Dove and Tick Creek Pump Station Improvements Drought Resiliency Project

Grant Applicant:

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U.S. Department of the Interior, Bureau of Reclamation
WaterSMART Drought Response Program: Drought Resiliency Projects for FY 2024, NOFO No. R24AS00007 for Funding Group II

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Mandatory Federal Forms

The following were submitted via grants.gov: SF- 424 Application for Federal Assistance, SF-424C Budget Information - Construction Programs, SF-424D Assurances – Construction Programs, SF-LLL Disclosure of Lobbying Activities, Certification Regarding Lobbying, Project Abstract Summary, Project Narrative Attachment Form, and Budget Narrative Attachment Form. **Appendix D** contains signed federal forms.

Technical Proposal and Evaluation Criteria

Executive Summary

- **The applicant's name, city, county, and state and a brief explanation of how you meet the applicant eligibility requirements.**

Ms. Lorrie Lausten Project Manager, Trabuco Canyon Water District (TCWD/District), Trabuco Canyon, Orange County, California.

- **The Task Area you are applying under (Task A, B, C, or D) and what funding group, if applicable.**

The District is applying for grant funding under the Reclamation Notice of Funding Opportunity Task A - Increasing the Reliability of Water Supplies through Infrastructure Improvements, in Funding Group II.

- **If applying under Task areas A-C, indicate whether you are a Category A or Category B applicant.**

The District is a Category A applicant, meeting the applicant eligibility requirements as a water district.

- **A summary that provides the project location, description of the work, partners involved, and recent area drought conditions. Describe how project helps alleviate impacts of those conditions or other concerns in the area. Identify plans/planning documents that support the project.**

The Dove and Tick Creek Pump Station Improvements Drought Resiliency Project (Project) will upgrade the Dove and Tick Creek Pump Stations to increase capture of both dry weather runoff and stormwater (wet weather flows) to produce 200 Acre-Feet per Year (AFY) of new non-potable water, delivering water from alternative sources, reducing localized flooding, and improving ecosystem benefits to downstream native habitat through reduced impacts of dry weather flows. Under TCWD's existing Dry Season Water Recovery Project, captured urban runoff from both pump stations is conveyed to Dove Lake, where it is blended with tertiary water for the District's recycled water system. Capture of wet and dry season flows are currently constrained by to the pump station infrastructure limitations; the current pumps are undersized and inadequate for handling debris that enters the system, 30 horsepower (HP) with an average pump rate of 150 gallons per minute (gpm). This prevents the pumps from moving as much flow as desired and leads to pump failures, causing flooding and electrical damage. Pump replacement is required every 3 to 6 months due to damage, and as a result, pumps remain offline for extended periods. Project improvements will increase the volume of water that can be conveyed beyond current capacity. Improvements will significantly increase the current amount of captured runoff by upgrading the pump stations with larger pumps capable of handling debris, moving a greater volume of water, expanding the area of captured flow, improving debris capture, and improving the storm drain overflow to prevent flooding and damage to equipment. The existing system produced an average of approximately 30 AFY from the most recent three years of available data (2019-21). Based on an evaluation of historical operating data from 2009-2021, the proposed improvements are anticipated to produce an additional 200 AFY of capture for a total of approximately 230 AFY. This is based on average monthly production of 20-25 acre-feet (AF). The Project also includes a new desilting basin to improve water quality prior to blending. While waves of precipitation have hit the western U.S. since December of 2022, Orange County has been designated in a drought almost continuously since early 2021, with extreme or exceptional drought conditions identified between May to December 2021 by the U.S.

Drought Monitor. The 2018 South Orange County Integrated Regional Water Management Plan (IRWMP) is the primary drought plan that identifies and supports the Project, citing capture and reuse and/or infiltration of urban runoff (dry weather and storm flow) as a key strategy to increase drought resiliency and water supply reliability for the District and the South Orange County region, which is approximately 80% reliant on imported water supplies from the Metropolitan Water District of Southern California (MWD) via the Municipal Water District of Orange County (MWDOC).

- **State the length and estimated project completion date including the construction start date.**

The Project is anticipated to start in October 2023, with construction starting in February 2025 with an approximately 18-month duration, with project completion by October 2026.

- **State whether the proposed project is located on a Federal facility or will involve Federal lands, and what work will occur on the Federal facility or Federal lands.**

The Project is not located on a Federal facility, nor will it involve Federal lands.

- **Provide relevant background information about the applicant and service area such as services provided, population served, irrigated acres served, crops grown in the project area, etc. Include details regarding the applicant's or applicant partner's water supplies (water delivered or diverted from all water sources including water supply contracts, water rights, applicant or partner owned wells, and any other long-term water supplies). Include the total amount of water available in an unconstrained year (in AF) and the 10-year average annual water supply (in AF).**

The District provides potable water, recycled water, and wastewater services to a total population of approximately 14,000. The District encompasses an area of approximately 8,200 acres in the southeastern portion of Orange County, and includes communities within the City of Rancho Santa Margarita, City of Lake Forest, City of Mission Viejo, Trabuco Canyon, and other areas of unincorporated Orange County. The District operates one water treatment plant, two wells, nine pump stations, eight treated water storage reservoirs, and manages a 66-mile water distribution system with approximately 4,118 service connections. The District's service area can be described as a predominantly single and multi-family residential community with rural areas, several parks, a golf course, and a regional park. The District receives imported water from MWD via MWDOC (**Figure 1)**. The District imports both raw and treated surface water to its service area, which is augmented with groundwater from Arroyo Trabuco Creek, part of the San Juan Groundwater Basin, and non-potable recycled water from the Robinson Ranch Wastewater Treatment Plant (RRWWTP). To treat the imported surface water, the District owns and operates the Dimension Water Treatment Plant. To treat the groundwater, the District constructed the Trabuco Creek Wells Facility. District wastewater facilities include RRWWTP, a 0.85 million gallons per day (MGD) water reclamation facility, eight sewer lift stations and approximately 47 miles of sewers (gravity/force mains) and interceptors. Recycled water from the RRWWTP is stored at the RRWWTP Reclaimed Water Reservoir. The RRWWTP Reclaimed Water Reservoir has an approximate storage capacity of 130 AF. The District's recycled water system is supplied with recycled water from the RRWWTP and supplemented with urban runoff captured and stored in Dove Lake, which captures local runoff from the surrounding communities. The District's Dry Season Water Recovery Project captures urban runoff and stores it in Dove Lake for use in augmenting the District's non-potable irrigation system.

The District meets its water demands with a combination of imported water, local groundwater, recycled water, and surface water. The District works together with MWD and MWDOC to ensure a safe and reliable water supply that will continue to serve the community in periods of drought and shortage. The sources of imported water supplies include water from the Colorado River and the SWP provided by MWD and delivered through MWDOC. Per correspondence with MWDOC, over the last 5 years, the source of imported water for the District was approximately 96% from the CRA and 4% from the SWP. The District's main water supply source is imported water from MWD. Groundwater from the San Juan Basin, recycled water, and surface

water from Irvine Lake make up the rest of the water supply portfolio. **Table 1** below includes water supplies from the past 10 years. In FY 2022-23, the District relied on 9% treated imported water, 51% untreated imported water, (60% total imported water), 23% recycled water, and 11% groundwater. It is projected that by 2045, the water supply portfolio will change to approximately 15% treated imported water, 64% untreated imported water, 21% recycled water, and 0% groundwater. The District pumps groundwater when it is available, but does not rely on it as a water supply source. Groundwater is highly desirable in terms of water quality, cost, and energy resources, however, because the aquifer is shallow, it is subject to dry conditions and is not a reliable source. The District's ten-year annual average of San Juan Basin groundwater production is 149 AFY. The total amount of water available to the District in an unconstrained year is estimated to be 3,835 AF (2013-2014), the maximum of the past 10 years of water supply. The District's total 10-year average annual water supply is approximately 3,364 AF (2013-2014 to 2022-2023).

Table 1. TCWD 10-Year Water Supplies

MWDOC (Treated)	270	437	250	374	433	425	344	358	1,447	272
MWDOC (Untreated)*	2,913	2,531	1,948	1,664	2,508	1,752	1,690	2,063	1,454	1,527
Groundwater**	0	0	0	347	0	415	312	84	0	327
Recycled	652	629	668	809	794	577	672	697	707	681
Surface Water	0	0	0	10	23	0	189	223	0	164
Total	**3,835**	**3,597**	**2,866**	**3,204**	**3,757**	**3,169**	**3,207**	**3,425**	**3,608**	**2,971**
* May include surface water from Irvine Lake. ** Not desalinated.										

Project Location

Provide specific information on the project location/ area, including a map showing the location.

The Project will benefit the entire Trabuco Canyon Water District service area. The District's location is in the southeastern portion of Orange County, California at the foothills of the Santa Ana Mountains (**Figure 1**). As presented in **Figure 2**, the proposed Project location is in the southern portion of the District's service area. While the Project serves the entire District service area, the latitude and longitude coordinates represent the District offices: 33°38' 29.0"N, and 117°34'24.2"W (Lat. 33.641392, Long. -117.573390).

Figure 1. Regional Location of TCWD and Other MWDOC Member Agencies

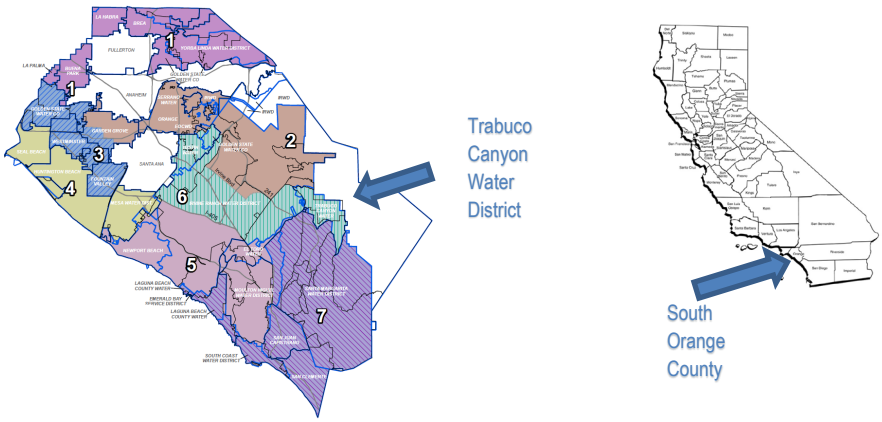
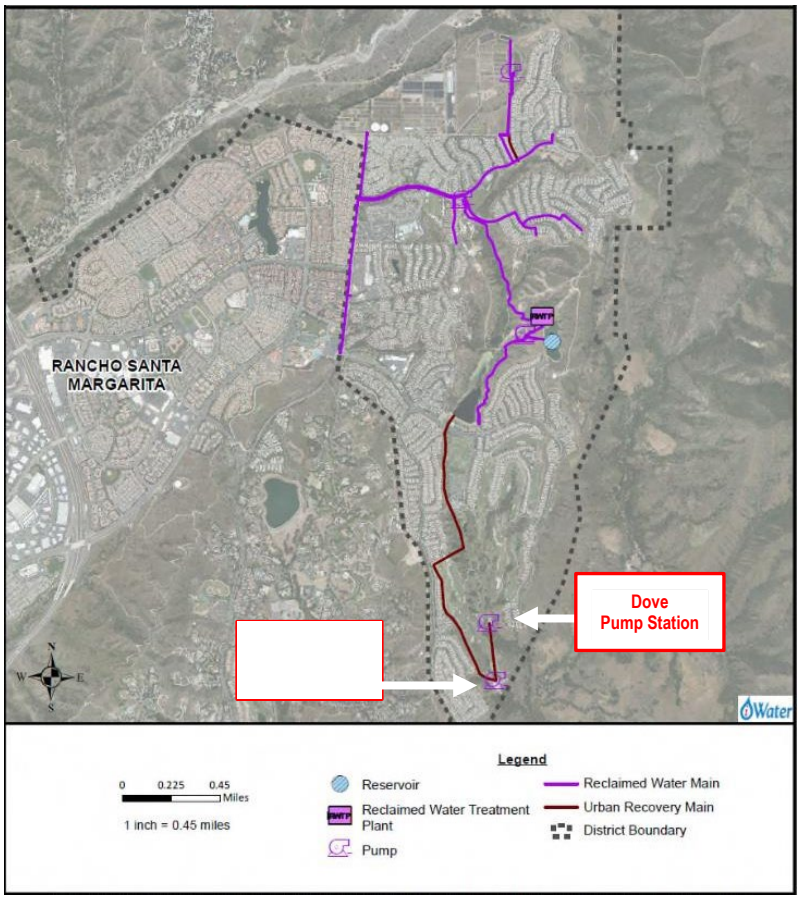


Figure 2. Project Vicinity – TCWD Reclaimed Water System



Project Description

Provide a comprehensive description of the technical aspects of your project, including the goals and objectives, work to be accomplished, and the approach. This description should provide detailed information about the project including materials and equipment and the work to be conducted.

Goals and Objectives. A primary goal of the Project is to increase the District's water supply reliability by creating 200 AFY of additional non-potable water supply that will directly offset potable water used for irrigating greenbelts and a golf course. Other goals are to reduce localized flooding due to blockages of the system with debris from heavy vegetation, and reduce dry weather flows in both Dove and Tick Creeks downstream to the Audubon Society's 4,000-acre Starr Ranch Sanctuary, reducing the spread of non-native plants and wildlife to approximately 1.5 miles of stream within the Sanctuary and associated water quality impacts of urban runoff such as bacteria and nutrients.

The Project includes constructing new conveyance system components (pumps) to increase flexibility to deliver water from different sources. The existing pump stations have captured an average of 30 AFY in the three most recent years of data available (2019-21), within historical volumes reaching up to a peak of 150 AFY in 2015. While production variability can be impacted by rainfall, the most significant impact is due to pump failures, blockages and debris buildup resulting on in non-operation. The Project will allow TCWD to keep pumps functional year-round, increasing dry weather flow capture for supply and habitat benefits, and increase total capacity to allow for additional wet weather flow capture. Non-potable water demands exceed the District's current supplies, and supplemental use of potable water was required in 7 of the last 10 years, averaging 60 AFY. This Project will reduce or eliminate the need for supplemental potable water for irrigation.

Work to be Accomplished/Approach.

The proposed Project upgrades to the Dove and Tick Creek Pump Stations include:

- Engineering design, including survey and geotechnical investigation;
- Mobilization and demobilization;
- Site survey and staking;
- Clearing and grubbing, site preparation, and minor grading;
- Modifying existing bypass structure to minimize debris buildup;
- Debris capture system improvements;
- Installation of a precast wet well top and lid at the Tick Creek Pump Station;
- Installation of two 40 HP, 250 to 300 gpm, submersible pumps at the Tick Creek Pump Station;
- Modify discharge piping to facilitate new pumps and replace flowmeter;
- Electrical upgrades, including a local disconnect at the Tick Creek Pump Station;
- Programming and system integration at the Tick Creek Pump Station;
- A new desilting basin to improve water quality prior to blending at the Tick Creek Pump Station;
- Channel, inlet, and piping improvements at the Dove Pump Station; and
- Approach entry improvements at the Dove Pump Station.

Figure 3 presents an illustration of the Project locations relative to other related infrastructure. **Figure 4** and **Figure 5** depict the proposed improvements at the Dove and Tick Creek Pump Stations, respectively.

Figure 3. Dove and Tick Creek Pump Station Improvements Project Location

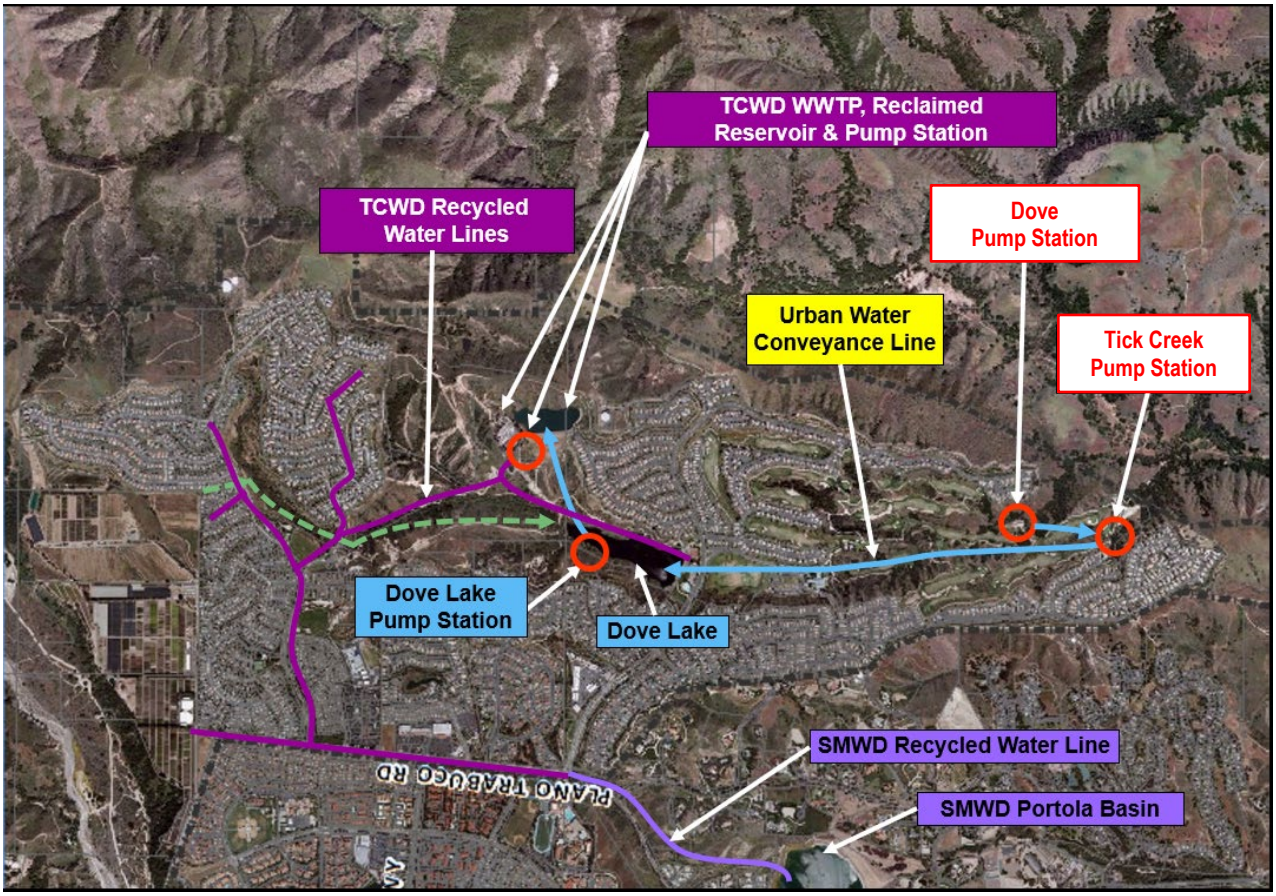


Figure 4. Proposed Dove Pump Station Improvements

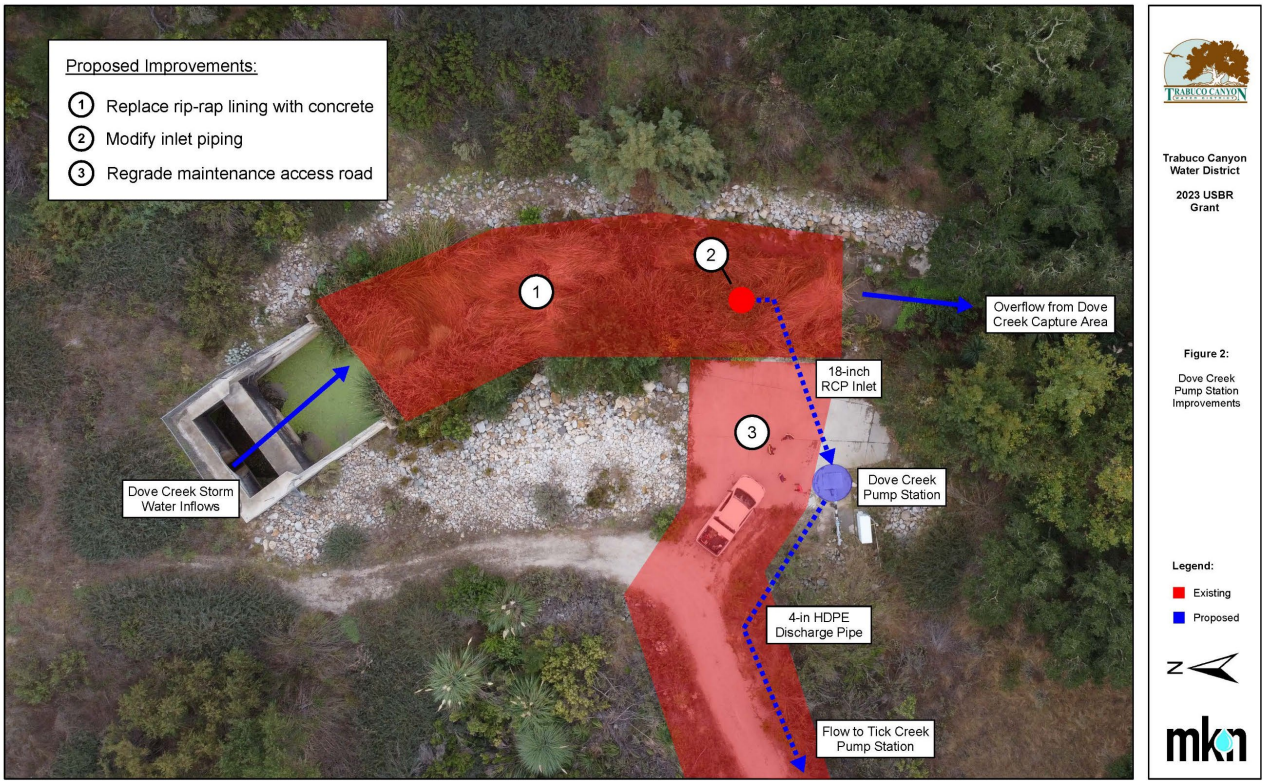
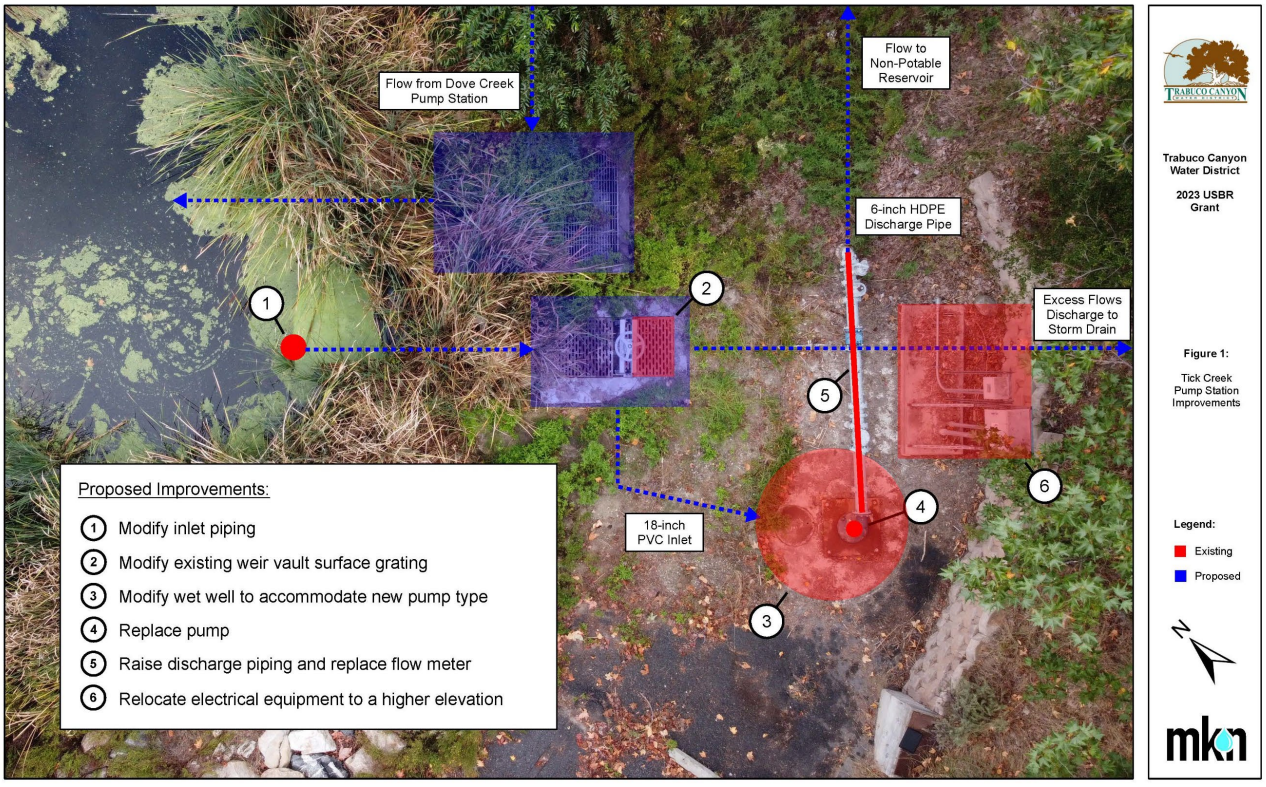


Figure 5. Proposed Tick Creek Pump Station Improvements



Performance Measures

Table 2 below identifies Project benefits and performance measures through its anticipated 15-year (pumps) to 30-year (structures) design life.

Table 2. Project Benefits and Performance Measures

Benefit	Target	Measurement Tools and Methods
New Water Supplies Delivered	Up to 200 AFY	New meters located at the pump stations will measure the flow.
Energy Savings - Reduced Energy Required to Supply Water Demands	From Water Better Managed 271,800 kilowatt hours (kWh)/year (200 AFY)	Correlating the water savings to the offset in energy required to transfer an equal quantity of water to the District from other distant water supply sources (2,000 kWh/AF of imported water offset).
Carbon Emissions Savings - Climate Change Impacts	144,598 lb. of CO2/year from water savings (200 AFY)	Estimated from the Project energy savings and converting to carbon emissions = 0.532 lb. of carbon dioxide (CO2)/kWh.

Evaluation Criteria

Evaluation Criterion A - Project Benefits

Sub-Criterion A1.a: Adds to Available Water Supplies

- **How will the project build long-term resilience to drought? How many years will the project continue to provide benefits?**

The Project will build long-term resiliency to drought by: increasing water supply, reliability, and efficiency; integrating flood management; and protecting and enhancing natural resources. The Project will increase the District's water supply reliability by increasing the capture of dry weather runoff and stormwater to produce 200 AFY of additional non-potable water supply. Compared to imported water, non-potable water is a more reliable supply because it is dependent upon wastewater production, which continues during times of drought. By reducing dry weather flows, the project will also provide ecosystem benefits to downstream native habitat. Urban runoff carries nitrates and other pollutants downstream and disperses nonnative seeds and vegetation, which negatively impacts Audubon Society's Starr Ranch Sanctuary. Recycled and non-potable water is used to irrigate parks, golf courses, and greenbelts in Robinson Ranch, Trabuco Highlands, and Dove Canyon, and offsets demand on potable water. The District's 2020 UWMP projects that by 2045, TCWD will not be able to use groundwater as a local supply, and will need to increase its reliance on imported water. During dry years, recycled water customers are subject to allocations due to limited availability of non-potable supplies, requiring the use of supplemental imported potable water. In addition, increased water conservation decreases the amount of recycled water available to water customers. The Project will allow the District to increase existing non-potable water supply and reduce reliance on imported water. The Project will provide benefits upon completion of construction which will continue for the 30-year life of the Project.

- **What percentage of the total water supply does the additional water supply represent? How was this estimate calculated?**

The additional water supply of 200 AFY represents 6.7% of total TCWD supplies as of FY 2022-23. The additional water supply will be a direct offset of potable supply; therefore, it also represents approximately 8.7% of TCWD's current potable water supply. Current total water supply equals 2,971 AFY, and total potable water supply of 2,290 AFY includes 327 AFY groundwater and 1,799 AFY purchased or imported water, and 164 AFY of surface water (see **Table 1**). The estimate for percent of total supply is calculated as follows: 200 AFY / 2,971 AFY = 6.7%. The estimate for percent of total potable water is calculated as follows: 200 AFY /

2,290 AFY = 8.7%. The 200 AFY estimate was calculated by evaluating historical data at the Dove and Tick Creek Pump Stations. The proposed improvements will optimize operation and allow for more reliable operation, resulting in a consistent production of 20 AF per month which equates to 240 AFY. The 200 AFY reflects the net between existing average operation and the new production delivered.

- **What is the estimated quantity of additional supply the project will provide and how was this estimate calculated? Provide quantity in AFY as the average annual benefit over ten years.**

The Project will increase the capacity to capture both dry weather runoff and stormwater from two pump stations, which is then conveyed to Dove Lake where it is blended with tertiary water for the District's recycled water system. The Project will increase the District's non-potable water supply by 200 AFY for up to 30 years; the design life of pumps is anticipated to be 15 years, and the design life of structures is anticipated to be 30 years. Recycled and non-potable water is used to irrigate parks, golf courses, and greenbelts in Robinson Ranch, Trabuco Highlands, and Dove Canyon, and offsets demand on potable water. The project will allow the District to double existing non-potable water supply and reduce reliance on imported water.

- **Provide a qualitative description of the degree/significance of the benefits associated with the additional water supplies.**

The Project will provide nonpotable water to offset the demand on imported water and potable supplies. The District's 2020 UWMP projects that by 2045, TCWD will not be able to use groundwater as a local supply, and will need to increase its reliance on imported water. During dry years, recycled water customers are subject to allocations due to limited availability of non-potable supplies, requiring the use of supplemental imported potable water. In addition, increased water conservation decreases the amount of recycled water available to recycled water customers. The Project will allow the District to significantly increase existing non-potable water supply and increase regional water self-reliance by reducing demands on MWD for imported water. With nearly 19 million people in MWD's service area, Southern California is heavily reliant on imported water supplies to meet demands. Given the increasing costs of imported water and the severe drought related water supply challenges in California, increasing local water sources water to reduce demand on imported water is critical for meeting water supply demands.

Sub-Criterion A2: Environmental & Other Benefits

Sub-Criterion A2.a: Climate Change

- **In addition to drought resiliency measures, does the proposed project include other natural hazard risk reductions for hazards such as wildfires or floods?**

Wildfires. As identified in Section 3.8 of the 2018 South Orange County IRWMP, changes in hydrological conditions in the South Orange County region due to climate change include drought, damage to trees, and increased risk of wildfire and erosion. Most of the District's service area is designated by the state's CalFire agency as a Very High Fire Hazard Severity Zone, and includes hilly terrain, significant vegetation, hot, dry summer and fall seasons, and severe, dry desert winds with gusts up to 50 mph (known as the Santa Ana Winds) that blow through Trabuco Canyon. These conditions are frequently involved in the most destructive fires in the region, which are increasing in frequency and intensity because of climate change. Due to these natural conditions, the region has a history of wildfires, like the 2020 Silverado Fire that burned 13,390 acres, the 2018 Holy Fire that burned 23,000 acres, and the 2016 Holy Jim Fire that burned 150 acres in Trabuco Canyon. The Orange County Regional Water and Wastewater Hazard Mitigation Plan describes wildland/urban fire having a significant geographic extent, a likely probability of future occurrence, and a critical magnitude/severity; and high significance in the TCWD service area. The Project includes natural hazard risk reduction for wildfires by providing an increase in non-potable water supply in Dove Lake for fighting wildfires. The proposed Project's 200 AFY of new water supply for irrigation and firefighting will help combat the increase in catastrophic wildfires that result in flashfloods and mandatory evacuations for Trabuco Canyon burn areas. Dove Lake, located in the City of Rancho Santa Margarita, is a 330 AF open reservoir

owned and operated by the District, and is an important resource for fighting wildfires, which benefits from the proposed Project. Water-dropping helicopters used Dove Lake to fight the 2018 Holy Fire. As recently as August 7, 2023, firefighters used Dove Lake to quickly extinguish a fire the broke out near the summit of nearby Santiago Peak.

Floods. The existing Dove and Tick Creek Pump Station configurations lead to localized flooding. With Dove, the inability to access the main channel results in excessive vegetation and debris buildup during storm events. These buildups limit the ability for the Dove Pump Station inlet piping to withdraw flow during the dry season resulting in flooding to the downstream channel which negatively impacts the Audubon Starr Ranch Sanctuary. Similarly, inability to access and clear debris from the Tick Creek Pump Station inlet results in localized flooding, which results in failure of electrical equipment. Also contributing to flooding at the Tick Creek pump station is the weir vault configuration, which limits inflow during rain events.

- **Will the proposed project establish and use a renewable energy source?**

No, the Project will not establish or use a renewable energy source.

- **Will the proposed project reduce greenhouse gas emissions by sequestering carbon in soils, grasses, trees, and other vegetation?**

No, the Project will not reduce greenhouse gas emissions by sequestering carbon in soils, grasses, trees, and other vegetation.

- **Does the project include green/sustainable infrastructure to improve climate resilience?**

No, the Project does not include green infrastructure, but may be considered sustainable infrastructure with an estimated 15- to 30-year design life to increase water reliability for long-term climate resilience.

- **Does the project seek to reduce or mitigate climate pollutions such as air or water pollution?**

Yes, the Project will reduce both water pollution and air pollution.

Water Pollution. Project improvements will increase the current amount of captured runoff by upgrading the pump stations with larger pumps capable of handling debris, expanding the area of captured flow, improving debris capture, and improving the storm drain overflow to prevent flooding. The Project includes a new desilting basin to improve water quality prior to blending, thereby reducing water quality pollution. The Project will increase the capture of dry weather runoff and stormwater to produce 200 AFY of additional non-potable water supply. By reducing dry weather flows, the Project will provide ecosystem benefits to downstream native habitat. Urban runoff carries nitrates and other pollutants downstream and disperses nonnative seeds and vegetation, which negatively impacts Audubon Society's Starr Ranch Sanctuary. The Project will increase the capturing of dry weather flows and prevent the same amount of polluted urban runoff from flowing into downstream habitats.

Air Pollution. The Project will reduce air pollution by saving energy through local nonpotable water distribution in place of energy-intensive imported water. The Project reduces the energy needed for irrigation water by saving 271,800 kWh/year. The proposed Project will use a low-impact water treatment process that will consume less energy than a standard treatment system and consequently reduce lifecycle operating costs. Southern California, including the District, receives imported water via the SWP and the CRA, a conveyance process that requires a large amount of energy. The proposed Project would reduce energy consumption by offsetting the energy that would be required to deliver 200 AFY of imported potable water by producing the same amount of nonpotable water locally, which requires much less energy. The power required to import 1 AF of water is approximately 2,000-kilowatt hour (kWh)/AF based on the publication "California's Water – Energy Relationship" (California Energy Commission, 2005) for CRA water. Conversely, the District can locally produce and deliver every 1 AF of water using only 641 kWh of energy. The effective reduction in energy required to supply 200 AFY is the difference between the energy associated with the potable water delivery and the energy used to produce nonpotable water which results in a savings of (2,000 kWh -641 kWh/AF * 200 AFY) 271,800 kWh/year. The Project will reduce carbon dioxide (greenhouse gases) by using less energy to produce recycled water locally in place of importing water from the CRA and SWP.

The Project mitigates air pollution by reducing the energy and associated greenhouse gasses required to convey imported water to the District's service area. Carbon emission estimates of 0.532 lb. of CO_2/kWh based on the U.S. Environmental Protection Agency's, eGRID Summary Tables 2021 were used to calculate emissions saved as follows: 0.532 lb. of CO_2/kWh * 271,800 kWh/year = 144,598 lbs. of CO_2 savings per year upon Project completion.

- **Does the proposed project have a conservation or management component that will promote healthy lands and soils or serve to protect water supplies and its associated uses?**

The Project does not directly have a conservation or management component that will promote healthy lands and soil**.** However, the Project does have a management component that serves to protect water supplies and its associated uses. The Project implements the regional climate change action plan, adopted by the District, and is listed in Chapter 4 of the South Orange County IRWMP as a measure to mitigate climate change impacts for the region. The IRWMP Chapter 12 Climate Change includes a climate change analysis per the California Department of Water Resources (DWR) in 2016. Page 10-11 of the IRWMP describes Climate Change Adaptation & Mitigation Strategies, while Page 10-13 identifies specific Climate Change Adaptations.

- **Does the project contribute to climate change resiliency in other ways not described above?**

An important part of climate change resiliency is being prepared for **economic losses**. The Project alleviates economic losses by providing nonpotable water for irrigation in place of imported water; this water is available even during times of drought since it is dependent on wastewater. Therefore, the District can receive a balanced revenue stream during times of drought by ensuring irrigation is available to its customers. Additionally, irrigation water is valuable for maintain property values. MWDOC, the regional water importer, retained the services of the Orange County Business Council and found that the economic impacts for the MWDOC service area ranged up to $1.7 billion, depending on the shortage scenario. Even a relatively short 10-day, 20% reduction carries a projected impact of over $60 million. These numbers illustrate the tremendous potential cost from water system outages or short-term drought. The local irrigation water is valuable for contributing to climate change resiliency, including in times of drought, by ensuring irrigation water is available to use by customers to maintain property values and revenue stream for the District's service area. Climate change will reduce availability of TCWD's existing supplies due to drought and changes in precipitation, which will also reduce stream flows and groundwater infiltration. As a result of climate change, storm events that do occur are expected to be flashier, meaning flows may be less frequent but will have larger volumes in a shorter timeframe. This project will increase capture capacity, allowing these flashier flows to be captured for reuse. Flashier flows are less able to infiltrate into the groundwater basin, so capturing it as stormwater will help to offset the reduction in groundwater. Offsetting potable demands will allow TCWD to conserve its potable supplies. Nonpotable demands exceed supplies, and supplemental use of potable water was required in 7 of the last 10 years.

Subcriterion A2.b: Environmental Benefits

- **Does the project improve ecological climate change resiliency of a wetland, river, or stream to benefit to wildlife, fisheries, or habitats? Do benefits support an endangered/ threatened species?**

Yes, the Project seeks to improve ecological climate change resiliency of Dove and Tick creeks, as well as downstream at the Audubon Society's 4,000-acre Starr Ranch Sanctuary. The Project will upgrade the Dove and Tick Creek Pump Stations to increase capture of both dry weather runoff and stormwater. Under TCWD's existing Dry Season Water Recovery Project, captured urban runoff from both pump stations is conveyed to Dove Lake where it is blended with tertiary water for the District's recycled water system. Recycled and non-potable water is used to irrigate parks, golf courses, and greenbelts, and offsets demand on potable water. Project improvements will double the current amount of captured runoff by upgrading the pump stations with larger pumps capable of handling debris and moving a greater volume of water, expanding the area of captured flow, improving debris capture, and improving the storm drain overflow to prevent flooding and damage to equipment. By reducing dry weather flows, the Project will also provide ecosystem benefits to

downstream native habitat. Urban runoff carries nitrates and other pollutants downstream and disperses nonnative seeds and vegetation, which negatively impacts the Starr Ranch Sanctuary. The stormwater and dry-weather runoff that cannot currently be captured at the two pump stations flows into Dove Creek, which ultimately travels through a protected nature reserve, Starr Ranch Sanctuary, owned by the Audubon Society. By capturing this runoff and stormwater, the District can prevent the spread of these non-native seeds to the preserve from the drainage area of the project, helping to support healthy native habitat downstream.

- **What are the types/quantities of environmental benefits provided (i.e., species types / numbers benefited, habitat acreage improved, restored, or protected). How were these benefits calculated?**

By increasing the capture of both dry weather runoff and stormwater, the Project will benefit the Audubon Society's Starr Ranch Sanctuary by preventing pollutants and invasive seeds from entering the sanctuary via the creeks. The Sanctuary has battled invasive species, implementing adaptive management to remove invasives without herbicides to restore the natural habitat. For example, artichoke thistle has invaded approximately 700 acres of degraded and native grasslands and was first on the list of invasive plant species prioritized for immediate research and control. Reducing the amount of stormwater runoff flowing into Dove Lake and Dove Creek reduces the transport of invasive species and seeds, thereby helping to protect the endangered shrubland, coastal sage scrub, native bunchgrass, and purple needlegrass.

- **Will the project reduce the likelihood of a species listing or otherwise improve the species status?**

Recycled water use contributes to maintaining surface flows for land and marine habitat protection, improving the species status in the Audubon's Starr Ranch Sanctuary. Vegetation at the Ranch is typical of lower elevational southern California: mosaics of grassland, oak woodland, riparian woodland, coastal sage scrub, and chaparral. Wildlife species include fence lizards, canyon tree frogs, red-shouldered hawks and mountain lions. All native habitat and wildlife is becoming rare in southern California and the Ranch protects some especially endangered vegetation types such as coastal sage scrub and native perennial grassland as well as species such as many-stemmed dudleya (a plant) and the California gnatcatcher (a bird). The Project will support surface flows continuing into the habitat to support these species.

Subcriterion A2.c: Other Benefits

- **Will the project assist States and water users in complying with interstate compacts?**

The Project benefits larger statewide, regional, and local initiatives to address sustainability of water supplies by increasing nonpotable water by 200 AFY and reducing the same amount of potable water. The Project will increase water supply reliability and reduce drought impacts on the Colorado River, by reducing demand on this imported water supply. Multiple states rely on water from the Colorado River and have interstate contracts. MWD is the state contractor for imported water, which the District receives from MWDOC. Drought conditions result in heightened competition for imported water within MWD's southern California service area. Per MWD's 2020 UWMP imbalances are occurring in the Upper Colorado River Basin, where snowpack peaked in April 2020 at 107% of median, yet from April through July runoff was observed at just 52% of average due to hot and dry conditions in the late spring and early summer. The District is reliant on imported water from MWD and MWDOC for up to 67% of its water supplies, and MWDOC is approximately 80% reliant on imported water supplies from MWD. With nearly 19 million people in MWD's service area, MWD must meet Southern California demands. Reclamation forecasted that demands will exceed available supply in the Colorado River. Approximately 40 million people rely on the Colorado River and its tributaries for water, with 5.5 million acres of land using Colorado River water for irrigation. The Colorado River flow has been above average (MWD, UWMP, 2021) in only three of the past 15 years (2000–2015) due to long-term drought conditions, which have produced current and future imbalances in water supply and demand in the Colorado River Basin. The Project reduces demand on imported water to help alleviate the long-term imbalance in future supply and demand, which is projected to be approximately 3.2 million acre-feet by the year 2060.

- **Will the project benefit multiple sectors and/or users (e.g., agriculture, municipal and industrial, environmental, recreation, or others)? Describe the associated sector benefits.**

The Project will produce 200 AFY of new non-potable supply to benefit irrigation users in the District's service area, including recreational uses at a golf course and Homeowners Associations (HOAs). The Project will provide environmental benefits to the Audubon Starr Ranch Sanctuary downstream by preventing polluted runoff from reaching the protected area during the dry season. The Project will benefit parks and parkways within the District's service area, including Trabuco Highlands and Robinson Ranch HOAs that have been converted to recycled water. The Project will increase the amount of captured urban runoff from both pump stations that is conveyed to Dove Lake where it is blended with tertiary water for the District's recycled water system.

- **Will the project benefit a larger initiative to address sustainability?**

The proposed Project benefits the California Water Plan Update 2023, which is the larger statewide initiative to address water sustainability and is updated every five years. The State Water Resources Control Board developed the California Water Plan to further California's sustainable water management and proactive response to changing availability and constraints on water. California's Water Supply Strategy includes:

- Creating storage space above and below ground for as much as 4 million AF of water;
- Recycling and reusing at least 800,000 AF of water per year by 2030;
- Freeing up 500,000 AF of water through more efficient water use and conservation; and
- Making new water available for use by capturing stormwater and desalinating ocean water and salty water in groundwater basins.

The Project benefits the California Water Plan by helping meet the second bullet point, by contributing 200 AFY of new nonpotable water to help meeting the goal of recycling/reusing at least 800,000 AFY by 2030.

- **Will the project benefit a larger initiative to address sustainability?**

The Project will decrease heightened competition for finite water supplies by increasing recycled water supplies to offset limited imported and groundwater water supplies. Reclamation has forecasted that demands will exceed available supply in the Colorado River. This results in competition for limited water supplies throughout the Delta and Colorado River Basin. Drought conditions result in a heightened competition for imported water within MWD's service area and limited San Juan Basin groundwater supplies. The District's main source of water supply is imported water from MWD via MWDOC for its potable water. Groundwater from the San Juan Basin, recycled water, and surface water from Irvine Lake make up the rest of the District's water supply portfolio. Although the San Juan Basin groundwater is highly desirable in terms of water quality, cost, and local energy resources, the aquifer is shallow, subject to dry conditions and is not a reliable source of pumping. Locally, the San Juan Basin's groundwater supply is shared among South Coast Water District (SCWD), Santa Margarita Water District (SMWD), Moulton Niguel Water District (MNWD), and the City of San Juan Capistrano. The drought has decreased basin recharge, and some of the Basin's storage capacity cannot be used because of potential sea water intrusion, economic considerations, and increasingly poor water quality. There is not tension in the Basin, but the limited groundwater supplies translates to tension over imported water supplies. The Project reduces tension because it increases local water supply reliability by offsetting imported water and improving the basin recharge.

Evaluation Criterion B – Planning and Preparedness

- **Explain how the applicable plan addresses drought. Proposals that reference plans clearly intended to address drought will receive the most points under this criterion.**

The proposed Project is supported by the 2018 Integrated Regional Water Management (IRWM) Plan for the South Orange County Watershed Management Area (WMA). The IRWM Plan was developed by the participating agencies to identify and integrate regional projects to improve water supply, protect water quality, enhance the environment, and provide flood risk management. The IRWM Plan establishes a priority ranking to help further regional efforts to investigate the feasibility of, and identify funding for these projects.

- **Does the drought plan contain drought focused elements (e.g., a system for monitoring drought, drought projections that consider climate change, identification of drought mitigation projects, drought response actions, and an operational and administrative framework)?**

IRWM Plan Section 3.8.4 Changes in Drought Persistence addresses drought as an impact of climate change. A system for monitoring drought is achieved by each agency's urban water management plans, prepared every 5 years, as described on IRWM Plan pages 10-1 and 10-4. The IRWM Plan incorporates: consistency and coordination regarding local plan content and the IRWM Plan content, relevant, accurate, and current local plan information on which the IRWM Plan is based, water management issues and climate change adaptation and mitigation strategies from local plans, and limits, levels, management tools or criteria relevant to water management in local plans applicable to the IRWM Plan.

Drought projections that consider climate change are included in Section 12 Climate Change, which contains analysis of drought using models and long-term tree ring data (page 3-102 of the IRWM Plan). Droughts in the western U.S. are often persistent, and the recent period (2012-2016) constituted one the most severe droughts over the past millennium. The slightly warmer temperatures resulted in higher evapotranspiration from the landscape and increased the severity of the drought. For example, water year 2015 was the warmest on record for California, and coupled with one of the lowest annual rainfall quantities recorded. Between 2000-2014 record Colorado River flow reductions averaged 19.3% with approximately one-third likely due to warming. South Orange County's reliance on imported water from the SWP and the Colorado River Basin makes drought awareness one of the WMA's highest concerns. The IRWM Plan explains that monitoring drought employs atmosphere-ocean global climate models to provide a more complete picture of the climate response to emission changes (IRWM Plan page 12-3). The models consistently predict that temperatures will rise in California, with the uncertainty being to what extent.

Drought mitigation projects are identified in the **Priority Project List in Appendix F of the IRWM Plan, which in addition to the Proposed Project**, includes infrastructure improvements, desalting and recycling projects, and water use efficiency programs planned for the South Orange County WMA. These projects generate both drought year water supply, and "regular year" water supply. The IRWM Plan Project List is updated via the County of Orange website.

Drought response actions are included in Section 4.3.3, on page 4-14 of the IRWM Plan and include the water supply strategies to increase the supply of potable and non-potable water, improve reliability of all water supplies with consideration of climate change, among others. For example, page 4-16 includes Strategy: WS-3-S5 to develop storage in areas out of South Orange County that can be accessed to supply water under drought and emergency conditions, including water transfer facilities and agreements. Operational and administration framework for the IRWM Plan includes the County of Orange as the regional lead for the South Orange County WMA, supported by the District and other WMA members.

- **Describe how the drought plan includes consideration of climate change impacts to water resources or drought.**

The IRWM Plan Section 3.8 Potential Climate Change Impacts to WMA, summarizes potential climate change impacts such as expecting a shift in precipitation patterns that may result in sea level rise, impacting water resources and ecosystems (pages 3-100 to 3-103). The areas of concern for California include the reduction in the Sierra Nevada and Rocky Mountain snowpack, increased intensity and frequency of extreme weather events, and sea level rise leading to increased risk of coastal flooding and levee failure in the Sacramento-San Joaquin Delta, a major source of water supply to the planning region. Changes in global climate can affect average temperature, evaporation, and the amount, frequency, and intensity of precipitation in southern California, and sea temperature and level of the Pacific Ocean. IRWM Plan Section 12.4, Vulnerability Assessment, includes a detailed discussion on climate change impacts specific to the

South Orange County region, and to the regions that provide most of its water (the Bay-Delta and the Colorado River basin) (pages 12-7 to 12-8). Changes in hydrological conditions due to climate change most likely to affect the South Orange County WMA's water planning include:

- Sea level rise, with greater coastal erosion and potential for coastal flooding;
- Warmer temperatures leading to mountain snowpack storage loss and earlier snowmelt;
- Changes in precipitation and temperature affecting average runoff volume;
- Changes in drought persistence;
- Higher water temperatures in streams and reservoirs;
- Potential increase in in water demands for landscape use due to higher temperatures;
- Increased flood flows and flood frequencies; and
- Damage to trees and increased risk of wildfire and erosion.

The IRWM Plan includes forecasts of future climate conditions and a summary of vulnerability assessment and planned adaptations to address climate change concerns. The concerns identified with particular importance to the region include water demand, water supply, water quality, sea level rise, flooding, ecosystems and habitat vulnerability, and hydropower. An analysis of climate impacts was performed as part of the IRWM process and is presented in Appendix J of the IRWM Plan. This analysis includes evaluation of regional vulnerabilities to the effects of climate change on water resources, a process that considers greenhouse gas emissions when choosing between project alternatives and mitigation strategy, prioritized regional climate change vulnerabilities, and a methodology for data gathering and analysis of the prioritized vulnerabilities.

- **When was the plan developed and how often is it updated?**

The 2018 IRWM Plan represents an update to the 2013 IRWM Plan to both comply with DWR Plan Standards for Proposition 1 and to incorporate technical updates on local planning efforts that support the goals of IRWM in South Orange County. After an extensive stakeholder process, the 2018 IRWM Plan was reviewed and approved by the South Orange County WMA Executive Committee on May 3, 2018 and was subsequently adopted by each city and water (including wastewater and groundwater) agency in South Orange County. The plan was submitted to DWR in January 2019 for review and approval, and was accepted as a compliant plan. The IRWM Plan for South Orange County WMA was approved in 2019, but is updated on a continuous basis as new Projects are added to the Project List in Appendix F.

- **Was the drought plan developed through a collaborative process?**
  - **Describe who was involved in preparing the plan and if prepared with input from stakeholders with diverse interests? Describe the process used for stakeholders to provide input.**

The South Orange County IRWM Plan has been developed from, and coordinates with, existing plans and research documents provided by the participating agencies in a manner that identifies and integrates regional projects to improve water supply, protect water quality, enhance the environment, and provide flood risk management. The first meeting of the South Orange County IRWM Group was held in 2004 and was attended by multiple stakeholders in South Orange County, including County staff, local cities, and several water and wastewater agencies As discussed in The IRWM Plan Chapter 11 Stakeholder Involvement, the South Orange County IRWM Group used a variety of methods to engage the stakeholders and public (page 11-1). They include participating in stakeholder workshops, inclusion in the IRWM project review process, communication via email and information sharing via the County's website and data management software (DMS). Additionally, the IRWM Group conducts ongoing outreach to stakeholders and tribal representatives throughout the region. The IRWM Group strives to make information available in various formats to reduce barriers to participation, including:

- IRWM Meetings, such as publicly posted meetings and other workshops;
- Online through the County's website and the DMS; and
- In-person, at other technical or planning meetings and workshops.

Stakeholders participated in workshops to develop the IRWM Plan objectives, as discussed in Section 4.2 (page 4-7). Section 4.4 also discusses how stakeholders developed the objective weighting and were critical to the development of the regional objectives (page 4-23). The important role stakeholders played in developing the RMS is discussed in Section 5.1 (page 5-1). The South Orange County WMA has implemented a public process that provides outreach and an opportunity to participate in IRWM Plan development and implementation to the appropriate local agencies and stakeholders, including: wholesale and retail water purveyors; wastewater agencies; flood control agencies; municipal and county governments and special districts; electrical corporations; tribes; self-supplied water users; environmental stewardship, community, and industry organizations; state, federal, and regional agencies or universities; disadvantaged community (DAC) members; and any other interested parties. This process considers the priorities of the region and provides opportunities for the IRWM Group to solicit and consider feedback from stakeholders such as local environmental non-profits, land development and planning groups, tribes and members of the public. By including and inviting members of environmental-based, land use planning and other watershed stakeholders in the process of considering projects and updates to the IRWM Plan, the IRWM Group balances jurisdictional and agency-based goals with priorities expressed by the WMA stakeholders.

- **If the plan was prepared by an entity other than the applicant describe whether and how the applicant was involved in the development of the plan.**

31 agencies with jurisdictions in the South Orange County WMA, including 11 special districts, such as TCWD, were involved in developing the IRWM Plan. The District was involved in developing the Plan by participating in the South Orange County IRWM Group meetings, management committee meetings, and executive committee meetings where the region's goals and strategies were defined and Project were outlined for Plan implementation. TCWD also adopted the South Orange County IRWM Plan.

- **Describe how your drought resiliency project is supported by an existing drought plan.**

The Project is identified on the Project List as a response action to drought because it helps to achieve the IRWM Plan Primary Goal of increasing water supply, reliability and efficiency. Drought mitigation projects are identified in the Priority Project List of the IRWM Plan. The IRWM Plan Project List includes infrastructure improvements, desalting and recycling projects, and water use efficiency programs that are planned for the South Orange County WMA. These projects generate not only drought year water supply, but "regular year" water supply as well. The IRWM Plan Project List is updated via the County of Orange website.

- **Does the drought plan identify the proposed project as a potential mitigation or response action? How is the proposed project prioritized in the drought plan?**

The proposed Project is highly ranked in the Priority Project List of the IRWM Plan with a score of 160.7, and as a result, was selected for a funding award in the amount of $389,500 in the Round 2, Cycle 2 IRWM Implementation Grant Program in April 2023.

- **Does the proposed project implement a goal or need identified in the drought plan? Is the supported goal or need prioritized within the plan?**

The Project implements multiple IRWM Plan Goals including: Increase Water Supply (WS), Reliability, and Efficiency; Integrate Flood Management (FM); Enhance Water Quality (WQ) and Protect and Enhance Natural Resources (NR). Specifically, it meets objectives WS-1, WS-2, WS-3, WS-4, FM-3, WQ-1, WQ-2, WQ-3, NR-1, and NR-3, as listed in Appendix K of the IRWM Plan. The Project will increase the District's water supply reliability by increasing the capture of dry weather runoff and stormwater to produce 200 AFY

of additional non-potable water supply. During dry years, recycled water customers are subject to allocations due to limited availability of non-potable supplies, requiring the use of supplemental imported potable water. The project will allow the District to significantly increase existing non-potable water supply and reduce reliance on imported water. It will also increase regional water self-reliance by reducing demands on MWD for imported water. In addition to the water supply benefits, the Project will also address flood management through increased stormwater capture, and reduced localized flooding, reducing the amount of pollutants from stormwater that enter the environment. The desilting basin will improve the overall quality of the captured water. By reducing dry weather flows, the project will also provide riparian and other ecosystem benefits to downstream native habitat by reducing the introduction of pollutants such as nitrates and phosphorous from urban runoff, and the spread of non-native plants and wildlife to the Starr Ranch Sanctuary.

- **Attach relevant plan sections referenced in the application, as an appendix to your application.**

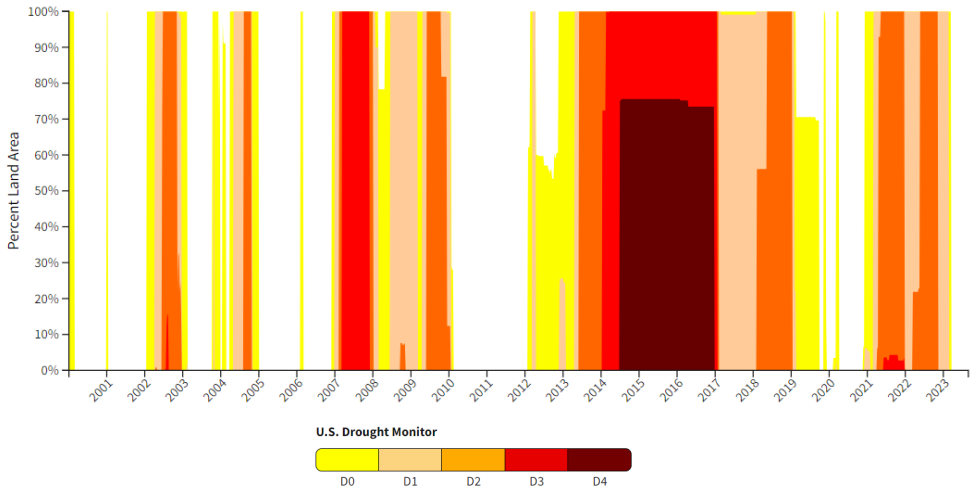
The proposed Project is supported by the IRWM Plan, or the drought plan; a copy of relevant pages from the plan are attached as **Appendix A**.

Evaluation Criterion C - Severity of Actual or Potential Drought Impacts Addressed by the Project

- **Describe the severity of the impacts that will be addressed by the project: Describe existing or potential drought conditions in the project area.**
  - **Is the project currently suffering from drought or recently suffered from drought/water scarcity? Describe existing conditions, including the frequency, duration, and severity of conditions.**

Yes, the proposed Project is in South Orange County, an area that has recently suffered from prolonged drought. California faced unmatched drought conditions in 2015 and 2016 after experiencing the hottest year on record in 2014 and the driest year ever recorded in 2013. 2015 had some of the warmest and driest months on record, including a record low snowpack in the Sierra Nevada. Even with the storms of 2020, the U.S. Drought Monitor declared South Orange County, in severe to extreme drought in 2022 and 2023 as shown in **Figure 6,** and the same swift return to drought conditions is expected in 2024. Orange County has been categorized as having abnormally dry to exceptional drought conditions approximately 15 out of the last 23 years. **Figure 6** uses five categories/colors in the powerful imagery below to convey drought conditions: D0 (yellow) indicates abnormally dry conditions, showing areas that may be going into or are coming out of drought, D1 (light orange) indicates moderate drought, D2 (dark orange) indicates severe drought; D3 (red) indicates extreme drought, and D4 (dark red) indicates exceptional drought – the most intense drought category according to the U.S. Drought Monitor.

Figure 6. U.S. Drought Monitor – Historical Drought Conditions for Orange County, California



Drought is an ongoing challenge to California and throughout the West. According to data presented by the National Centers for Environmental Information (https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county), 7 of the top 15 driest years on record in the last 128 years (years ranking 1, 3, 4, 7, 12, and two tied for 15th driest) have occurred in Orange County since 2000. In 2014, California's Governor Brown responded to drought conditions by declaring a drought emergency for the state. In 2021, California's Governor Newson declared a drought state of emergency that ultimately expanded to extend throughout all 58 California counties. In recent years, drought conditions have also negatively influenced the amount of imported water that agencies like the District can depend on to meet their customers' water demands. In March 2021, DWR announced a decrease to 5% of requested water supplies from the SWP allocation for the 2021 water year. In December 2021, DWR announced a 0% initial allocation of SWP water for the 2022 year, the lowest initial allocation recorded in its history. In March 2022, DWR announced a 5% allocation of requested supplies following a historically dry January and February, the driest months documented in state history. In May 2022, the California State Water Board adopted emergency water conservation regulations focused on urban water use efficiency and conservation. The District has recently gone to a Level 2 Water Shortage Level, but was recently able to go back to a Level 0 Water Shortage level because of the winter and spring 2023 rains. The District must take action to diversify their water supply and implement new sources of local water to reduce demand on increasingly less reliable imported water. The Project is needed because California recently exited declared state of drought emergency, and the region is routinely subject to drought.

- **Describe any projected increases to the severity or duration of drought or water scarcity in the project area resulting from changes to water supply availability and climate change.**

Chapter 12 of the 2018 South Orange County IRWM Plan (page 12-3) includes a description of project increases to the severity of drought in the project area resulting from climate change. To estimate future climatic conditions, global climate processes are represented using Atmosphere Ocean General Circulation Models or Global Climate Models. Using these models, the projected data for the South Orange County IRWM planning region show a small decrease in precipitation of up to an inch per year by mid- to late-21st century periods. The models also show an increase in temperature from about 3 to 5 °F over the same periods. In general, climate models project more adverse conditions (i.e., warmer and drier) in the latter part of the 21st century compared to conditions observed in the second half of the 20th century.

Statewide, the DWR, based on historical data, projects that snowpack in the Sierra Nevada will fall 25 to 40% below the historical average by 2050. Moreover, the California Climate Science and Data for Water Resources Management, identifies how droughts will become more frequent and persistent during this century. The California Climate Science and Data for Water Resources Management projections include: 1) Temperature - Scripps Institution of Oceanography indicates that by 2060-2069 mean temperatures will be 3.4 to 4.9 °F higher across the state than they were in the period 1985-94. 2) Precipitation – Most climate model precipitation projections for the state anticipate drier conditions in Southern California, with heavier and warmer winter precipitation in Northern California. 3) Snowpack - Based on modeling research at Scripps Institution of Oceanography, by the end of the century, the Sierra snowpack may experience a 48-65% loss from the 1961-1990 average. Rising temperatures are expected to increase evapotranspiration from vegetation and increase evaporation water loss in reservoirs. Reclamation's Water Reliability in the West – 2021 SECURE Water Act Report (January 2021) documented similar projections: average temperatures are projected to increase across the West and annual precipitation is projected to decline in the Southwest. In most river basins, snowpack is projected to decline as more winter precipitation falls as rain and warmer temperatures melt snow sooner. In some high elevation regions, snowpack may increase due to a projected increase in winter precipitation. Throughout the West, seasonal streamflow is projected to occur earlier in the year. These factors will worsen the imbalance between increasing water demand from rapid population growth and decreasing water supplies from the Colorado River.

- **What are the ongoing or potential drought or water scarcity impacts to specific sectors in the**

project area if no action is taken, and how severe are those impacts? Whether there are public health concerns or social concerns associated with current or potential conditions.

Imported Drinking Water Impacts from Interruptions. The severity of the drought has impacted drinking water supplies in the District by decreasing the reliability of imported water. MWDOC's 2018 South Orange County Reliability Study highlighted the vulnerability of the District to prolonged interruptions of imported water deliveries and was prompted in part by the December 13,1999 failure of the Allen-McColloch Pipeline, which interrupted imported water delivery for eight days. The District only has one point of delivery of treated imported water from MWD, which makes it vulnerable to seismic events and droughts that could result in no treated imported water for up to 60 days. Providing system reliability benefits is crucial for combatting the ongoing drought conditions. Recycled water is a locally produced alternative source which will help diversify the District's water supply and reduce dependence on imported water.

San Juan Groundwater Basin Supply Impacts. If the District's water service is interrupted by a wildfire or earthquake, the District has only the San Juan Basin or recycled water sources for the community. The San Juan Basin is one of the only groundwater basins in South Orange County, is utilized by four agencies, and has extremely limited capacity (estimated at 27,000 AF). The Project will reduce drought impacts on the overdrafted San Juan Basin by providing a new source of recycled water supply for irrigation. As drought persists, imported water supplies will be limited, and groundwater use will increase. Recharge of the San Juan Basin is from flow in San Juan Creek, Oso Creek, and Arroyo Trabuco, rainfall, and irrigation infiltration. However, the drought and voluntary and mandatory reduced irrigation with potable water has decreased the basin recharge. Some storage capacity cannot be used because of potential sea water intrusion, economic considerations, and increasingly poor water quality. As less water recharges the basin due to the drought, the potential for sea water intrusion and poor water quality increase. The drought conditions will continue to cause decreased groundwater quality and quantity due to reduced stream flow and natural recharge. The San Juan Basin's reduced supply and storage capacity limits regional local resources.

- **Whether there are ongoing or potential environmental impacts.**

Drought decreases water quality for habitats throughout the region. Locally, the proposed Project will ensure irrigation flows make their way to creeks and streams to enhance water quality and support local habitat. By providing additional recycled water, the Project ensures irrigation upstream of the natural ecosystems will be available to support the natural habitats, including coastal sage scrub. The coastal sage scrub community is designated as threatened by the state of California, but is considered as globally imperiled. Coastal sage scrub, the dominant native plant community in coastal Southern California, has been negatively impacted by the extended drought punctuated by intense rainfall and supports a great diversity of wildlife, as the diversity of plants acts as a foundation for an extensive food web. The flowering plants provide nectar for an abundance of insects which, in turn, become food for other animals. Many plants produce fruit and seeds that are eaten by a variety of small animals that are preyed upon by other larger animals. The sage scrub community hosts a great diversity of organisms; of the many animals that live in the coastal sage scrub, 120 are considered rare, threatened or endangered. Of these, the blue-gray gnatcatcher and Stephen's kangaroo rat are federally endangered. Protection of this unique habitat is critical to the survival of a diversity of animals, including the western spadefoot toad, gopher snakes, rosy boas, bobcats, coyotes and nearly 150 different species of birds. It provides habitat for more than 150 different butterfly species (many endangered), 21 species of scorpions, many spiders, reptiles, birds and mammals. Coastal sage scrub attracts the largest diversity of endemic bees in North America. The Project's recycled water ensures irrigation and runoff support the local coastal sage scrub habitat in the San Juan Creek Watershed.

- **Whether there are local or economic losses associated with current water conditions that are ongoing, occurred in the past, or could occur in the future.**

The Project alleviates potential economic losses associated with current and anticipated water conditions by

providing recycled water for irrigation in place of imported water; recycled water is available even during times of drought since it is dependent on wastewater, which is produced even in times of drought due. MWDOC retained the services of the Orange County Business Council and found that the economic impacts for the MWDOC service area ranged up to $1.7 billion, depending on the shortage scenario. Even a relatively short 10-day, 20% reduction carries a projected impact of over $60 million. These numbers illustrate the tremendous potential cost from water system outages or short-term drought. The District's goal is to help customers achieve use reduction compliance through education and assistance at little to no cost. Expanded rebate programs through MWD and the District's free conservation programs are available to eligible customers. Many strategic reliability measures implemented by MWD and local water purveyors have helped to protect the region from rationing or other severe conservation measures to date.

- **Whether there are other water-related impacts not identified above (e.g., tensions over water that could result in a water-related crisis or conflict).**

The Project will decrease heightened competition for finite water supplies by increasing non-potable water supplies to offset limited imported and groundwater supplies. Drought conditions result in a heightened competition for imported water within MWD's service area and limited San Juan Basin groundwater supplies. Southern California's reliance on imported water supplies to meet demands will result in competition for limited water supplies when as demands exceed available supply. Locally, the San Juan Basin's groundwater supply is shared among SCWD, SMWD, MNWD, and the City of San Juan Capistrano. As described previously, the drought has decreased basin recharge. Some of the Basin's storage capacity cannot be used because of potential sea water intrusion, economic considerations, and increasingly poor water quality; this has caused tension among local agencies due to the limited local supply. TCWD has an existing relationship with SMWD to provide half the non-potable water via a separate connection. This project will increase the reliability of non-potable water supplies by increasing dry weather runoff and stormflow capture for non-potable reuse. Having this additional non-potable supply will provide for greater flexibility in supply management for both TCWD and SMWD. The Project reduces tension locally because it increases local water supply reliability by offsetting imported water and improving the basin recharge capacity.

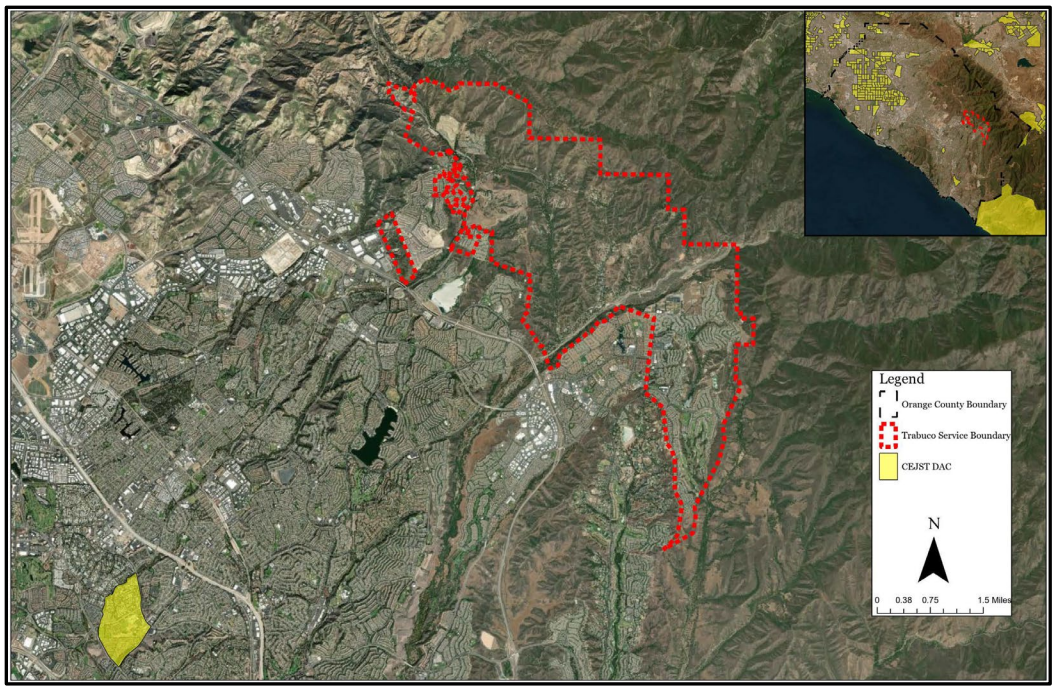
Evaluation Criterion D – Presidential and Department of Interior Priorities

- **Please use the White House CEJST to identify the benefit to disadvantaged communities. Describe how the project will serve or benefit a disadvantaged or underserved community.**

The White House Council on Environmental Quality's interactive Climate and Economic Justice Screening Tool (CEJST) was utilized to help identify the DACs that will benefit from the Project. Census tracts that are overburdened and underserved are highlighted as being disadvantaged on the map as shown in **Figure 7**. Although the District's service area does not contain DACs, the larger South Orange County region contains DACs. As described in Section 3.5 of the South OC IRWM Plan, the region includes several areas determined to be a DAC, defined as "a community with a MHI less than 80 percent of the statewide average". Of the approximately 600,000 residents in South Orange County, it is estimated that 6.7 percent of the population are disadvantaged and live at or below the poverty level. DAC involvement is an important part of the South Orange County IRWM Plan process. The City of Laguna Woods and the City of San Juan Capistrano contain DACs. Throughout South Orange County, DACs are located within defined water agency service areas availing safe drinking water through service connections. As a result, water resources needs are generally centered on community development and surface water quality issues, rather than drinking water quality or drinking water supply issues. Addressing water quality issues in areas of recreational use is a main goal of the region. The Project benefits water quality of the Dove and Tick Creeks, and downstream surface water quality in the Starr Ranch Sanctuary and other downstream waterways and beaches, which are frequented by members of DACs in the South Orange County region. It is particularly important to address water quality

to protect the health and safety of the entire area population, especially for the disadvantaged residents that do not have the means to travel to other areas.

Figure 7. Disadvantaged Communities Map



- **Does the proposed project directly serve and/or benefit a Tribe? (i.e., public health and safety - water quality, new water supplies, economic growth, improving water management).**

The Project supports tribal resilience to climate change and drought impacts by making more water available in the Colorado River Basin for tribes that rely on the CRA as a source of water. The Project will increase water supply by up to 200 AFY through development of local water production and will ultimately benefit the Colorado River Basin by reduced demand on this source. The Project will reduce demands on imported supply from the Colorado River Basin and the SWP, as the District receives imported water from MWD via MWDOC, which currently relies on these as its primary sources of water. Reclamation manages the Colorado River system from which MWD imports water. Imported water savings associated with the Project translate to more water remaining in the fragile Colorado River and Bay-Delta systems.

- **Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe?**

The proposed Project directly supports Reclamation's current efforts, including the May 20, 2019 signing of completed drought contingency plans for the Colorado River basin. The plan is designed to reduce risks from ongoing drought or supply line interruptions and protect the most important water source in the western U.S. By reducing the amount of water imported, this water in effect remains in the Colorado River basin from which it originates or is made available to meet demands in other areas of the State. Any increase in water reliability and greater availability in overall water supply resulting from local water production efforts would also help Reclamation in meeting the Federal Indian trust responsibility, a legally enforceable fiduciary obligation on the part of the U.S. to protect tribal treaty rights, lands, assets, and resources, to the tribes.

Evaluation Criterion E – Readiness to Proceed and Project Implementation

- **Describe the project implementation plan. Include an estimated schedule that shows the stages and duration of the work.**

Table 3 on the following page presents the Project schedule showing the stages and duration with a start date of October 2023, construction beginning February 2025, and Project completion in October 2026. The tasks below demonstrate the Project implementation plan.

Task 1: **Project Management.** The District will prepare documentation relating to Project funding, manage forces responsible for the preparation of necessary reports and contract documents, manage interface between stakeholders, administer the construction contract, coordinate testing, and monitor Project progress.

Task 2: Reporting. The District will prepare progress reports detailing work completed during each reporting period. Reporting will be performed on a semiannual basis, including submittal of Financial Reports and Interim and Final Performance reports, and Financial Reimbursement Requests using the online Automated Standard Application for Payments (ASAP) system. Interim Performance and Final Performance Reports, including final Project evaluation, will be in accordance with Reclamation agreement requirements.

Task 3: Land Purchase. Not applicable – the District already owns the property the Project is located on, but this task is included to be consistent with tasks identified for another funding agreement.

Task 4: Feasibility Studies. Not applicable – the District does not need a feasibility study to implement the Project, but this task is included to be consistent with tasks identified for another funding agreement.

Task 5: CEQA/NEPA Documentation. A Categorical Exemption or Mitigated Negative Declaration is anticipated for the Project for CEQA compliance. Federal cross-cutters will also be completed as part of the environmental review should the Project be successful in securing federal funding.

Task 6: **Permitting.** It is anticipated that an encroachment permit from the City of Rancho Santa Margarita may be required for work that will take place within the public right-of-way.

Task 7: Design. The Project design is 20% complete; the components have been identified and the Project is included in the District's Capital Improvement Plan. TCWD will contract with a design firm to produce the 100% design plans and specifications that will be used to bid the Project to contractors.

Task 8: Project Monitoring Plan. Develop and submit a Project Monitoring Plan per the Grant Agreement for DWR's review and approval associated with awarded non-Federal grant funding.

Task 9: Contract Services. Activities necessary to secure a contractor and award the construction contract (i.e., bid documents, advertisement, contract documents, pre-bid meeting, bid opening and evaluation, selection of the contractor, award of contract, and issuance of notice to proceed).

Task 10: Construction Administration. This task includes managing contractor submittal review, answering requests for information, and issuing directives.

Task 11: Construction. Construction activities include: mobilization and demobilization, site preparation, construction of Project improvements including upgrading the pump stations with larger pumps capable of handling debris and moving a greater volume of water, expanding the area of captured flow, improving debris capture, and improving the storm drain overflow.

- **Describe any permits or approvals that will be required. For permits and approvals that need to be obtained, describe the process, including estimated timelines for obtaining such permits.**

Final approval of the construction contract by the District Board of Directors will be required prior to proceeding with the Project construction.

- **Identify and describe engineering or design work performed specifically to support the project.**

Preliminary Project design has been completed to support planning.

- **Describe any land purchases that must occur before the project can be implemented.**

No land purchases are required to implement the Project.

- **Describe any new policies or administrative actions required to implement the project.**

No new policies or administrative actions are required to implement the Project.

Table 3. Project Schedule with Tasks, Milestones, and Dates

Project Task/Milestones	Start Date	End Date
Anticipated Award Timeframe	October 31, 2024	
Task 1: Project Management	October 2023	October 2026
Task 2: Reporting	October 2023	October 2026
Task 3: Land Purchase	Not Applicable – Required for consistency with non-Federal Funding Award	
Task 4: Feasibility Studies		
Task 5. CEQA/NEPA Documentation	February 2024	October 2024
Task 6: Permitting	February 2024	October 2024
Task 7: Design	February 2024	October 2024
Task 8: Project Monitoring Plan	August 2024	October 2024
Task 9: Contract Services	November 2024	January 2025
Task 10: Construction Administration	February 2025	August 2026
Task 11: Construction	February 2025	August 2026

Evaluation Criterion F – Nexus to Reclamation

- **Does the applicant have a water service, repayment, or O&M contract with Reclamation?**

No, the District does not have a water service, repayment, or O&M contract with Reclamation.

- **If the applicant is not a Reclamation contractor, does the applicant receive Reclamation water through a Reclamation contractor or by any other contractual means?**

Yes, the District receives Reclamation water from MWD via MWDOC, which currently relies on the Reclamation-managed CRA, and the SWP as its primary imported water sources.

- **Will the proposed work benefit a Reclamation project area or activity?**

The Project will benefit Reclamation's water supply in the Colorado River through its nexus with the Santa Ana Watershed Basin Study and Reclamation's Colorado River Basin Study by making up to 139 AFY of potable water available through reducing imported water demands. The Project directly supports adaptation strategies in the Santa Ana Watershed Basin Study (a partnership between the Santa Ana Watershed Project Authority and Reclamation) by reducing demand on imported water and promoting ongoing implementation of the state's 20x2020 Water Conservation Plan. The Colorado River Basin Plan includes goals to resolve the supply and demand imbalance, including water recycling. The Project will increase the availability of Reclamation's water supply in the Colorado River Basin, as the District receives approximately 60% of its supply from MWD via MWDOC, which relies on the CRA and the SWP as its primary water sources. The Project's imported water savings translate to more water remaining in these fragile systems. The Project benefits Reclamation by reducing imported water supplies from the Colorado River and northern California, allowing water to remain in the originating basin or making it available to meet other demands.

- **Is the applicant a Tribe?**

The District is not a Tribe.

Evaluation Criterion G – Stakeholder Support for Proposed Project

- **Describe the level of stakeholder support for the proposed project. Are letters of support from stakeholders provided? Are any stakeholders providing support for the project through cost-share contributions or through other types of contributions to the project?**

The Project has strong stakeholder support. Letters of Project support were provided by Congressman Mike Levin, U.S. Representative for California's 49th Congressional District, Representative Young Kim of California's 40th Congressional District, California State Senator Catherine Blakespear of the 38th Senate District, California Assemblymember Kate Sanchez of the 71st District, Jennifer Cervantez, City Manager of the City of Rancho Santa Margarita, and Roger Butow, Founder and Executive Director of Clean Water Now. The District is funding the entire portion of the non-Federal cost share for the Project; there are no other entities providing cost-share contributions.

- **Explain whether the project is supported by a diverse set of stakeholders.**

The Project is supported by a diverse set of stakeholders. Through a stakeholder lead process, the South Orange County region selected the Project for funding through an IRWM solicitation process. During this solicitation, proponents submit Project Score Sheets for regional benefits. The projects that rank the highest are selected for further review/vetting by the Management Committee, and once vetted, project rankings and recommendations are provided to stakeholders for review. At a public workshop, project proponents for the top ranked projects interested in applying for the targeted grant program present to stakeholders the merits of the project, costs, grant funding requested, etc. Workshop attendees chose a focus group (one for each goal category) in which to participate; the projects and their associated scoring and proposed ranking are discussed. This stakeholder process is used to determine the final ranking of the top projects for funding and provides open communication with the IRWM Group on the list of selected projects for funding. The selected projects, including the proposed Project, were then recommended for final approval based upon group and stakeholder ranking and discussion. The list of selected projects, including the Project, was communicated to stakeholders through the approval process at a publicly posted stakeholder-based workshops. Stakeholders in the area are comprised of residents, businesses, water agencies/cities, DACs, general public and other local, state and federal agencies in the region. This diverse set of stakeholders showed support for the Project by ranking it as a top priority in the region and awarding it state grant funding.

Project Budget

The project budget includes: (1) Funding Plan and Letters of Commitment, (2) Budget Proposal, (3) Budget Narrative.

Funding Plan and Letters of Commitment

Describe how the non-Federal share of project costs will be obtained.

The District has the capacity to fund the non-Federal Project costs from the allocated budget for the Project. The District-awarded State funding and the District's cash reserves will provide the non-Federal cost share source to fund the proposed Project.

Please identify the sources of the non-Federal cost share contribution for the project:

- ***Any monetary contributions by the applicant for the cost-share requirement and fund source:*** The District will provide its non-Federal cost share from its California Department of Water Resources, Round 2 IRWM Implementation Grant in the amount of $389,500 and District cash reserves in the amount of $264,468, which was calculated by the Non-Federal Estimated Amount less the IRWM Implementation Grant Award ($653,968-$389,500).
- ***Any costs that will be contributed by the applicant.*** District awarded State IRWM grant funding and cash reserves.
- ***Any third-party in-kind costs (i.e., goods and services provided by a third party).*** None
- ***Any cash requested or received from other non-Federal entities.*** The District was awarded $389,500 in State grant funding from the California Department of Water Resources, Round 2 IRWM Implementation Grant Program.
- ***Any pending funding requests (i.e., grants or loans) that have not yet been approved and explain how the project will be affected if such funding is denied.*** None.
- There are no funding partners.

Please identify whether the budget proposal includes any project costs that have been or may be incurred prior to award. The budget proposal will include project costs incurred prior to award.

Budget Proposal

The District will fund 50% ($577,584) of the Project costs, and the District is requesting the remaining 50% ($577,584) of the Project costs as shown in **Table 4**. **Table 5** provides a summary of funding sources.

Table 4. Summary of Total Project Cost

Source	Amount
Costs to be reimbursed with the requested Federal funding	$577,584
Costs to be paid by the applicant	$577,584
Value of third-party contributions	$0
TOTAL PROJECT COST	**$1,155,168**

Table 5. Non-Federal and Federal Funding Sources Summary

Funding Sources	Amount
Non-Federal Entities	
1.TCWD DWR Proposition 1 IRWM Grant Funding	$389,500
2. TCWD Cash Reserves	$188,084
Non-Federal Subtotal	***$577,584***
REQUESTED RECLAMATION FUNDING	**$577,584**

Table 6 provides the Budget Item Description. No In-Kind funding is proposed or included. Salaries and Wages are presented in **Table 7**, and Fringe Benefits are presented in **Table 8**. Contractual costs are presented in **Table 9**, and Construction costs are presented in **Table 10**.

Table 6. Project Budget Estimate

Budget Item Description	Computation		Quantity Type	Total Cost
	$/Unit	Quantity		
a. Salaries and Wages				
Project Manager, Lorrie Lausten	$98	295	Hours	$28,910
General Manager	$131	72	Hours	$9,432
Finance	$70	96	Hours	$6,720
Administrative Assistant	$39	144	Hours	$5,616
Operations	$64	144	Hours	$9,216
Subtotal				***$59,894***
b. Fringe Benefits				
Project Manager, Lorrie Lausten	$36	295	Hours	$10,620
General Manager	$38	72	Hours	$2,736
Finance	$33	96	Hours	$3,168
Administrative Assistant	$18	144	Hours	$2,592
Operations	$22	144	Hours	$3,168
Subtotal				***$22,284***
c. Travel				
None				**$0**
d. Equipment				
None – included in Contractor costs				**$0**
e. Supplies				
None – included in Contractor costs				**$0**
f. Contractual				
Consultant A – Grant Reporting	$185	54	Hours	$9,990
Consultant B – CEQA/NEPA	$190	340	Hours	$64,600
Consultant C – Design Engineer	$225	692.5	Hours	$155,800
Consultant D – Construction Oversight	$195	320	Hours	$62,400
Subtotal				***$292,790***
g. Construction				
Construction Contractor	$780,000	1	LS	**$780,000**
h. Other Direct Costs				
Not applicable				**$0**
			TOTAL DIRECT COSTS	**$1,155,168**
j. Indirect Costs				
Not applicable				**$0**
			TOTAL ESTIMATED PROJECT COSTS	**$1,155,168**

Budget Narrative

a. Salaries and Wages

The Project Manager and other key District personnel are shown by Project task in **Table 7** along with estimated hours, rate of compensation, and total Salaries and Wages costs for each task for the Project duration, consistent with the Project Schedule in **Table 3**. **Table 7** is consistent with the totals by District personnel included in **Table 6**. Salaries and Wages costs total $59,894; fringe benefits are presented in the following section. Labor rates are updated by the District on July 1 annually, and can be found on the District website. The hourly labor rates are based on the average of personnel occupying a noted position. District compensation rates are consistently applied to Federal and non-Federal activities. The District anticipates that 50% of the salaries and wages budget ($29,947) would be expended in Budget Year 1 and 50% ($29,947) in Budget Year 2.

Table 7. Project Budget for Salaries and Wages by Task

Task	Activity & Employee	Rate	Hours	Total Costs
Task 1	Project Management - *Project Manager*	$98	72	$7,056
	Project Management - *General Manager*	$131	72	$9,432
	Project Management - *Administrative Assistant*	$39	72	$2,808
Task 2	Reporting - *Project Manager*	$98	36	$3,528
	Reporting - *Administrative Assistant*	$39	72	$2,808
	Reporting - *Finance*	$70	72	$5,040
Task 3	Land Purchase	Not Applicable - Included for consistency with non-Federal Funding Award		
Task 4	Feasibility Studies			
Task 5	CEQA/NEPA Documentation - *Project Manager*	$98	25	$2,450
Task 6	Permitting - *Project Manager*	$98	16	$1,568
Task 7	Design - *Project Manager*	$98	36	$3,528
	Design – *Operations*	$64	48	$3,072
Task 8	Project Monitoring Plan - *Project Manager*	$98	18	$1,764
Task 9	Contract Services - *Project Manager*	$98	20	$1,960
Task 10	Construction Administration - *Finance*	$70	24	$1,680
Task 11	Construction - *Project Manager*	$98	72	$7,056
Task 11	Construction - *Operations*	$64	96	$6,144
TOTAL SALARIES AND WAGES			**751**	**$59,894**

A summary of the salaries and wages by task and the estimated time to complete each task is identified in **Table 7**, based on the Project schedule in **Table 3**, and are described below:

Task 1. Project Management: The Project Manager is responsible for the success of the Project. This includes managing the various staff members, consultants and contractors that are required to complete the Project. Over the proposed schedule, the General Manager will provide executive oversight, and the Administrative Assistant will support project documentation. A total of 216 hours is allocated for Task 1.

Task 2. Reporting: The Project Manager will oversee the work of Consultant A, shown below in Table 8, for activities related to grant management and reporting. Reporting will consist of a review of documentation prepared for Reclamation submittal. The Administrative Assistant will support the collection, review and organization of documentation. Financing will provide the required financial data to support the reporting process. A total of 180 hours is allocated for review and consultation for the duration of the grant term.

Task 3. Land Purchase: Not Applicable - Included for consistency with non-Federal Funding Award.

Task 4. Feasibility Studies: Not Applicable - Included for consistency with non-Federal Funding Award.

Task 5. CEQA/NEPA: The Project Manager will oversee preparation of CEQA/NEPA documentation by Consultant B. A total of 25 hours is estimated for the District Project Manager for this effort.

Task 6. Permitting: The Project Manager will oversee acquisition of the necessary permits for the Project, including encroachment permits and final approval from the District Board of Directors. A total of 16 hours of District staff time is estimated for the Project Manager this effort.

Task 7. Design: The Project Manager will oversee all design work conducted by Consultant C to prepare the final design documents. Operations will support field data collection, design input and operability review during the design process. A total of 36 hours for the Project Manager and 48 hours for operations is estimated for this effort.

Task 8. Project Monitoring Plan. The Project Manager will oversee design work conducted by Consultant C to prepare the Project Monitoring Plan. A total of 18 hours is estimated for this effort.

Task 9. Contract Services: The Project Manager and the Contracts Manager are anticipated to spend a total of 20 hours during the Project for developing, reviewing and executing contracts associated with construction activities.

Task 10. Construction Administration: Finance will be responsible for processing contractor invoices during the construction phase. Finance is anticipated to spend a total of 24 hours for this effort.

Task 11: Construction: Construction is anticipated for an 18-month period, taking most of the time on the Project. The Project Manager and Operation swill spend approximately 168 hours on the Project during construction. Anticipated activities include site visits; responding to contractor questions; reviewing/approving submittals and progress payments; negotiating change orders; and ensuring compliance with the Project plans and specifications. The Project Manager will also oversee the construction management work performed by Consultant D.

The budget proposal and narrative should include estimated hours for compliance with reporting requirements, including final project and evaluation.

Reporting activities will be completed in Task 2 by various TCWD staff and Consultant A, Soto Resources. Estimated hours for reporting are based on the approximately Project schedule as shown in **Table 3** and the level of effort on similar District projects. Reporting hours and costs are shown in **Table 7, Table 8, and Table 9** as Task 2 for each staff member and consultant, and include negotiation, execution and management of the financial assistance agreement with Reclamation, semiannual submission of Federal Financial Reports and Project Performance Reports, and Final Project evaluation.

Generally, salaries of administrative and/or clerical personnel will be included as a portion of the stated indirect costs. If these salaries can be adequately documented as direct costs, they should be included in this section; however, a justification should be included in the budget narrative.

The District rates, including administrative personnel, are included as direct costs and are supported by the District Pay Schedule that is updated annually on July 1, and is available on the District's webpage. These salaries are documented as direct costs for the administrative personnel because they will include directly related, Project-specific efforts required to accomplish the work, such as initiating purchase requisitions for contract services (for consultant/contractor). Upon approval by the District, Purchase Orders would then be executed for the Project. No indirect costs are proposed for the Project.

b. Fringe Benefits

The Project Manager and other key District personnel are shown by Project task in **Table 8** along with estimated hours, rate of compensation, and total Fringe Benefits costs for each task for the Project duration, consistent with the Project Schedule in **Table 3** and with the totals by District personnel included in **Table 6**. Fringe Benefits costs total $22,284. The hourly labor rates are based on the average of personnel occupying a noted position. District compensation rates are consistently applied to Federal and non-Federal activities. The District anticipates that 50% of the Fringe Benefits budget ($11,142) would be expended in Budget Year 1 and 50% ($11,142) in Budget Year 2.

Table 8. Project Budget for Fringe Benefits by Task

Task	Activity & Employee	Rate	Hours	Total Costs
Task 1	Project Management - *Project Manager*	$36	72	$2,592
	Project Management - *General Manager*	$38	72	$2,736
	Project Management - *Administrative Assistant*	$18	72	$1,296
Task 2	Reporting - *Project Manager*	$36	36	$1,296
	Reporting - *Administrative Assistant*	$18	72	$1,296
	Reporting - *Finance*	$33	72	$2,376
Task 3	Land Purchase	Not Applicable - Included for consistency with non-Federal Funding Award		
Task 4	Feasibility Studies			
Task 5	CEQA/NEPA Documentation - *Project Manager*	$36	25	$900
Task 6	Permitting - *Project Manager*	$36	16	$576
Task 7	Design - *Project Manager*	$36	36	$1,296
	Design – *Operations*	$22	48	$1,056
Task 8	Project Monitoring Plan - *Project Manager*	$36	18	$648
Task 9	Contract Services - *Project Manager*	$36	20	$720
Task 10	Construction Administration - *Finance*	$33	24	$792
Task 11	Construction - *Project Manager*	$36	72	$2,592
Task 11	Construction - *Operations*	$22	96	$2,112
TOTAL SALARIES AND WAGES			**751**	**$22,284**

c. Travel

No travel costs are included for the Project.

d. Equipment

All equipment will be the responsibility of the contractor and will not be purchased separately by the District. Therefore, no equipment costs are included separately for the Project.

e. Supplies

No materials and supplies costs are included separately for the Project.

f. Contractual

Contractual activities by consultants are shown in **Table 9**. Contractual activities to be performed by the selected consultants will include Task 2: Reporting, Task 3: CEQA/NEPA, Task 5: Design, and Task 8: Construction. Please refer to the "Evaluation Criterion E – Project Implementation and Readiness" section of this application for a description of each task.

Consultant A – Soto Resources will provide grant management and reporting for the duration of the grant term under Task 2 to maintain compliance with reporting requirements, including final Project reporting and evaluation. Grant management and reporting is estimated at $9,990, providing for 54 hours at an average rate of $185 per hour.

Consultant B – A CEQA/NEPA Consultant will be hired under a competitive procurement process to provide Environmental Compliance Services for the Project. Services will be included in Task 3: CEQA/NEPA and a total cost of $64,600 is included in the Project budget. The District has conducted preliminary price analysis and found average fees for facilitation consultants in the area are $190 per hour. The estimate would provide 340 hours of work focused on the development of the environmental compliance documentation, estimated based on an amendment to an existing Mitigated Negative Declaration and development of technical reports for federal cross cutter documentation.

Consultant C – Design Engineer's budget is estimated to be 20% of the total Project cost. The estimate of $156,000 is based on the District's experience with similar projects. A Design Engineering Consultant will be hired under a competitive procurement process to provide design and construction support services for the Project. Services will be included in Task 5: Design and Task 8: Construction. The District has conducted preliminary price analysis and found average fees for facilitation consultants in the area are $225 per hour. The estimate would provide approximately 693 hours of work focused on the development of the design documentation and providing support to the District during construction.

Consultant D – Construction Manager/Inspector's budget is estimated of $62,400 is based on the District's experience with similar projects and equates to 320 hours of work, which is half time construction management and inspection for four months. A construction manager/inspection consultant will be hired under a competitive procurement process to provide construction support services for the Project. Services will be included in Task 8: Construction. The District has conducted preliminary price analysis and found average fees for facilitation consultants in the area are $195 per hour.

Table 9. Project Contractual Costs

Consultant A - Soto Resources Grant Management	Task 2	Reporting	$185	54	$9,990
Consultant B – Environmental	Task 3	CEQA/NEPA	$190	340	$64,600
Consultant C – Design Engineer	Task 5	Design	$225	600	$135,000
	Task 8	Construction	$225	93	$21,000
Consultant D – Construction Oversight	Task 8	Construction	$195	320	$62,400
		TOTAL CONTRACTUAL			**$292,990**

g. Construction

Table 10 on the following page provides an overview of the construction cost estimate. Construction activities to be performed by the selected contractor will include Task 8: Construction. Please refer to the "Evaluation Criterion E – Project Implementation and Readiness" section for a description of this task.

Construction Contractor – The District, through a competitive bid process, will select a qualified contractor in accordance with District procurement policies and grant funding agreements. The total construction cost is estimated at $780,000 is approximately 67.5% of the total Project cost. The cost estimate are engineering estimates for construction and are consistent with District's experience on similar infrastructure projects.

h. Other Direct Costs

The Project budget does not include other direct costs.

j. Indirect Costs

The Project Budget does not include third-party indirect costs.

Table 10. Preliminary Project Construction Cost Estimate

Item Description	Quantity	Unit	Cost per Unit	Total
Construction - Materials				
Tick - Inlet Screen and Piping	1	EA	$10,000	$10,000
Tick - Vault Lid	1	EA	$8,000	$8,000
Tick - Vault Hatch	1	EA	$15,000	$15,000
Tick - Submersible Pumps (40 HP)	2	EA	$10,000	$20,000
Tick - 6-inch DI Pipe	20	EA	$100	$2,000
Tick - 6-inch DI Gate Valves	2	EA	$3,500	$7,000
Tick - 6-inch Magnetic Flow Meter	1	EA	$6,000	$6,000
Tick - Electrical Improvements	1	LS	$30,000	$30,000
Tick - Programming Integration	1	LS	$15,000	$15,000
Dove - Maintenance Access (SF)	1,750	SF	$35	$61,250
Dove - Concrete Basin (SF)	4,250	SF	$35	$148,750
Dove - Inlet/Piping Improvements	1	LS	$8,000	$8,000
Subtotal				**$331,000**
Construction - Contractual				
Mobilization/Demobilization	1	LS	$35,000	$35,000
Survey Staking / Permitting	1	LS	$20,000	$20,000
Clearing and Grubbing/Site Demolition	1	LS	$40,000	$40,000
Tick-Modify Inlet/ Desilting Basin	1	LS	$15,000	$15,000
Tick - Replace Vault Lid and Install Hatch	1	LS	$40,000	$40,000
Tick-Submersible Sewer Pumps	1	LS	$80,000	$80,000
Tick-Piping Equipment, Valve and Weir Vault Improvements	1	LS	$50,000	$50,000
Tick-Magnetic Flow Meter	1	LS	$8,000	$8,000
Tick- Electrical Improvements/Local Disconnect	1	LS	$46,000	$46,000
Tick-Programming and System Integration	1	LS	$15,000	$15,000
Dove-Modify Channel Basin (remove Riprap and install concrete)	1	LS	$40,000	$40,000
Dove-Approach Entry Improvements	1	LS	$35,000	$35,000
Dove-Inlet/Piping Improvements	1	LS	$15,000	$15,000
Startup and Testing, Record Documents, O&M Manuals and Warranties	1	LS	$10,000	$10,000
Subtotal				**$448,000**
			CONSTRUCTION TOTAL	**$779,000**

Environmental and Cultural Resources Compliance

As presented in **Table 7, Table 8**, and **Table 9**, the CEQA/NEPA Compliance (Task 3) includes consultant effort per to prepare the required compliance documentation, and District staff effort to coordinate Reclamation's Environmental Review.

To allow Reclamation to assess the probable environmental and cultural resources impacts and costs associated with each application, all applicants must respond to the following list of questions focusing on NEPA, ESA, and NHPA requirements. Please answer the following questions to the best of your knowledge. If any question is not applicable to the project, please explain why.
CEQA and NEPA documentation will be provided. A Categorical Exemption or Mitigated Negative Declaration is anticipated for the Project for CEQA compliance. Federal cross-cutters will also be completed as part of the environmental review should the Project be successful in securing federal funding. Federal cross-cutters will include, but are not limited to, compliance with ESA and NHPA requirements.

(1) Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

No, the Project will not impact the surrounding environment. The proposed Project includes upgrading the existing Dove and Tick Creek Pump Stations with installation of or improvements to debris capture systems, larger pumps, desilting basin, outlet channel bottom and berm, inlet, weir vault, wet well, pump, piping, valving, flow meter, and electrical system. The Project anticipates completing a Categorical Exemption or Mitigated Negative Declaration for its CEQA compliance to meet state environmental requirements. Categorical Exemptions are only allowed for certain types of projects and only if those projects will not have adverse environmental impacts. Mitigated Negative Declarations include mitigation measures to reduce potential impacts to less than significant. Therefore, this project anticipates that NEPA will be a Finding of No Significant Impact (FONSI).

The proposed Project will be constructed in such a manner as to prevent soil erosion or the loss of topsoil. Soil that is excavated will be disposed off-site in a legal manner. The immediate surrounding area is already developed and has existing water-related improvements. As a result, the potential impacts caused by construction of the Project will be mitigated to less than significant by typical dust control (i.e., moisture conditioning soil), runoff containment (i.e., silt fence, straw waddles), traffic control, and cultural resources protection measures, as well as noise and air emissions controls. Storm water pollution prevention protection plans will be enforced to protect water quality and hydrology in the project area. Animal habitat will not be impacted and the contractor will be required to take special precautions, if necessary, as determined by a qualified professional biologist and consistent with any applicable permit requirements. Potential construction impacts are expected to be limited in nature, controlled using standard best management practices, and if needed, mitigation measures that are suited for reducing potential impacts to less than significant.

The intent of the proposed Project is to improve water supply reliability for existing and planned populations within the region, accounted for in the General Plan. The General Plan's population and growth forecast form the basis of the Air Quality Management Plan. Therefore, the proposed Project is considered consistent with the South Coast Air Quality Management District's Air Quality Management Plan. With the use of standard best management practices, including limiting idling of equipment and dust control measures, and the limited nature of the construction required for the proposed Project, no air quality impacts would occur and no mitigation is expected to be required.

The Project site will not create an adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulation, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Although the proposed Project will divert excess water from a creek, this water is low quality and creates negative impacts on

downstream habitat due to the conveyance of non-native seeds contributing to the spread of non-native vegetation in natural habitats. This project will help to reduce the spread of these seeds. Work will be done around the stream channel, but the location of the project is within existing developed areas, and no impacts on wetlands or wildlife are expected to occur. As noted previously, if needed, mitigation measures would be implemented to minimize potential impacts to less than significant. This may include but are not limited to pre-construction bird surveys conducted by a qualified biologist, avoidance measures such as fencing off sensitive areas, and monitoring. The need for mitigation measures would be identified by a qualified biologist. No conflicts with local policies, ordinances or provisions of adopted biological resource plans are anticipated.

The Project is located along a creek, which has nearby riparian areas. However, the Project is making improvements at existing developed diversion structures that are themselves within existing disturbed sites (paved areas, gravel, cement, and river rock). As a result, the Project is not expected to directly impact riparian or wetland areas. Due to its location, the Project will not interfere with the movement of wildlife or impede native wildlife nursery sites. The Project is in conformance with the local policies instituted to protect the biological resources in the area. The Project does not create conflicts with the provisions of local and/or regional habitat conservation plans.

(2) Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?
Although the proposed Project is located adjacent to developed areas, and it is not anticipated that the project will negatively impact a listed or proposed threatened or endangered species or designated critical habitat; there are no recent biological surveys available for the Project area. As part of the environmental compliance for the Project, a biological resource report will be completed by a qualified biologist. The report will identify the presence of sensitive species and habitats, along with whether mitigation measures would be required to reduce potential impacts to less than significant. A copy of this report would be provided to Reclamation as part of the federal cross-cutters, for Reclamation review and approval prior to construction.

(3) Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the project may have.
Dove and Tick Creeks are both considered Waters of the US. However, these creeks remain dry for a portion of the year, or only contain dry weather flows stemming from irrigation or other urban land uses in the watershed. The proposed project will make improvements at existing diversion structures, and precautions would be taken to minimize potential impacts to the creeks. The proposed Project is anticipated to be constructed outside of the wet season, reducing potential impacts to the creeks. Further, the District would implement stormwater best management practices, including a Stormwater Pollution Prevention Plan (SWPPP) as required by permitting and District policies. Once completed, the proposed Project would create no new impacts to the creek compared to the existing diversion structure. The Project will allow the District to divert poor quality runoff for reuse, improving overall quality of both Dove and Tick Creeks and reducing downstream impacts currently experienced.

(4) When was the water delivery system constructed?
The original water delivery system was built in 1962.

(5) Will the project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and

describe the nature and timing of any extensive alterations or modifications to those features completed previously.
No, the Project will not result in any modification of or effect to individual features of an irrigation system. It will modify existing diversion structures that provide water to Dove Lake for use as a non-potable supply in the form of irrigation, but is not considered to be part of an irrigation system.

(6) Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? *A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.*
No, there are no buildings, structures, or features listed or eligible for listing on the National Register of Historic Places within the Project site.

(7) Are there any known archeological sites in the proposed project area?
No, no known archeological sites have currently been identified within the Project area. As part of the federal cross-cutters that will be analyzed, a cultural report will be prepared that would identify known archaeological sites in the Project area. However, the Project will be completed within a previously disturbed area and will generally stay within or immediately adjacent to the existing site footprint. Therefore, it is not anticipated that the Project will encounter known archaeological sites.

(8) Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?
No, the Project will not have a disproportionately high and adverse effect on low income or minority populations. There are no low income or minority populations within the Project area. However, the Project has the potential to provide positive benefits to low income and minority populations by increasing water supply reliability to their communities because of the overall supply reliability the Project will provide to the District.

(9) Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?
No, it is not anticipated that the Project will limit access to and ceremonial use of Indian sacred sites or results in other impacts on tribal lands; Per Assembly Bill 52, tribal cultural resources will be researched and addressed during CEQA and NEPA compliance. Most of the Project is located within already disturbed areas, and the completed Project will have a similar footprint and accessibility as the existing sites.

(10) Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?
No, the Project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native species known to occur in the area. It will reduce the spread of non-native species to downstream areas, including a nature preserve, by diverting flows for reuse that currently convey non-native seeds downstream.

Required Permits or Approvals
As identified in the "Evaluation Criterion E – Readiness to Proceed and Project Implementation" section of this application, it is anticipated that an encroachment permits from the City of Rancho Santa Margarita will be required. Final approval from the District Board of Directors will also be required to approve the contract for the construction contractor.

Overlap or Duplication of Efforts Statement

There is no anticipated overlap between the proposed Project and any other active or anticipated District proposals or projects in terms of activities, costs, or commitment of key personnel that would adversely impact the Project. The proposal submitted for consideration under this grant program is not currently in any way duplicative of any proposal or project that has been or will be submitted for funding consideration to any other potential Federal funding source. However, in April 2023, the California Department of Water Resources issued final funding recommendations for Round 2, Cycle 2 IRWM Implementation Grant Program. The proposed Project was selected for a State grant award of $389,500.

Conflict of Interest Disclosure

No actual or potential conflict of interest exists at the time of submission of this application.

Uniform Audit Reporting Statement

All U.S. states, local governments, Federally recognized Indian Tribal governments, and non-profit organizations expending $750,000 in U.S. dollars or more in Federal award funds in the applicant's fiscal year must submit a Single Audit report for that year through the Federal Audit Clearinghouse Internet Data Entry System in accordance with 2 CFR §200 subpart F. The District was not required to submit a Single Audit report for the most recently closed fiscal year (FY 2022).

Disclosure of Lobbying Activity

Since this application is requesting more than $100,000 in Federal funds, to comply with the requirement that Applicants requesting more than $100,000 in Federal funding must certify the statements in 43 CFR Part 18, Appendix A - Certification Regarding Lobbying, the Authorized Official's signature on the appropriate SF-424, Application for Federal Assistance form represents the District's certification of the statements in 43 CFR Part 18, Appendix A.

Letters of Support

Letters of Project support were provided by Congressman Mike Levin, U.S. Representative for California's 49th Congressional District, Representative Young Kim of California's 40th Congressional District, California State Senator Catherine Blakespear of the 38th Senate District, California Assemblymember Kate Sanchez of the 71st District, Jennifer Cervantez, City Manager of the City of Rancho Santa Margarita, and Roger Butow, Founder and Executive Director of Clean Water Now. Copies of these letters are included in **Appendix B**.

Official Resolution

An official resolution of the TCWD Board of Directors is included in **Appendix C**. The resolution was adopted at the October 19, 2023, TCWD Board of Directors meeting. The resolution verifies the District's legal authority to enter into an agreement, the Board of Directors has reviewed and supports submittal of this application, the capability of the District to provide the amount of funding specified in the Funding Plan, and that the District will work cooperatively with Reclamation to meet established deadlines for entering into a cooperative agreement.

Appendices

The following sections present the appendices to this grant application.

Appendix A – Drought Plan
Appendix B – Letters of Support
Appendix C – Resolution
Appendix D – Signed Federal Forms

Appendix B – Letters of Support

HOUSE OF REPRESENTATIVES
WASHINGTON, D.C. 20515

October 26, 2023

Commissioner Camille Calimlim Touton
Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

Dear Commissioner Touton,

I write to request full and fair consideration of Trabuco Canyon Water District's (TCWD) application to the U.S. Bureau of Reclamation's (USBR) WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2024. TCWD plans to use the funds to help carry out its Dove and Tick Creeks Pump Station Improvements Drought Resiliency Project (Project), as part of its long-term goals of ensuring water supply reliability and efficient water management, something that is expected to benefit many residents of California's 49th Congressional District and the surrounding region.

The Project includes expanding the Dove Creek and Tick Creek Outfall Pump Stations to increase capture of dry-weather urban runoff and stormwater flows by 200 acre-feet, or 65 million gallons, per year of additional non-potable water. Captured runoff from both pump stations is conveyed to Dove Lake, which augments TCWD's recycled water system to offset the use of drinking water for irrigation. The Project will have benefits downstream by reducing both the transport of non-native plants and wildlife as well as water quality impacts associated with dry-weather flows.

I appreciate your full and fair consideration of this application. Please contact me or my staff if you have any further questions.

Sincerely,

Mike Levin
Member of Congress

COMMITTEE ON FINANCIAL SERVICES
SUBCOMMITTEE ON FINANCIAL INSTITUTIONS AND MONETARY POLICY
SUBCOMMITTEE ON NATIONAL SECURITY, ILLICIT FINANCE AND INTERNATIONAL FINANCIAL INSTITUTIONS

COMMITTEE ON FOREIGN AFFAIRS
SUBCOMMITTEE ON THE INDO-PACIFIC
SUBCOMMITTEE ON AFRICA

United States House of Representatives
Young Kim
40th District, California

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October 10, 2023

The Honorable Camille Touton
Commissioner, Bureau of Reclamation
U.S. Department of Interior
1849 C Street, NW
Washington, DC 20240-0001

Subject: Letter of Support for Funding the Trabuco Canyon Water District's Dove and Tick Creeks Pump Station Improvements Drought Resiliency Project grant application for the United States Bureau of Reclamation's WaterSMART Drought Response Program: Drought Resiliency Projects for FY 2024

Dear Commissioner Touton:

I write in support of Trabuco Canyon Water District's (District) grant application for the U.S. Bureau of Reclamation's FY24 WaterSMART Drought Response Program: Drought Resiliency Projects. This grant would help fund the District's Dove and Tick Creeks Pump Station Improvements Drought Resiliency Project ("Project") as part of its long-term goals of water supply reliability and efficient water management. The Project includes expanding the Dove Creek and Tick Creek Outfall Pump Stations to increase capture of dry-weather urban runoff and stormwater flows by 200 acre-feet, or 65 million gallons, per year of additional non-potable water. Captured runoff from both pump stations is conveyed to Dove Lake, which augments the District's recycled water system to offset the use of drinking water for irrigation. The Project will also enhance ecosystem benefits to downstream habitat in Audubon Society's Starr Ranch Sanctuary by reducing both transport of non-native plants and wildlife and water quality impacts associated with dry-weather flows.

I fully support the Project and the District's efforts to enhance local water supply reliability. If you have any questions or need additional information regarding my support of the project, please do not hesitate to contact my staff, Shine Lee, at shine.lee@mail.house.gov or reach my office at 202-225-4111.

Sincerely,

Rep. Young Kim
U.S. House of Representatives