

2019 WaterSMART Water and Energy Efficiency Grants

Arizona

Colorado River Indian Tribes, Colorado River Irrigation Project SCADA System Modernization

Reclamation Funding: \$250,000

Total Project Funding: \$500,000

The Colorado River Indian Tribes, located in southwest Arizona, will modernize its Supervisory Control and Data Acquisition (SCADA) system on the Colorado River Irrigation Project, including the replacement of 17 pieces of legacy radio telemetry equipment with new high-speed radio telemetry units and 5 remote terminal units. To best utilize the new SCADA system, a new computer and the appropriate software are also included as part of the project. These measures will enable enhanced irrigation water control and management, which are expected to result in annual water savings of 10,000 acre-feet that is currently lost to operational spills and evaporation. This area of Arizona is vulnerable to drought and the Tribes rely on the Colorado River as their sole source of water. The water conserved will be utilized by the Tribes primarily to meet demands on the Reservation, within the limits of their existing water rights.

Grover's Hill Irrigation District, GHID Water Delivery Improvement Project

Reclamation Funding: \$1,500,000

Total Project Funding: \$3,141,115

The Grover's Hill Irrigation District, located in Apache County, Arizona, will replace 5.95 miles of existing earthen canals with pressurized high-density polyethylene pipe. The District will also install pressure control valves and 21 flow meters to measure water usage. The District estimates that 51% of their system volume is currently lost due to seepage and evaporation. Once complete, the project is expected to result in annual water savings of 1,705 acre-feet. Apache County has experienced drought conditions for the last 10 years. Irrigation allotments from Lyman Lake, the source of the District's supplies, are reduced when drought conditions cause reservoir levels to fall. By reducing water lost through seepage and evaporation, this project will increase the amount of water available to fill existing water allotments and will result in decreased diversions from Lyman Lake. This project also positions farmers in the District to implement on-farm improvements through the Natural Resources Conservation Service's Environmental Quality Incentives Program by providing pressurized a pressurized system that can be used to convert to sprinkler irrigation.

California

City of Banning, City of Banning Advanced Metering Infrastructure Project

Reclamation Funding: \$300,000

Total Project Cost: \$2,945,052

The City of Banning, located in southern California, will modernize 10,500 meters to Advanced Metering Infrastructure including advanced acoustic leak sensors. The project also includes installation of small hydroelectric units to power the City's Supervisory Control and Data Acquisition system. The project is expected to result in water savings of 686 acre-feet annually that is currently being lost to leaks and customer overuse. Improved technology to collect real-time water system data will detect leaks quickly and collect information about use patterns that can be shared with customers. The City of Banning faces projected population growth and

extended drought in the region. Currently, the City gets its water from local basins sourced from the California State Water Project. The water conserved through this project will remain in local basins, requiring less water to be drawn from other sources.

Long Beach Water Department, Long Beach Automated Metering Infrastructure Project
Reclamation Funding: \$1,500,000 **Total Project Cost: \$4,867,570**

The Long Beach Water Department will replace 11,397 manually read meters with advanced metering infrastructure (AMI). The project is expected to result in annual water savings of 1,367 acre-feet currently lost to leaks and over consumption. Water conserved through the project will supplement the City's finite water supply from the Central Groundwater Basin and will offset the need to purchase additional water from other sources.

Mission Springs Water District, Mission Springs Advanced Metering Infrastructure Implementation Project
Reclamation Funding: \$300,000 **Total Project Cost: \$3,737,536**

The Mission Springs Water District, located in southern California, will upgrade 12,967 manually-read meters to Advanced Metering Infrastructure (AMI). Currently, 100% of the District's water comes from local groundwater in the Coachella Valley Groundwater Basin and dramatic population growth and severe drought have impacted the District's ability to provide a reliable water supply. Water shortages have prompted legal conflict in the region over water rights, and water conserved through measures like AMI will help mitigate the scale of potential water conflict. AMI will allow the District to efficiently detect leaks, thereby helping customers to monitor water use and to avoid overconsumption. The project is expected to result in annual water savings of 549 acre-feet, which will reduce the amount of water pumped from the Coachella Valley Groundwater Basin.

Moulton Niguel Water District, MNWD Advanced Meter Infrastructure Implementation Program (Phase III)
Reclamation Funding: \$1,500,000 **Total Project Cost: \$8,201,777**

The Moulton Niguel Water District, located in southern California, will carry out the final phase of the District's Advanced Meter Infrastructure Implementation Program by upgrading 45,408 residential meters with advanced metering infrastructure. The existing infrastructure causes leaks to go mostly undetected, resulting in significant water loss and increased costs for the District's customers. The project is expected to result in annual water savings of 1,580 acre-feet by proactively identifying leaks and monitoring water use. The District is entirely dependent on imported sources for its potable water supply. Water savings from the project will help to provide a more secure water supply, particularly in times of drought, which will also benefit the region as a whole.

City of Newport Beach, Newport Beach Advanced Metering Infrastructure Implementation Program (Phase 2)
Reclamation Funding: \$1,500,000 **Total Project Cost: \$9,188,009**

The City of Newport Beach will upgrade 26,309 existing meters to an advanced metering infrastructure (AMI) fixed based network, including AMI radio transmitters, collectors, and software that will automatically collect and store hourly consumption data. The project is expected to result in annual water savings of 1,157 acre-feet that is currently being lost to unauthorized consumption, metering inaccuracies, systematic data handling errors, and leaks. The water conserved through the project will be used to offset groundwater pumping and to reduce demands on existing supplies in an area that has experienced drought conditions and a heightened competition for limited supplies.

North Kern Water Storage District, Calloway Canal Lining and Water Delivery Improvements

Reclamation Funding: \$1,500,000

Total Project Cost: \$3,133,029

The North Kern Water Storage District in Bakersfield, California, will line 2,200 feet of the unlined Calloway Canal with a reinforced concrete liner. The area near the canal has been negatively impacted by an over-reliance on groundwater and a multi-year drought. The canal lining is expected to result in annual water savings of 758 acre-feet, which is currently seeping into the groundwater basin that has poor water quality. In addition, the project includes the installation of magnetic flowmeters and water level sensors at 50 of the District's production wells, along with telemetry upgrades, and integration of these improvements with the existing Supervisory Control and Data Acquisition system. These additional improvements will allow the District to better control well operations and access real-time groundwater pumping data remotely, resulting in an expected annual water savings of 818 acre-feet from reduced pumping. Overall, the project is expected to result in 1,576 acre-feet of water savings, which will be used to reduce groundwater pumping.

City of Oceanside, City of Oceanside Advanced Metering Infrastructure Project (Phase I)

Reclamation Funding: \$1,500,000

Total Project Cost: \$8,871,924

The City of Oceanside, located in southern California, will construct a new advanced metering infrastructure (AMI) network, including retrofitting 21,689 existing meters to AMI and integrating the AMI system with the existing customer interface platform. Once the project is complete, 49% of the City's meters will be connected to the AMI network. The project is expected to result in annual water savings 1,155 acre-feet per year by providing real-time information to customers about leaks, breaks, and other unusual consumption patterns. The water savings from this project will have broad benefits in an area that has historically experienced water shortages and drought, relies on purchased water, and is projecting population and water demand increases. Currently, the City purchases approximately 90% of its potable water supply from the San Diego County Water Authority. The water conserved through this AMI project will help the City to use existing supplies more efficiently to meet demands.

Olivenhain Municipal Water District, Olivenhain Advanced Metering Infrastructure Water Use Efficiency Project

Reclamation Funding: \$300,000

Total Project Cost: \$2,056,251

The Olivenhain Municipal Water District, located in Southern California, will continue implementation of an Advanced Metering Infrastructure (AMI) program, involving the installation of 6,044 Meter Transmitting Units and a new Customer Engagement Portal. Once complete, the project will result in connecting 74% of the District's meters to the AMI system. The project is expected to result in annual water savings of 900 acre-feet per year by more timely identifying and repairing leaks and providing real-time information to customers about water use. Currently, the District purchases 100% of its potable water supply from the San Diego County Water Authority. The water conserved through this AMI project will help the District use that existing supply more efficiently.

City of San Buenaventura, Ventura Water Advanced Meter Infrastructure Conversion Project (Phase III)

Reclamation Funding: \$300,000

Total Project Cost: \$2,342,510

The City of San Buenaventura, located in southern California, will replace 10,112 manually read meters with new advanced metering infrastructure (AMI) meters for residential and commercial customers. The new AMI system will provide real-time data and will send electronic alerts on water usage. The project is expected to result in annual water savings of 258 acre-feet, which will offset use from the Ventura River, Lake Casitas, and groundwater supplies.

City of Santa Ana, Santa Ana Automated Metering Infrastructure Installation Project
Reclamation Funding: \$300,000 **Total Project Cost: \$3,733,388**

The City of Santa Ana, located in southern California, will replace 11,250 manual-read water meters with updated advanced metering infrastructure (AMI) meters. AMI will provide real-time operational modeling information, establish a leak detection system, and provide water-consumption data to allow individuals to better manage their water usage. The project is expected to result in a water savings of 371 acre-feet annually that is currently lost to meter inaccuracies and leaks. The City is currently dependent on a combination of local groundwater and imported water for its supply. Water saved through the project will supplement the City's finite groundwater supply and reduce the need to purchase additional water.

Siskiyou County Flood Control & Water Conservation District, Soil Moisture and Groundwater Monitoring Project
Reclamation Funding: \$240,000 **Total Project Cost: \$480,000**

The Siskiyou County Flood Control & Water Conservation District, located in northern California, will install groundwater measurement and monitoring devices in the Butte, Scott, and Shasta Valley basins. The District is the Groundwater Sustainability Agency responsible for implementing California's Sustainable Groundwater Management Act in these three basins. The project includes 10 soil moisture sensors and 10 groundwater elevation monitoring devices in each basin. Groundwater levels have been declining in the area, which has been reliant on groundwater: approximately 83% of the Butte basin and 61% of the Scott basin is reliant on groundwater. The project will provide the District with better information about when and how much to irrigate, which is expected to result in an annual water savings of 1,931 acre-feet by reducing over-irrigation. The project will reduce agricultural water use, which will allow conserved water to remain in the aquifers.

Yorba Linda Water District, Yorba Linda Advanced Metering Infrastructure Project (Phase I)
Reclamation Funding: \$300,000 **Total Project Cost: \$2,186,308**

The Yorba Linda Water District, located in southern California, will install new Advanced Metering Infrastructure (AMI), including replacing 2,892 manual-read meters, and retrofitting 8,027 radio-read meters and 3,191 registers. The District purchases 25% of its water from the California State Water Project and uses local pumped groundwater for the remaining 75% of its supply. The District has had difficulty meeting water demands during times of drought and increased demand. Data gathered through AMI will enable the District to identify and respond to leaks more efficiently and will also provide ratepayers with real-time data to improve water conservation and water use efficiency. Annual water savings from the project is expected to be 1,188 acre-feet currently lost to overuse and leaks. Water conserved through the project will help the District to use existing supplies more efficiently and to reduce groundwater pumping.

Colorado

Grand Valley Water Users Association, Dam and Canyon Electrical Controls Improvement Project (Part 2)
Reclamation Funding: \$178,884 **Total Project Cost: \$398,884**

The Grand Valley Water Users Association, near Grand Junction, Colorado, will implement several improvements at Roller Dam to provide more accurate and reliable diversion and measurement information, including constructing new control panels and installing a Supervisory Control and Data Acquisition system. Through improved water control and management, it is expected that the project will result in annual water savings of 4,000 acre-feet currently lost to over-deliveries and inefficient operations. The Association will reduce

diversions from the Colorado River as a result of the project, benefitting a critical stretch of river known as the “15 Mile Reach,” which is designated critical habitat for many fish species.

Idaho

Boise Project Board of Control, MC-6 Hydroelectric Project

Reclamation Funding: \$1,116,402

Total Project Cost: \$4,793,069

The Boise Project Board of Control, located in Boise, Idaho, will replace 3,000 feet of the earthen Indian Creek Canal with steel pipe. Water supply has not been sufficient to meet demands and in recent years users within the Board’s service area have had to purchase additional river water to help augment supply. The project is expected to result in annual water savings of 1,732 acre-feet, which is currently lost to seepage. Conserved water will remain in reservoirs to benefit fish and recreation, used to reduce reliance on purchased water from other sources, and for additional hydropower production. The project also includes a new intake structure and a 2.1-megawatt hydropower unit, comprised of two horizontal Francis turbines, which is expected to generate over 6,800 megawatt-hours of power annually.

Boise Project Board of Control, New York Canal Lining (Phase 6)

Reclamation Funding: \$187,599

Total Project Cost: \$375,199

The Boise Project Board of Control will also replace 600 feet of existing concrete and asphalt lining along the New York Canal with a multilayer geocomposite liner with a concrete cap. Water supply has not been sufficient to meet demands and in recent years users within the Board’s service area have had to purchase additional river water to help augment supply. The project is expected to result in annual water savings of 367 acre-feet, which is currently lost to seepage. Conserved water will remain in reservoirs to benefit fish and recreation and used to reduce reliance on purchased water from other sources.

Last Chance Canal Company, Last Chance Canal Company SCADA Project

Reclamation Funding: \$245,000

Total Project Cost: \$544,300

The Last Chance Canal Company, located in southeast Idaho, will implement a modernized Supervisory Control and Data Acquisition (SCADA) system, including installation of 18 new SCADA sites and a software program to manage the system and provide real-time remote data. The 18 SCADA sites will monitor 23 flow measurement devices including 6 new flumes, 15 existing flumes, and 2 new area flow meters. The installation of the new SCADA system will reduce spills at the end of the main canals, which is expected to result in annual water savings of 2,880 acre-feet. By reducing over-deliveries and spills, the project will allow the Company to reduce diversions, allowing for the conserved water to remain in the Bear River.

Salmon River Canal Company, Main Canal Lining Project

Reclamation Funding: \$300,000

Total Project Cost: \$607,943

The Salmon River Canal Company, located in Twin Falls, Idaho, will line 10,694 feet of earthen canal with a high-density polyethylene geomembrane liner. The project is expected to result in annual water savings of 3,919 acre-feet currently lost to seepage and evaporation. Drought has impacted water users across the region, and in the last 10 years the Company has delivered only 66% of the full water allotment to its users. Through the project, the Company will be able to provide a more reliable water supply to its users in the northern part of the system and reduce its draw on stored water, which will benefit recreation by maintaining levels in the Salmon Falls Creek Reservoir.

Samaria Water and Irrigation Company, Samaria Canal Enclosure Project
Reclamation Funding: \$1,431,450 **Total Project Cost: \$2,862,900**

The Samaria Water and Irrigation Company, located in southeastern Idaho, will convert 9 miles of the earthen Samaria Canal to 18-inch and 24-inch polyvinyl chloride pipe. The project also includes a new inlet structure, flow meters, and a pump. The Company has indicated that many of the wells in the area, which historically ran year-round, cease flowing in the late summer due to ongoing drought conditions. As a result, shareholders are not currently receiving their full water allocations. It is expected that the project will result in annual water savings of 3,075 acre-feet currently lost to seepage and evaporation. Water savings from the project will be used to avoid reduced allocations, resulting in a more reliable supply in years of shortage, which will benefit the local economy. Excess water will be left in-stream in the Malad River. Once completed, the pressurized pipeline will also allow irrigators to complete on-farm improvements, such as converting from flood irrigation to sprinkler systems.

Twin Falls Canal Company, High Line Canal Lining Project No. 1
Reclamation Funding: \$239,000 **Total Project Cost: \$489,400**

The Twin Falls Canal Company, located in southern Idaho, will line 4,200 linear feet of the earthen High Line Canal with a geomembrane liner. The Twin Falls area has experienced consistent water shortages, resulting in conflict over water rights and the inability to meet existing water needs. The project is expected to result in annual water savings of 3,278 acre-feet that is currently lost to seepage, which will improve system reliability and help to avoid further reductions to allocations for irrigators during dry years.

Montana

Sidney Water Users Irrigation District, District 3 Main Canal Pipeline Conversion Project
Reclamation Funding: \$300,000 **Total Project Cost: \$646,116**

The Sidney Water Users Irrigation District, located in northeastern Montana, will convert 12,200 feet of the earthen Main Canal to pipeline and install flow meters to track and document flows. The project is intended to increase irrigation efficiency and improve water management, which is expected to result in annual water savings of 1,312 acre-feet that is currently lost to seepage and inefficient conveyance. Northeastern Montana has experienced heightened drought conditions in recent years and low flows in the Yellowstone River have caused water shortages during peak irrigation months. Completion of the project will allow the District to meet existing demands more efficiently while also reducing diversions from the Yellowstone River to increase in-stream flows and to increase water supply reliability for other downstream agricultural, industrial, and municipal users. The project will also improve water quality by minimizing sediment-laden return flow and providing bank stabilization. Completion of the closed pipeline is expected to facilitate future on-farm improvements, including installation of pivot sprinkler systems to replace traditional flood irrigation.

Nebraska

Frenchman Cambridge Irrigation District, Meeker-Driftwood Canal Automation Project
Reclamation Funding: \$1,500,000 **Total Project Cost: \$3,986,446**

The Frenchman Cambridge Irrigation District, located in southwestern Nebraska, will install precise flow measurement and control gates on the Meeker-Driftwood Canal and integrate them into a Supervisory Control and Data Acquisition (SCADA) radio telemetry network. The project will increase water supply reliability in the Republican River Basin, where water scarcity has negatively impacted downstream water users. A call has been enacted in the years 2013-2018 for the Republican River Compact with Colorado, Nebraska and Kansas, which has reduced all irrigation in the Basin. Operating at 67% of their full supply, the District is unable to provide full

water deliveries to its farmers, who have adjusted by growing crops under stress, changing crops, and using supplemental wells. The objective of the project is to eliminate unintended operational spills, which will conserve an estimated annual water savings of 2,273 acre-feet. The project will allow for more water to be stored in Swanson Reservoir to reduce diversions from the Republican River in dry years and to increase groundwater recharge in wet years. The District expects to achieve multiple benefits through the project, including a more reliable supply for agricultural users, more reliable environmental flows, and support for the goal of ensuring compliance with the Republican River Compact.

Middle Republican Natural Resources District, Remote Meter Monitoring and Irrigation Water Conservation Project of the MRNRD

Reclamation Funding: \$1,500,000

Total Project Cost: \$3,348,092

The Middle Republican Natural Resources District, located in southwest Nebraska, will install near real-time telemetry equipment on 1,000 irrigation flow meters for improved on-farm water management and reporting. Eight weather stations with telemetry will also be installed across the District to collect evapotranspiration data that will be broadcast to all irrigators in the project area to inform irrigation scheduling. Select farms in the project area will also utilize soil moisture probes with telemetry to better manage irrigation applications. The project is expected to result in water savings of 5,226 acre-feet annually, which is currently lost to overwatering as a result of measurement inaccuracies and inefficient scheduling. Conserved water will reduce groundwater pumping in the over-appropriated Republican River Basin, which is experiencing significant conflict amongst users as a result of declining groundwater levels. Water left in the aquifer will improve availability for users, improve drought resiliency, and benefit wildlife through improved base flows in the Republican River.

Nevada

Southern Nevada Water Authority, Water Smart Landscapes Rebate Program

Reclamation Funding: \$1,500,000

Total Project Cost: \$26,500,000

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 9,532,374 square feet of turf to water-efficient landscaping (xeriscape), with an expected annual water savings of 1,632 acre-feet. Expansion of this existing rebate program will allow the SNWA to contribute additional unused Colorado River water toward interstate banking efforts.

New Mexico

Navajo Agricultural Products Industry, Irrigation Scheduling Improvement Project

Reclamation Funding: \$150,000

Total Project Cost: \$372,000

The Navajo Agricultural Products Industry, located in Farmington, New Mexico, will improve irrigation scheduling and efficiency by installing a moisture probe and monitoring system equipment to 130 center pivots. The new system will provide an optimal moisture content range by considering the crop, development stage, soil, and weather conditions. The more efficient system will reduce over-watering, which is expected to result in annual water savings of 2,672 acre-feet. Water conserved by the project will reduce the amount of water diverted from Navajo Reservoir during the irrigation season.

Oklahoma

City of Durant, City-Wide AMR Smart Meter Conversion and Advanced Metering Infrastructure Project

Reclamation Funding: \$1,500,000

Total Project Cost: \$3,750,060

The City of Durant, in southern Oklahoma, will replace 5,999 manual read meters with smart meters and associated advanced metering infrastructure network software. By providing real-time data, the project is expected to result in water savings of 1,003 acre-feet annually that is currently lost to leaks. The project addresses concerns related to the City's limited water supply from the Blue River and projected population growth.

Texas

Bayview Irrigation District #11, Main Canal Pipe Conversion Project (Phase 1)

Reclamation Funding: \$300,000

Total Project Cost: \$605,700

The Bayview Irrigation District #11, located in southern Texas, will convert 2,550 feet of the Main Canal, a concrete-lined open canal, to a 48-inch polyvinyl chloride pipeline. Significant population growth is already stretching limited water supplies and the District is expecting a population increase of 142 percent between 2010 and 2060. In addition, the District has experienced ongoing drought conditions, which have resulted in supply shortages and reduced deliveries. The project is expected to result in water savings of 120 acre-feet annually that is currently being lost to seepage and evaporation. The project will contribute to a more reliable water supply for the District, allowing it to address population growth and future municipal demands, along with reducing the likelihood of curtailments during times of shortage. Completion of the closed pipeline is expected to facilitate future on-farm improvements, including conversion to more efficient irrigation.

Cameron County Irrigation District No. 2, Conversion of Lateral 8 from Open Canal to Pipeline

Reclamation Funding: \$175,841

Total Project Cost: \$390,759

The Cameron County Irrigation District No. 2, located in southern Texas, will convert 3,310 feet of unlined open canal in a segment of Lateral 8 to a buried 36-inch polyvinyl chloride pipeline, in an area that experiences significant and frequent drought conditions. The project is expected to result in annual water savings of 337 acre-feet that is currently lost to seepage, evaporation, and bank failures, which will decrease the amount of water pumped from the Rio Grande, leaving more water in-stream for habitat and downstream users, and improving drought resiliency in the area.

El Paso County Water Improvement District No. 1, La Union East Canal Concrete Lining Project

Reclamation Funding: \$300,000

Total Project Cost: \$925,298

The El Paso County Water Improvement District No.1 will line 4,500 feet of the earthen La Union East Canal with reinforced concrete and will make improvements to an existing check structure to better control sediment. The area is experiencing prolonged and extreme drought conditions and the population in El Paso County is projected to double to over 1.5 million people by 2070. The project is expected to result in annual water savings of 231 acre-feet, which will allow the District to better manage its allocation of Rio Grande Project water and provide more storage in Elephant Butte Reservoir, which was at a near record-low 3% capacity in 2018.

Harlingen Irrigation District Cameron County No.1, Wyrick Canal Piping Project
Reclamation Funding: \$300,000 **Total Project Cost: \$1,023,688**

The Harlingen Irrigation District Cameron County No. 1, located in southern Texas, will convert 6,750 feet of the concrete Wyrick Canal to a 48-inch pressurized polyvinyl chloride pipe. The project is expected to result in water savings of 112 acre-feet annually, currently lost to seepage and evaporation. The Harlingen area is dependent on surface water from the Rio Grande and experiences water conflict as a result of drought, over-appropriation of water rights, and population growth. Conserved water will remain in the river basin, which will provide multiple benefits, including a more reliable supply for all water users and improved habitat for federally recognized endangered species.

Utah

Davis & Weber Counties Canal Company, Canal Enclosure and Small Hydro Project
Reclamation Funding: \$880,000 **Total Project Cost: \$2,200,000**

The Davis & Weber Counties Canal Company, located near Salt Lake City, Utah, will convert 1,700 feet of unlined earthen canal and 1,060 feet of steel pipe with 2,760 feet of a 7-foot by 6-foot precast concrete box culvert. Severe drought from 2012 through 2018 has strained the water system and the Company has had to respond with shortened irrigation seasons. The project will conserve an estimated 841 acre-feet per year that is currently lost to seepage and evaporation, which will provide a more secure water supply and reduce the need to curtail use during times of drought. The project will allow for more water to be saved and held in the Echo and East Canyon Reservoirs, therefore remaining in the river system for longer periods, which will provide benefits to native fish species. Additionally, the project includes a 2-kilowatt crossfloat hydropower system to help offset project energy consumption.

Duchesne County Water Conservancy District, Bennett Water Association and Class K2 Operation Improvement Project
Reclamation Funding: \$246,600 **Total Project Cost: \$548,000**

The Duchesne County Water Conservancy District, in partnership with the Bennett Water Association and Dry Gulch Irrigation Company, all located in northeastern Utah, will make various improvements at Bennett Pond, including expanding the existing 4.2 acre-foot Bennett Pond to 6.2 acre-feet, lining the pond, and converting 1,700 feet of earthen ditch from the existing headgate to Bennett Pond into a high density polyethylene pipeline. In addition, the project includes the installation of a new clay-lined regulation pond at Cottonwood Spill. The project is expected to result in annual water savings of 957 acre-feet currently lost to seepage, over-deliveries, and operational spills in an area that experiences regular water shortages due to drought and population growth. Through the project, the District will be able to continue to meet existing irrigation needs that might otherwise go unmet during shortage periods.

Henefer Town, Inc. Canal Lining, Secondary Irrigation Piping, and Small Hydro Project
Reclamation Funding: \$1,500,000 **Total Project Cost: \$3,250,000**

Henefer Town, located near Salt Lake City, Utah, will line 4,000 feet of the earthen Main Ditch and 3,600 feet of the earthen Big Ditch with a geotextile and ethylene propylene diene monomer liner. In addition, the project includes a piped, pressurized, and metered secondary water system for 330 water connections who flood irrigate or use culinary water, along with a 4-acre-foot secondary water pond. The current distribution system is inefficient and is prone to flooding residential land and farmland along the canal. The project is expected to result in water savings of 918 acre-feet annually that is currently being lost to seepage, spills, and evaporation. Water saved as a result of the project will help address reliability issues in the face of drought, shortages, and increased population growth, and will reduce the amount of water the Town is diverting from the Weber River. The project

also includes the installation of a micro-hydro turbine station that is expected to produce 514 kilowatt-hours of energy per year.

Milburn West Irrigation Company, Long Ditch Pipeline Project

Reclamation Funding: \$255,600

Total Project Cost: \$568,000

The Milburn West Irrigation Company, located in central Utah, will replace 4.4 miles of the open Long Ditch canal with 2.8 miles of pressurized polyvinyl chloride pipe and install a sediment trap at the start of the pipeline. Drought conditions have caused significant water shortages in recent years: during the 2018 irrigation season, the Company received only 5% of average supply, amplifying water-related conflicts with adjacent downstream water users. The project is expected to save 201 acre-feet of water annually that is currently lost to seepage and evaporation, which will be used to fill under-served allotments and expand drought management capacity. Any excess water during high flows will be left in the San Pitch River. The pressurized pipe will enable irrigators to convert to sprinkler systems, and nearly all Company water users are planning or are in the process of applying for Natural Resource Conservation Service funding.

Moroni & Mount Pleasant (M&M) Irrigation Company, M&M Irrigation 2019 Canal Piping Project

Reclamation Funding: \$847,081

Total Project Cost: \$1,882,403

The Moroni & Mount Pleasant Irrigation Company, located in central Utah, will convert 3.5 miles of open earthen canal to 30-inch high density polyethylene pipe and will install a supervisory control and data acquisition (SCADA) system with modernized measuring devices and metering. The existing earthen canal currently experiences losses between 35-60%. Moroni City and irrigators have had supplies curtailed in recent years, primarily due to drought conditions. When deliveries are reduced, Moroni City pumps water from their underground culinary wells, which are being depleted. The project is expected to result in water savings of 1,221 acre-feet annually currently lost to seepage. The conserved water will provide a more reliable source for the Company's users and reduce the need to pump groundwater in times of shortage. Once completed, the pressurized pipeline will allow irrigators to complete on-farm improvements, such as converting from flood irrigation to sprinkler systems.

Muddy Creek Irrigation Company, Independent Canal Pipeline Improvement Project

Reclamation Funding: \$300,000

Total Project Cost: \$2,066,000

The Muddy Creek Irrigation Company, located in central Utah, will replace 1.92 miles of open unlined canal and 2.82 miles of non-pressurized pipe with a 30-inch pressurized high-density polyethylene pipeline. As part of the project, a metering station will also be constructed at the point of diversion from the main Muddy Creek pipeline. Central Utah has a highly arid environment and is vulnerable to frequent droughts. The project is expected to save approximately 893 acre-feet of water annually that is currently lost due to seepage from unlined canals, evaporation from an open canal, and water loss due to leaks and breaks in the current system. The project will allow the Company to provide a more reliable supply to users during drought conditions and will otherwise remain in Muddy Creek. Once complete, the project will enhance the functionality of the on-farm sprinkler systems by eliminating salts and sediment and providing adequate pressure.

City of Spanish Fork, Meter Upgrade & Smart Irrigation Controllers Project

Reclamation Funding: \$277,000

Total Project Cost: \$692,500

The City of Spanish Fork, located near Salt Lake City, Utah, will install 1,000 new smart irrigation controllers and will replace 1,000 outdated water meters. As part of the project, the City will also implement new user portal software to notify customers of leaks and will reprogram 17,500 existing pressurized irrigation meters to work with the new software. The project will allow the City to better control landscape irrigation and better detect leaks

within the water system, and provide users with real-time data, which is expected to result in water savings of 150 acre-feet per year. Water conserved through this project will provide additional water to the City's growing population, which is currently growing at an annual rate of nearly 2%, and will postpone the need to purchase additional water.

Weber Basin Water Conservancy District, Woods Cross Secondary Water Metering Project (Phase II)

Reclamation Funding: \$300,000

Total Project Cost: \$855,000

The Weber Basin Water Conservancy District, located in northern Utah, will install 700 secondary automatic meter reading (AMR) meters to provide real-time data to consumers to better inform water use, which is expected to result in annual water savings of 266 acre-feet. The area has experienced rapid population growth and drought resulting in depleted groundwater resources and pumping restrictions. The conserved water will be stored and used to meet rising municipal demand from population growth and to regulate flows in the Davis Aqueduct, which has reached maximum capacity.

West Cache Irrigation Company, South Fields Earthen Canal Piping Project

Reclamation Funding: \$400,000

Total Project Cost: \$920,000

The West Cache Irrigation Company, located in northern Utah, will convert 2.25 miles of the earthen South Fields Canal to pressurized polyvinyl chloride pipe. Users of the South Fields Canal often experience water shortfalls, as this stretch of canal is located at the end of a 50-mile long system. The project will also eliminate six small, inefficient pump stations with one centralized pump station that will efficiently pressurize the entire pipeline. The project also includes a new diversion point to avoid conveyance losses throughout the system, therefore reducing the amount of water diverted from the Bear River. The project is expected to result in water savings of 1,222 acre-feet annually that is currently being lost to seepage and evaporation. Water conserved as a result of the project will reduce the need to curtail allocations in times of shortage, in particular for shareholders at the end of the South Fields Canal who are most impacted by reduced supplies. During normal water years, conserved water will remain in-stream in the Bear River. Once completed, the pressurized pipeline will allow irrigators to complete on-farm improvements, such as converting from flood irrigation to more efficient sprinkler irrigation.

West Cache Irrigation Company, Hansen and Ezola Laterals Piping Project

Reclamation Funding: \$350,000

Total Project Cost: \$805,000

The West Cache Irrigation Company will also convert 2.2 miles of the earthen Hansen and Ezola Laterals to pressurized polyvinyl chloride pipe. The project will also eliminate five small inefficient pump stations and will install one centralized pump station instead to more efficiently pressurize the entire pipeline. High seepage and evaporation loss, canal failure from flooding, and landslides have led to operating the canal with minimal water levels, resulting in shareholders experiencing shortfalls. The project is expected to result in water savings of 856 acre-feet annually. Water conserved as a result of the project will reduce the need to curtail allocations in times of shortage. During normal water years, conserved water will remain in-stream in the Bear River. Completion of the new pipeline is also expected to facilitate future on-farm improvements by providing farmers with a direct connection to a pressurized system that can be used to convert from flood irrigation to sprinkler irrigation.

Washington

East Columbia Basin Irrigation District, Installation of Conservation Pipelines (Blocks 42, 44, & 46)

Reclamation Funding: \$300,000

Total Project Cost: \$678,915

The East Columbia Basin Irrigation District, near Othello, Washington, will convert 17,124 feet of earthen canals to polyvinyl chloride pipelines to address seepage and evapotranspiration losses. The project is expected to result in water savings of 882 acre-feet annually. Conserved water will be used to offset existing groundwater pumping in an area with significant aquifer depletion and to enhance flows in the Columbia River.

City of Lynnwood, Lynnwood Advanced Metering Infrastructure Project

Reclamation Funding: \$300,000

Total Project Cost: \$4,789,634

The City of Lynnwood, located in northwestern Washington, will upgrade 6,218 existing manually-read residential meters with Advanced Metering Infrastructure (AMI) technology and install new registers on 2,421 existing meters. The new AMI system will provide real-time metering for water customers. The project is expected to save 264 acre-feet annually, which will reduce demand on water from the Snohomish watershed.

Quincy-Columbia Basin Irrigation District, W61F Canal Lining Project

Reclamation Funding: \$300,000

Total Project Cost: \$832,400

The Quincy-Columbia Basin Irrigation District, located in central Washington, will line 8,750 feet of the earthen W61F canal with concrete lining over a geomembrane liner to address seepage losses. 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, where the parties agreed to address regional water reliability concerns including drought, groundwater issues, and improved stream flows. The project is expected to result in water savings of 1,657 acre-feet annually, which will be used to meet actions identified in the MOU, including offsetting groundwater pumping and enhancing flows in the Columbia River.

Wyoming

Lovell Irrigation District, Moncur Lateral Project (Phase I)

Reclamation Funding: \$300,000

Total Project Cost: \$2,013,340

The Lovell Irrigation District, located in northern Wyoming, will convert 8,750 feet of the earthen Moncur Lateral to buried polyvinyl chloride pipeline, to address seepage, evaporation, and evapotranspiration losses. The District is located in an arid region where the economy is largely based on irrigated agriculture. The project is expected to result in an annual water savings of 1,554 acre-feet, which will be used primarily to increase the reliability of the water supply and to reduce curtailments for downstream users during shortage periods.