticipated that the proposed project will deliver approximately 3,100 AFY (or 1,010,000,000 gallons per year) of recycled water, based on the 2015 Master Plan update. The new facilities will optimize operations, increase deliveries, and address the existing system inefficiencies. The available recycled water supply of 1,200 AFY is not fully utilized because:

Figure 5 Recycled Water Turnout in South Santa Clara

- The existing distribution system sizing restricts the quantity of recycled water that can be supplied during peak demands.
- Storage is required to maximize use for peak demands.

Treated effluent, that has received secondary treatment, is discharged into a series of evaporation ponds in Gilroy. With the increased production, distribution pump capacity, and expansion of the recycled water system, it will directly help reduce wastewater discharges.

Project enhancements include:

- The most cost effective way to provide additional supplies of disinfected, tertiary treated water during the day is to maximize production through storage. The Short-term project includes the construction of an additional 6 million gallons of storage at the treatment plant. SCRWA in parallel increased its tertiary treatment capacity and added a 3 million gallons per day (mgd) pump station to feed the new distribution pipeline. The new reservoir at the treatment plant required additional pumps at the distribution pump station to meet peak demands and allow for more recycled water to be conveyed to recycled water users during the daytime over the peak demand months.
- Another enhancement, associated with the implementation of the projects, was the decrease in the recycled water system operational deficiencies caused by the undersized distribution pipelines. With the installation of a parallel pipeline to the existing system, the District was able to increase the overall delivery capacity and efficiency of its delivery system. The expansion of the system capacity, increased the ability for the WWTP to meet the demand of its recycled water customers by reducing the friction losses in the existing system.
- The South Pipeline, and Short-term CIPs (Phase 1A, and Phases 1B and 2A) projects expand the existing recycled water distribution system allowing the District to increase its new recycled water use by approximately 1,900 AFY - thereby reducing the demand for potable water supplies. In addition, the distribution system incorporates turnouts (Figure 5) to allow for the future expansion of the distribution system and addition of new customers. The distribution system is also sized to allow for the expansion of the distribution system facilitating the District to provide recycled water to new customers (e.g. Cintas Corporation), expand to areas of future potential customers, and thereby reduce the use of its potable water sources.
- In addition, the District has implemented and is evaluating additional strategies and measures to increase recycled water demand. Strategies include:
- Pricing of Delivered Water - Financial incentives are used to increase the demand for recycled water (day and nighttime). Incentives could include providing a reduced cost for recycled water over potable water, or a rate reduction for nighttime use of recycled water. This strategy has been implemented. The District's recycled water rate in south Santa Clara County is set at 20% below groundwater rates.

- Peer Encouragement - Implementation of a public outreach program to encourage existing and new users to increase delivered water use.
- Mandatory Use Ordinance - The City of Gilroy adopted Ordinance No 2015-04 on May 19, 2015 as part of their emergency drought plan which; adopts 25% Mandatory Water Conservation Regulations; passes a resolution calling for a water use reduction target of 30% and places a restriction on potable water use for outdoor irrigation to two days per week; and imposes a 21-35% consumer demand reduction; and requirement to use recycled water for construction.

2.0 TECHNICAL PROPOSAL: EVALUATION CRITERIA

The following section provides responses to each of the evaluation criterion and subcriterion. Table 2 summarizes each of the responses of how this project meets the criteria.

Table 2 Summary of Title XVI Water Reclamation and Reuse Funding Criterion

Criterion	How Does the Project Meet This Criterion
1. Water Supply	✓ Title XVI authorized project will produce approx. 2,500 AFY of new recycled water for a total of approximately 3,700 AFY, which is a reliable, drought tolerant, sustainable water supply. ✓ Reduces groundwater pumping from the local groundwater basin. Allows for flexibility in groundwater management. ✓ Reduces future reliance on imported State Water Project (SWP) and Central Valley Project (CVP) supplies.
2. Project Status	✓ Immediate-term CIP was completed in 2006. ✓ Short-term CIP Phase 1A and South Pipeline were completed in 2012. Phases 1B and 2A to be completed by January 2018. ✓ Funding of this project will fully satisfy the authorized federal cost share of $7 million.
3. Environment and Water Quality	✓ Benefits the Pajaro River by reducing discharges. ✓ Reduces demands on groundwater, which allows for potential reservoir releases that would have been used to recharge the groundwater. ✓ Uvas Creek supports federally threatened South-Central California Coast Steelhead, which could benefit from opportunities for additional reservoir releases.
4. Renewable Energy and Energy Efficiency	✓ Includes energy efficiency improvements related to treatment/pumping/transport of recycled water. ✓ Provides a more energy efficient water supply than the current water supply (imported water and groundwater pumping).
5. Cost Per Acre Foot of Water and Other Project Benefits	✓ Project costs = $898/acre-ft for the proposed Short-term CIP projects and South Pipeline. ✓ The cost per acre foot is estimated at approximately 60% of the next reasonable water supply alternative. ✓ Decreases reliance upon more environmentally detrimental projects such as the construction of a desalination facility or increase in imported water supplies.
6. Reclamations Obligation and Benefits to a Disadvantaged Community (DAC)	✓ Potentially may mitigates the Bureau's CVP obligation, by reducing reliance on these federal facilities. ✓ Fully satisfies the Bureau's Title XVI cost share obligation. ✓ Serves and directly benefits rural and disadvantaged communities of Gilroy and Morgan Hill.
7. Watershed Perspective	✓ Implements a regionally developed Recycled Water Master Plan and meets a high priority of the Pajaro River Watershed IRWM Plan. ✓ Implements a project developed through a collaborative partnership of the District, SCRWA and the Cities of Gilroy and Morgan Hill.

EVALUATION CRITERION 1: WATER SUPPLY

Subcriterion No. 1a. Stretching Water Supplies (35 points)

Points will be awarded based on the extent to which the project is expected to secure and stretch water supplies. Consideration will be given to the amount of water expected to be made available by the project and the extent to which the project will reduce demands on existing facilities and otherwise reduce water diversions.

The South Santa Clara County Recycled Water Project (South County Project) has been designed to achieve multiple water multiple benefits including:

- Providing a sustainable, reliable, local and drought tolerant water supply;
- Increases local water supply reliability and delivery of safe drinking water;
- Reduces the reliance on state and federal imported water supplies including the Sacramento San Joaquin Delta (Bay Delta);
- Reduces demands on the groundwater basin;
- Reduce discharges of wastewater to the Pajaro River;
- Benefits a groundwater basin with disadvantaged communities; and
- Postpones the need to expand wastewater discharge facilities as the community grows.

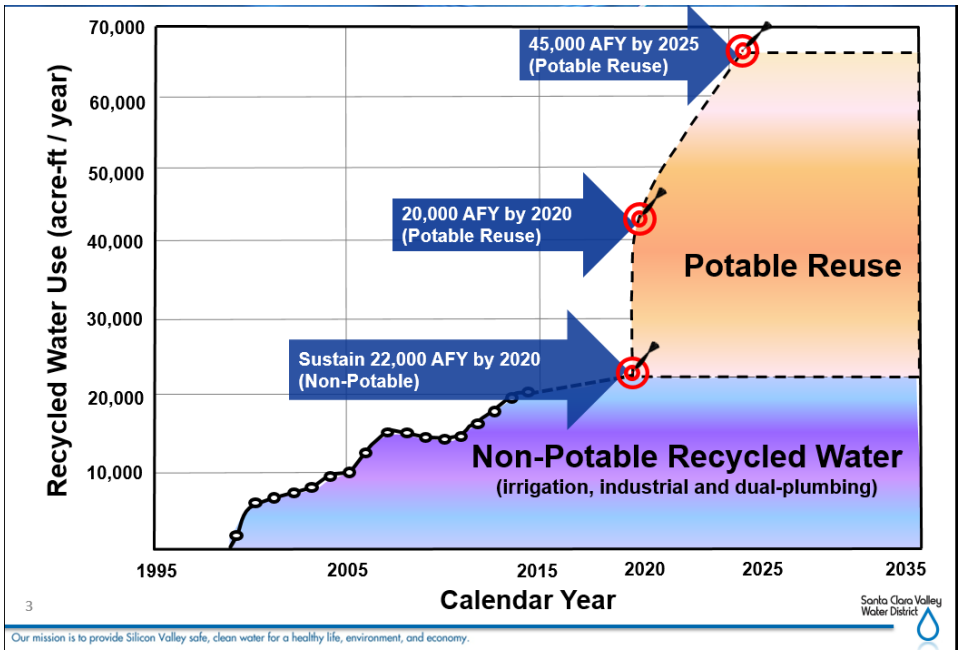
The South Santa Clara County Recycled Water Master Plan Implementation, Determination of Feasibility Report for the Bureau of Reclamation (August 31, 2009) (Feasibility Report) for the South County Project found that investing in recycled water developments will provide a local water supply and reduces the reliance on imported water supplies from the Bay Delta, including Federal water supply through the State Water Project (SWP) and Central Valley Project (CVP). In addition, since the vast majority of the District's supplies are currently subject to hydrologic variations and vulnerable to cyclical droughts and as recycled water is independent of climate, recycled water helps to mitigate the risks of long-term climate change. The Feasibility Study found that the Title XVI authorized South County Project increases the recycled water use and reduces wastewater effluent discharges into the Pajaro River. In addition, water recycling will reduce or postpone the need of expanding wastewater facilities, such as evaporation ponds and outfalls.

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

The District recently completed a Water Supply Infrastructure Master Plan (2012) which sets the objectives of developing at least 20,000 acre-feet per year (AFY) of potable water reuse by 2030, in addition to maintaining its current non-potable recycled water use of at least 20,000 AFY. Based on the South Bay Water Recycling Strategic Master Plan Report (December 2014), the District identified the potential to expand its recycled water program by an additional 30,000 AFY of recycled water by 2035, through the development of an expedited recycled and purified water plan including a combination of non-potable reuse (NPR) and development of indirect potable reuse (IPR). The existing goal, set by the District's Board, is to provide 10% of county water supplies through use of recycled water by the year 2025. Currently, recycled water comprises 5% of the county's water supply. Since recycled water use contributes equally gallon

for gallon, this recycled water use, together with the District's water conservation savings will help reach the State's SBx7-7 goals by year 2020.

Figure 6 SCVWD Recycled Water Use Goals



With the implementation of the entire Title XVI authorized Project, the south Santa Clara County recycled water system will secure and distribute approximately 2,500 AFY of new recycled water for a total of approximately 3,700 AF (based on the 2015 Master Plan update) of recycled water per year for local use in the City of Gilroy. This will be a significant increase of recycled water availability by 150% over the before project supplies. To support the project, the SCRWA WWTP upgraded its tertiary treatment capacity to 9 million gallons per day (mgd) so they can meet recycled water demands of existing and identified users - upon *implementation* of the South County Project. As recycled water demand increases, SCRWA plans to increase its tertiary treatment and pumping capacity to meet the demand.

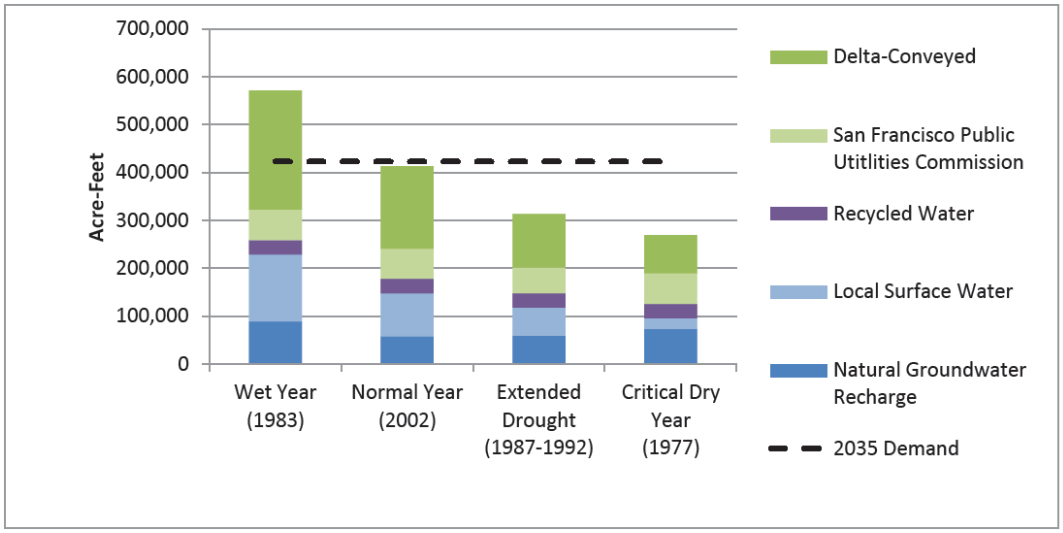
2. Will the project reduce, postpone, or eliminate the development of new or expanded non-recycled water supplies?

County-wide Water Supplies

The District has contracts with both the SWP (100,000 acre-feet) and CVP (152,500 acre feet). Local water sources include: natural groundwater recharge, releases from reservoirs to groundwater recharge, and releases from reservoirs to drinking water treatment plants. Water pumped from the groundwater aquifer by private well owners, farmers, and water retailers. Recycled water is a small, but expanding, source of the water supply. For the period of 2010-2014, on average, District's water supply was comprised of: 55% imported water into the county, 40% local water sources, and 5% was recycled water sources. Of the imported water sources, 40% was provided through the Delta, via the SWP and the CVP, and helped to replenish the groundwater basin. While another 15% (60,000 acre-feet) came from the SFPUC Regional Water System.

The baseline water supply will be sufficient to meet most average demands through 2035. Figure 7 illustrates county water supplies under different hydrologic conditions compared to projected water demand in 2035. The District has already experienced shortfalls in supply during droughts, which are further exacerbated by prolonged drought conditions. Part of the District's strategy is to ensure a reliable supply of water to meet demands, includes the expansion of the recycled water use from about 15,000 AFY in 2010 to 50,000 AFY by year 2035.

Figure 7 County Water Supplies under Different Hydrologic Conditions



South Santa Clara County (Project Area) Water Supplies

The amount of groundwater pumped from the Llagas Sub-basin is almost two times the amount that nature replenishes through rainfall on the watershed. In South Santa Clara County, the groundwater pumping has averaged 44,000 acre-feet from the Llagas Sub-basin for the last ten years. District actively manages these sub-basins and on average has augmented the Llagas Sub-basin with 24,000 AFY, of which 50% was imported water.

The South County Water Supply Plan identified a number of alternative water supplies that could be implemented to offset the supply shortfall. Options considered include agricultural efficiency programs (including land fallowing), reservoir expansion, additional recharge facilities, a new surface water treatment plant to treat CVP water, and various recycled water alternatives. Portfolios to provide 4,000 AFY were evaluated and the implementation of the South County Project (Immediate-, Short-, and Long-term CIPs and South Pipeline) was found to be the highest scoring portfolio options.

The implementation of the entire Title XVI Authorized South County Project reduces the need to develop new, non-recycled water supplies, including imported water supplies, by approximately 3,700 AFY (based on the 2015 Master Plan update) and helps to reduce the quantity of alternate water supplies needed to meet future demands by increasing the recycled water component of its water supply program. The project may help the District reduce the region's reliance on imported water from the SWP and CVP projects, as well as the need to develop new or expand non-recycled water supplies. The increase in recycled water supply also helps the District address water supply shortfalls by providing an alternate source water for specific applications (e.g. industrial, agricultural, etc.). With the implementation of the recycled water project, where feasible, customers will be provided the opportunity and encouraged to utilize recycled water over potable water conserving potable water sources. The project provides for a dependable, drought proof, locally controlled water supply that will help the District meet water demands.

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

Dependable water supplies in California are becoming increasing limited and multiple year droughts further making balancing amongst these needs even more difficult. The District and the State of California are experiencing an unprecedented prolonged drought (which is now extending into its fifth year) with little relief in sight. The drought conditions continue to place

additional strain on local and state-wide water supplies. In addition, the District is projecting that the climate change will provide a negative long-term impact to the Sierra snowpack, further reducing the reliability of the District's imported water quality.

The District holds a contract for 100,000 AFY from the SWP, and 152,500 AFY from the CVP. Actual water deliveries vary greatly depending on precipitation and annual hydrological conditions. Due to the prolonged drought conditions, the District's State and Federal allocations have been have drastically reduced. This water supply shortfall has been exacerbated by the environmental and legal constraints in the Bay Delta. In 2016, the allocations were reduced to 60% of the SWP allocation, 55% of historical M&I demands for the CVP, and 5% of historical agricultural demands for the CVP - for an anticipated total of 133,200 AFY. The drought has impacted the District managed recharge program, with only about half the long-term average recharge volume replenished in 2015 due to limited local surface and imported water. However, improved water supply conditions in 2016 have resulted in an above-normal managed recharge program in 2016. Total groundwater storage is predicted to fall near the boundary of Stage 2 (Alert) and Stage 1 (Normal) of the District's Water Shortage Contingency Plan by the end of 2016.

The District is evaluating alternate reliable, drought resistant water supply sources including recycled water. Implementation of recycled water use projects, in Santa Clara County, will reduce the District's reliance on importing water from the Sacramento San Joaquin Delta (Bay Delta). In south Santa Clara County, the recycled water production by SCRWA is currently at 25% of total production, the highest in the county. Any locally recycled water supply that is developed will reduce south Santa Clara County's reliance on imported supplies. Completion of the Title XVI authorized project will increase recycled water use by 2,500 AFY for a total use of approximately 3,700 AFY, and avoid the need to develop an equal of amount of non-recycled water supplies (including imported water supplies).

Due to the severity of the drought and planning for drought tolerant, reliable, future water supplies, District is looking to expedite the implementation of the proposed recycled water project. Any financial assistance from the Bureau's Title XVI program for the implementation of District's proposed recycled water project will help District reduce its reliance on Federal and State allocations.

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

Recycled water, used now as non-potable recycled water and in the future for potable purposes, reduces reliance on diversions from surface water and alleviates the need of withdrawals from groundwater aquifers. The annual natural groundwater recharge in Santa Clara County, such as recharge from rainfall, net leakage from pipelines, seepage from surrounding hills, ranges from 48,000 acre-feet in a dry year to 95,000 acre-feet in a wet year. However, annual pumping from the groundwater aquifers in the county ranges from 138,000 acre-feet to 169,000 acre-feet, or approximately 50% of the total water used in the past decade. Groundwater over pumping in the past has led to significant overdraft, resulting in countywide declines in water levels and storage, and land surface subsidence in northern Santa Clara County. Since the formation of the District, proactive groundwater management programs have been introduced to sustain and protect groundwater sources from overdraft, land subsidence, and contamination. The groundwater aquifers are replenished by local reservoir surface water and imported water. Facing shortages

and heightened competition for water supplies to meet the ever increasing demand, groundwater aquifers may experience overdraft once again if new supplies are not developed.

Based on historical groundwater data it has been demonstrated that with the decrease in rainfall and imported water supply and sustained water supply demands, the result is an impact to the groundwater table. For south Santa Clara County, the concern associated with the long-term groundwater level declines is the potential for drying out of groundwater wells and increased pumping costs for well owners. District is developing and implementing recycled and purified water projects to ensure long-term water supply reliability and sustainable groundwater resources. The use of delivered recycled water is considered "in lieu recharge."

The District manages two groundwater aquifers that transmit, filter, and store water. The District practices conjunctive management. The groundwater aquifers are replenished by local reservoir surface water and imported water. The District's goal of implementing 50,000 AFY of county-wide recycled water use, will directly or indirectly reduce stress on the groundwater aquifers and natural watercourses.

The immediate implementation of the South County Project Short-term phase, provides the District with a new recycled water supply to offset groundwater pumping by an equivalent of up to approximately 3,100 AFY by spring of 2018. With the increase in recycled water production, customers (including industrial, agricultural, and other non-potable water users) will be able to use recycled water as an alternate reliable water supply for non-potable applications. The project helps to maintain or increase groundwater levels by reducing the volume of water withdrawn from the underlying Llagas Sub-basin which is the sole drinking water supply for the South County area. The implementation of the proposed recycled water project offsets the current groundwater pumping, by approximately 7%, of the Llagas Sub-basin (currently at 44,000 acft).

5. What performance measures will be used to quantify actual benefits upon completion of the project?

Water supply project benefits will continue to be measured through extensive monitoring programs currently in place. Recycled water flow quantity and quality are measured during production and water flow quantity is measured at each of the distribution system turnouts by SCRWA WWTP staff. Recycled water use will continue to be monitored as the major performance metric for diversifying the District's water supply.

In addition to the physical monitoring, other non-physical performance measures include: measurement of direct water supply benefits, as well as the avoided costs and reduced water quality impacts associated with wastewater discharges. Historically, recycled water has primarily been a wastewater management strategy used as an alternate for effluent disposal to discharges to a natural water body. With the increase in competing demands on water supply and larger uncertainty the impacts of climate change, recycled water has become a feasible water supply management strategy. One performance measure of the implementation of the recycled water program is the quantification of actual recycled water demand over time, as well as the revenues generated. By tracking these metrics, the District will be able to assess the market demand and the pattern of use of recycled water to help guide the development of future phases. In addition, with the increase in recycled water use, SCRWA will be able to reduce its discharges to the evaporation ponds.

Some recycled water benefits are difficult to quantify such as other social or environmental benefits. These benefits will be documented and described qualitatively as completely as possible. These qualitative benefits can be considered as part of the performance monitoring for

the project in conjunction with the measures noted above. For example avoided or deferred water supply and wastewater treatment costs are two of the benefits for recycled water projects. Within the San Francisco Bay Area, where water supply options are increasingly limited and wastewater discharge requirements are becoming more rigorous, the avoided costs realized through water recycling are significant but hard to measure. The Feasibility Study found that the South County Project increases recycled water use and reduces the discharge of water into the Pajaro River, which postpones the need of expanding wastewater facilities, such as evaporation ponds and the outfall.

Subcriterion No.1b. Contributions to Water Supply Sustainability—20 points

Points will be awarded for projects that contribute to a more sustainable water supply.

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

The South County Project will make water available to specifically address water supply shortages due to cyclical droughts and climate variability. The District experiences great variability in its local surface water and imported water supplies, based primarily on precipitation levels locally and in the Sierra Nevada Mountains and the Cascade Range. This reliance on surface water for a large portion of its water supply makes it highly vulnerable to climate change and cyclical drought. Risks to this water supply source include decreased snowmelt runoff originating in the Sierra Nevada and Cascades; increased water demands for cooling and irrigation; increased variability of weather and more frequent severe weather events; and increased frequency of droughts and critically dry years. Each of these risk factors has important implication for water management. The implementation of the recycled water projects provides a water source for the District that is independent of climate and therefore helps to mitigate risks of long term climate change. The implementation of the Title XVI authorized project (Immediate-term, Short-term and Long-term CIP elements and the South Pipeline portion) will provide the District with approximately 2,500 AFY of new recycled water, for a total 3,700 AFY of water supply (2015 Master Plan update) that is independent of climate variability by increasing the regions recycled water use.

The South County Project may reduce the frequency of implementing severe water rationing measures and therefore mitigate the resulting socio- and economic impacts. The South County Project may help lessen the need for implementation of severe water rationing steps should a drought similar to the severity of the 1987 to 1992 or current drought occur. Traditionally, mandatory demand rationing has been the main strategy to manage water shortages during droughts. This strategy does not provide a solution to solving the water supply shortage, but enforces the reduction in water use by customers in order to get through drought conditions. However, mandatory rationing has an adverse impact to social living and can significantly impact the economy/livelihood of the local community. Based on the District's modeling results, with the implementation of the recycled water projects identified in the Master Plan, it is projected that the District would not have to call for water use reductions of more than 7.5% in a future drought events as that experienced in the 1987-1992 drought and the implementation of 20% reduction requirements is projected to occur twice in 100 years.

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

The South County Project recycled water supply is drought proof. Recycled water is impervious to droughts and 100% reliable. The water source is effluent from users of the City of Gilroy and City of Morgan Hill's wastewater system, including residential, industrial, and commercial customers. Non-potable uses of recycled water, distributed to irrigation and industries customers, preserve potable water for higher purposes. Non-potable recycled water uses offset gallon to gallon of drinking water. During critical dry years, non-potable recycled water is still available at levels close to 100%. Recycled water provides an alternate water supply for those customers not requiring potable water thereby reducing demands on the local groundwater basin. Recycled water is a reliable, cost effective, and drought tolerant supply available in the region. The groundwater basin is directly impacted by drought conditions when natural recharge by rainfall and other sources can be significantly reduced. Other water supply sources for the region include the CVP and SWP supply, diversions from a surface supply, implementation of desalination facilities, or surface storage. The imported water and surface source water are also both largely affected by drought conditions, with limited rainfall and snowpack resulting in severe cutbacks to these supplies. In conclusion, recycled water has been found to be the most reliable and cost effective drought resistant supply.

EVALUATION CRITERION 2: STATUS OF TITLE XVI PROJECT

Subcriterion No. 2a. Progress Toward Completion of an Authorized Title XVI Project (20 points)

Points will be awarded for projects that will bring an authorized Title XVI project to completion (i.e., to full Federal funding levels) or close to completion.

1. **How much Federal funding has been provided for the authorized Title XVI Project to date?**

Award of this grant will fully satisfy the authorized Title XVI Grant obligation of $7,000,000. The Bureau has provided $1,295,407.16 in Federal funding in FY 2011 and a FY 2016 Grant Award of $4,000,000, for a total funding amount of $5,295,407.16.

The U.S. Bureau of Reclamation (Bureau) authorized a $7 million in project funding, under Section 1647 of the Consolidated Natural Resources Act of 2008 (Public Law 110-229, 43 U.S.C 390h-30) (South Santa Clara County Recycled Water Project, as added by Public Law 110-229, Title V, Section 512(a)(1)) and under the Bureau's Title XVI funding (Public Law 102-575, as amended (43 U.S.C. 390h through 390h-39) for the South Santa Clara County Recycled Water Project (South County Project). The Bureau issued the "South Santa Clara County Recycled Water Master Plan Implementation - Determination of Feasibility Report for the Bureau of Reclamation" in August 2009 supporting the authorization and allowing for the issuance of grant agreements for the project. The Title XVI authorized project included the South Pipeline and the Immediate-term, Short-term and Long-term CIPs of the *2004 South County Recycled Water Master Plan* (Master Plan) at an estimated cost of $28 million.

The Bureau appropriated a total of $1,628,000 (including $135,000 set aside for administrative/post award monitoring) for Phase 1 of the Short-term CIPs of the South County Project under the federal American Reinvestment and Recovery Act (ARRA) Agreements R10AC20R53 (issued on August 31, 2010, with funds to be used by September 30, 2011) and

$1,120,000 million under R10AC20104 (issued on September 30, 2010 with funds to be used by February 28, 2012).

As the South County Project design proceeded, Phase 1 of the Short-term CIPs was further subdivided into Phases 1A and 1B due to significant utility conflicts and in order to meet ARRA grant timeline requirements. District staff approached the Bureau to obtain an extension of the R10AC20104 as well as R10AC20R53 agreements to allow for completion of the design for Phase 1B. However, due to resource constraints, the Bureau was not able to process the paperwork to extend the agreements. As a result, the District was not able to submit for grant reimbursement of Phase 1B under the R10AC20104 agreement. In addition, the funds originally authorized and obligated under R10AC20R53, were modified on November 21, 2012, and reduced by $197,592.84 for a new appropriation of $1,295,407.16. As of the R10AC20R53 Agreement Closeout (November 21, 2012), approximately $1,295,407.16 has been reimbursed. In 2016, the Bureau awarded the South County Project a grant award of $4,000,000 under ARRA Agreement R16AP00206 for the Short-term Phases 1B and 2A project elements with funds to be used by September 30, 2018.

Based on the expenditures, under R10AC20R53, R10AC20104, and anticipated expenditures, under R16AP00206, delineated in Table 3, the remaining Title XVI obligation amount is $1,704,592.84 (Original authorization of $7,000,000 - $1,295,407.16 spent - $4,000,000 (anticipated expenditures) = $1,704,592.84 remaining).

Table 3 Summary of Previous Funding Agreements and Obligations

Bureau Agreement No.	Agreement Completion Date	Bureau Appropriations/ Obligations	Reimbursement Awarded
R10AC20R53	January 15, 2012	$1,628,000(1)(2)	$1,295,407.16
R10AC20104(3)	June 30, 2012	$1,120,000	$0
R16AP00206	Estimated September 30, 2018	$4,000,000(4)	$0

Notes:

1) Of the $1,628,000 appropriation, $1,493,000 was allocated for the Phase 1 project and $135,000 set aside for administrative/post award monitoring costs.
2) The funds originally authorized under R10AC20R53, were modified on November 21, 2012, and reduced by $197,592.84 for a new appropriation of $1,295,407.16 at project closeout.
3) Grant funds originally allocated under agreement R10AC20104 are no longer available, as the authorized timeline has been exceeded.
4) In August 2016, the Bureau awarded $4 million in appropriations towards the project. The Bureau obligated $3,731,500, under agreement R16P00206, in fiscal year 2016 and proposes to amend this agreement to obligate the remaining portion of the funding award ($268,500) in the fiscal year 2017 (pending availability of funding).

2. How much Federal funding is necessary to fully satisfy the authorized Federal cost share?

There is a balance of $1,704,592.84 to fully satisfy the $7,000,000 authorized federal cost share.

The Bureau authorized $7 million in project funding, under Section 1647 of the Consolidated Natural Resources Act of 2008 (Public Law 110-229, 43 U.S.C 390h-30) (*South Santa Clara County Recycled Water Project, as added by Public Law 110-229, Title V, Section 512(a)(1)*) and under the Bureau's Title XVI funding (Public Law 102-575, as amended (43 U.S.C. 390h

through 390h-39) for the South County Project. To date, the Bureau has provided approximately $1.3 million in reimbursement awards and has awarded a grant award of $4 million for FY 2016. There is an obligation balance of approximately $1.7 million. The 25% Federal cost share for the South County Project (Phases 1B and 2A) translates to $7.8 million for a $31.2 million project. *This application is seeking a total of $1.7 million or the maximum allowable grant award to fully satisfy the remaining obligation and close out the Title XVI project.*

3. Will the funding requested under this FOA satisfy the Federal cost share?

Yes, the District is requesting the maximum $1,700,000 under this FOA which will satisfy the Federal cost share. There is an obligation balance of approximately $1.7 million. Award of this $1.7 million will zero out the Federal cost share balance and closeout the project.

Subcriterion No. 2b. Readiness to Proceed—10 Points

Points will be awarded based on the extent to which the Project activities that will be completed with the requested funding are ready to proceed, including consideration of the following:

1. What is the status of necessary environmental compliance measures?

In March 2011, the District's Board of Directors certified a Programmatic EIR (Final Program EIR for the South County Recycled Water Master Plan (2011 Program EIR)). This document also analyzed the Short-term Phase 1 capital improvements projects, further subdivided into Phase 1A and Phase 1B, at a project specific level of detail, and was approved as part of the certification of the Program EIR. In 2014, due to minor alignment changes, The District conducted an Initial Study assessment to ensure the new alignment still falls under the scope of the 2011 Program EIR. The District found that the 2011 Program EIR could be relied upon for the new alignment and that no subsequent environmental documents were necessary.

The Bureau completed a Finding of No Significant Impact (FONSI) in 2010. Due to the minor alignment changes, the Bureau is currently updating the National Environmental Protection Act (NEPA) documentation for Phases 1B and 2A. The updated NEPA and associated FONSI are anticipated to be completed in January, 2017. Related environmental and construction permits will be acquired before the start of construction activities, as discussed below.

2. When is the environmental compliance expected to be complete?

The development of the environmental, planning, and engineering documents required for the South County Project, started in 2004. Table 4 provides a chronological summary of all available project documentation completed to date or to be completed to ensure timely implementation of the project.

In February 2010, in accordance with section 102(2)(c) of the NEPA, the Bureau (as the lead agency under NEPA) found that the execution of an agreement between the District for the ARRA funding and Title XVI for the implementation of the Short Term Phase I project was not a major federal action and an environmental impact statement was not required. The FONSI was supported by Reclamation's Final Environmental Assessment (EA), Recovery Act Funding for the Short-Term Phase I Component of the South County Recycled Water Master Plan Project (June 2010).

In March 2011, the District's Board of Directors certified a Programmatic EIR (Final Program EIR for the South County Recycled Water Master Plan, March 2011 (2011 Program EIR)). This document also analyzed the Short-term Phase 1 CIPs, further subdivided into

Phases 1A and Phase 1B, at a project specific level of detail and was approved as part of the certification of the Program EIR. Phase 1A construction was completed in 2012. Phase II was evaluated at the Programmatic level and consisted of three segments - now referred as Phase 2A and 2B.

In 2013, due to modifications in the proposed alignments for Phase 1B, District staff completed a Planning Study report to evaluate the new alignments. Consequently, an Initial Study assessment was conducted to ensure the new alignment still fell under the scope of the 2011 Program EIR. No new significant impacts were found to result from the new alignments and therefore no new mitigations measures are needed. The District found that the 2011 Program EIR could be relied upon for the new alignment and that no subsequent environmental documents were necessary (District Board Memorandum, Use of the Approved 2011 Final Program EIR for the Installation of a Recycled Water Pipeline along West Luchessa Avenue in Gilroy, December 11, 2013; District Board Memorandum, South County Recycled Water Pipeline Short-Term Phase 1B, May 9, 2014; and District Board Memorandum, South County Recycled Water Pipeline Short-term Phases 1B/2A, September 28, 2015).

As part of the grant award under R16AP00206, due to the minor shift in project alignment, the Bureau is requiring a similar level NEPA environmental analysis to ensure the existing NEPA document and FONSI covers the Phases 1B and 2A projects. The NEPA document is anticipated to be completed, by the Bureau, in January 2017.

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

Table 4 Summary of Environmental Documentation

Milestone	Date
Final South County Recycled Water Master Plan	October 2004
Immediate Term CIP Project Completed	2006
Bureau Title XVI Authorization for $7 Million	2008
Hydrogeological Investigation	2009
South County Water Supply Planning Project Report	July 2010
South Santa Clara County Recycled Water Master Plan Implementation - Determination of Feasibility for the Bureau of Reclamation *(110-229)*	August 2009
South Bay Advanced Recycled Water Treatment Facility - Final Environmental Assessment/IS MND	February 2010
South County Recycled Water Pipeline Short-Term Phase 1 Project - Planning Study Report	April 2010
Reclamations Final Environmental Assessment, Recovery Act Funding for *the Short-Term Phase I Component of the South County Recycled Water Master Plan Project (*June 2010). (FONSI) (EA-10-15-MP)	June 2010
ARRA Award with execution of Funding Agreement	August 2010
Project Phase 1 split into Phase 1A and Phase 1B	early 2011
Final Program EIR for the South County Recycled Water Master Plan (Programmatic EIR) including Phase IA Project Specific EIR	March 2011

Table 4 Summary of Environmental Documentation	
Milestone	**Date**
NEPA for Phase 1A and Phase 1B	July 2011
Phase 1A Construction Completion	Fall 2012
South County Recycled Water Pipeline Short-Term Phase 1B Final Planning Study	August 2013
CEQA Memo for Camino Service Line	2013
Staff Memo on South County Recycled Water Pipeline Short Term Phase 1B New Alignment CEQA	May 2014
Camino Arroyo Service Line (Part of Phase 1B Construction Completed)	June 2015
Phases 1B and 2A Engineer's Report	August 2015
Public Hearing on Phases 1B and 2A Engineer's Report	October 2015
Phase 1B 60% Design Documents	June 2015
Phases 1B and 2A Project Approval by District Board	October 2015
Phases 1B and 2A 90% Design Documents	February 2016
Phases 1B and 2A 100% Construction Documents	December 2016
Advertise Project/Contract Documents	January 2017
NEPA for Phases 1B and 2A (Update)	January 2017
Start Construction of Phases 1B and 2A	January 2017
Completed Construction Phase 1B and 2A	April 2018
Project Completion	June 2018

2. What is the status of required State and Federal permits for the project?

- When are all required permits expected to be obtained?

All State and Federal permits are scheduled to be secured by January 2017.

Table 5 summarizes the required local, state, and federal permits required for project implementation. No additional permitting is required for the construction of the project. Significant progress has been made in securing right-of-ways/easements. It is not expected that there will be any difficulty in securing the remaining permits as construction occurs in disturbed areas and preliminary discussions with permitting agencies have shown general support for the project.

Table 5 Summary of State and Federal Permits	
Local, State, or Federal Permit	**Date/Status**
CalTrans Encroachment Permit – Trenching under Hwy 101	Complete
UPRR Agreement – Bore & Jack under Main-line and Spur-line	Complete
City of Gilroy Encroachment Permit – East & West Luchessa Avenue	Complete
CDFW Streambed Alteration Agreement – Bore & Jack under No-Named Ditch	Complete
CDFW Streambed Alteration Agreement – Directional Drill under Uvas Creek	Complete
USACE Section 408 Permit – Directional Drill under Uvas Creek Levee	Underway, December 2016
NPDES Permit – Storm & Ground Water Management	Prior to Initiation of Construction
Utility Relocation - Verizon – Telephone Poles Relocation - PG&E – Joint Pole Temporary Support	Complete
PE & TCE – Olam, Obata & Hirasaki Parcels – Construction & Structure Relocation	Complete
Dedicated Parcel – Notification of District Intent – Construction	Complete
ROW Acquisition - Obata, Hirasaki and Olam Parcels - Elite Development Parcels	 Completed To Be Determined
Lease/TCE – Filice Parcel – Equipment Staging for Directional Drill under Uvas Creek Levee	To Be Determined

EVALUATION CRITERION 3: ENVIRONMENT AND WATER QUALITY (30 points)

Points will be awarded based on the extent to which the Title XVI Project will improve surface water, groundwater, or effluent discharge quality; will restore or enhance habitat for non-listed species; or will provide water or critical habitat for federally listed threatened or endangered species.

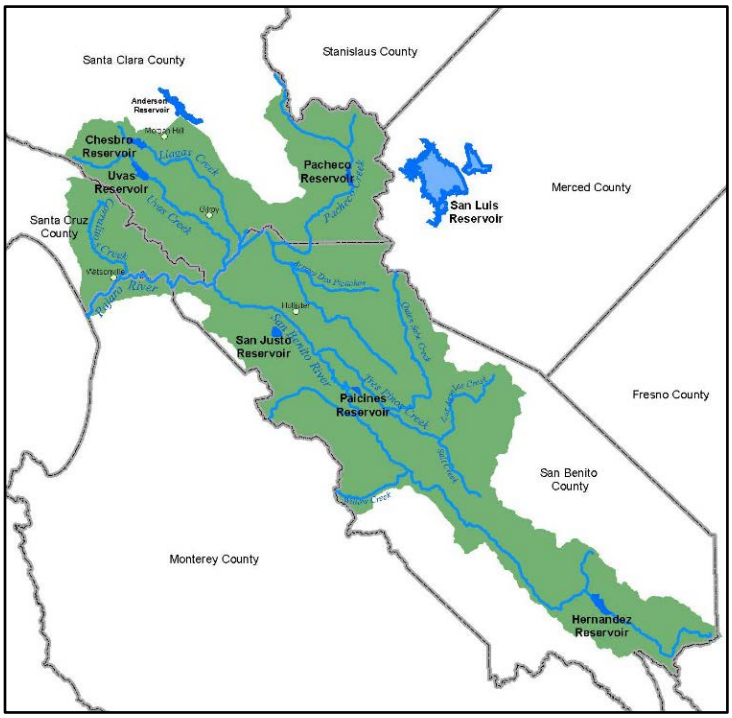
1. Will the project improve the quality of surface or groundwater? To what extent will the project improve effluent quality beyond levels necessary to meet State or Federal discharge requirements?

Yes, the project will result in reduced discharges to and improved quality of the Pajaro River.

Wastewater treated by the South County Regional Wastewater Authority (SCRWA) is discharged into a series of percolation ponds in Gilroy, Santa Clara County. SCRWA also holds a permit to discharge treated wastewater to the Pajaro River during the wet season.

The Pajaro River is the largest coastal stream between the San Francisco Bay and the Salinas Watershed with a watershed of over 1,300 square miles, located in Monterey, San Benito, Santa Clara, and Santa Cruz Counties Figure 8). The water quality of the Pajaro River has been identified by the California Regional Water Quality Control Board (Regional Board) as being impacted by sediment, nutrients, and other pollutants and is listed as required by Section 303(d)

Figure 8 Pajaro River Watershed



of the federal Clean Water Act (CWA). Under the provisions of the CWA, the State of California is required to develop and implement a water quality attainment strategy to remedy impacts and improve water quality to ultimately restore the beneficial uses of the water body.

The quest to secure a Pajaro River discharge permit dates back to 1984 when SCRWA created its general plan. The proposal was a proactive plan to pump small amounts of relatively clean water into the Pajaro River without significantly impacting downstream communities. The extra discharge capacity was especially important during the winter when wastewater flows increase but the water table rises and the need for treated wastewater for irrigation declines sharply, making traditional percolation pond disposal inadequate. However, permitting of the Pajaro River discharges were challenged by Santa Cruz County, citing water quality and flood risk concerns. Ultimately, the Regional Board determined that the discharge would not significantly impact the Pajaro River water quality and approved the permit.

When completed, the Immediate-term, Short-term CIP and South Pipeline portion of the South County Project, will reuse almost 3,100 AFY of recycled water (based on the 2015 Master Plan update), equal to the amount of treated wastewater that is periodically discharged to the Pajaro River. Upon implementation of the entire Title XVI project, the District will reuse almost 3,700 AFY of recycled water (per 2015 Master Plan update). Although permitted, minimizing the discharges by producing and expanding recycled water directly helps to improve water quality.

Additionally, while the recycled water will have been treated to reduce contaminants, there is the possibility of residual pharmaceutical and personal care products (PPCPs) remaining in the recycled water. The potential effects of PPCPs from the project were analyzed by Balance Hydrologics, Inc. (2009). Recycled water applied to the land for irrigation would result in filtration through the soil. These compounds may also be degraded by direct and indirect exposure to ultraviolet radiation (sunlight). The South County Project will increase the distribution capacity of the existing system, which may decrease the excess recycled water discharged to the Pajaro River and would minimize potential impacts to water quality resulting from PPCPs.

2. Will the Title XVI Project improve flow conditions in a natural stream channel? Will the project restore or enhance habitat for non-listed species? If so, how?

Yes, recycled water supply will reduce demand on the groundwater, and this in turn will assist in implementing fish-friendly reservoir releases that would have otherwise been used to recharge the groundwater basin.

The south Santa Clara County communities depend on groundwater from the Llagas Sub-basin for their water supply. Three main sources replenish groundwater in the Sub-basin: deep

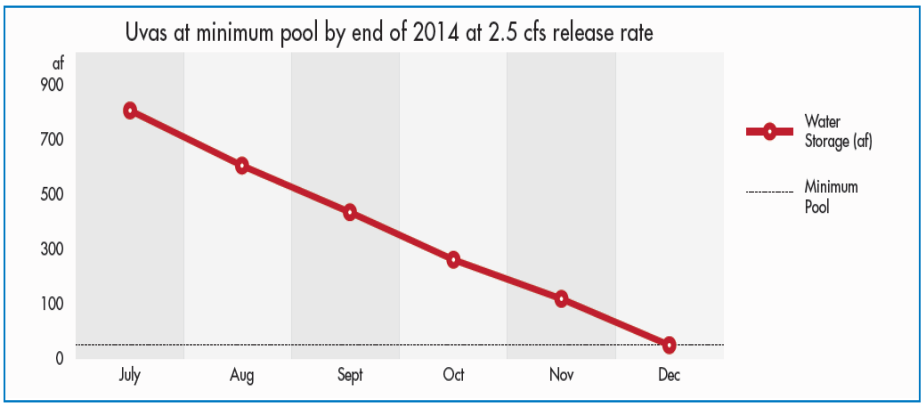
percolation of local rainfall; water captured and stored in local reservoirs, which the District releases to creeks and percolation ponds in order to replenish the groundwater basin; and, water imported through the Bay Delta, which the District also releases to creeks and percolation ponds in order to replenish the groundwater basin. Both managed and natural recharge are important for sustaining the groundwater supplies in the Llagas Sub-basin of the Gilroy-Hollister Valley groundwater basin and are an effective tool for conjunctive management of surface water and groundwater supplies.

The management of stored surface water is adjusted as seasonal conditions change. Most stored water is released in the spring after the rainfall season and allowed to percolate into the underground aquifers. Reservoirs typically fall to their lowest levels in the late fall, but rarely are empty. During the winter, in addition to overflow from the reservoirs when their capacity is exceeded, some water is released for percolation. When reservoirs fill early in the winter season, water may be released to provide more storage capacity for later-season storm runoff and to improve stream habitat.

The annual natural groundwater recharge in Santa Clara County ranges from 48,000 acre-feet in a dry year to 95,000 acre-feet in a wet year. However, annual pumping from the groundwater aquifers in the county ranges from 138,000 acre-feet to 170,000 acre-feet, or approximately 50% of the total water used in the past decade.

This year, due to limited rainfall and availability of Bay Delta water, Santa Clara County is experiencing one of the most severe droughts on record. Uvas Reservoir and Uvas Creek have not been spared from the negative effects of the exceptional drought. Reservoir operations and releases have to be optimized to balance groundwater recharge needs and in-stream flow conditions. In 2014, in consultation with California Department of Fish and Wildlife and National Marine Fisheries Service, District staff reduced water releases from Uvas Reservoir into Uvas Creek from 4.8 cubic feet per second (cfs) to 2 - 2.5 cfs (Figure 9). This action has helped assure that at least part of the creek will remain flowing until the end of the calendar year, and hopefully fall rain will occur to help creek flow beyond end of this year. How far the creek will dry is dependent on many factors, including the weather and existing shallow groundwater under the creek bed. The approximate 3,700 acre-feet per year of recycled water produced by the South County Project will reduce the demand on groundwater pumping which in turn reduces the amount of water that needs to be released from the reservoirs for groundwater recharge. This water can potentially be used to provide operational flexibility and assist in implementing fish-friendly reservoir releases that would have otherwise been used to recharge the groundwater basin. The District potentially may be able to manage Uvas Reservoir discharges to provide critical flow needs in Uvas Creek.

Figure 9 Uvas Reservoir Releases



The project will restore or enhance habitat for non-listed species because the South County Project can potentially provide an opportunity to reduce and/or off-set groundwater pumping and potentially provide much

needed operational flexibility for releases from Uvas Reservoir to enhance habitat for the riverine aquatic habitat.

Figure 10 Uvas Dam (November 2014)

As presented in the 2011 Program EIR, the reach of Uvas Creek within the project area supports South-Central California Coast steelhead (Onco-rhynchus Mykiss) as well as other fish, including native species such as the Pacific lamprey (Lampetra Tridentata), Monterey roach (Lavinia Symmetricus Subditus), hitch (Lavinia Exilicauda), pikeminnow (Ptychocheilus Grandis), threespine stickleback (Gasterosteus Aculeatus), and riffle sculpin (Cottus Gulosus) as well as nonnative fishes such as the mosquitofish (Gambusia Affinis), bluegill (Lepomis Macrochirus), and inland silverside (Menidia Beryllina). Waterbirds such as belted kingfishers (Ceryle Alcyon), mallards (Anas Platyrhynchos), wood ducks (Aix Sponsa), and green herons (Butorides Virescens) forage in these waters. Non-native bullfrogs (Rana Catesbeiana) are abundant in Uvas Creek, while smaller numbers of western pond turtles (Emys Marmorata) also occur here. Portions of Uvas Creek in the project area vicinity dry completely by late summer, and aquatic species are thus seasonally limited in their distribution. Given the 9,835 acre feet capacity of Uvas Reservoir, the completion of the Title XVI authorized project will provide for 2,500 acre-feet per year of new supply and the full utilization of the 1,200 acre feet of existing supply for a total of approximately 3,700 acre-feet per year will off-set groundwater pumping and provide much needed operational flexibility for releases from Uvas Reservoir to enhance habitat for the riverine aquatic habitat.

3. Will the project provide water or habitat for federally listed threatened or endangered species? If so, how?

Yes, through in-lieu recharge, the South County Project will provide water for three federally listed threatened or endangered species.

As presented in the 2011 Program EIR, the project area was surveyed for threatened and endangered species and critical habitat as part of the project level and programmatic level Environmental Impact Report. Survey results indicated that the South-Central California Coast Steelhead (Oncorhynchus Mykiss) (Federal Status: Threatened; State Status: Species of Special Concern) is located within the project area and Uvas Creek (Figure 11 and Figure 12).

The steelhead is an anadromous form of rainbow trout that spends portions of its life cycle both in the ocean and in freshwater streams. Streams preferred by this species (found throughout its range) typically support dense canopy cover that provides shade, woody debris, and organic matter. Stream reaches in which spawning occurs are usually free of rooted or aquatic vegetation. Gravel substrates are the optimum spawning habitat (H.T. Harvey & Associates 2010). Steelhead populations have declined due to degradation of spawning habitat, introduction of barriers to upstream migration, over-harvesting by recreational fisheries, and reduction in winter flows due to damming and spring flows due to water diversion.

Figure 11 Steelhead Trout Swims in Uvas Creek

In 2005, NMFS designated new critical habitat, including specific accessible streams (NMFS 2005). This critical habitat includes the entire reach of Uvas Creek within the project area (H.T. Harvey & Associates 2010). Steelhead have been documented in Uvas Creek within the project area (Smith 1982). Juvenile steelhead are likely to occur in the upstream reaches of Uvas Creek in the vicinity of the project area throughout the year, as the reaches at and above Santa Teresa Boulevard typically contain water year-round. Portions of Uvas Creek in the area may provide suitable spawning habitat. However, reaches of Uvas Creek downstream from Santa Teresa Boulevard are typically dry during summer and fall, and thus steelhead are absent from most of the on-site portions of the creek during the dry season (H.T. Harvey & Associates 2010).

Figure 12 Adult Steelhead Spawning in Uvas Creek below Uvas Reservoir

As previously described, given the 9,835 acre feet capacity of Uvas Reservoir, the completion of the Title XVI authorized project, the South County Project will provide for 2,500 acre-feet per year of new supply and the full utilization of the 1,200 acre feet of existing supply for a total of approximately 3,700 acre-feet per year (2015 Master Plan update) and may provide opportunities to potentially offset groundwater pumping and potentially provide operational flexibility for releases from Uvas Reservoir to enhance habitat for the riverine aquatic habitat.

EVALUATION CRITERION 4: RENEWABLE ENERGY AND ENERGY EFFICIENCY (25 points)

Points will be awarded based on the extent to which the Title XVI Project incorporates the use of renewable energy and/or addresses energy efficiency:

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

The South County Project does not include the installation of facilities that enable use of renewable energy sources to provide power to components of the project.

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

This project does not facilitate power generation in the water delivery system but does improve energy efficiency in the water delivery system. The South County Project is designed to maximize energy efficiency.

Wastewater treatment and water reclamation plants are often among the largest consumers of electricity in a community, with treatment and pumping requiring the majority of energy consumption. The District and SCRWA are two energy conscious agencies whom continue to implement energy efficient measures to reduce energy consumption. SCRWA implements process control modifications, replaces old equipment, and identifies solutions to help manage its monthly energy bills. Given the significant demand for power, SCRWA selects energy-efficient treatment processes, but also operates the process equipment accounting for the predicted fluctuations in daily power cost between night and peak day hours. Wherever possible, SCRWA has made the necessary process control adjustments to take advantage of this opportunity. To avoid high energy costs, SCRWA has implemented energy conservation and efficiency measures including: operation schedules modifications to increase in recycled water storage; use of premium efficiency motors and equipment; and installation of variable frequency drives (VFDs) and advanced equipment controls.

Since the installation of many of the original recycled equipment, there have been advances in green and sustainable technologies that are on the market to minimize power use in at SCRWA facility. The No. 1 consumer of energy in the plant is typically electric motors, which are used for pumps and blowers. Manufactures are taking great strides to make these devices more efficient. Equipment manufacturers will continue to improve device efficiencies – not only for improving efficiencies but also for validating and documenting the strides they have taken to accomplish power reduction and sustainability. SCRWA has taken and will continue to take advantage of such new technologies – efforts don't stop with conservation. In addition standards have been enacted to provide guidance with this, including super-efficient class of electric motors. Many of the necessary improvement projects require expert advice and use of new technologies.

SCRWA and the District have worked with PG&E during the design of capital projects to perform comprehensive studies to select the most energy friendly equipment. SCRWA participated in PG&E's customized energy efficiency and demand response program for the Tertiary Filter Expansion project in 2006, and Influent Pump Station project in 2010. The process improvements included installation of high efficiency pumps, variable frequency drives on pumps, and premium efficiency motors. Besides the obvious benefit of a lower power bill, SCRWA is credited for carbon footprint reduction and energy efficiency.

In addition to replacing drives and pumps, the system is being designed to reduce headloss through adding parallel pipelines and upsizing pipes. A summary of the proposed headloss improvements is shown in Table 6 below.

3. Will completion of the project lead to a reduction in energy consumption as compared to current water supply options?

- Provide calculations and describe assumptions and methodology.

As shown in Table 7 above, improvements made as part of this South County Project Short term phase will provide a 95% reduction in headloss over the existing system. The information in the table was calculated by using a H20NET hydraulic model of the existing and proposed distribution systems. Additionally, the following modeling criteria were applied:

Table 6 Recycled Water System Headlosses			
	System Headloss (ft)	Total Headloss (ft)	Reduction (%)
Zone 1: Headlosses between the Area 93 Pump Station and the Zone 2 Pump Station			
Existing System	132	-	-
Immediate - Term	48	84	64%
Near-Short - Term	6	126	95%
Long - Term	6	126	95%
Zone 2: Headlosses between the Zone 2 Pump Station and Hoylake Tank			
Existing System	19	-	-
Immediate - Term	10	9	49%
Near-Short - Term	7	12	63%
Long - Term	5	14	75%
Notes: (1) Preliminary estimates provided by Akel Engineering Group, Inc. based on draft 2015 Master Plan.			

Distribution System Performance Criteria

- Pipe Headloss < 4ft/kft.
- Pipe Velocity < 5 fps.
- Pressure Range 60-120 psi.

Pump Station Performance Criteria

- Pressure Zones with Storage: Meet peak hour demand with largest unit out of service.
- Pressure Zones without Storage: Meet max day demand with largest unit out of service.

The implementation of the South County Project Short-term phase will reduce the energy consumption associated with current water supply options including the importation of water or groundwater pumping. As south Santa Clara County demands increase, an additional source of water supply needs to be added. One option is an increase in the import of water from the CVP and SWP which must then be diverted, transported over long distances, and then treated prior to distribution which can require a lot of energy. If the local source water is groundwater, additional groundwater pumping maybe required resulting the level of groundwater becoming lower as more water is removed which results in an increase in the energy required to pump the water to the surface. With reductions in the SWP and CVP allocations, due to drought conditions, climate change and other factors, the District will need to find another supply source.

The next largest supply source is the groundwater basin. In order to meet the region's demands, the rate of groundwater pumping will need to increase. The implementation of recycled water project reduces the energy required to move water long distances or pump water from deep within an aquifer. Tailoring water quality to a specific water use also reduces the energy needed to treat water. The water quality required for agricultural irrigation is less stringent than the water quality needed for drinking water and requires less energy to achieve. Per the California Energy Commission's 2005 report: California's Water - Energy Relationship (CEC#700-2005-011-SF), although recycled water requires additional energy to treat wastewater for recycling, the amount of energy required to treat and/or transport other sources of water is generally much greater.

According to the District's 2011 energy and climate report, From Watts to Water, the energy intensity of the District's Water Supply Mix is 1,544 kWh/acre-feet (AF) of water delivered. This energy intensity value includes energy for conveyance/pumping, treatment, distribution, and wastewater treatment. The energy intensity of recycled water is 694 kWh/acre-feet of water delivered. The project will produce approximately 3,000 acre-feet thus leading to approximately 2,510 MWh in energy savings and 580,018 kg in avoided CO_2 emissions.

The source of energy currently used for this water supply facilities is purchased electricity from Pacific Gas and Electric or CalPine. Water pumping is the primary use. The anticipated energy use for pumping recycled water, via high-efficiency pumps, through the new pipeline would be offset by reduced pumping of groundwater, resulting in a net reduction of energy use.

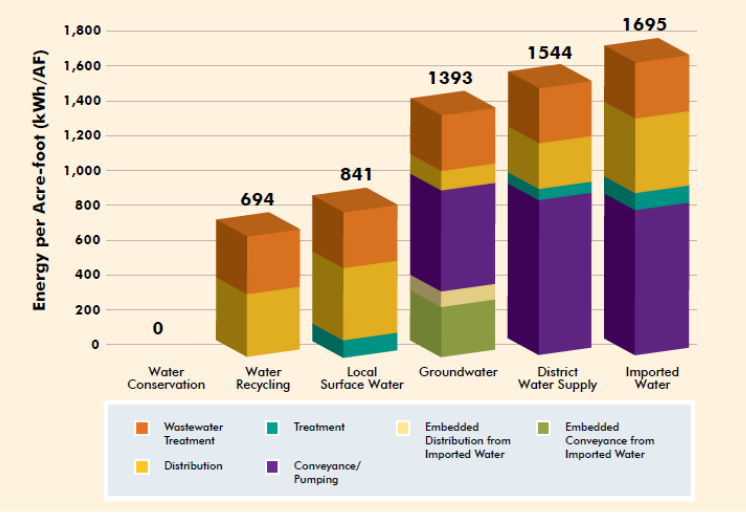
4. Will the project include any innovative components to reduce energy consumption or to recover energy?

The South County Project does not include any innovative components to reduce energy consumption or to recover energy.

5. How does the project's energy consumption compare to other water supply options that would satisfy the same demand as the project?

This project will distribute approximately 3,700 acre-feet of tertiary-treated recycled water which has the lowest energy intensity of all potential water supply sources. The District identified a number of water supply sources, including recycled water, blended recycled water, south Santa Clara County water supply mix, imported water, IPR blend, and 100% pure Advanced Treatment Recycled Water (ATRW) and compared the energy consumption for each of these supply sources as shown on Figure 13. Desalination was not considered because it is not currently a water supply source and facility construction plans are still in the feasibility stage. In comparison to the rest of the water supply options, tertiary treated recycled water compared very favorably to the other water supply sources noted below.

Figure 13 Energy Intensity of Water Supply Sources



As shown on Figure 13, water conservation and water recycling save energy when compared to the option of the District Water Supply mix of half groundwater and half imported water to meet the same demand. To compare these options, the District developed energy use factors, ratios of energy compared to volume of water processed (conveyed, pumped, and treated to drinking water and wastewater standards) in its publication *From Watts to Water* (May 2011). It was found that of the potential solutions identified, imported water or groundwater pumping could satisfy the same demand, however these two supply sources utilized a high energy consumption than recycling and would not be equally reliable, and drought proof. The energy intensity of the imported water supply option has twice the energy requirement

per acre-foot of water produced compared to the energy to produce recycled water for the South County Project.

EVALUATION CRITERION 5: COST PER ACRE-FOOT OF WATER AND OTHER PROJECT BENEFITS (25 points)

Points will be awarded based on the cost per acre-foot of water expected to be delivered upon completion of the project and other benefits of the project. Please use costs related to the entire authorized project, not just the cost of work through September 30, 2018.

Background

In 2004, the District and SCRWA, with participation from the cities of Gilroy and Morgan Hill, jointly prepared the South County Recycled Water Master Plan (Master Plan, 2004) to maximize the use of recycled water in south Santa Clara County and limit use of potable water for uses in which recycled water is a reasonable alternative. The Master Plan laid out an implementation plan, consisting of the South Pipeline and the Immediate-, Short-, and Long-Term capital improvement projects (CIPs).

As previously described, the South County Project, as included in the Bureau approved Santa Clara County Recycled Water Master Plan Implementation Determination of Feasibility Study (August 31, 2009) (Feasibility Study) consisted of the South Pipeline and the Immediate-term, Short-term, and Long-term CIPs of the Master Plan (2004) at an estimated cost of $28 million (2004). Upon completion of the South County Project, the Feasibility Study estimated the projected annual water deliveries would increase to 3,427 acre-feet.

The South Pipeline and Short-term CIPs, as defined by the Feasibility Study, is estimated to cost $41.1 million, with the Short-term Phases 1B and 2A estimated to cost $31.2 million. The Short-term CIPs consist of the following:

- Phase 1A (Completed) - Improvements included a 30-inch recycled water pipeline extending from an existing recycled water pipeline near the SCRWA Wastewater Treatment Plant to Southside Drive. The pipeline connects to an existing pipeline located just north of the water recycling facility and heads northerly along Engle Way to Southside Drive, continues westerly along Southside Drive and ends at the northern Boundary of SCRWA's property.
- Phase 1B - Consists of the installation of three pipeline segments, ranging in size from 12 inch to 36 inch in diameter (11,100 feet) including: Existing SCRWA WWTP to Phase 1A, Phase 1A to intersection of Luchessa Avenue/Monterey Road, and Existing Recycled Water Pipeline to new Industrial Customer, Cintas Corporation.
- Phase 2A – Installation of a 30 inch pipeline (3,400 feet) to extend recycled water along West Luchessa Avenue from Monterey Road to Thomas Road.
- Phase 2B - Improvements include 2.9 miles of recycled water pipeline, assorted appurtenances, 3 million gallon reservoir, and a three-million-per-day pump station/booster station. *Implementation of all segments of the Short-term Phase 2B is currently uncertain due to lack of secured funding, changes in customer demand and delayed development of infrastructure.*

This funding proposal seeks Federal cost share for the following authorized Title XVI project Short-term elements:

- Phase 1B - Camino Arroyo Service Line Extension: Installation of 18 inch diameter pipe (2,100 linear feet) and associated appurtenances starting near the Princeville Storm Drain, traversing Venture Way to Camino Arroyo, to Holloway Road, and ending at Sillaci Way. *(Completed in June 2015).*
- Phase 1B - Wastewater Treatment Plant Line: Installation of a 36 inch pipeline (800 feet) that extends northwesterly from the existing SCRWA WWTP and connecting to the Phase 1A pipeline (installed in 2012) on Engle Way.
- Phase 1B - Trunk Sewer Alignment: Installation of a 30 inch pipeline (3,100 feet) from the Phase 1A pipe on Southside Drive northwest and parallel to SCRWA's Trunk Sewer to the future extension of East Luchessa Avenue.
- Phase 1B - East Luchessa Avenue Line: Installation of a 30 inch pipeline (5,100 feet) that runs from the Trunk Sewer Alignment segment and heads west to Monterey Road.
- Phase 2A - West Luchessa Line: Installation of a 30 inch pipeline (3,800 feet) to extend recycled water along West Luchessa Avenue to Thomas Road, where it will be connected to a recycled water pipeline being installed by a private developer.

Costs for the Title XVI authorized project components, including the South Pipeline, and the Short-term (Phase 1A and Phases 1B and 2A), are presented below. The project costs below do not include the Immediate-term CIP costs as the project was completed prior to the authorization.

1. Reclamation will calculate the cost per acre-foot of the project using information provided by project sponsors. Please provide the following information for this calculation.

(a) The total estimated construction costs, by year, for the project (include all previous and planned work).

The total design and construction costs of the Title XVI South County Project through September 2019 are anticipated to be $41.1 million dollars as shown in Table 7 below. In alignment with the partnership agreement, the District has paid or will pay for the design and construction of the South County Project South Pipeline and Short-term phases through a combination of various funding sources including: cash reserves, Water Enterprise Fund, and recycled water rates. The District is financing the implementation of the South Pipeline and Phases 1B and 2A project.

The District will begin construction of the Phases 1B and 2A project in January 2017. The recycled water pipelines will be operational by June 2018. The total Planning & Design and Construction costs of the Phases 1B and 2A project is approximately $31.2 million.

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

The total cost to plan and design the project as summarized in Table 7, is $10,463,005, which includes the development of the Title XVI Feasibility Study which was completed on August 31, 2009.

(c) The average annual operation and maintenance costs for the life of the project (note: this is an annual not total cost).

Table 7 South County Project Design and Construction Costs		
Calendar Year	**Cost Category**	**Cost**
South Pipeline (Completed)		
2002-2012	Planning & Design	$844,113
Phase 1A (Completed)		
2004-2012	Planning & Design	$3,687,891
Phases 1B and 2A		
2012-2016	Planning & Design	$5,174,000
2017	Planning & Design	$448,000
2018	Planning & Design	$294,000
2019	Planning & Design	$15,000
Planning & Design Subtotal	**Planning and Design**	**$10,463,005**
South Pipeline (Completed)		
2004-2012	Construction	$3,376,454
Phase 1A (Completed)		
2010-2012	Construction	$1,965,605
Phases 1B and 2A		
2012-2016	Construction	$2,678,000
2017	Construction	$10,594,828
2018	Construction	$11,993,329
2019	Construction	$0
Construction Subtotal	**Construction**	**$30,608.216**
Total Project Cost		**$41,071,220**

The Immediate-term, Short-term Phase 1A, and the South Pipeline components of the South County Project have been in operation since fiscal year 2012 and the District will have delivered approximately 1,500 acre feet (or 500 acre feet per year) of recycled water by the end of 2015. With the completion of Short-term CIP (including Phases 1B and 2A), the recycled system will be delivering approximately 3,100 AFY of recycled water. Upon completion of the whole Title XVI project, the recycled system will be delivering approximately 3,700 AFY of recycled water.

As discussed in the Master Plan, the operation and maintenance (O&M) costs associated with the recycled water system include costs of power for pumping, distribution system maintenance (including labor and materials), and general administration. The O&M costs associated with treatment is not included as that is included as part of the SCRWA facility O&M costs. It is assumed that the cost of electricity is assumed to be $0.14 per kilowatt hour. The average annual maintenance expense for the recycled water distribution system was assumed to be $2,800 per mile and General Administration costs (including customer accounting, meter reading, and other miscellaneous costs) were assumed to be $1,500 per mile of distribution pipeline per year. **The total O&M cost associated with the South County Project facilities (Short-term Phases 1A and 1B and 2A and South Pipeline) is $74,000 per year.**

(d) The year the project will begin to deliver recycled water.

The South County Project Short-term Phase 1A and South Pipeline were completed in 2012. The South Pipeline has been delivering recycled water since project completion. The Short-term

Phase 1A project segment currently delivers 0 AFY. Until the Short-term Phases 1B and 2A project segments are completed, the already constructed Phase 1A cannot achieve the anticipated Short-term deliveries of 1,480 AFY. The proposed Short-term Phases 1B and 2A will be completed in 2018, and along with the Immediate-term and South Pipeline phases, the system is anticipated to support delivery of 3,100 AFY of recycled water, based on the 2015 projections for the Short-term CIPs (including Phase 1A, 1B and 2A), upon project completion.

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

The assumed life of the recycled water treatment distribution system is 50 years, assuming no salvage value and an annual delivery of approximately 3,100 AFY of recycled water for a total of 155,000 acre feet over the life of the facilities.

(f) All estimated replacement costs by year.

The total replacement costs are assumed to be 5% a year of the construction cost for mechanical equipment, which is estimated at 5% of the costs. Therefore, replacement costs for the Immediate-term, Short-term and South Pipeline facilities are estimated to be 5% of 5% of $41.1 million, or $102,678/year.

(g) The maximum volume of water (in acre-feet) that will be produced upon completion of the project.

Completion of the South County Project, including the Immediate-term, Short-term, Long-term and South Pipeline efforts will increase the annual delivery of recycled water by approximately 2,500 acre-feet a year for a total delivery of approximately 3,700 acre-feet per year of recycled water usage (based on the 2015 Master Plan update) or a total of 185,000 acre feet over the life of the facilities.

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

Recycled water provides multiple benefits to District's diversified water portfolio including but not limited to: being drought resistant; being independent of the Bay Delta; providing environment enhancement to the South San Francisco Bay; and being resistant to long-term climate change. Due to these benefits, recycled water is considered the critical elements to the well-constructed water portfolio.

In terms of cost, the District's analyses indicated that recycled water is cost competitive to other alternatives such as new storage and sea water desalination. The proposed Title XVI project constructs infrastructure to expand the non-potable recycled water uses in South Santa Clara County. The annual cost of delivered recycled water was estimated based on the project costs and O&M costs. A 5.5% interest rate, over 50 years, was assumed in order to convert the project costs to an annual basis. Each phase of the Master Plan CIP included incremental project costs and incremental O&M costs that all the calculation of the cost per additional acre-foot of recycled water use in each phase. With the full implementation of Immediate-, Short-, and Long- term program elements, at an estimated ultimate annual recycled water usage of 3,700

acre-feet a year, the cost of recycled water distribution is $841 per acre foot delivered. With the implementation of just the Short-term program and South Pipeline elements, at an estimated annual recycled water usage of approximately 3,100 acre-feet a year, the cost of recycled water distribution is $898 per acre foot delivered.

The only other water supply under consideration that is drought tolerant (like recycled water) is desalination. The Bay Area Regional Desalination Study estimated that desalination would cost between $1,237 and $1,363 per acre-feet. Expanding the south Santa Clara County recycled water system is more cost effective and preferable to other options considered while also providing a drought tolerant supply.

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

In addition to the direct availability of delivery recycled water, the South County Project Immediate-term, Short-term and South Pipeline elements provides several economic benefits to the region as well. The availability of recycled water accomplishes the following benefits:

- Promotes water conservation.
- Avoids or defers water supply and wastewater treatment/disposal costs.
- Provides in-lieu recharge of the Llagas Sub-basin.
- Promotes the use of recycled water in new applications.
- Produces approximately 3,100 acre-feet a year of recycled water which is reliable, drought tolerant, sustainable water supply.
- Maximizes the wastewater flows for irrigation and delivers recycled water to various users in lieu of continuing to pump from the groundwater basin or importing water.

In Santa Clara County, where water supply options are increasingly limited and wastewater discharge requirements are becoming more rigorous, the avoided costs realized through water recycling are significant. In addition, the construction of the South County Project decreases reliance on environmentally sensitive projects such as the construction of a desalination facility and an increase in CVP/SWP water deliveries. This not only helps preserve the environmental quality of the county, but also the Delta of the San Joaquin and Sacramento Rivers.

EVALUATION CRITERION 6: RECLAMATION'S OBLIGATIONS AND BENEFITS TO RURAL OR ECONOMICALLY DISADVANTAGED COMMUNITIES

Subcriterion No. 6a. Legal and Contractual Water Supply Obligations—10 Points

Points will be awarded for projects that help meet Reclamation's legal and contractual obligations.

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

Yes, the South County Project may help the Bureau mitigate their Central Valley Project's obligation.

The District is one of the Bureau's Central Valley Project's (CVP) contractors, and Santa Clara County is within the Bureau's contractual service area for this CVP water. The 1960s and 1970s were decades of rapid growth for Santa Clara County's population and employment, including the semiconductor and computer manufacturing industries. To increase the reliability of the county's water supply, the District contracted with the Bureau for the delivery of water from CVP through the San Felipe Project. The first delivery of CVP water took place in 1987, and in 1989 the Santa Teresa Water Treatment Plant began operations, giving the District the ability to fully utilize this additional source of imported water.

The District imports approximately 55% of its water supply. The District has a contract for 100,000 AFY from the State Water Project (SWP), and 152,500 AFY from the CVP. Actual water deliveries vary greatly depending on precipitation and annual hydrological conditions. As illustrated in Table 8, water supplied by the Bureau's CVP ranges from 69,000 acre-feet in a single dry year to 108,000 acre-feet in a normal rainfall year. In 2015, the allocations were cut to 20% of the SWP allocation and to 25% of historical demands for the CVP - for a total of 40,300 AFY. In addition, the District is projecting that the climate change will provide a negative long-term impact to the Sierra snowpack, further reducing the reliability of the District's imported water supply and the Bureau's ability to deliver its contracted CVP obligation. All of these issues support the need of a supplemental, locally-controlled, and drought-resistant water supply.

All recycled water uses in Santa Clara County may provide the potential opportunity to reduce the District's reliance on importing water from the Delta. Recycled water uses currently account for just over 5% (or 20,000 acre-feet per year) of the total county water uses. This usage, currently all non-potable uses, on the other hand, signals a great future potential for this drought-proof water source. Building this South County Project will help provide an all-weather, drought proof and robust non-potable water supply that can help the District stretch potable supplies. Should there be emergencies or outages in the Bay Delta, or other flow constraints due to environmental sensitivities in the Delta region, some amount of these shortfalls in CVP supplies due to these challenges may be met by local recycled water. District is planning on recycled

Table 8 Central Valley Project and State Water Project Deliveries

Source	Contract Amount	Normal Year (2002)	Multiple Dry Year Avg. (1987-1992)	Single Dry Year (1977)
SWP(1)	100,000	64,000	31,830	11,000
CVP(1)	152,500	108,120	80,270	69,180
SFPUC supplies through 2018(2)	-	65,500	50,150(3)	52,600(3)
SFPUC supplies after 2018(4)	-	63,850	48,500(3),(5)	50,950(3),(5)

Notes:
(1) SWP & CVP values are based on DWR 2009 Reliability Study and CALSIM II modeling results for future 2029 conditions with climate change and include both M&I and Ag.
(2) Based on Interim Supply Allocations adopted by SFPUC in December 2010.
(3) Based on "Procedure for Pro-Rata Reduction of Wholesale Customers' Individual Supply Guarantees" under 2010 demand conditions and Tier Two Allocations calculation spreadsheet provided by BAWSCA.
(4) Based on SFPUC Individual supply guarantees (ISGs).
(5) For planning purposes, BAWSCA has recommended that all its agencies use the values associated with the Tier Two Drought Allocation Plan for all years out to 2035. San Jose and Santa Clara have temporary/interruptible contracts with the SFPUC. If a drought were to occur at such time that the SFPUC has terminated or reduced either or both of these cities' individual contracts, their drought allocations would be diminished.

water providing 10% of the county's water supply by year 2025 (i.e. approximately 35,000 acre-feet recycled water) and up to 50,000 acre-feet by 2030. However, to get to these levels, significant capital is needed to construct the recycled water distribution infrastructure. Any financial assistance from the Bureau to implement the District's recycled water strategy will help the District to reduce the reliance on the Federal facility and CVP supplies.

Subcriterion No. 6b. Benefits to Rural or Economically Disadvantaged Communities (10 Points)

Points will be awarded based on the extent to which the Title XVI Project serves rural communities or economically disadvantaged communities in rural or urban areas.

Does the project serve a rural or economically disadvantaged community? (A rural community is defined as a community with fewer than 50,000 people.

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

Yes, the South County Project serves and directly benefits the rural and disadvantaged communities of Gilroy and Morgan Hill and the surrounding agricultural areas.

The south Santa Clara County communities and Gilroy and Morgan Hill depend on groundwater from the Coyote Valley (Santa Clara sub-basin) and the Llagas Sub-basin for their water supply. The amount of groundwater pumped from the sub-basins is almost two times the amount that nature replenishes. Groundwater pumping in these basins has increased by more than 30% over the last 20 years. The District actively manages these sub-basins and on average has augmented the Llagas Sub-basin with 24,000 acre-feet per year, of which 50% was imported water.

District's South County Water Supply Planning Project, Project Report (July 2010) supported the need for the project. Findings included:

- Groundwater demands in the Llagas Sub-basin are expected to increase by about 7,000 AFY from about 44,000 AFY in 2001 to about 51,000 AFY in 2030. These projections include about 4,100 AFY of additional conservation and 1,900 AFY of additional recycling by 2030.
- Additional supplies are needed to meet future demands. The District staff anticipates a water supply shortfall of 4,000 (likely) -16,000 (conservative) AFY of the 2030 demands.
- Groundwater elevations should be maintained at levels above those seen in 1990 to avoid adverse groundwater impacts such as minimizing the sub-basin exchange between Llagas and Bolsa Sub-basins and to avoid significant drawdown in the groundwater wells.

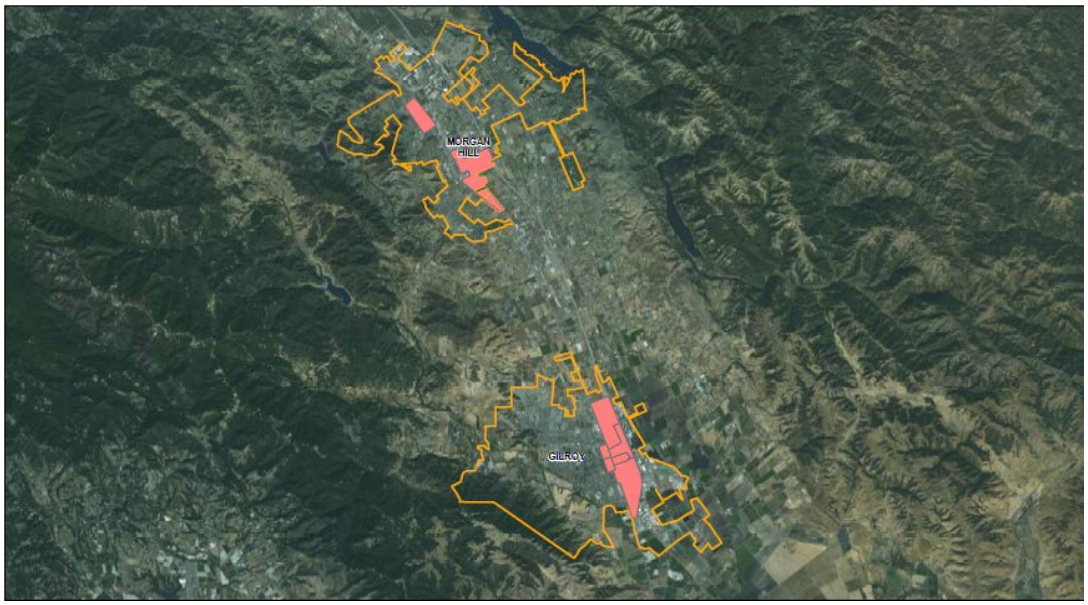
Based on historical groundwater production data it has been demonstrated that with the decrease in rainfall and imported water supply and sustained water supply demands, the result is an impact to the groundwater table. This condition has been observed in the Llagas Sub-basin groundwater elevations during the last several years of drought. Although water levels are recovering due to significant water use reduction and improved water supply available for recharge, the District must plan for continued or future drought. The concern associated with the long-term water level declines in south Santa Clara County is the potential for some groundwater wells to go dry and/or the increase in pumping costs for well owners. The District is developing

and implementing recycled and purified water projects to help ensure water supply reliability and groundwater sustainability. The use of delivered recycled water over pumped groundwater is considered "in lieu recharge" and directly benefits the communities of Gilroy and Morgan Hill, which rely on the groundwater resources.

With a population of 48,821 (2010 census data) and an unemployment rate of 10.7% (as of August 2013) compared to the state average of 8.5% (as of October 2013), Gilroy is economically disadvantaged and rural. More telling of the economic state of the area is the extremely low per capita income of $22,071 and the 10.4% of the population that lives below the poverty line. With a population of 33,556 (2010 census data), Morgan Hill is considered a rural community with 4.7% of the population below the poverty threshold. Several of the largest employers in the area are agricultural companies, which are highly dependent on a reliable water supply (e.g., Christopher Ranch Garlic and Olam Spices and Vegetables).

Additionally, both the cities of Gilroy and Morgan Hill include census block groups that meet the definition of a California Disadvantaged Community, with a Median Household Income (MHI) of less than 80% of the Statewide annual MHI. The US Census American Community Survey (ACS) 5-Year Data reflects a California MHI of $61,094 and hence a calculated DAC threshold of $48,875. As depicted by the highlighted areas on Figure 14, there are DAC census block groups located within the both the Cities of Gilroy and Morgan Hill. There are 11,578 people within the DAC areas with an MHI of $39,599, well below the DAC threshold.

Figure 14 Disadvantaged Community Areas



EVALUATION CRITERION 7: WATERSHED PERSPECTIVE (15 points)

Points will be awarded based on the extent to which the Title XVI project promotes or applies a watershed perspective by implementing an integrated resources management approach, implementing a regional planning effort, or forming a collaborative partnership with other entities.

A watershed perspective generally means an approach to planning directed at meeting the needs of geographically dispersed localities across a region or a watershed that will take advantage of economies of scale and foster opportunities for partnerships. This approach also

takes into account the interconnectedness of water and land resources, encourages the active participation of all interested groups, and uses the full spectrum of technical disciplines in activities and decision making.

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

Yes, the Title XVI Project implements the regional South County Recycled Water Master Plan (2004 Master Plan), which was an interagency effort between the District, SCRWA, and with the cities of Gilroy and Morgan Hill as stakeholders and meets a high priority of the Pajaro River Watershed Integrated Regional Water Management Plan (IRWM Plan), which was an interagency effort between the District, San Benito County Water District, Pajaro Valley Water Management Agency, and numerous water resource stakeholders.

South County Recycled Water Master Plan

In 1999, the District, SCRWA, and the cities of Gilroy and Morgan Hill entered into partnership agreements to develop a marketable recycled water program in South Santa Clara County and provide for the expansion of the wastewater treatment plant and distribution system. Under these agreements, SCRWA serves as the recycled water supplier, the District as the wholesaler, and the Cities of Gilroy and Morgan Hill are the recycled water retailers.

In the same year (1999), the District's Board of Directors approved the following policy regarding recycled water:

- Ends Policy 2.1.6 Water recycling is expanded in Santa Clara County in partnership with the community, consistent with the District's Integrated Water Resources Plan (IWRP), reflecting its comparative cost assessments and other Board Policies:
  - 2.1.6.1 Target 2010, water recycling accounts for 5% of the total water use in Santa Clara County.
  - 2.1.6.2 Target 2020, water recycling accounts for 10% of the total water use in Santa Clara County.

The policy indicated that as an integral part of its comprehensive water management project, the District will, in a cost-effective manner consistent with its overall water supply mix, aggressively pursue opportunities to expand water recycling in Santa Clara County in partnership with other public entities as appropriate. The Board's policy was periodically updated and the District currently has specific policies on recycled water development, and the District has a goal of 10% of total water used in the county coming from recycled water, by year 2025. Additionally, the District's intent to increase recycled water use throughout Santa Clara County is discussed in the District's SCVWD policy documents, including the Urban Water Management Plan, Integrated Water Resources Plan, and Groundwater Management Plan.

One of the elements of the 1999 agreement was the preparation of a Master Plan for additional recycled water projects. The Master Plan was completed in 2004. The Master Plan was an interagency effort between the District, SCRWA, and with the cities of Gilroy and Morgan Hill as stakeholders, and was based on the integration of numerous plans and data from each of the agencies (Table 9).

The District and SCRWA developed the plan with the goal of expanding the use of recycled water to meet long-term water supply and wastewater needs in south Santa Clara County, specifically in and near the Cities of Gilroy and Morgan Hill (Figure 15). The South County

Project identified in the Master Plan will increase the reliability of the County's long-term water supplies. Increased recycled water usage will also lessen the demand on groundwater and provide SCRWA with additional discharge alternatives.

Table 9 Summary of 2004 Master Plan Reports and References

Title/Description	Date	Author
Gilroy 2002-2020 General Plan	June 2002	City of Gilroy
SCRWA 2000 Annual Recycled Water Report	January 2001	OMI
SCRWA 2001 Annual Recycled Water Report	January 2002	OMI
SCRWA 2002 Annual Recycled Water Report	January 2003	OMI
Waste Discharge Requirements for SCRWA	May 1999	RWQCB
Water Reclamation Requirements for SCRWA	May 1998	RWQCB
District Groundwater Management Plan	July 2001	District
SCRWA 2001 Annual Treatment Plant Report	January 2002	OMI
SCRWA 2002 Annual Treatment Plant Report	January 2003	OMI
SCRWA Water Reclamation Planning Study	February 1995	MWH
District Urban Water Management Plan	April 2001	District
City of Gilroy Water Usage Data	2003	City of Gilroy
Recycled Water Monitoring Data	2002-2003	District
SCRWA Recycled Water Booster Pump Station & Reservoir ISMD	May 2000	ESA
District Water Use Efficiency Program Annual Report	2001-2002	District
SCRWA WWTP effluent Disposal Capacity Analysis Annual Update	2001	MWH

Figure 15 South County Master Plan Study Area

Additionally, increased water recycling was identified as one of the highest priority water supply opportunities in the Pajaro River Watershed IRWM Plan. The Pajaro River Watershed IRWM Plan is a collaborative effort by the District and the Pajaro Valley Water Management Agency (PVWMA) and San Benito County Water District (SBCWD) to identify regional and multi-beneficial projects for the Pajaro River Watershed. On an individual basis, PVWMA, SBCWD, and District have each investigated and evaluated various water resource and environmental management options for the overall

wealth and well-being of the watershed within their jurisdictions. The IRWM Plan integrates these various efforts and investigates the greater Pajaro River Watershed area in order to identify and prioritize integrated regional projects for the watershed to maximize benefits to the broadest group of stakeholders in the region.

The Pajaro River Watershed IRWM Plan was developed in partnership and coordination with other watershed agencies and stakeholders. The involvement of regional stakeholders was integral to the development of the IRWM Plan. Because the lead agencies' main interests are in water supply and water quality, coordination with other agencies and organizations helped to ensure that the IRWM Plan accurately captured other water resource interests in the region. The stakeholders included organizations dealing with all aspects of water resource management, including water supply, water quality, flood protection and environmental protection and enhancement.

The South County Project helps meet the following IRWM Plan objectives:

- Meet 100% of M&I and agriculture demands (both current and future conditions) in wet to dry years including the first year of a drought.
- Meet 85% M&I and 75% agriculture demands (both current and future conditions) in second and subsequent years of a drought.
- Identify and address water supply needs of disadvantaged communities in the Pajaro River Watershed.
- Maximize the use of recycled water during the irrigation season and expand other uses of recycled water.
- Optimize the use of groundwater and aquifer storage.
- Maximize conjunction use opportunities including interagency conjunctive use.
- Optimize and sustain use of existing import surface water entitlements from the San Felipe Unit.
- Maximize the beneficial use of existing local water supplies while protecting existing surface water rights.
- Meet or exceed delivered water quality targets established by recycled water users.

Additionally, the project is consistent with and supported by the California Water Plan Update and the Central Coast Regional Water Quality Control Board Basin Plan.

2. Does the Title XVI project promote collaborative partnerships to address water-related issues? Explain.

Yes, the South County Project promotes a multi-agency collaborative partnerships to address both water supply and wastewater discharge issues. See Figure 16.

The South County Project is a collaborative partnership between SCRWA as the recycled water supplier, the District as the wholesaler, and the cities of Gilroy and Morgan Hill as the recycled water retailers. The Master Plan defined the South Pipeline Project and the Immediate-, Short-, and Long-term CIPs to expand the use of recycled water in Gilroy and Morgan Hill. Figure 17 contains the 2004 Master Plan original Short-term and Long-term Implementation map.

Figure 16 Letter from South County Regional Wastewater Authority

SOUTH COUNTY REGIONAL
WASTEWATER AUTHORITY

1500 Southside Drive
Gilroy, California 95020-7042
Telephone (408) 848-0480
Facsimile (408) 842-0873
scrwamail@ci.gilroy.ca.us

November 30, 2016

Mr. Garth Hall
Deputy Operating Officer
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3686

Subject: **Support of South Santa Clara County Recycled Water Project**

Dear Mr. Hall,

The South County Regional Wastewater Authority is pleased to support the Santa Clara Valley Water District (District) grant application in response to the new United States Bureau of Reclamation (Reclamation) WaterSMART Title XVI Water Reclamation and Reuse Program funding opportunity announcement, BOR-DO-17-F002, to use the remaining funds for the South Santa Clara County Recycled Water Project (Project), Phases 1B and 2A.

I am writing to express our strong support for the Project, to convey our desire to continue to work in partnership with the District to strengthen the water reuse projects and, in particular, furthering those that support to increase reusable water supplies. We understand the objectives of the Project are to: (1) expand the use of recycled water in the City of Gilroy up to approximately 3,000 acre-feet per year, (2) improve reliability of the existing recycled water system in south Santa Clara County, and (3) improve groundwater management of the Llagas subbasin that directly supports the Cities of Gilroy and Morgan Hill. Additional assistance from Reclamation is needed in order to develop this sustainable water resource to its full potential.

Specifically, we recommend that Reclamation use its discretion under the Title XVI of the Public Law 102-575, as amended (43 United States Code [U.S.C.] 390h through 390h-39) to: (1) approve additional planning and construction assistance grants to support regional-scale water reuse programs and (2) provide additional grant assistance for those water reuse projects that specifically incorporate system reliability and expansion as project elements. Adding reliability to existing recycled water systems and expansion will assist in managing groundwater basins and provide operational flexibility for state or Federal water projects in addition to larger Federal agency mandates.

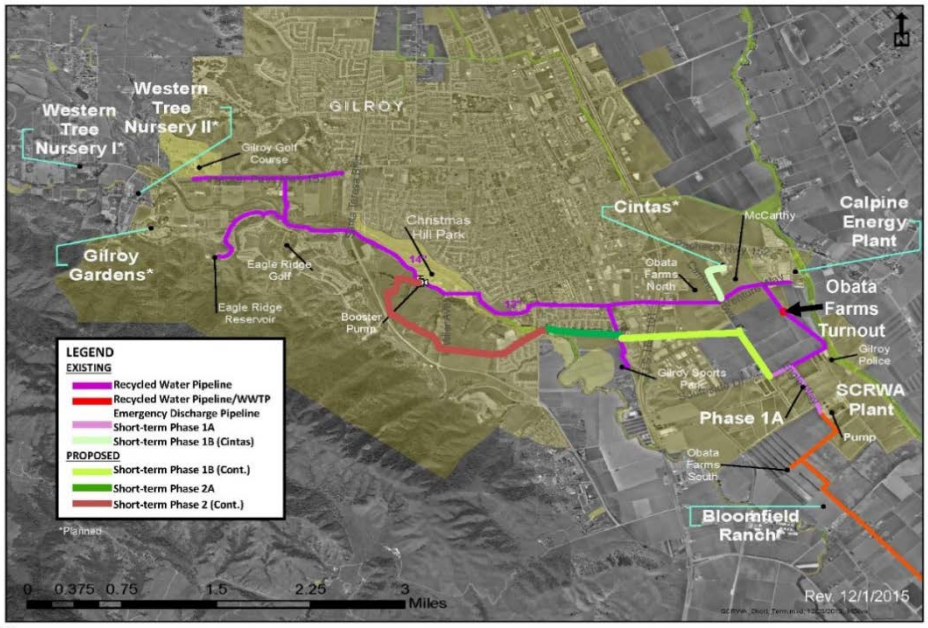
We look forward to working with the Reclamation to help ensure that, in the future, recycled water plays an even larger role in Reclamation's efforts to ensure adequate water supplies for drinking, agriculture, recreation, ecosystem health, and economic activity throughout the West.

Sincerely,

Saeid Vaziry, P.E.
Environmental Programs Manager

cc: Mr. Hossein Ashktorab, Santa Clara Valley Water District

Figure 17 South County Project - Existing and Proposed Short-Term Facilities Phasing



The SCRWA WWTP is located two miles southeast of downtown Gilroy, California, on Southside Drive. The SCRWA WWTP serves approximately 80,000 people in the Cities of Gilroy and Morgan Hill. The plant provides recycled water to customers to irrigate local parks, golf courses, sports complex, landscape medians, agricultural and industrial uses. The existing Recycled Water Distribution Pipeline consists of 43,772 linear feet (8.29 miles) of pipeline ranging in size from 12-inch through 36-inch diameter pipeline, a 4.0 million gallons per day booster pump station, and a 1.5 million gallon storage tank. The Short-term CIP Phases 1B and 2A project will add 14,500 linear feet of pipeline and the implementation will increase recycled water use to approximately 3,100 AFY when completed.

Immediate-Term Project

The Immediate-term CIP Project, which was completed in conjunction with SCRWA's WWTP expansion project, included the construction of approximately 4,800 feet of 20-inch recycled water distribution pipeline, retrofit and rehabilitation of 7,500 feet of 20-inch recycled water distribution pipeline, and a 3 million gallon recycled water reservoir. The District leveraged its local dollars with a $2.2M state grant to help complete the immediate-term project. At the same time, SCRWA increased their tertiary filtration capacity and added a 3 million gallon per day pump station that feeds the new distribution pipeline. The completion of the Immediate-term Project increased recycled water use by approximately 500 acre-feet per year (AFY).

Short-Term Project - Phase 1A (completed), Phase 1B and 2A (current) and Phase 2B (future)

The Short-term CIP Project was planned to meet the increasing demand for recycled water to both existing and new customers by adding a larger and new pipeline in areas where it is feasible and/or replacing the 12-inch pipeline if necessary. This Short-term Project was divided into Phase 1 and Phase 2. An element of the Short-term Project, the Gilroy Sports Park Extension, was completed, and consisted of approximately 3,400 feet of 12-inch diameter service pipeline extension from the existing 12-inch diameter distribution pipeline to provide recycled water to Gilroy Sports Park, and also constructed a separate turnout to Gilroy Golf Course. In addition, leveraging federal grant dollars, Phase 1A of this Short-term Project was also recently completed. In order to meet requirements of the Federal Bureau of Reclamation American Recovery and Reimbursement Act (ARRA) Grant, District staff decided to divide the Phase 1 work into Phases 1A and 1B, and proceeded with the design and construction of only Phase 1A in early 2011.

Figure 18 Recycled Water Currently Used for Agriculture

The South County Project partners worked together to develop the current and future recycled water demand projections in south Santa Clara County. The 2004 Master Plan presented a CIP program to expand the use of recycled water in south Santa Clara County, over a 20 year planning horizon, in order to meet recycled water demand projections. In April 2004, South County had a total of 5 approved application sites including: 2 agricultural irrigation users, 1 landscape irrigation user, 1 industrial user, and 1 cooling tower. In the 2015 South County Recycled Water Master Plan Update (June 2016), over 70 potential recycled water customers were identified within the study area including commercial and industrial, landscape irrigation users and agricultural users for a total demand of approximately 3,100 AFY. Table 10 summarizes the recycled water deliveries anticipated with the implementation of each of the South Pipeline, Immediate-term, Short-term and Long-term CIP phases, the total existing and new recycled water deliveries upon completion of the 2004 Master Plan defined Short-term CIPs and South County Pipeline, and the total recycled water deliveries associated with the implementation of the entire authorized Title XVI project.

Table 10 Title XVI Authorized Project Recycled Water Deliveries

Phase	2009 Annual Projected Recycled Water Delivery per CIP Phase[(1)] (Acre-Feet)	2015 Annual Projected Recycled Water Delivery[(2)] (Acre-Feet)
Existing Recycled Water Supplies		
2004 Existing Supply	---	711
Immediate-term CIP[(1)]	855	500
Total Existing Recycled Water Supply		1,211
New Recycled Water Supplies		
Short-term CIP	934	1480
South Pipeline	1000	394
Long-term CIP[(3)]	648	611
Total New Recycled Water Supply	2,582	2,485
TOTAL:	3,437	3,696

Notes:
(1) Deliveries are based on the Santa Clara County Recycled Water - Determination of Feasibility Study (August 31, 2009).
(2) Deliveries are based on the 2015 South County Recycled Water Master Plan Update (May 2016).
(3) The implementation of the Long-term CIP component is currently uncertain due to lack of secured funding, changes in customer demand and delayed development of infrastructure and therefore is not included in the New Recycled Water Delivery total.

In summary, the District has been implementing the Master Plan's recommended CIP projects since 2006. Design has been and construction continues to be closely coordinated by all of the project partners. The proposed project includes the design and construction of approximately 14,500 linear feet of 18 to 36 inch diameter recycled water pipeline and appurtenances, and includes multiple turnouts for future service areas.

Upon completion of the Short-term CIPs and the South Pipeline, the Title XVI authorized project will deliver approximately 1,900 AFY of new recycled water supplies, based on the 2015 Master Plan update. In addition, the construction of the Title XIV authorized project Short-term phase elements will rectify distribution system constraints, and address flow capacity limitations and reliability of the existing system, hence allowing for the full and reliable utilization of 1,200 AFY of existing supply. With the completion of the South County Project Title XVI Authorized project (South Pipeline, Immediate-term, and Short-term Phases), the District will achieve a total system capacity of 3,100 AFY of reliable recycled water deliveries, per the 2015 Master Plan update. With the completion of the entire South County Project Title XVI Authorized project, the District will achieve a total system capacity of 3,700 AFY of reliable recycled water deliveries, per the 2015 Master Plan update, which exceeds that projected in the 2009 Feasibility Study.

TECHNICAL PROPOSAL: ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

The District has obtained or is in the process of securing all necessary local, State and Federal environmental compliance documents (California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA)) for the South County Project to ensure the project construction start date of January 2017.

The Bureau issued the "South Santa Clara County Recycled Water Master Plan Implementation - Determination of Feasibility Report for the Bureau of Reclamation" (Feasibility Study) in August 2009 supporting the authorization and allowing for the issuance of grant agreements for the project. Subsequently in February 2010, in accordance with section 102(2)(c) of the NEPA, the Bureau found that the execution of an agreement between District for the ARRA funding and Title XVI for the implementation of the Short Term Phase I Capital Improvement Program (CIP) was not a major federal action and an environmental impact statement was not required. The Finding of No Significant Impact (FONSI) was supported by Reclamations Final Environmental Assessment, Recovery Act Funding for the Short-Term Phase I Component of the South County Recycled Water Master Plan Project (June 2010). Since the issuance of the Final Environmental Assessment, there have been some modifications to the proposed pipeline alignments (due to significant utility conflicts) which requires supplemental review. The Bureau, as the federal lead, is currently conducting the required review for the Phase 1B and 2A projects, and will be completed by January, 2017 prior to the start of project construction, as part of the conditions for receipt of WaterSMART 2016 funding.

In March of 2011, the District's Board of Directors approved a Programmatic EIR (Final Program EIR for the South County Recycled Water Master Plan, March 2011 (2011 Program EIR)). This document also analyzed Short-Term Phase 1A and Phase 1B at a project specific level of detail and was approved as part of the certification of the Program EIR. Phase 1A construction was completed in 2012. Subsequently in 2013, a Planning Study Document was developed to evaluate new project alternatives, which resulted in modifications of the previously Phase 1B proposed alignments in the 2011 Program EIR. The District found that the new proposed Phase 1B alignment (West Luchessa Avenue portion) was covered by the Program EIR and no new mitigation measures were necessary to reduce potential impacts (District Board

Memorandum, Use of the Approved 2011 Final Program EIR for the Installation of a Recycled Water Pipeline along West Luchessa Avenue in Gilroy, December 11, 2013) (District Board Memorandum, South County Recycled Water Pipeline Short-Term Phase 1B, May 9, 2014).

Since the 2013 Planning Study Report, the Phase 1B pipeline alignments changed again, and the changes have been documented and approved in a Project Plan Revisions and Change Management Memo (August 2015). To support these changes, the project activities associated with the Short Term Phase 1B and Phase 2A were evaluated in an Initial Study (IS) South County Recycled Pipeline Short-Term Phase. The Camino Arroyo Service Line segment alignment did not change and had been covered at a Project Specific level in the Program EIR. Based on the IS and the result of the evaluation of the potential impacts that could result from the implementation of the Phases 1B and 2A project, it was found that there were no new significant environmental impacts anticipated and that the proposed activities would rely on the 2011 Program EIR; therefore, no additional environmental documentation is required to meet the requirements of CEQA.

Table 11 summarizes the pending environmental permits required for the South County Project (Phases 1B and 2A) implementation. Significant progress has been made in securing required environmental permits and it is not expected that there will be any difficulty in securing the remaining permits as preliminary discussions with permitting agencies have shown general support for the project.

Table 101 Pending Environmental Permits

Local, State, or Federal Permit	Date/Status
CDFW Streambed Alteration Agreement – Bore & Jack under No-Named Ditch	Completed
CDFW Streambed Alteration Agreement – Directional Drill under Uvas Creek	Completed
USACE Section 408 Permit – Directional Drill under Uvas Creek Levee	Underway, expected December 2016
NPDES Permit – Storm & Ground Water Management	Underway, expected prior to construction

Environmental impacts include:

- Temporary construction related impacts to air quality, traffic, surface water and groundwater quality, Mitigations measures would be implemented to protect air quality, surface and groundwater, and traffic.
- Temporary construction related impacts to burrowing owl habitat. The proposed project is within the 2013 approved Santa Clara Valley Habitat Conservation Plan (Valley HCP) and any potential impact to burrowing owl will comply with mitigations measures adopted in the Valley HCP.
- Temporary impacts to a wetland located between the SCRWA WWTP and the ponds.
- The proposed project activities would not cause a substantial adverse change in the significance of a cultural resource (United Pacific Railroad track (mainline and spur) because the pipeline would be installed under the railroad track via jack and bore or micro-tunneling technique.

There are no anticipated impacts to archaeological sites, low income or minority populations, or Indian sacred sites. The project will not contribute to the introduction or spread of noxious weeds or not-native invasive species.

TECHNICAL PROPOSAL: REQUIRED PERMITS OR APPROVALS

The permitting tasks associated with the construction and operation of Phases 1B and 2A of the South County Project, as summarized in Table 12, have been acquired. Significant progress has been made in right-of-ways/easements.

Table 112 Required Permits or Approvals

Permits or Approvals	Date/Status
RWQCB Master Reclamation Permit	May 29, 1998
CalTrans Encroachment Permit – Trenching under Hwy 101	Complete
UPRR Agreement – Bore & Jack under Main-line and Spur-line	Complete
City of Gilroy Encroachment Permit – East & West Luchessa Avenue	Complete
CDFW Streambed Alteration Agreement – Bore & Jack under No-Named Ditch	Complete
CDFW Streambed Alteration Agreement – Directional Drill under Uvas Creek	Complete
USACE Section 408 Permit – Directional Drill under Uvas Creek Levee	Underway, expected December 2016
NPDES Permit – Storm & Ground Water Management	Underway, expected prior to construction

For the production, delivery, and use of recycled water, a Title 22 Engineering Report is required. The Title 22 Engineers Report was submitted to the California Department of Public Health as part of the development of the Master Reclamation Permit. The Master Reclamation Permit covers the production of recycled water at the SCRWA WWTP, distribution of recycled water through the District facilities, and the use of recycled water by users. The Master Reclamation Permit was obtained from the Central Coast Regional Water Quality Control Board in May 1998 prior to delivery of recycled water. In compliance with the Master Reclamation Permit, SCRWA has implemented a process for recycled water users to receive annual training, onsite inspections, and renewals for individual recycled water use permits.

3.0 DESCRIPTION OF EXPENDITURES PLANNED THROUGH SEPTEMBER 2019 AND FUNDING PLAN

The evaluation criteria listed in section IV.D. of this FOA will be applied to the entire authorized Title XVI project. Applicants also must provide a description of planning, design, and construction activities that are planned through September 30, 2019, including a description of activities that have previously been completed without Federal funding that are the basis for a request for Federal funding under this FOA. Applicants also must provide a cost estimate for these activities.

Please include the following chart (Table 15) to summarize your non-Federal and other Federal funding sources for that portion of the project that will be completed by September 30, 2019. Denote in-kind contributions with an asterisk (*). In addition to the funding plan noted in Table 15, please provide information specific to funds expended to date for the entire project scope and proposed expenditures through September 2016 that notes both Federal and non-Federal funds.

Planned Expenditures and Funding Plan

The District is implementing the identified recycled water projects, in south Santa Clara County, to help address and prepare for potential water supply issues associated with a continued drought and/or future droughts, to mitigate the decrease in CVP and SWP imports, as well as to address groundwater pumping in the Llagas Sub-basin. The District and South County Regional Wastewater Authority (SCRWA), with participation from the cities of Gilroy and Morgan Hill, jointly prepared the *Santa Clara County Recycled Water Master Plan* (Master Plan) (2004) which defined the South Pipeline, Immediate-term, Short-term and Long-term capital investment projects (CIPs) to expand the use of recycled water in the cities of Gilroy and Morgan Hill.

The project was authorized for construction under the Bureau's Title XVI program under Section 1647 of the Consolidated Natural Resources Act of 2008 (Public Law 110-229, 43 U.S.C. 390h-30) (*South Santa Clara County Recycled Water Project, as added by Public Law 110-229, Title V, Section 512(a)(1)*) and under the Bureau's Title XVI funding (Public Law 102-575, as amended (43 U.S.C. 390h through 390h-39). The Title XVI authorized project included the Immediate-term, Short-term and Long-term Phases and the South Pipeline of the Master Plan at an estimated cost of $28 million.

The Immediate-term Phase was completed in 2006 at a cost of $3.2 million. The total estimated cost of the South County Project Short-term Phase and South Pipeline increased from the original estimated total project cost of $28 million to $35.4 million. Table 13 lists the major project costs for the South County Project Short-term Phase and South Pipeline by cost item. The Phases 1B and 2A estimated total costs increased from $14.3 million to $31.2 million and was subsequently adjusted in the 100% design costs. The increase in project costs is due to the following:

- Inflation - The original project estimate was developed in 2009, Phases 1B and 2A will be constructed in 2016/2017/2018.
- Additional environmental, design and right-of-way costs associated with the re-alignments caused by utility conflicts as well as the addition of the West Luchessa Segment, Phase 2A.
- Additional construction costs associated with the West Luchessa Segment, Phase 2A.

- Increase on the construction costs of Phase 1B facilities.

Table 123 South County Project Phase 1A, 1B and 2A and South Pipeline Project Costs				
Cost Item	**South County Phase 1A**	**South County Phases 1B and 2A**	**South Pipeline**	**Total South County Project**
Planning	$114,164	$193,000	---	$307,164
Environmental	$467,027	$310,000	---	$777,027
Design	$3,086,700	$4,729,000	$844,114	$8,659,814
Right of Way	$19,999	$507,000	---	$526,999
Construction	$1,965,605	$25,458,157	$3,376,454	$30,800,216
Closeout	$0	$0	---	$0
Total	**$5,653,496**	**$31,197,157**	**$4,220,568**	**$41,071,220**

Table 14 provides a summary of the South County Project (Phases 1B and 2A) costs and associated expenditures by fiscal year.

Table 14 Phases 1B and 2A Expenditures by Fiscal Year, Dollars in Thousands					
	Previous Years	**Current Year**	**Future Year - End Year Planned Cost**		
Phase	**2012-2016**	**2017**	**2018**	**2019**	**TOTALS**
Major Work Element	**Actual Exp. ($1,000's)**	**Exp. ($1,000's)**	**Exp. ($1,000's)**	**Exp. $1,000's)**	**Exp. ($1,000's)**
Administrative and legal expenses	$48		$130	$15	$297
Land, structures, rights-of-way, appraisals, etc.	$432	$75			
Relocation expenses and payments					
Architectural and engineering fees	$4,480	$200	$49		$198
Other architectural and engineering fees	$172	$98	$40		$2,867
Project inspection fees	$690	$723	$340		$648
Site work					$19,114
Demolition and removal					$75
Construction	$1,988	$9,872	$9,293		
Equipment					
Miscellaneous	$42	$75	$75		
Contingency	$0	$0	$2,361	$0	$2,361
Total by Fiscal Year	$7,852	$11,043	$12,288	$15	$31,198
Accumulated Costs	$7,852	$18,895	$31,183	$31,198	$31,198

As previously discussed, Federal funds were approved for the Short-term Phase and South Pipeline. The Short-term Phase was subsequently split into Phases 1A and 1B. Phase 1A was completed in 2012 with a 25% Federal cost share of $1,295,407.16. Subsequently, in 2016, the Short-term Phases 1B and 2A was awarded a WaterSMART Title XVI grant award - receiving a

25% Federal cost share of $4,000,000 for the South County Project. This funding proposal seeks the remaining obligation amount of approximately $1.7 million (or the maximum allowable Federal cost share) for the authorized Title XVI South County Project (Phases 1B and 2A) which includes the following elements:

- Phase 1B - Camino Arroyo Service Line Extension: Installation of 18-inch diameter pipe (2,100 linear feet) and associated appurtenances starting near the Princeville Storm Drain, traversing Venture Way to Camino Arroyo, to Holloway Road, and ending at Sillaci Way. *(Completed in June 2015).*
- Phase 1B - Wastewater Treatment Plant Line: Installation of a 36 inch pipeline (800 feet) that extends northwesterly from the existing SCRWA Wastewater Treatment Plan (WWTP) and connecting to the Phase 1A pipeline (installed in 2012) on Engle Way.
- Phase 1B - Trunk Sewer Alignment: Installation of a 30 inch pipeline (3,100 feet) from the Phase 1A pipe on Southside Drive northwest and parallel to SCRWA's Trunk Sewer to the future extension of East Luchessa Avenue.
- Phase 1B - East Luchessa Avenue Line: Installation of a 30 inch pipeline (5,100 feet) that runs from the Trunk Sewer Alignment segment and heads west to Monterey Road.
- Phase 2A - West Luchessa Line: Installation of a 30 inch pipeline (3,400 feet) to extend recycled water along West Luchessa Avenue to Thomas Road, where it will be connected to a recycled water pipeline being installed by a private developer.

The District is funding the $41.1 million South County Project through the following mechanisms:

- $32.6 million from the District's Water Enterprise Funds with 100% of the cost allocated to Zone W-5 (south Santa Clara County).
- $3.2 million from SCRWA.
- $5.3 million from United States Bureau of Reclamation ARRA (Phase 1A, South Pipeline, and Phases 1B and 2A).

Of the $7 million Bureau obligation, $5,295,407 has been awarded, leaving an obligation balance of approximately $1.7 million, as shown in Table 15. This grant application is applying for a $1.7 million grant award (or maximum allowable Federal grant award) for the federally authorized South County Project thereby satisfying the remaining obligation.

The SF-424C table below (Table 16) delineates the total eligible costs and the federal assistance requested for the South County Project.

Table 135 Summary of Non-Federal and Federal Funding Sources - South Pipeline and Short-term project Phases		
Funding Sources to Date		**Funding Amount**
Non-Federal Entities		
1.	Santa Clara Valley Water District	$32,559,359
2.	South County Regional Wastewater Authority	$3,216,454
	Non-Federal Subtotal	**$35,775,813**
Other Federal Entities		
1.	Title XVI/ARRA Grant	$1,295,407
2.	Title XVI WaterSMART Grant (2016)	$4,000,000
3.	Bureau In-kind Funding	$0
	Other Federal Subtotal	**$5,295,407**
Requested Reclamation Funding (1)		$1,704,593
	Total Project Funding	**$41,071,220**

Notes:

(1) The project has been authorized to receive $7 million in Title XVI funding. The District has been awarded $5,295,407.16 of its $7 million obligation. The District is requesting the remaining authorization in this application and to close out the obligation.

Table 146 SF-424C: Project Budget

COST CLASSIFICATION	a. Total Cost	b. Cost Not Allowable for Participation	Total Allowable Cost (columns a-b)
1. Administrative and legal expenses	$307,164	$0.00	$307,164
2. Land, structures, rights-of-way, appraisals, etc.	$526,999	$0.00	$526,999
3. Relocation expenses and payments	$0.00	$0.00	$0.00
4. Architectural and engineering fees	$8,659,814	$0.00	$8,659,814
5. Other architectural and engineering fees	$777,027	$0.00	$777,027
6. Project inspection fees	$1,946,130	$0.00	$1,946,130
7. Site work	$0.00	$0.00	$0.00
8. Demolition and removal	$0.00	$0.00	$0.00
9. Construction	$26,301,586	$0.00	$26,301,586
10. Equipment	$0.00	$0.00	$0.00
11. Miscellaneous	$192,000	$0.00	$192,000
12. SUBTOTAL *(sum of lines 1-11)*	$38,710,720	$0.00	$38,710,720
13. Contingencies	$2,360,500	$0.00	$2,360,500
14. SUBTOTAL	$41,071,220	$0.00	$41,071,220
15. Project (program) income	$0	$0.00	$0
16. TOTAL PROJECT COSTS *(subtract #15 from #14)*	$41,071,220	$0.00	$41,071,220 (1)
FEDERAL FUNDING (25% of eligible costs)			
17. Federal assistance requested, calculate as follows:			$10,267,805

Notes:

(1) The total cost for the South County Project does not include the Immediate-term CIPs as this project was completed in 2006, prior to the Title XVI Project Authorization. The South County Project Feasibility Study (2009) documents that the District and project partners funded the construction of the Immediate-term CIPs at a cost of $3.2 million.

APPENDIX A: LETTERS OF SUPPORT

- South County Regional Wastewater Agency

SOUTH COUNTY REGIONAL
WASTEWATER AUTHORITY

1500 Southside Drive
Gilroy, California 95020-7042
Telephone (408) 848-0480
Facsimile (408) 842-0873
scrwamail@ci.gilroy.ca.us

November 30, 2016

Mr. Garth Hall
Deputy Operating Officer
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3686

Subject: **Support of South Santa Clara County Recycled Water Project**

Dear Mr. Hall,

The South County Regional Wastewater Authority is pleased to support the Santa Clara Valley Water District (District) grant application in response to the new United States Bureau of Reclamation (Reclamation) WaterSMART Title XVI Water Reclamation and Reuse Program funding opportunity announcement, BOR-DO-17-F002, to use the remaining funds for the South Santa Clara County Recycled Water Project (Project), Phases 1B and 2A.

I am writing to express our strong support for the Project, to convey our desire to continue to work in partnership with the District to strengthen the water reuse projects and, in particular, furthering those that support to increase reusable water supplies. We understand the objectives of the Project are to: (1) expand the use of recycled water in the City of Gilroy up to approximately 3,000 acre-feet per year, (2) improve reliability of the existing recycled water system in south Santa Clara County, and (3) improve groundwater management of the Llagas subbasin that directly supports the Cities of Gilroy and Morgan Hill. Additional assistance from Reclamation is needed in order to develop this sustainable water resource to its full potential.

Specifically, we recommend that Reclamation use its discretion under the Title XVI of the Public Law 102-575, as amended (43 United States Code [U.S.C.] 390h through 390h-39) to: (1) approve additional planning and construction assistance grants to support regional-scale water reuse programs and (2) provide additional grant assistance for those water reuse projects that specifically incorporate system reliability and expansion as project elements. Adding reliability to existing recycled water systems and expansion will assist in managing groundwater basins and provide operational flexibility for state or Federal water projects in addition to larger Federal agency mandates.

We look forward to working with the Reclamation to help ensure that, in the future, recycled water plays an even larger role in Reclamation's efforts to ensure adequate water supplies for drinking, agriculture, recreation, ecosystem health, and economic activity throughout the West.

Sincerely,

Saeid Vaziry, P.E.
Environmental Programs Manager

cc: Mr. Hossein Ashktorab, Santa Clara Valley Water District

APPENDIX B: OFFICIAL DISTRICT RESOLUTION

BOARD OF DIRECTORS
SANTA CLARA VALLEY WATER DISTRICT

RESOLUTION NO. 16- 90

AUTHORIZING THE CHIEF EXECUTIVE OFFICER TO FILE AN APPLICATION AND EXECUTE A GRANT AGREEMENT WITH THE UNITED STATES BUREAU OF RECLAMATION FOR A WATERSMART: TITLE XVI WATER RECLAMATION AND REUSE PROGRAM GRANT FOR THE SOUTH SANTA CLARA COUNTY RECYCLED WATER (PHASES 1B/2A) PROJECT

The Board of Directors ("Board") of the Santa Clara Valley Water District does resolve as follows:

WHEREAS, the United States Bureau of Reclamation (USBR) WaterSMART Title XVI Water Reclamation and Reuse Program for fiscal year 2017 is accepting grant applications for congressionally authorized Title XVI Projects (Public Law 102-575), as amended (43 United States Code [u.s.c.] 390h through 390h-30); and

WHEREAS, the Santa Clara Valley Water District's South Santa Clara County Recycled Water (Phases 1B/2A) Project is eligible for the USBR's grant funding pursuant to the WaterSMART Title XVI Water Reclamation and Reuse Program guidelines and published eligibility guidelines; and

WHEREAS, the Board seeks to authorize such application to the USBR WaterSMART Title XVI Water Reclamation and Reuse Program for fiscal year 2017; and

WHEREAS, the USBR requires grant applicants to provide a resolution adopted by the applicant's governing body designating an authorized representative to submit the funding application and execute an agreement with the USBR for a grant; and

WHEREAS, the Board seeks to authorize the Chief Executive Officer on behalf of the Santa Clara Valley Water District to enter into an agreement with the USBR; and

WHEREAS, the Board seeks to authorize the Chief Executive Officer, or designee, to sign the USBR WaterSMART Grant Agreement and any amendments thereto.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Directors of the Santa Clara Valley Water District, as follows:

1. That the Board hereby authorizes the submittal of a $1.7 million grant application for the South Santa Clara County Recycled Water (Phases 1B/2A) Project on behalf of the Santa Clara Valley Water District, to the USBR; and

2. That the Chief Executive Officer, or designee, is hereby authorized and empowered to prepare the necessary data, conduct investigations, file such application, and, if a grant is awarded, conduct all negotiations, and execute in the name of Santa Clara Valley Water District all necessary grant related documents, including, but not limited to, agreements, amendments, payment requests and so on, which may be necessary for the funding of the South Santa Clara County Recycled Water (Phases 1B/2A) Project, provided that the Santa Clara Valley Water District can satisfy the grant terms,

conditions, and requirements, and comply with all applicable state and federal laws and regulations including the California Environmental Quality Act.

3. Funds are available in District's Capital Improvement Program to provide the District's required funding and/or in-kind contributions for the $1.7 million grant, if awarded.

4. That the Chief Executive Officer, or designee, will work with the USBR to meet established deadlines for entering into a USBR WaterSMART grant cooperative agreement.

5. That the Chief Executive Officer of the Santa Clara Valley Water District is authorized and directed, if said grant is awarded, to apply the monies received to the appropriate Santa Clara Valley Water District fund.

PASSED AND ADOPTED by the Board of Directors of Santa Clara Valley Water District by the following vote on December 13, 2016:

AYES: Directors T. Estremera, L. LeZotte, N. Hsueh
B. Keegan, G. Kremen, J. Varela

NOES: Directors None

ABSENT: Directors R. Santos

ABSTAIN: Directors None

SANTA CLARA VALLEY WATER DISTRICT

By: _____
BARBARA KEEGAN
Chair/Board of Directors

ATTEST: MICHELE L. KING, CMC

_____
Clerk/Board of Directors

SOUTH COUNTY REGIONAL
WASTEWATER AUTHORITY

1500 Southside Drive
Gilroy, California 95020-7042
Telephone (408) 848-0480
Facsimile (408) 842-0873
scrwamail@ci.gilroy.ca.us

November 30, 2016

Mr. Garth Hall
Deputy Operating Officer
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3686

Subject: **Support of South Santa Clara County Recycled Water Project**

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Specifically, we recommend that Reclamation use its discretion under the Title XVI of the Public Law 102-575, as amended (43 United States Code [U.S.C.] 390h through 390h-39) to: (1) approve additional planning and construction assistance grants to support regional-scale water reuse programs and (2) provide additional grant assistance for those water reuse projects that specifically incorporate system reliability and expansion as project elements. Adding reliability to existing recycled water systems and expansion will assist in managing groundwater basins and provide operational flexibility for state or Federal water projects in addition to larger Federal agency mandates.

We look forward to working with the Reclamation to help ensure that, in the future, recycled water plays an even larger role in Reclamation's efforts to ensure adequate water supplies for drinking, agriculture, recreation, ecosystem health, and economic activity throughout the West.

Sincerely,

Saeid Vaziry, P.E.
Environmental Programs Manager

cc: Mr. Hossein Ashktorab, Santa Clara Valley Water District