



2021 WaterSMART Water and Energy Efficiency Grants

Arizona

Colorado River Indian Tribes, 73-19L-1 Canal Lining Project

Reclamation Funding: \$209,182

Total Project Cost: \$443,229

The Colorado River Indian Tribes, located in western Arizona, will line 3,985 feet of the currently earthen 73-19L-1 canal reach of the Colorado River Irrigation Project with a geosynthetic membrane covered with shotcrete. This stretch of the canal has been identified as having the most significant seepage rate of all 232 miles of canals in the Colorado River Irrigation Project. The project is anticipated to result in annual water savings of 267 acre-feet currently lost to seepage. This area of Arizona is vulnerable to drought, having experienced drought conditions for the past 19 years, and the Tribes rely on the Colorado River as their sole source of water. The water conserved through the project will be utilized by the Tribes primarily to meet demands on the Reservation, within the limits of their existing water rights.

Paloma Irrigation and Drainage District, Water and Energy Modernization (10 Gates Project)

Reclamation Funding: \$500,000

Total Project Cost: \$1,203,277

The Paloma Irrigation and Drainage District, located in southern Arizona, will replace ten manually controlled jack lift gates with new automated Rubicon Flume gates. The project will allow the District to operate and manage its water distribution system with more efficiency and control. The project is expected to result in annual water savings of 2,100 acre-feet, currently lost to operational inefficiencies. Water conserved will be left in the Gila River System to meet existing demands during times of drought and shortage and will reduce pumping from District wells and positively impact the water table.

California

Alameda County Water District, Advanced Metering Infrastructure Full Deployment Project

Reclamation Funding: \$2,000,000

Total Project Cost: \$36,621,985

The Alameda County Water District will upgrade over 81,000 manual-read water meters with ultrasonic advanced metering infrastructure (AMI) compatible meters for landscape, commercial and residential water use. The District will also provide customer access to an online water use portal, which includes leak detection and alerts, notification of abnormalities in water use patterns, and real-

time water use data. By improving leak detection and reducing customer overuse, the project is expected to result in annual water savings of 1,913 acre-feet. Water saved as a result of the project will reduce the District's overall water demand, thereby increasing instream flows to the Alameda Creek and increasing groundwater storage.

Bard Water District, Concrete Lining of the Acoma Lateral & Decommissioning of the Titsing Sub-Main with New Pipeline (Phase 4)

Reclamation Funding: \$1,117,994

Total Project Cost: \$2,235,988

The Bard Water District, located in southern California near the Arizona border, will line 5,550 feet of the currently earthen Acoma Lateral with concrete and decommission the 2.5-mile Titsing Sub-Main to install a 36-inch diameter pipeline. The project is expected to result in annual water savings of 701 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. Once completed, the project will allow farmers to work with the Natural Resources Conservation Service's Environmental Quality Incentives Program to improve irrigation systems.

Desert Water Agency, Automated Metering Infrastructure Installation Project

Reclamation Funding: \$500,000

Total Project Cost: \$1,058,261

The Desert Water Agency, located in southern California, will equip 8,711 manually read residential meters with encoder receiver transmitters, which will provide customers with near real-time water usage data, including a leak detection system. The project is expected to result in annual water savings of 1,294 acre-feet, which will make the area less vulnerable to impacts from drought, aquifer overdraft, and population growth. The conserved water will help protect groundwater resources by reducing the need to pump groundwater during times of reduced State Water Project allocations.

Georgetown Divide Public Utility District, Automated Meter Reading and Meter Replacement Project

Reclamation Funding: \$500,000

Total Project Cost: \$1,563,619

The Georgetown Divide Public Utility District, located in northern California, will replace 3,800 mechanical municipal water meters with new water meters with automated meter reading and data analytic capability. The project will streamline water use data collection and provide timely water use data to customers, which is expected to result in annual water savings of 92 acre-feet. Conserved water will be used to avoid reduced deliveries during periods of drought or will otherwise remain in Stumpy Meadows Reservoir and ultimately be released to the American River system above Folsom Reservoir.

La Habra Utility Authority, Advanced Metering Infrastructure Project (Phases 6, 7, & 8)

Reclamation Funding: \$500,000

Total Project Cost: \$1,677,320

The La Habra Utility Authority, located in Orange County, will update 5,089 existing manual-read water meters with advanced metering infrastructure. The project also includes a web-based utility management portal and a web-based customer portal for water customers to access real-time flow information and historical usage data. The Utility currently relies on manual readings on a monthly basis, making it difficult to detect leaks and monitor potable water use. The project is expected to

result in annual water savings of 470 acre-feet, which is currently lost to leaks and customer overuse, and will reduce the Utility's dependence on imported water supplies.

Las Virgenes Municipal Water District, LV Tap Advanced Meter Enhancement Program
Reclamation Funding: \$500,000 **Total Project Cost: \$5,617,201**

The Las Virgenes Municipal Water District, located in Los Angeles County, will install 19,469 advanced metering infrastructure (AMI) meters to replace existing, non-AMI meters at all residential properties within the District. The AMI meters will automatically relay water usage readings to the District's billing system and the District has implemented a tiered rate structure to reduce customer overuse. The project is expected to result in annual water savings of 1,113 acre-feet by identifying customer overuse and improving leak detection. The water saved will improve local water reliability and reduce reliance on imported water.

City of Menlo Park, Advanced Metering Infrastructure Project
Reclamation Funding: \$500,000 **Total Project Cost: \$3,438,327**

The City of Menlo Park, located in San Mateo County, will convert all of Menlo Park Municipal Water's 4,329 existing residential and commercial water meters to advanced metering infrastructure meters. The project includes an interactive web portal for water customers to view and manage their water use patterns, identify leaks, and take corrective actions. The project is expected to result in annual water savings of 336 acre-feet by providing real-time information about leaks, breaks, and other unusual consumption patterns. The project will improve water management and conservation in an area that is currently experiencing moderate to severe drought conditions and help ensure the City is prepared for projected population growth.

Moulton Niguel Water District, Outdoor Residential Water Efficiency Program
Reclamation Funding: \$400,000 **Total Project Cost: \$1,880,944**

The Moulton Niguel Water District, located in southern California, will implement direct install programs for turf replacement and smart timer installation aimed at decreasing outdoor water consumption. The turf replacement program will provide rebates for professional site assessments, design, turf removal, and installation of climate-appropriate plants. The program will target 120 residential projects equating to approximately 109,320 square feet of turf replacement. The smart timer program will provide weather-based timers for an anticipated 1,200 residential sites. Combined, the programs are expected to result in annual water savings of 159 acre-feet. 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.

Municipal Water District of Orange County, Orange County Sustainable Landscapes Program
Reclamation Funding: \$2,000,000 **Total Project Cost: \$6,873,447**

The Municipal Water District of Orange County will implement a rebate program to replace 1.5 million square feet of turfgrass with water efficient landscaping, upgrade 5,500 antiquated irrigation timers to smart irrigation controllers, and convert potable water irrigation systems to non-potable systems utilizing recycled water or stormwater at 12 sites. The rebate program is expected to reduce overall water consumption by 1,163 acre-feet per year, which will increase the reliability of the regional water supply and help offset increased demand due to population growth.

North Kern Water Storage District, Calloway Canal Lining (7th Standard Road to 8-1 Backup Weir)

Reclamation Funding: \$2,000,000

Total Project Cost: \$4,471,272

The North Kern Water Storage District, located in Bakersfield, California, will line 6,744 feet of a currently unlined portion of the Calloway Canal with 4-inch-thick unreinforced concrete. The project is expected to result in annual water savings of 2,366 acre-feet, which is currently seeping into the groundwater basin that has poor water quality. The groundwater basin in the San Joaquin Valley portion of Kern County is critically stressed, especially when pumping increases during dry years, and the region is perpetually experiencing drought conditions. Lining the canal will allow for more efficient delivery of surface water supplies and reduce dependency on the Kern River by giving the District greater flexibility to time its diversions. The project will help to reduce current groundwater use in an area where the water quality of recovered groundwater is not suitable for irrigation without costly treatment.

City of Oceanside, City of Oceanside Advanced Metering Infrastructure and Pipeline Improvement Project (Phase III)

Reclamation Funding: \$2,000,000

Total Project Cost: \$5,669,548

The City of Oceanside, located in Southern California, will upgrade 11,519 existing primarily residential meters to advanced metering infrastructure smart meters with connectivity to the City's existing customer feedback portal. The project also includes replacing approximately 62 broken and leaking pipe segments in an existing asbestos cement pipeline with 1,240 feet of polyvinyl chloride pipe. The project is expected to result in annual water savings of 1,121 acre-feet by providing real-time information to customers about leaks, overuse, and other abnormal water consumption patterns. The water savings is expected to 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 project will help the City to use existing supplies more efficiently and reduce the need to purchase additional supplies.

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

Reclamation Funding: \$500,000

Total Project Cost: \$1,278,969

The Olivenhain Municipal Water District, located in southern California, will continue implementation of an advanced metering infrastructure (AMI) program involving the installation of 4,181-meter transmitting units on existing AMI capable meters. The meters will be integrated to the District's customer engagement portal to provide customers with near real-time water use data, which is expected to result in annual water savings of 285 acre-feet. The District currently purchases 100% of its potable water supply from the San Diego County Water Authority and water conserved through this project will help the District use its purchased potable water supply more efficiently.

San Bernardino Municipal Water Department, Advanced Metering Infrastructure Implementation Project (Phase I)

Reclamation Funding: \$500,000

Total Project Cost: \$2,036,535

The San Bernardino Municipal Water Department will implement Phase I of an advanced metering infrastructure (AMI) project, which includes replacing 7,500 manual-read residential and commercial water meters with AMI meters, connecting 5,000 current AMI meters to the District's network, placement of towers, and installing a new customer engagement portal. The project is expected to save water through more timely identification and correction of leaks, correction of abnormal consumption patterns, and by providing customers with near real-time data provided through the customer engagement portal. The project is expected to result in annual water savings of 1,134 acre-feet, which will be stored for future use in the Bunker Hill Groundwater Basin and reduce the need to purchase additional water.

San Diego County Water Authority, WaterSmart Contractor Incentive Program

Reclamation Funding: \$288,500

Total Project Cost: \$702,000

The San Diego County Water Authority will expand an existing rebate program for irrigation measures, including smart irrigation controllers and high-efficiency nozzles. The expanded program will encourage large landscape and commercial customers to install an estimated 8,000 stations for smart irrigation controllers, 330 irrigation controllers, 18,000 high efficiency sprinkler nozzles, 75 flow sensors, and 30,000 square feet of drip irrigation. The project is expected to result in annual water savings of 276 acre-feet by increasing irrigation efficiency and reducing runoff. Improved irrigation efficiency will maximize use of the Water Authority's existing water supplies, thereby reducing diversions of imported surface water.

City of Santa Barbara, Advanced Metering Infrastructure Project (Phase III)

Reclamation Funding: \$500,000

Total Project Cost: \$1,436,211

The City of Santa Barbara, located in southern California, will undertake Phase III of its ongoing advanced metering infrastructure (AMI) project by upgrading 25,500 primarily residential meter registers from 6-dial low resolution registers to 8-dial high resolution registers. The project will enable the meters to transmit data on smaller volumes of water through the AMI networks, providing more accurate water measurement and allowing for early leak detection within the water system. The project is expected to result in annual water savings of 215 acre-feet, which will offset groundwater pumping, reduce the City's dependence on water imported through the State Water Project, and better prepare the City for extended drought conditions.

Trabuco Canyon Water District, AMR/AMI Implementation Project

Reclamation Funding: \$500,000

Total Project Cost: \$1,936,407

The Trabuco Canyon Water District, located in Orange County, California, will upgrade 3,424 existing touch meters with an advanced metering infrastructure fixed-base network system that will automatically collect and store hourly consumption data, and will be connected to a customer portal. The project is expected to result in annual water savings of 154 acre-feet by providing real-time information to customers about leaks, breaks, and other unusual consumption patterns. Water savings as a result of the project will be used to reduce the District's dependency on imported water

supplies during drought conditions (the District relies 100% on imported water for its potable supply when seasonal groundwater is limited or not available).

Tulare Irrigation District, Area 18 Water and Energy Efficiency Modernization Project
Reclamation Funding: \$1,200,000 **Total Project Cost: \$2,479,680**

The Tulare Irrigation District, located in central California, will upgrade its pipeline system to separate the current single main line into two main lines of reinforced concrete pipe and polyvinyl chloride pipe, install more powerful and efficient pumps for the main lines, install variable frequency drives on the pumps, situate turnouts to increase operational flexibility, and install new meters at each turnout. The existing pipeline system is inefficient, limits operational flexibilities, and does not support growers that have converted to drip irrigation. The new pipeline system will allow the District to deliver surface water supplies more reliably to a larger number of growers simultaneously and allow for greater flexibility, which is expected to result in annual water savings of 935 acre-feet. Water savings from the project will offset groundwater pumping in the Kaweah Subbasin, which has been identified as a high priority groundwater subbasin by the California Department of Water Resources and is subject to the State’s Sustainable Groundwater Management Act.

City of Vallejo Water Department, Automated Metering Infrastructure Project (Phase I Meter Replacement)

Reclamation Funding: \$2,000,000 **Total Project Cost: \$5,494,558**

The City of Vallejo Water Department, located northeast of San Francisco, will replace 28,000 residential meters with automated meter infrastructure compatible meters. The project is expected to result in annual water savings of 1,184 acre-feet, which will reduce dependency on imported water from Lake Berryessa and provide additional water supply to other users who share Solano Project supplies. The project will enhance water reliability and reduce the need to purchase imported water in a region that has experienced ongoing drought conditions and water shortages.

Western Canal Water District, SCADA System Implementation and Boundary Outflow Monitoring

Reclamation Funding: \$76,415 **Total Project Cost: \$152,830**

The Western Canal Water District, located in northern California, will install flow monitoring and telemetry stations at three key boundary outflow sites, establish a Supervisory Control and Data Acquisition (SCADA) base station, and integrate the three boundary outflow measurement sites into the SCADA system. This project will allow the District to quickly identify and correct irrigation system excesses or shortages, which is expected to result in annual water savings of 1,829-acre feet currently lost to operational spills. The conserved water will be stored in Thermalito Afterbay, diverted to provide habitat benefits for migratory waterfowl, or used to meet demands during times of shortage due to drought conditions. Conserved water could also be utilized to increase flow in the Feather River at strategic times, benefitting the endangered Chinook Salmon and Steelhead Trout.

Westlands Water District, Westlands Advanced Metering Infrastructure Project
Reclamation Funding: \$1,609,000 **Total Project Cost: \$3,219,539**

The Westlands Water District, located in western Fresno and Kings Counties, California, will retrofit 760 manually read groundwater meters with advanced, automated metering devices. The District will

also install transceivers and establish a regional network of twenty-one base stations across the District, which encompasses more than 600,000 acres of farmland serving approximately 700 family-owned farms. Water is currently lost to inaccurate groundwater measurement readings and leaks within the meters that lead to over application of water. Water losses seep into underlying Corcoran Clay, restricting percolation into the Lower Aquifer where 85% of the groundwater is extracted. In years when the District receives a reduced Central Valley Project allocation, water users must rely on limited groundwater supplies from a critically over-drafted subbasin to produce crops. Use of metering devices to quickly detect and repair leaks will avoid much of the water loss into the Corcoran Clay and reduce groundwater demand by 1.5%. More efficient water application is expected to result in annual groundwater savings of 4,471 acre-feet, which will remain in the Westside Subbasin.

Yuba Water Agency, Sicard Pipeline Project

Reclamation Funding: \$2,000,000

Total Project Cost: \$7,798,022

The Yuba Water Agency, located north of Sacramento, in collaboration with the Browns Valley Irrigation District, will convert 9.3 miles of the Sicard Flat Ditch to a new alignment of 9.6 miles of high-density polyethylene pipeline. Much of the existing stretch of the ditch is constructed directly into blasted rock, making it porous and susceptible to leaks. The project is expected to result in annual water savings of 2,880 acre-feet that is currently lost to seepage, which will be stored in Collins Lake reservoir and made available to avoid impacts to existing uses in times of shortage. The stored water will also help meet flow bypass requirements for Dry Creek, benefitting the endangered Steelhead and other species.

Colorado

City of Aspen, Aspen Maroon Creek Penstock Lining Project

Reclamation Funding: \$480,232

Total Project Cost: \$3,001,452

The City of Aspen will line approximately 6,235 feet of existing concrete pipe that carries water from Maroon Creek to its raw water storage reservoir and will also install a 400-kilowatt hydroelectric generation facility. The City does not currently have a large storage reservoir like most local water systems, and supplies are direct-flow water rights which are directly impacted by seasonal fluctuations and environmental conditions. The project will result in annual water savings of 360 acre-feet currently lost through the existing pipeline. Water savings will be used to meet existing municipal demands and to reduce diversions and allow for increased instream flows in Maroon Creek.

Idaho

Arco Diversion Conveyance Lateral Pipeline Association, Arco Diversion Conveyance Project (Phase I)

Reclamation Funding: \$500,000

Total Project Cost: \$1,376,100

The Arco Diversion Conveyance Lateral Pipeline Association, located in southern Idaho, will convert sections of the existing earthen Arco Pipeline and Munsey Pipeline to over 10 miles of polyvinyl chloride pipeline. The project is expected to result in annual water savings of 736 acre-feet

that is currently lost to seepage and evaporation. Water conserved as a result of the project will help avoid reduced water allocations during times of shortage.

Malad Valley Water Measurement District, Irrigation Flow Measurement Project

Reclamation Funding: \$367,137

Total Project Cost: \$734,274

The Malad Valley Water Measurement District, located in southern Idaho, will install advanced water measurement devices for 135 separate irrigation groundwater diversions. The District will also install control valves on 15 flowing artesian irrigation wells and 3 open-channel measuring devices. More accurate measurement of the District's groundwater withdrawals is anticipated to reduce ground water use by 10%. Once complete, the project is expected to result in annual water savings of 4,352 acre-feet, which will remain in Malad Valley aquifers and help reduce long-term water level declines.

Kansas

Almena Irrigation District No. 5, Open Canal to Pipe Conversion and Pump Stations Along Prairie Dog Creek

Reclamation Funding: \$227,345

Total Project Cost: \$478,620

The Almena Irrigation District No. 5, located in northwest Kansas, will convert 10 miles of open canal to buried pressurized pipe and install 7 metered and screened floating creek pumps along Prairie Dog Creek. The project is expected to result in annual water savings of 835 acre-feet, which is currently lost to seepage and evaporation in an area that has experienced significant impacts due to drought. Conserved water will remain in Norton Reservoir, benefitting recreation and fish and game. Once completed, the pressurized pipe system will enable the conversion from flood irrigation to more efficient center pivot systems.

Kansas Bostwick Irrigation District, Automation of the Courtland Canal

Reclamation Funding: \$789,805

Total Project Cost: \$1,599,878

The Kansas Bostwick Irrigation District, located in northern Kansas, will automate the entire 34.8-mile length of the Courtland Canal with Supervisory Control and Data Acquisition equipment and new flow measurement and control gates. The project is expected to result in annual water savings of 4,199 acre-feet, which is currently lost to operational spills. 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 project will allow for more water to remain in Harlan County Reservoir and excess flows will be transported to the downstream Loveland Reservoir. Under current conditions, releases made for irrigation have caused significant draw-down in both reservoirs, and increased flows will allow both reservoirs to remain at higher levels for recreational activities later into each summer. Increased flows available to downstream tributaries on the Republican River may also benefit species, including the endangered Topeka Shiner minnow.

Montana

Greenfields Irrigation District, Arnold Coulee Drop Water Savings & Hydropower Development Project

Reclamation Funding: \$1,999,998

Total Project Cost: \$5,688,805

The Greenfields Irrigation District, located in Teton County, Montana, will replace the existing concrete Arnold Coulee drop structure with an 11-foot diameter steel penstock. The project also includes installation of a vertical Kaplan hydropower turbine with a planned capacity of 2,400 kilowatts. The project is expected to result in annual water savings of 1,190 acre-feet, which is currently lost to seepage. Water saved as a result of this project will allow the District to divert less water from Sun River at critical times when the river reaches critically low levels, thereby improving instream flows for fish populations and recreation. A diverse group of stakeholders supports the project, including Trout Unlimited, recreational groups, and local landowners.

Helena Valley Irrigation District, Lateral 11.9 Pipeline Conversion Project

Reclamation Funding: \$479,674

Total Project Cost: \$961,435

The Helena Valley Irrigation District, located near Helena, Montana, will replace 3.3 miles of existing earthen canal with a pressurized plastic pipe. The project also includes replacing a concrete turnout structure with an automated gate that can automatically regulate flows. Converting the open ditch lateral to a closed pipe system is expected to result in annual water savings of 1,550 acre-feet that is currently lost to seepage. The District has been unable to consistently deliver water in the project area during peak irrigation season or during drought conditions due to extensive water loss within the lateral system. Water conserved from implementation of the pipeline will allow the District to meet existing demands during times of shortage and will otherwise be used to augment flows in Prickly Pear Creek or stored in Helena Regulating Reservoir.

Nebraska

Middle Republican Natural Resources District, Remote Irrigation Meter and Irrigation Water Conservation Project for the Upland Decline Area (Phase II)

Reclamation Funding: \$1,300,000

Total Project Cost: \$3,288,957

The Middle Republican Natural Resources District, located in southern Nebraska, will install near real-time telemetry equipment on 966 irrigation flow meters for improved on-farm water management and reporting. The project is expected to result in annual water savings of 5,170 acre-feet, which is currently lost to overwatering. Conserved water will remain in the local aquifer to maintain groundwater levels for future irrigation events as well as improve discharge for baseflow in the Republican River, which has been designated by the Nebraska Department of Natural Resources as over-appropriated for water resources.

Nebraska Bostwick Irrigation District, Superior Canal Delivery Efficiency Improvement Project

Reclamation Funding: \$2,000,000

Total Project Cost: \$4,507,591

The Nebraska Bostwick Irrigation District, located in south-central Nebraska, will construct two new diversions for the lower Superior Canal. The District holds storage rights in Harlan Reservoir, approximately 50 miles upstream of the Superior Diversion structure. Currently, much larger than required volumes of water must be released from the reservoir to overcome canal losses incurred delivering water to the users at the end of canal, which results in end-of-canal spills. The District will install two gallery wells in the north bank of the Republican River to supply water to the lower portion of the Superior Canal instead of transporting these supplies through the entire length of the canal. The gallery wells will be linked to the District's main office through automation for instantaneous control of the pumps to increase system efficiency. Once complete, the project is expected to result in annual water savings of 3,400 acre-feet that will remain in the Harlan Reservoir and be made available in times of shortage, thereby reducing the District's diversions from the Republican River. The project builds on efforts to more effectively manage operations of Harlan County Reservoir and the overall water supplies of the basin, with the goal of improving the flexibility and reliability of Republican River Compact compliance activities for Nebraska, Kansas, Colorado, and the various federal and local water interests in the basin.

New Mexico

Elephant Butte Irrigation District, Renovating Efficient Access to Rio Grande Project Surface Water for the Mesilla Valley

Reclamation Funding: \$1,782,247

Total Project Cost: \$3,595,983

The Elephant Butte Irrigation District, located in Las Cruces, New Mexico, will convert 13,540 feet of open canal to corrugated metal pipe and install three new lift pumps. The District will also install an additional three lift pumps in a different section of canal to improve the timeliness, reliability, and efficiency of water orders. Persistent and increasingly severe drought in the area has caused shortages in recent years, and the District has only received its full allotment once since 2002. The project is expected to result in annual water savings of 9,059 acre-feet, which is currently lost to seepage, general canal conveyance losses, and inefficient delivery quantities and timing. Conserved water will allow District customers to meet existing demands while also reducing groundwater pumping or will otherwise be available for other water users in the area, including future municipal and industrial water providers, and environmental restoration efforts. By improving delivery pressure, the project will also facilitate current and future on-farm improvement projects, including conversion to drip and sprinkler irrigation systems.

Oregon

Irrigation Canal Company, ICC Canal Piping and Diversion Project

Reclamation Funding: \$1,000,000

Total Project Cost: \$2,097,000

The Irrigation Canal Company, located in northeast Oregon, will convert 6,200 feet of open earthen canal to a 30-inch high-density polyethylene pipeline, re-grade the existing Grande Ronde River channel with streambed simulation material, and install rock vanes to construct a roughened

channel. The canal improvements will result in an expected annual water savings of 1,805 acre-feet, which is currently lost to seepage, and will also improve water quality by eliminating contaminants that gather in the open canal from municipal and agricultural land runoff. Reconstruction of the current diversion structure will help reduce sediment loading and streambed disruptions in areas of the river that are critical habitat for Chinook salmon, steelhead, and bull trout. Increased conveyance efficiency will allow the Company to provide adequate irrigation water for multiple water right holders, while at the same time reducing the amount of water diverted out of the Grande Ronde River. The Company will also work with the Allocation of Conserved Water Program to obligate some of its water rights to instream flows.

Klamath Irrigation District, Supervisory Control and Data Acquisition and Automation 2021-2022 Improvements

Reclamation Funding: \$500,000

Total Project Cost: \$1,071,774

The Klamath Irrigation District, located in southern Oregon, will install 21 new Supervisory Control and Data Acquisition components on gates and canals throughout the system that do not currently have automated controls. The project will provide near real-time data on flow rates, water elevations, and control device statuses, and is expected to result in annual water savings of 19,500 acre-feet by reducing spills, over-deliveries, and seepage. Conserved water can be stored in Upper Klamath Lake for a longer period, which may benefit fish species, including the endangered Shortnosed Sucker and Coho Salmon, by increasing lake levels and reducing lake temperatures, while also providing a more reliable supply for growers during times of shortage. In addition, conserved water may be available for the fall waterfowl migration at the Lower Klamath National Wildlife Refuge. The project has significant support from stakeholders, including the Klamath Basin National Wildlife Refuge Complex, the Farmers Conservation Alliance, and Ducks Unlimited.

North Unit Irrigation District, Optimize Conveyance Efficiency and Control in North Unit Irrigation District Main Canal

Reclamation Funding: \$244,871

Total Project Cost: \$511,611

The North Unit Irrigation District, located in central Oregon, will upgrade the automation at nine gated check structures and seven measuring stations along the main canal of its distribution system. The improvements will increase conveyance efficiency and operational control, resulting in an expected annual water savings of 3,337 acre-feet. Overallocation of the Deschutes River and an agreement to adapt dam operations to reduce impact on endangered species has limited District water usage to 60-75% of a water user's minimum water right. The District has shut down periodically because of drought and shortage. Water conserved as a result of the project will be stored within Haystack Reservoir for a more controlled and targeted release during the irrigation season to avoid further reductions during times of drought.

Texas

Cameron County Irrigation District No.2, Conversion of Lateral G2 from Open Canal to Pipeline

Reclamation Funding: \$260,103

Total Project Cost: \$578,007

The Cameron County Irrigation District No.2, located in southern Texas, will convert 5,690 feet of unlined open canal in a segment of Lateral G2 to a buried polyvinyl chloride pipeline, in an area that experiences significant and frequent drought conditions. The project is expected to result in annual water savings of 364 acre-feet that is currently lost to seepage, evaporation, and canal bank failures. Conserved water 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. In addition, moving the irrigation canal underground removes a barrier for wildlife to access freshwater sources and vegetated wetland areas that could serve as habitat.

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

Reclamation Funding: \$208,954

Total Project Cost: \$464,342

The Cameron County Irrigation District No.2 will also convert 3,225 feet of unlined open canal in a segment of Lateral E to a buried 42-inch polyvinyl chloride pipeline. The project is expected to result in annual water savings of 330 acre-feet that is currently lost to seepage, evaporation, and canal bank failures. Conserved water will be used to 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.

Harlingen Irrigation District Cameron County No.1, Piping of Wyrick Canal (Phase III)

Reclamation Funding: \$300,000

Total Project Cost: \$763,761

The Harlingen Irrigation District Cameron County No.1, located in southern Texas, will convert 3,750 feet of the concrete Wyrick Canal to 48-inch and 42-inch pressurized polyvinyl chloride pipe. 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. The project is expected to result in annual water savings of 68 acre-feet currently lost to seepage and evaporation, which will remain in the Rio Grande River Basin to benefit other Rio Grande water users in domestic, municipal, industrial, agricultural, ecological, and recreational sectors.

Santa Cruz Irrigation District No. 15, R-6 Canal Piping Project

Reclamation Funding: \$250,000

Total Project Cost: \$520,833

The Santa Cruz Irrigation District No. 15, located in southern Texas, will convert 4,515 feet of the open concrete lined R-6 Canal to 36-inch polyvinyl chloride pipeline. The project will reduce seepage losses and eliminate canal blowouts, resulting in an expected annual water savings of 335 acre-feet. Water savings from the project is expected to remain in the Lower Rio Grande Valley Watermaster System, which is currently over allocated and susceptible to long-term drought. Additional water in the Lower Rio Grande Valley Watermaster System will benefit the Lower Rio Grande Valley National Wildlife Refuge and ease international conflict over shared water supply with Mexico.

United Irrigation District, Lining of the Mission Main Canal (Third Lift to the Mile 3-1/2 Check)

Reclamation Funding: \$500,000

Total Project Cost: \$1,111,111

The United Irrigation District, located near McAllen, Texas, will line 5,900 feet of the currently concrete lined Mission Main Canal with a geosynthetic composite canal liner covered with shotcrete. Once complete, the project is expected to result in annual water savings of 660 acre-feet, which is currently lost to seepage through the existing concrete liner. The conserved water will remain in the Falcon and Amistad Reservoirs for eventual allocation to other users in the Rio Grande System, including the Lower Rio Grande Valley National Wildlife Refuge, alleviating pressure on the over-allocated water resource shared with Mexico.

Wichita County Water Improvement District No. 2, Water Distribution Efficiency and Infrastructure Modernization Project

Reclamation Funding: \$160,864

Total Project Cost: \$321,745

The Wichita County Water Improvement District No. 2, located in north-central Texas, will convert three high-loss segments of the currently concrete lined and earthen PB Lateral Canal to 5,200 feet of 27-inch plastic irrigation pipe. During recent years of unprecedented drought, insufficient flows required the District to temporarily suspend irrigation deliveries and the Dundee Fish Hatchery was forced to close. The project is expected to result in annual water savings of 1,251 acre-feet by reducing leaks, seepage, and evaporation losses. Conserved water will help avoid interruptions in deliveries during times of drought and make more water available for recreational activities at Lake Kemp and Lake Diversion.

Utah

Heber City Corporation, Secondary Water Metering Project (Phase 1)

Reclamation Funding: \$450,000

Total Project Cost: \$900,000

The Heber City Corporation, located in northern Utah, will install 596 secondary meters at currently unmetered residential connections to the City's pressurized irrigation system. The project will leverage advanced metering infrastructure to better detect leaks and customer overuse, which is expected to result in annual water savings of 228 acre-feet. In the near term, conserved water will remain in the Provo River Project system to benefit downstream users and help mitigate environmental issues associated with the depletion of the Great Salt Lake. In the longer term, water savings from secondary metering may be converted to municipal use to help meet the City's increasing water demands in a county where the population is expected to double by 2040.

Jordan Valley Water Conservancy District, Landscaping Rebates Programs

Reclamation Funding: \$346,848

Total Project Cost: \$693,696

The Jordan Valley Water Conservancy District, located in Salt Lake County, Utah, will administer two separate landscape rebate programs for homeowners to install water efficient landscaping. One rebate program is to incentivize homeowners to replace lawn park strips with water-efficient landscaping and the other is for homeowners to install water-efficient landscaping for projects over 400 square feet. In total, the District expects to replace 1,720,832 square feet of inefficient landscaping, which is expected to result in annual water savings of 79 acre-feet. Incentivizing water-

efficient landscaping will improve water reliability in an area that has experienced rapid population growth and frequent and unpredictable drought patterns.

Midway Irrigation Company, MIC Secondary Water Metering Project

Reclamation Funding: \$500,000

Total Project Cost: \$1,028,500

The Midway Irrigation Company, located near Salt Lake City, Utah, will install 750 secondary water meters on existing residential secondary irrigation connections. The meters are equipped with endpoints that allow for the collection of hourly data using a drive-by reader or a fixed network advanced metering infrastructure system. Metering secondary water connections will reduce overwatering by residential users, which is expected to result in annual water savings of 293 acre-feet. Improved management of secondary irrigation water will allow the Company to store water for longer periods in the Jordanelle Reservoir and avoid reduced deliveries for agricultural users at the end of the irrigation season.

South Weber Water Improvement District, South Weber Water Secondary Water Metering Project (Phase 2)

Reclamation Funding: \$100,000

Total Project Cost: \$200,000

The South Weber Water Improvement District, located in northern Utah, will install 153 secondary water meters at existing unmetered residential connections to the District's pressurized irrigation system. The metering data will be transmitted from the endpoint to the existing Weber Basin advanced metering infrastructure network. This project is expected to conserve 58 acre-feet of water per year by tracking actual water usage to identify leaks and consumer overuse. Water conserved through the project will remain in the Weber Basin system and will help accommodate future residential demands as the District's population increases.

Uintah Water Conservancy District, Steinaker Service Canal Enclosure Project (Reaches I and II Automation)

Reclamation Funding: \$235,950

Total Project Cost: \$471,900

The Uintah Water Conservancy District, located in northeastern Utah, will automate each of the sixteen turnouts for Reach I and two turnouts for Reach II of the Steinaker Service Canal. Electric actuators capable of operating each valve automatically will be installed at each of the 18 individual turnouts. Each actuator will be connected to the existing Supervisory Control and Data Acquisition system and the system will be upgraded to provide automatic monitoring and remote control of each turnout. Once complete, the project is expected to result in annual water savings of 1,147 acre-feet, which is currently lost to spills and over-deliveries. Drought is common in the project area and the Steinaker Reservoir is an off-channel reservoir that does not get excess flows during large precipitation years. Conserved water will be used to address shortages during drought years and to maintain water levels necessary for recreation and fish habitat at Steinaker Reservoir.

Uintah Water Conservancy District, Ashley Upper and Highline Canals Metering Project

Reclamation Funding: \$422,171

Total Project Cost: \$844,342

The Uintah Water Conservancy District will also install electronic flow meters with digital displays at each of the 180 shareholder turnouts on the Ashley Upper and Highline Canals to accurately

monitor, control, and record water deliveries. In addition, the District will install an electric actuator at a large radial gate to improve operational efficiency on the Ashley Creek diversion. The project will reduce operational water losses and is expected to result in annual water savings of 936 acre-feet. Conserved water will help avoid reduced allocations in times of shortage and will otherwise be stored in the Steinaker Reservoir. In addition, the project will reduce selenium and salinity levels carried downstream, positively benefitting the local fish and wildlife environment.

Weber Basin Water Conservancy District, Woods Cross and West Bountiful Secondary Water Metering Project (Phase III)

Reclamation Funding: \$500,000

Total Project Cost: \$1,600,000

The Weber Basin Water Conservancy District, located in northern Utah, will install 1,000 secondary water meters in the Woods Cross and West Bountiful service areas. The meters will be equipped with radios that allow for communication with a fixed network advanced metering infrastructure system to provide real-time data to detect leaks and end-use inefficiencies. The area has experienced a lowering of the groundwater table from pumping and the effects of multiple years of extreme drought. The project is expected to result in annual water savings of 380 acre-feet by reducing customer overuse. The water conserved will be stored 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, North and South Litz Laterals Piping Project

Reclamation Funding: \$950,000

Total Project Cost: \$2,055,000

The West Cache Irrigation Company, located in northern Utah, will convert 2.5 miles of open earthen canal and 0.5 miles of concrete lined canal, identified as the North and South Litz Laterals, to pressurized polyvinyl chloride pipe. The Company will also eliminate five individual inefficient pump stations and construct one centralized pump station that will efficiently pressurize the entire pipeline. The project is expected to result in annual water savings of 1,083 acre-feet, which is currently lost to seepage and evaporation. Water conserved as a result of the project will be used to ensure that all shareholders receive their water allocations during drought or low water years. During normal water years, conserved water will remain in-stream in the Bear River, benefiting the Bear River Migratory Bird Refuge, which houses the federally protected Yellow-Billed Cuckoo. The more reliable pressurized system will also allow farmers to complete on-farm improvements, such as converting from flood irrigation to sprinkler irrigation.

Washington

Cascade Orchard Irrigation Company, Cascade Orchard Irrigation Company Irrigation Efficiency and Pump Exchange Project

Reclamation Funding: \$500,000

Total Project Cost: \$5,700,000

The Cascade Orchard Irrigation Company, located in central Washington, will replace its current gravity-fed diversion system with a new intake and delivery system. The new system will include a modernized intake screening system, a 240-horsepower pump station, approximately 25,000 linear feet of new delivery pipelines, and fish screening facilities. The Icicle Creek Watershed and the Wenatchee River have multiple competing demands for water including irrigation, operation of a fish hatchery, municipal use, and in-stream demands for maintaining fish habitat. The project is

expected to result in annual water savings of 1,088 acre-feet, which is currently lost to seepage and tailwater spills. The project, which is an important step in meeting the requirements of a 2017 Biological Opinion, will allow the Company to reduce diversions from Icicle Creek and support habitat and fish passage needs for Chinook Salmon, Steelhead, and Bull Trout. The project has support from local stakeholders, including the Icicle Work Group and the Leavenworth Fisheries Complex.

Confederated Tribes and Bands of the Yakama Nation, Open Ditch to Pipeline Conversion (Track Lateral D)

Reclamation Funding: \$570,965

Total Project Cost: \$1,141,930

The Confederated Tribes and Bands of the Yakama Nation, located in central Washington on the Yakama Reservation, will construct conveyance improvements for the Track Lateral D irrigation canal in an area experiencing severe impacts due to drought. The existing earthen lateral currently traverses very porous ground, resulting in seepage losses along with operational spills. The Tribe will convert the canal to 15,254 feet of polyvinyl chloride pipeline to increase water use efficiency and reliability through optimal flow rates, reduced leakage, and reduced operational losses. The project is a top priority for the U.S. Bureau of Indian Affairs' Wapato Irrigation Project and the Tribe. The project is expected to result in annual water savings of 1,504 acre-feet, which will remain in the system improving overall water supply and supporting other needs within the Wapato Irrigation Project.

Quincy-Columbia Basin Irrigation District, W61F Canal Lining Project

Reclamation Funding: \$300,000

Total Project Cost: \$784,457

The Quincy-Columbia Basin Irrigation District, located in central Washington, will line 6,518 feet of the earthen W61F lateral with a geotextile liner covered with concrete 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 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 1,058 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 enhancing flows in the Columbia River.

City of Tacoma, Tacoma Public Utilities Advanced Metering Infrastructure Deployment Project

Reclamation Funding: \$2,000,000

Total Project Cost: \$27,229,026

The City of Tacoma will upgrade 107,223 primarily residential manual-read and touch-read water meters to advanced metering infrastructure (AMI). The project is expected to result in annual water savings of 2,049 acre-feet by providing customers with near real-time water consumption information and improving meter accuracy. Once the project has been completed, the City will require less water to be drawn from the Green River. In addition, water conserved will reduce the need for groundwater pumping in times of shortages and increase the City's resiliency against severe future drought conditions.

Wyoming

Cottonwood Irrigation District, Lateral L-6 and L-7 Replacement Project

Reclamation Funding: \$300,000

Total Project Cost: \$1,536,370

The Cottonwood Irrigation District, located in western Wyoming, will convert 5,900 feet of 36-inch welded steel pipe and 300 feet of 18-inch welded steel pipe on the Laterals L-6 and L-7, to polyvinyl chloride pipe. The project is expected to result in annual water savings of 3,164 acre-feet, which is currently lost to leaks. The project will help avoid reduced allocations for the District's agricultural users during times of shortage and allow for more water to remain in Cottonwood Creek for longer periods of time, benefiting recreation and fish species.