



## FY 2022 WaterSMART Water and Energy Efficiency Grants

### California

#### **Bard Water District, Lining of the Mohave Canal**

**Reclamation Funding: \$484,340, Total Project Cost: \$968,680**

The Bard Water District, located in southern California near the Arizona border, will line a 1/2 mile section of the currently earthen upper Mohave Canal with concrete. The project is expected to result in annual water savings of 498 acre-feet, which is currently lost to seepage, evapotranspiration, and operational losses. Conserved water will remain in the Lower Colorado River System and can be used by other water users during drought years and in times of shortage, including the Quechan Indian Reservation. The project will also allow farmers to continue to work with the Natural Resources Conservation Service's Environmental Quality Incentives Program to improve irrigation systems.

#### **City of Fresno, City of Fresno Smart Irrigation Timers Direct Install Project**

**Reclamation Funding: \$379,390, Total Project Cost: \$843,651**

The City of Fresno, located in central California, will purchase, install, and program 1,500 smart irrigation timers for its residential customers. Installation and programming of the timers will be free to participating residents, making the program more widely available for the City's low income and disadvantaged communities. The free direct install program is expected to result in annual water savings of 360 acre-feet, which will assist in stabilizing or increasing groundwater levels in the historically overdrawn North Kings Subbasin and alleviating pressure on Central Valley Project water and the San Joaquin River.

#### **Moulton Niguel Water District, Moulton Niguel Water District Low Resolution Meter Replacement Project (Phase I)**

**Reclamation Funding: \$444,490 Total Project Cost: \$987,758**

The Moulton Niguel Water District, located in southern California, will upgrade 2,800 existing potable water meters to advanced metering infrastructure smart meters. The existing meters do not currently detect low flows and are not compatible with the new advanced metering infrastructure radio systems. The project is expected to result in annual water savings of 1,843 acre-feet by detecting low flow leaks and providing real-time access to individual water usage data. The District is entirely dependent on imported sources for its potable water supply and water savings from the project will help provide a more secure water supply, particularly in times of drought.

## **Otay Water District, Advanced Metering Infrastructure Upgrade and Customer Engagement Project (Phase I)**

**Reclamation Funding: \$234,645**

**Total Project Cost: \$469,290**

The Otay Water District, located near San Diego, will implement Phase I of an advanced metering infrastructure (AMI) project, which includes installing network hardware, upgrading meter data management software, installing AMI-compatible meter box lids, and firmware upgrades to 24,000 existing AMI-capable meters. The District will also implement a web-based platform for customers to track their water use efficiency and compare it with the usage of other District customers. The project is expected to save 1,719 acre-feet of water annually, primarily through quicker identification of leaks and breaks in the system and an overall reduction of water use. The District currently imports 100% of its water from either the San Francisco Bay/Sacramento and San Joaquin River Delta, or the Colorado River, and water conserved from this project will help reduce demands on imported water.

## **City of Santa Ana, Generation of Solar Power at Garthe and West Pump Station Facilities Project (Funding Group I)**

**Reclamation Funding: \$500,000**

**Total Project Cost: \$2,935,408**

The City of Santa Ana, located in southern California, will install solar energy systems at two of the City's water storage reservoirs. The two solar photovoltaic sites have a total capacity of 730 kilowatts and will provide renewable energy to reduce the amount of electricity the city currently uses to deliver water to its customers. The on-site renewable energy systems will help offset the City's electrical load, lower electric bills, and reduce greenhouse gas emissions, providing the City with improved energy sustainability and resiliency to climate change.

## **City of Santa Cruz, City of Santa Cruz Advanced Metering Infrastructure Replacement Project**

**Reclamation Funding: \$500,000**

**Total Project Cost: \$6,429,290**

The City of Santa Cruz, located on the coast in central California, will install 15,050 advanced metering infrastructure (AMI) meters and endpoints throughout its service area for residential, business, industrial, and municipal customers as part of a system-wide effort to consolidate the City's meter reading system into a single AMI platform. The project is expected to result in annual water savings of 556 acre-feet by providing customers with detailed usage and leak detection information. The conversion to AMI meters will enable the City to reduce surface water diversions and offset groundwater pumping in summer months and critical dry years, reduce treatment, and reduce vehicle miles driven for meter reading each year.

## **West Basin Municipal Water District, Residential and Commercial Grass Replacement Program**

**Reclamation Funding: \$385,000**

**Total Project Cost: \$1,145,342**

The West Basin Municipal Water District, located near Los Angeles, California, will implement a voluntary turf replacement incentive program for residential and commercial properties across the District's service area. Through the project, the District expects to convert a minimum of 200 sites to water efficient landscaping, equating to approximately 300,000 square feet of turf replacement. The project is expected to result in annual water savings of 40 acre-feet, which will reduce the need for

imported water taken from the Colorado River. Conserved water will remain in storage reservoirs for longer periods of time and help mitigate drought.

## Idaho

### **Enterprize Canal Company, Conveyance Improvement Project**

**Reclamation Funding: \$1,966,514 Total Project Cost: \$3,933,028**

The Enterprize Canal Company, located in eastern Idaho, will convert 10,458 feet of open unlined canal to a 48-inch high-density polyethylene pipeline and install solar-powered automated headgates and measurement devices along the same section of canal. The project is expected to result in annual water savings of 7,267 acre-feet by reducing seepage losses from the area's highly porous soil. Conserved water will allow the Company to reduce surface water diversions from the Snake River, which will increase the amount of natural flow water available to downstream water users. As a participating member in the Water District's water rental pool, water conserved by the Company will be made available for redistribution to other rental pool water needs, including addressing shortages for other rental pool participants during periods of drought and flow augmentation to maintain minimum stream flows throughout the Columbia River Basin and the Snake River during migration season for federally-listed salmon and steelhead.

### **Henry's Fork Foundation, Conant Creek Canal Lining, Head Gate Remote Control, and Flow Meters**

**Reclamation Funding: \$1,122,902 Total Project Cost: \$2,245,804**

The Henry's Fork Foundation will partner with the Conant Creek Canal Company and the Fremont-Madison Irrigation District to improve efficiency and precision of delivery to water users in east-central Idaho. The project involves lining a 5.7-mile reach of currently unlined canal with high-density polyethylene liner, changing the point of diversion, and establishing a Supervisory Control and Data Acquisition and Automation system on the diversion gates and spill location. The project is expected to result in annual water savings of 2,850 acre-feet currently lost to seepage. A portion of the water conserved will be used as a buffer to avoid interruptions in irrigation supply in water short years, and the remainder will stay in Conant Creek. The conserved water will increase flows in Conant Creek and Fall River during the irrigation season, and the increased flows during the summer will help reduce solar loading, effectively decreasing water temperatures in these reaches. Additionally, water conserved will increase storage water in Island Park Reservoir in the late summer and early fall, which will help support the health of the reservoir and provide a supply of cool, oxygenated water to the reach of the Henry's Fork below Island Park Dam, as well as thermal refuge for cold-water aquatic species within the reservoir.

## Kansas

### **Kansas Bostwick Irrigation District, Automation of the Lower Courtland Canal**

**Reclamation Funding: \$344,250 Total Project Cost: \$702,553**

The Kansas Bostwick Irrigation District, located in northern Kansas, will install automatic water measurement and control equipment at four lateral headings, two main-canal regulating structures,

and the outflow of Lovewell Reservoir. In addition, the project includes installation of measurement only sites at 17 tailwater outflow structures on laterals, sublaterals, and the Lower Courtland Canal outlet from Lovewell Reservoir. The project is expected to result in annual water savings of 2,700 acre-feet, which is currently lost to operational spills. The reduction in tailwater spills from the Lower Courtland Canal system will result in less water released from Lovewell Reservoir, which in turn will result in less diversion from the Republican River and ultimately more water stored in the upstream Harlan Reservoir. The project will contribute to the District's ongoing efforts to operate on a reduced water supply in order to address conflict and litigation caused by groundwater depletion and overuse of the Republican River Basin. The District's reduced diversion volumes from the Republican River will also increase flows available to downstream tributaries on the Republican River to benefit species, including the endangered Topeka Shiner minnow.

## Montana

### **Fort Shaw Irrigation District, Fort Shaw Irrigation District Irrigation Water Efficiency and Management Project**

**Reclamation Funding: \$199,500**

**Total Project Cost: \$399,558**

The Fort Shaw Irrigation District, located north of Helena, will convert an open unlined canal to 7,700 feet of polyvinyl chloride pipe, with 8 monitoring units, 6 precast flumes, and two electronic flow monitoring units, along with new software to better track water use throughout the District. The project is expected to result in annual water savings of 5,725 acre-feet, which is currently lost to seepage, evaporation, and operational inefficiencies. The conserved water will allow the District to reduce its diversion from the Sun River, which will improve fish habitat and water temperatures during summer months. The project has support from multiple stakeholders, including the Sun River Watershed Group.

### **Savage Irrigation District, Pumping Plant Rehabilitation Project**

**Reclamation Funding: \$207,256**

**Total Project Cost: \$422,971**

The Savage Irrigation District, located in eastern Montana, will upgrade its primary pumping plant by replacing an obsolete 300 horsepower pump with a new primary pump, motor, and switchgear with new higher efficiency components, install a variable frequency drive on the pump to allow more flexibility in pumping, and install a remote monitoring and control system. The upgraded pump station is expected to be 95% more efficient, saving at least 86,325 kilowatt-hours per year, and resulting in annual water savings of 3,380 acre-feet that is currently lost to inefficiencies and poorly timed deliveries related to manual operation of the pumping plant. The conserved water will be used to avoid the need for water rationing during times of drought and will otherwise be left in the Yellowstone River. Additional river flows during the spring and fall months will facilitate the use of a new diversion bypass to promote Pallid Sturgeon spawning and recovery.

## Nebraska

### **Lower Republican Natural Resources District, Irrigation Water Conservation Using Remote Meter Reading Technology**

**Reclamation Funding: \$2,000,000**

**Total Project Cost: \$4,360,858**

The Lower Republican Natural Resources District, located in southern Nebraska, will install near real-time telemetry equipment on 1,057 irrigation flow meters and other water management sensors for improved on-farm water management and reporting. Eight solar-powered weather stations with telemetry will be installed across the District to collect evapotranspiration data that will be broadcast to all irrigators in the project area to inform irrigation scheduling. Currently, groundwater that is overapplied for irrigation is lost to deep percolation from the crop root zone and runoff. The project is expected to result in water savings of 4,110 acre-feet annually by making seasonal timing of irrigation water application closer to the needs of the crops and by improving water application efficiency. Groundwater that is conserved as a result of this project will remain in the local aquifer to maintain groundwater levels for future irrigation events and improve discharge for baseflow in the Republican River, which is designated fully-appropriated by the Nebraska Department of Natural Resources. The availability of real-time water use data to the District will also improve management of water on a basin-wide scale and contribute to the District's responsibilities related to the Interstate Compact on the Republican River between Colorado, Kansas, and Nebraska.

## Nevada

### **Southern Nevada Water Authority, Water Smart Landscapes Rebate Program**

**Reclamation Funding: \$2,000,000**

**Total Project Cost: \$32,000,000**

The Southern Nevada Water Authority in Las Vegas, Nevada, will expand its landscape rebate program, which provides a financial incentive for residential property owners to replace turf with water efficient landscaping. The project is expected to result in the replacement of approximately 11,985,019 square feet of turf to water-efficient landscaping (xeriscape), with an expected annual water savings of 2,022 acre-feet. The extended drought in the Colorado River Basin has resulted in significant declines at major system reservoirs, including Lake Mead. Colorado River water saved as a result of this project will be stored in Lake Mead, benefitting species that rely on the reservoir and river, including the federally endangered bonytail chub and razorback sucker. Unused Colorado River resources will also contribute toward interstate banking efforts, thereby improving the ability to respond to shortages and freeing up resources for times of emergency. A reduction in outdoor water use and urban runoff will also improve the area's water quality and aquatic ecosystem. Xeric gardens also benefit species by improving habitat for birds, reptiles, and pollinators, whereas turfgrass provides little or no habitat benefit to wild species.

## Oklahoma

### **City of Norman / Norman Utilities Authority, Norman Utilities Authority Advanced Metering Infrastructure Implementation Project (Funding Group I)**

**Reclamation Funding: \$500,000**

**Total Project Cost: \$15,440,527**

The City of Norman will replace 40,973 existing water meters, the majority of which are manual read meters, with advanced metering infrastructure (AMI) meters. The project also includes an AMI network, Meter Data Management System software, and a customer portal to provide customers with near real-time water use data. The project is expected to result in annual water savings of 1,981 acre-feet, which will improve the City's resiliency in times of drought and will help maintain water levels in the Lake Thunderbird watershed, Garber Wellington Aquifer, Oklahoma City surface reservoirs, and the Canadian River.

## Texas

### **Donna Irrigation District, Lining of The East Main Canal and North Crossover Main Canal**

**Reclamation Funding: \$1,975,000**

**Total Project Cost: \$3,950,000**

The Donna Irrigation District, located in southern Texas, will line 12,255 feet of the currently concrete lined East Main Canal and 10,050 linear feet of the currently concrete lined North Crossover Main Canal with a geosynthetic composite canal liner protected with four inches of shotcrete. The project is expected to result in annual water savings of 4,620 acre-feet by reducing seepage losses. The District will also install 2 solar monitoring stations at the District's First Lift Pump Station and Second Lift Pump Station to provide a more efficient, real-time, detection of problems to aid in minimizing loss of water resources. The conserved water will remain in the Falcon and Amistad Reservoirs for eventual allocation to other users in the Rio Grande System, alleviating pressure on the over-allocated water resource shared with Mexico.

### **El Paso County Water Improvement District No. 1, Advanced Flow Measurement Improvements Project**

**Reclamation Funding: \$200,000**

**Total Project Cost: \$421,740**

The El Paso County Water Improvement District No. 1, located in El Paso County, Texas, will install 17 solar powered Supervisory Control and Data Acquisition and 5G cellular telemetry units. The solar telemetry installations will improve the District's ability to manage Rio Grande Project water and reduce end-of-system water waste and operational losses, which is expected to result in annual water savings of 1,143 acre-feet. As water use demand is met by a more efficient conveyance system, the District can better manage its allocation of Rio Grande Project water and allow more storage in Elephant Butte and Caballo Reservoirs to accumulate and provide critical water in drought years when unmet water demands are highest. Rio Grande Project water conserved through the project will benefit all water users served by the District, including the Rio Bosque Wetlands and the Yselta del Sur Pueblo.

# Utah

## **Duchesne County Water Conservancy District, Class K2 Operation Improvement Project** **Reclamation Funding: \$500,000      Total Project Cost: \$1,100,000**

The Duchesne County Water Conservancy District, located in northeast Utah, will modify the K2 pipeline to connect with the Browns Draw Reservoir and create a closed, pressurized delivery system. The project includes a series of pressure reducing valves on the Class K2 pipeline and modifications to the Browns Draw Reservoir outlet pipe to connect directly to the Class K2 pipeline, which will eliminate two open-ended spill points. The closed pipeline system is expected to result in annual water savings of 944 acre-feet by avoiding operational spills in an area that experiences regular water shortages due to drought and population growth. The project will improve system efficiency and flexibility, help avoid interruptions in service, and result in more steady reservoir levels and less water diverted from the upstream Yellowstone River. As a tributary of the Green River, more efficient use of water diverted from the Yellowstone River via exchange with Moon Lake and Lake Fork River will benefit the area's threatened and endangered species, as well as the Ute Tribe who uses approximately 75% of the system river flows.

## **The City of Highland, Highland City Irrigation Meter Installation** **Reclamation Funding: \$2,000,000      Total Project Cost: \$6,600,000**

The City of Highland, located in northern Utah, will install 4,253 advanced metering infrastructure (AMI) meters on currently unmetered pressurized irrigation connections and retrofit 250 existing meters with AMI capabilities for its residential, commercial, and institutional customers. The project is expected to result in 2,100 acre-feet of water savings annually through early leak detection and usage-based billing. Reduced water use and a corresponding reduction in intake to the pressurized irrigation system will result in extracting less groundwater from the local aquifer and reducing diversions from the American Fork River and Provo River. By using less surface and groundwater during the irrigation season, the project will improve ecological resiliency and also allow for greater operational flexibility, especially during periods of drought.

## **Uintah Water Conservancy District, Uinta River Bifurcation Structure** **Reclamation Funding: \$750,000      Total Project Cost: \$1,572,750**

The Uintah Water Conservancy District, located in northeastern Utah, will make improvements to the Uinta River Bifurcation Structure. The bifurcation structure is designed to regulate flows in the Uinta River to maintain sufficient water in the east channel for diversion during the irrigation season and to provide storage water in the west channel during the winter months. The District will remove the existing structure and replace it with a new structure with automated gates, telemetry, and flow measurement capabilities and will install a second supplemental structure at an upstream location. The project is expected to result in annual water savings of 3,800 acre-feet through improved control of flows in the river and increased accuracy of water deliveries. Greater efficiency and accuracy of irrigation water delivery will minimize over-deliveries, improve the consistency of deliveries for Ute Tribe irrigated land, and allow for more water to remain in the Uinta River. The tandem structures will also increase the length of river that receives water, which will protect and preserve critical habitat for the endangered Ute Ladies Tresses orchid.



## Washington

### **Quincy-Columbia Basin Irrigation District, West Canal Concrete Lining Project**

**Reclamation Funding: \$300,000**

**Total Project Cost: \$750,000**

The Quincy-Columbia Basin Irrigation District, located in central Washington, will line 2,500 feet of the earthen West Canal with a high-density polyethylene geotextile liner. The project advances the goals of a Memorandum of Understanding (MOU) between the three Columbia Basin Project irrigation districts, the Washington State Department of Ecology, the Washington State Department of Fish and Wildlife, and the Bureau of Reclamation to address regional water reliability concerns including drought, groundwater issues, and improved stream flows to assist salmon recovery. The project is expected to result in annual water savings of 849 acre-feet that is currently lost to seepage. The water conserved will be used to meet actions identified in the MOU, including offsetting groundwater pumping and maintaining flows in the Columbia River.

## Wyoming

### **Lovell Irrigation District, Moncur Lateral Rehabilitation Project (Phase II)**

**Reclamation Funding: \$400,000**

**Total Project Cost: \$1,445,740**

The Lovell Irrigation District, located in northern Wyoming, will convert a section of open earthen canal to 11,067 feet of buried pressurized polyvinyl chloride pipe. The project is expected to result in annual water savings of 1,663 acre-feet by reducing seepage, evaporation, and evapotranspiration losses. Conserved water will be used primarily to increase the reliability of the water supply and to reduce curtailments for downstream users during shortage periods. The pressurized pipe system will also enable farmers working along the lateral to apply for Natural Resources Conservation Service program funding to convert to more efficient sprinkler systems.