

## San Diego Integrated Regional Water Management Program

### 2019 Proposition 1 Round 1 Implementation Grant Overview

The San Diego IRWM program was awarded \$15.3 million in 2020 from the Department of Water Resources for its 2019 Proposition 1 Round 1 Implementation Grant. This proposal included seven projects that would help meet the Region's water management needs.

#### *Project 1: Paradise Valley Creek Water Quality and Community Enhancement*

This project is the second of three phases being implemented by the City of National City to reduce flood impacts at Paradise Valley Creek. The project will reduce flood risks and improve water quality in a disadvantaged community by implementing creek improvements, stormwater capture, and infiltration. Creek improvements include replacement of the deteriorated concrete lining of the channel with turf reinforcement, upsizing the culvert that runs underneath East Plaza Boulevard, and redirecting stormflows and runoff to a biofiltration basin located along Paradise Valley Road, east of East Plaza Boulevard. The biofiltration basin will allow flows to slow, and pollutants to settle out, while also providing infiltration benefits for a portion of the water. Replacing the deteriorated concrete lining of the channel with turf reinforcement will help reduce erosion, which contributes to poor water quality in the creek. Additionally, the project will install curb cutouts to direct flows into the creek and install safe crosswalks for locals to use. Improvements will remove 16 properties (totaling in 1.35 acres) from the 100-year floodplain and 30 acre-feet per year (AFY) of peak flow and stormwater runoff will be diverted from adjacent streets to the creek for treatment and flood control conveyance.



#### *Project 2: North City Pure Water Facility Influent Pump Station*



This project is part of Phase 1 of the City of San Diego's multi-phased Pure Water San Diego Program, a large-scale potable reuse program. Pure Water San Diego - Phase 1 will provide an annual average of approximately 30 million gallons per day (mgd) of new local water supply to the City of San Diego, or 33,600 AFY. This project will construct a critical component of Pure Water San Diego - Phase 1: the Pure Water Facility Influent Pump Station. The Pure Water Facility Influent Pump Station will transport 42.5 mgd of non-chlorinated tertiary treated effluent from the North City Water Reclamation Plant (NCWRP) to the future North City Pure Water Facility (Pure Water Facility), where it will be purified for potable reuse. This project creates an entirely new local water supply for the region, improving supply reliability and allowing San Diego to be less depending on imported water supplies. With climate and demand conditions changing, the potable reuse water available from Pure Water San Diego - Phase 1 will help San Diego meet user demand. Additionally, Pure Water San Diego - Phase 1 will offset 20,935 metric tons of carbon dioxide equivalent (MT CO<sub>2</sub>e) per year through reduced energy use from importing water.

#### *Project 3: 2020 Regional Water Use Efficiency Program*

This project will be implemented through the San Diego County Water Authority's (SDCWA) area, whose 24 member agencies serve 95% of the county's population. The program includes landscape upgrade incentives and agricultural incentives. Landscape upgrade incentives involve turf rebates, landscape makeovers, and landscaper training, together referred to as the Landscape Efficiency Program (LEP). Agricultural incentives will be offered to growers that invest in improving irrigation system efficiency through the Agricultural Irrigation Efficiency Program (Ag IEP). Approximately 90 acres will be converted under the LEP, reducing irrigation demands by 546 AFY. SDCWA will also deliver two training programs, the WaterSmart Landscape Makeover and Qualified Water Efficient Landscaper Programs, that promote successful implementation of water-wise landscaping and support long-term success of the turf conversions. The Ag IEP will offer opportunities to local farmers to improve on-farm irrigation system efficiencies. Ag IEP will provide farmers with technical assistance and cost-sharing as reimbursement for recommended irrigation system equipment retrofits that improve distribution uniformity and efficiency. Agricultural water demands will be reduced by 784 AFY under the Ag IEP. In total this project will reduce water use by 1,330 AFY and save 3,054,565 kWh/year in energy, offsetting 999 MT CO<sub>2</sub>e/year.



#### *Project 4: Lower Santa Margarita River IPR Pilot Project*

The Lower Santa Margarita River IPR Pilot Project is a pilot project that will explore alternative treatment for livestream discharge and indirect potable reuse (IPR) to the more conventional reverse osmosis approach used in currently permitted IPR facilities. Two treatment facilities will be installed, one at Fallbrook Water Reclamation Plant and another at Camp Pendleton's Southern Regional Tertiary Treatment Plant, to determine the optimal dosage and efficacy of treatment options. This pilot project will employ innovative technology to increase scientific knowledge and understanding of water management by addressing the feasibility of effectively treating reclaimed water for potable reuse without the use of reverse osmosis before application to live stream discharge and groundwater basin infiltration. 64 AFY of water will be produced for testing of the proposed IPR approach. Should this pilot project lead to full implementation,

Fallbrook Public Utility District and Camp Pendleton have planned a full-scale project that would provide 1,770 AFY water suitable for IPR, representing 10-20% of their total demands. The project represents a substantial improvement in reliability and would provide a strong baseline supply during a wide variety of climate and water availability scenarios.

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#### *Project 5: Pure Water Oceanside*

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Pure Water Oceanside is a potable reuse project that will inject 3,360 acre-feet per year (AFY) of advanced treated recycled water into the Mission Basin of the Lower San Luis Rey Groundwater Basin through injection wells and conveyance from the advanced water treatment facility (AWTF), supplying approximately 13% of the City's water supply needs over the life of the project. The City is implementing a phased approach that would consist of recharging 3,360 AFY (3.0 mgd) of advanced treated recycled water via injection wells in the near term and an additional 1,700 AFY (1.5 mgd) from a future project. The near-term project includes the construction of the AWTF, conveyance pipelines, injection wells, backwash piping, and monitoring wells. Project components in the Proposition 1 Round 1 Implementation Grant include construction of two injection wells and a portion of the conveyance pipeline. Use of potable reuse water in lieu of imported water would offset 601 MT CO<sub>2</sub>e annually beginning in the year 2023 upon the completion of construction. Additional project benefits include water supply reliability, climate resilience, and improved water quality in Mission Basin with decreased Total Dissolved Solids in the Basin over time due to dilution.



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#### *Project 6: North County Recycled Water Project*

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This project will implement a series of recycled water conveyance and storage reservoir improvements to expand and maximize recycled water storage, distribution, and use across service areas of multiple water purveyors in northern San Diego County. Project Partners San Elijo Joint Powers Authority, City of Oceanside, and Olivenhain Municipal Water District will construct 39,000 linear feet (LF) of new pipeline, expand distribution pumping by up to 1,200 gallons per minute (gpm) and add 0.25 million gallon (MG) recycled water storage at the San Elijo Water Reclamation Facility (SEWRF). The project will deliver 245 AFY of recycled water, therefore offsetting demand for imported water. Offsetting imported water with recycled water will also reduce greenhouse gas emissions by 80 MT CO<sub>2</sub>e/year. Additional project benefits include reduced ocean discharge, reduction in dry weather flows, reduced nitrate mass in waterways, water supply reliability, and climate resilience. Project components include the

*Recycled Water Storage and Pumping System Expansion*, which will construct 0.25 MG of recycled water storage at SEWRF, the *Recycled Water Pipeline for North El Camino Real* which will upsize the existing 10-inch recycled water main to serve current and new customers, and the *Recycled Water Pipeline for South El Camino Real* which will construct approximately 3,700 LF of 6-inch pipe within the City of Encinitas to serve 45 AFY of recycled water to irrigation customers. This project is part of the North San Diego Water Reuse Coalition Regional Recycled Water Project, which aims to develop regional recycled water infrastructure to increase the capacity and connectivity of the Coalition partners' recycled water systems and maximize reuse of available wastewater supplies. The Coalition itself is a partnership of nine northern San Diego County water and wastewater agencies working together to expand recycled water deliveries to northern San Diego County.

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#### *Project 7: San Elijo Stormwater Capture & Reuse*

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This project involves construction of stormwater capture and reuse improvements in San Elijo JPA's service area, including 1) upgrades at the San Elijo Water Reclamation Facility (SEWRF); 2) desilting basin improvements to reduce sediment transportation into the San Elijo Lagoon; and 3) education and outreach for storm water pollution prevention and health watersheds conducted at the SEWRF and San Elijo Lagoon. San Elijo JPA will construct improvements to divert and treat stormwater from the regional stormwater channel that runs along the facility, as well as provide treatment for stormwater runoff from the SEWRF site. The regional stormwater channel collects stormwater from a 0.78 square mile watershed that discharges directly into the San Elijo Lagoon, an impaired water body under the Clean Water Act, listed on the 303(d) list of impaired water bodies for bacteria, sediment, and nutrients. The project will capture, treat, and reuse 19 AFY of stormwater and reduce pollutant loading by 14,715 pounds of Total Suspended Solids (285 mg/L) to the San Elijo Lagoon. A new local water supply will be created for the region, improving supply reliability and increasing climate resilience while community outreach will promote a conscientious community to reduce pollutants that affect stormwater quality. San Elijo JPA is partnered with The Nature Collective, a non-governmental organization, that will provide educational field trips to the San Elijo Lagoon for approximately 2,000 students and educators annually to educate on stormwater capture and reuse for community benefit, along with protection of stormwater quality and pollution impacts on the environment. The Nature Collective will also install signage at the Nature Center.

