

**WATERSMART WATER AND ENERGY EFFICIENCY GRANTS FOR FY 2023
FUNDING OPPORTUNITY ANNOUNCEMENT NO. R23AS00008**



**RIVERSIDE CANAL
CONCRETE LINING PROJECT: PHASE VII**

**TOTAL PROJECT COST: \$4,031,430
USBR GRANT REQUEST: \$2,000,000**

Applicant

**El Paso County Water Improvement District No. 1
13247 Alameda Avenue, Clint, Texas 79836**

Project Manager

**Jesus Reyes, General Manager
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I EXECUTIVE SUMMARY

Applicant Information

Date: July 5, 2022
Applicant Name: El Paso County Water Improvement District No. 1
City, County, State: Clint, El Paso County, Texas
Applicant Category: Category A

Project Name: Riverside Canal Concrete Lining Project: Phase VII
Project Manager: Jesus Reyes, General manager
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Project Funding Request: The total project cost is \$4,031,430 and EPCWID1 is requesting \$2,000,000 in federal funds.

Project Summary

The El Paso County Water Improvement District (EPCWID1), located in El Paso County, Texas, will concrete line 11,000 feet of the Riverside Canal using shotcrete reinforced by prefabricated steel rebar panel framework. The project engineering design was completed with funding from the Texas Water Development Board (TWDB) and the project is prioritized in the 2022 Texas State Water Plan. The project has a life expectancy of 50 years and is expected to result in annual water savings of 1,637 acre-feet with a return-on-conservation investment of \$49.26 per acre-foot of water. As water demand is met by a more efficient system, EPCWID1 can better manage its allocation of Rio Grande Project water and allow more storage in Elephant Butte and Caballo Reservoirs to accumulate and provide critical water in drought years when unmet water demands are the highest. Additional benefits will also be achieved as part of the project, including stabilizing the canal banks on which the U.S.-Mexico Border Fence was constructed and facilitating access and use of the banks for U.S. Customs and Border Protection operations.

This proposal is being submitted as a Funding Group II project under the category Water Conservation Projects: Canal Lining/Piping.

Estimated Completion Schedule

The construction of the project will take thirty-six months (or less) from the date of funding authorization, which is assumed to be in August of 2023. Concrete lining work will need to take place outside of the irrigation season (typically March 15 to October 15) and is expected to be completed by May of 2026. The project will be accomplished within the three-year allowance.

Federal Facility

The Riverside Canal is not located in a federal facility.

II PROJECT LOCATION

The Riverside Canal Concrete Lining Project: Phase VII is located in El Paso County, Texas, adjacent to the U.S.-Mexico border. The project linear length begins at latitude $31^{\circ}36'12.3''N$ and longitude $106^{\circ}17'47.0''W$ (31.603409, -106.296397) and ends at latitude $31^{\circ}34'32.6''N$ and longitude $106^{\circ}17'02.3''W$ (31.575709, -106.283973).



Figure 1. Project Location Map

III TECHNICAL PROJECT DESCRIPTION

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

Concrete Lining Description

The Riverside Canal is a 17.2-mile-long irrigation water conveyance channel with an original design capacity of 900 cubic feet per second. The measured average (5-year) cumulative water volume conveyed at the Riverside Canal is approximately 111,062 acre-feet. Water losses at the Riverside Canal are lost primarily by seepage. The proposed project will conserve water currently lost to seepage by concrete lining an 11,000-foot (2.08 mile) section of earthen canal. EPCWID1 has completed similar concrete lining work for more than 4 miles of the Riverside Canal, of which 2.8 miles were completed in partnership with Reclamation (Agreements R09AC62396; R18AP00193; R20AP00056). Engineering specifications for the proposed project are available in [Appendix D](#).

The proposed concrete lining work on the Riverside Canal involves using shotcrete reinforced by prefabricated steel rebar panel framework. Material specifications for shotcrete and steel rebar are included below. Once concrete lined, the Riverside Canal will have a 46-foot cross-section and 1:1.5 bank slopes. Construction work involves the movement, hauling, and compaction of roughly 860,000 cubic yards of earthen canal bank, placing approximately 506,000 square feet of geofabric liner beneath tied prefabricated steel rebar panel framework, and sealing 11,000 feet of canal surface with a 5-inch layer of shotcrete. Construction will be completed in two stages, with 50% completion expected by March of 2025 and 100% completion expected by March of 2026. Construction must be completed off the irrigation season between October and March. The irrigation season may start late and end early because of severe drought, increasing the number of days that can be used for construction. The dry, mild winter weather in El Paso County is usually not a prohibitive factor.

All construction work will be performed by trained EPCWID1 staff using EPCWID1-owned equipment. Figure 2 below illustrates the shotcrete lining process used by the EPCWID1 as part of Agreement No. R18AP00193 with Reclamation. The cross-section engineering specifications and environmental compliance work for the Riverside Canal were developed as part of a grant award from the Texas Water Development Board in 2018 and meet state and federal-level standards.

A Stormwater Pollution Prevention Plan (SWP3) will be prepared and a Notice of Intent will be filed with the Texas Commission on Environmental Quality (TCEQ) using the State of Texas Environmental Electronic Reporting System (STEERS). Although the Section 106 Review process with the Texas Historical Commission (SHPO) has not been finalized, engineering design and mitigation steps have been identified to ensure a determination of No Adverse Effect. An Environmental Summary is available for reference in [Appendix E](#).



Figure 2. Phase II of Riverside Canal Concrete Lining Construction (2021)

Specifications for Reinforced Concrete for Shotcrete Application

Concrete batching and delivery meet requirements and specifications in ASTM C94 and ACI304R. The concrete will be applied in the field as 4000psi shotcrete and sprayed pneumatically with a 4–5-inch thickness. Full shotcrete material content specifications are available for reference in [Section IV.A.e](#), found later in this document.

Specifications for Prefabricated Steel Rebar Panel Framework

Prefabricated steel rebar panel framework will be tested for compliance with ASTM A1064 and A1064M-15. The procured steel complies with “Bipartisan Infrastructure Law” Buy American Domestic Preference regulations in Section 70914 of Public Law 117-58. Using prefabricated steel rebar panel framework is a time-saving measure used in several concrete lining projects at the Riverside Canal and other major canals. Instead of contracting or assigning staff to tie steel rebar for concrete reinforcement on-site, steel panel sheets are fabricated in accordance with designed canal cross-section specifications and hauled to the site. Specifically, side steel panel sheets are fabricated with the correct slope and cut to accommodate changes in elevation needed for efficient gravity flow. Floor steel panel sheets are fabricated using longer lengths to stabilize the frames. Side and floor steel panel sheets are secured using separate bend sheets. After initial earthwork and canal shaping, steel panel sheets are placed and tied over geofabric liner.

Construction Site Features

Because the Riverside Canal Concrete Lining Project: Phase VII is located adjacent to the U.S.-Mexico Border Fence and the Rio Grande, EPCWID1 will coordinate with U.S. Customs and Border Protection (CBP) and the U.S. Section of the International Boundary and Water Commission (USIBWC) to ensure safe operations and construction. CBP input was requested as part of the project engineering design. One incorporated request was expanding the southern bank allowing safe passage of CBP equipment and vehicles on the U.S. side of the Border Fence. As shown in this proposal's cover page and other images available throughout the document, the southern bank is currently not accessible by vehicles (see Figure 2 above).

The site is located adjacent to the U.S.-Mexico Border with very limited access points (see cover page). To narrow the canal banks for concrete lining, EPCWID1 must haul significant quantities of dirt to the canal site from a staging site located 5.63 miles away (EPCWID1-owned Rios Yard). The U.S.-Mexico Border Fence limits access to the site. For this reason and to be able to complete the project within the three-year allowance, EPCWID1 included market-rate (May 2022) contracting costs for dump trucks (earthwork). These costs are noted in the proposed budget.

IV EVALUATION CRITERIA

A. Evaluation Criterion A: Quantifiable Water Savings (28 Points)

Up to 28 points may be awarded for this criterion. This criterion prioritizes projects that will conserve water and improve water use efficiency, supporting the goals of E.O. 14008. Points will be allocated based on the quantifiable water savings expected as a result of the project. Points will be allocated to give greater consideration to projects that are expected to result in more significant water savings. All applicants should be sure to:

1) Describe the amount of estimated water savings. For projects that conserve water, please state the estimated amount of water expected to be conserved (in acre-feet per year) as a direct result of this project.

Approximately 1,637 acre-feet of water per irrigation year (February 15 to October 15) will be conserved as a result of the proposed project.

2) Describe current losses: Please explain where the water that will be conserved is currently going and how it will be used.

Water conserved by the proposed project is primarily lost to seepage into the aquifer. Conserved water will be used to address water reliability concerns in the region: as water demand is met by a more efficient system, EPCWID1 can better manage its allocation of Rio Grande Project water and allow more storage in Elephant Butte and Caballo Reservoirs to accumulate and provide critical water in drought years when unmet water demands are the highest.

a. Explain where current losses are going.

Water conserved by the proposed project is primarily lost to seepage into the shallow aquifer.

b. If known, please explain how current losses are being used.

Due to the poor quality of groundwater and limited shallow groundwater wells in this area, current water losses have not been used.

c. Are there any known benefits associated with where the current losses are going? For example, is seepage water providing additional habitat for fish or animal species?

There are no fish or animal habitats near the proposed project site. This area of the Rio Grande has been significantly disturbed by the construction of the U.S.-Mexico Border Fence.

3) Describe the support / documentation of estimated water savings: Please provide sufficient detail supporting how the estimate was determined, including all supporting calculations.

In 2020, as part of the Riverside Canal Concrete Lining Project: Phase II (Agreement No. R18AP00193 with Reclamation), EPCWID1 contracted with Sheng Engineering PLLC to perform a seepage test on a representative canal section. Water savings estimates and supporting calculations are available for reference in [Appendix C](#) (Sheng 2020).

4) Please address the following questions according to the type of infrastructure improvement you are proposing for funding.

(1) Canal Lining / Piping: Canal lining/piping projects can provide water savings when irrigation delivery systems experience significant losses due to canal seepage. Applicants proposing lining/piping projects should address:

a. How has the estimated average annual water savings that will result from the project been determined? Please provide all relevant calculations, assumptions, and supporting data.

Average annual water savings were determined based on a seepage test performed by Sheng Engineering PPLC in 2020. Seepage rate measurements are available for reference in [Appendix C](#) (Sheng 2020 – Section 3.2). Specifically, the report determined that concrete lining a section of the Riverside Canal will lead to potential water savings of up to 844 acre-feet per mile per year. Water savings estimates for the Riverside Canal Concrete Lining Project: Phase VII are calculated using the following equation:

Total water losses = 11,000 ft (2.0833 miles) * 844 af per mile per year = 1,758.3333 AFY

Net water savings = 1,758 af per year (current losses) – 121 af per year (post-lining losses) = 1,637 acre-feet per year (AFY)

b. How have average annual canal seepage losses been determined? Have ponding and/or inflow/outflow tests been conducted to determine seepage rates under varying conditions? If so, please provide detailed descriptions of testing methods and all results. All estimates should be supported with multiple sets of data/measurements from representative sections of canals.

EPCWID1 contracted Sheng Engineering PLLC in 2020 to perform a seepage test on a representative section of the Riverside Canal. The ponding test was conducted based on procedures as documented in United States Department of the Interior, Bureau of Reclamation (1968)'s bulletin "Measuring Seepage in Irrigation Canals by the Ponding Method." Please refer to [Appendix C](#) (Sheng 2020) for additional details.

c. What are the expected post-project seepage/leakage losses and how were these estimates determined?

Initial post-project seepage losses are expected to be minimal (5% or less). Multiple studies (USBR 1968; Comer et al. 1996) have determined that the permeability of concrete lining changes with increasing service time due to aging of the lining materials, maintenance, and damage by plant roots or animals. The use of steel reinforcement and geofabric liner underneath concrete in conjunction with geotechnical best practices (e.g., soil compaction) is expected to extend the life of the concrete lining and reduce post-project seepage losses.

As part of the Riverside Canal Concrete Lining: Phase II (Agreement No. R18AP00193 with Reclamation), EPCWID1 performed inflow-outflow observations using four telemetry sites at a 3-mile section of the Riverside Canal. These sites are located in canal sections that are concrete lined. Estimated transit losses were determined by comparing calibrated meter readings from one site to another site. From this activity, transit flow losses were observed to be generally below 0.1 cubic feet per second (cfs) per mile after controlling for diversions from irrigation turnouts. EPCWID1 reported in Agreement No. R18AP00193 that the estimated average post-project seepage losses are 0.08 cfs per mile and the following formula was used to determine post-project seepage losses for the proposed project:

Unit loss rate = 0.08 cfs/mile = ~0.159 acre-feet/mile/day → 0.159 * 365 (year) = 58.04 acre-feet/mile/year

Total losses = 58.04 * 11,000 ft (2.0833 miles) = 120.9165 AFY

d. What are the anticipated annual transit loss reductions in terms of acre-feet per mile for the overall project and for each section of canal included in the project?

Current Annual Transit Loss:

11,000 ft (2.0833 miles) * 844 acre-feet per mile per year = 1,637.4168 AFY

Future Annual Transit Loss: 121 AFY (post-lining losses)

Loss reduction = 1,758 AFY (current losses) – 121 AFY (post-lining losses) = 1,637 AFY

e. How will actual canal loss seepage reductions be verified?

EPCWID1 will perform an inflow-outflow test to verify the estimated canal seepage loss, transit loss, and transit loss reductions. EPCWID1 will provide annual maintenance to assure its performance in preventing water losses. See [Section E.2](#) for additional details.

f. Include a detailed description of the materials being used.

The proposed concrete lining construction provides a durable canal surface with excellent hydraulic properties that is stable and easier to maintain than earth-lined canals. The concrete will be applied in the field as 4000psi shotcrete. Grade 60 U.S. Certified Steel (AISC) (ASTM A1064 and A1064M-15) reinforcement contributes to the strength and life expectancy of the concrete. Nonwoven geotextile composed of polypropylene fibers that meet specifications listed in AASHTO M288-15 Class 3 is installed below the shotcrete. These materials can be seen on site in Figure 3 below.

**Bid Specifications for Reinforced Concrete for Shotcrete Application
(Used in USBR Agreements No. R18AP00193, R18AP00261, R19AP00228, R20AP00056)**

Concrete batching and delivery shall meet requirements and specifications ASTM C94 and ACI304R as applicable, and the following specifications:

- a. Application: Pumpable mix for shotcrete application of 2 or more inches of canal pavement
- b. Cement: 7 sack minimum Type I/II low alkali cement content per cubic yard
- c. Fly Ash: Class F fly ash content of 20% to 30% per cubic yard
- d. Specified Strength: 4,000 PSI at 28 days
- e. Fiber: 3 lbs per yard of 3/4" fibrillated polypropylene fiber
- f. Superplasticizer: 1 to 2%
- g. Application: Pumpable mix for shotcrete application to include super plasticizer
- h. Air Entrainment: 6% air plus or minus 1.5%
- i. Slump: Maximum of 5 inch and determined at the time of pour



Figure 3. Shotcrete, Steel Panels, and Geofabric at Riverside Canal (2020)

B. Evaluation Criterion B: Renewable Energy (20 Points)

The Project does not include a renewable energy component.

C. Evaluation Criterion C: Sustainability Benefits (20 Points)

Enhancing drought resiliency. Please provide information on how the project will enhance drought resilience by benefitting the water supply and ecosystem, including the following:

- *Does the project seek to improve ecological resiliency to climate change?*

The El Paso region has an arid climate and receives an average annual rainfall of about 8 inches with net evaporation exceeding 80 inches. The region faces unique water challenges characterized by an agricultural system that is a century old, prolonged drought conditions, a growing population and a growing sister city in Mexico with shared groundwater and surface water supplies, interstate and international treaties, and interstate litigation that may impact EPCWID1's water supply from the Rio Grande Project.

The proposed concrete lining of the Riverside Canal will occur at an area that has been significantly disturbed by the previous construction and expansion of the U.S.-Mexico Border Fence. Historically, the Riverside Canal ran parallel and adjacent to the Rio Grande levees and was in direct contact with riparian wildlife and vegetation (see Figure 4 below). The Rio Grande Canalization Project led by the U.S. Section of the International Boundary and Water Commission (IBWC 2015) further reduced riparian habitat. As such, in the El Paso region, ecological resiliency largely means ensuring water supplies are more resilient against climate change and continue to be available for designated habitat areas, including wetlands.

The Riverside Canal is used to deliver allocated Rio Grande Project water to the 372-acre Rio Bosque Wetlands Park. The Riverside Canal Concrete Lining Project: Phase VII is more than three miles downstream from the Rio Bosque Wetlands Park and, in accordance with an Environmental Assessment performed by Reclamation (2009) and Finding of No Significant Impact (2009), concrete lining construction will not adversely impact the park.

Water conserved as part of the Riverside Canal Concrete Lining Project will directly benefit all water users, including the Rio Bosque Wetlands Park. As local water demand is met by a more efficient conveyance system, EPCWID1 can better manage its allocation of Rio Grande Project water and allow more storage in Elephant Butte and Caballo Reservoirs to accumulate and provide critical water to the Bosque in drought years when unmet water demands are the highest.



Figure 4. Rio Bosque Wetlands Park (left) and Riverside Canal (center)

- *Will water remain in the system for longer periods of time? If so, provide details on current/future durations and any expected resulting benefits.*

This question does not apply to the project.

- *Will the project benefit species (e.g., federally threatened or endangered, a federally recognized candidate species, a listed species, or a species of particular recreational or economic importance? Please describe the relationship of the species to the water supply, and whether the species is adversely affected by a Reclamation project or is subject to a recovery plan or conservation plan under the Endangered Species Act (ESA).*

Water conserved as part of the project will indirectly benefit species. Rio Grande Project water conserved by the project will benefit all users, including the Rio Bosque Wetlands Park. The Rio Bosque Wetlands Park receives Rio Grande Project water by allocation. There is a record of sightings at the Rio Bosque Wetlands Park listed in the Texas Natural Diversity Database (TXNDD) for the Western burrowing owl (*Athene cunicularia hypugaea*), which is a federally endangered species. Cumulative storage of the saved water in both Elephant Butte and Caballo Reservoirs will provide indirect benefits to habitats within the reservoirs and along the Rio Grande reaches in New Mexico for the southwestern willow flycatcher (*Empidonax trailii extimus*), an endangered species in the southwestern United States under the ESA.

[Appendix A](#) includes a statement of collaboration from the Rio Bosque Wetlands Park. EPCWID1, the University of Texas at El Paso, and the Friends of the Rio Bosque are developing alternative sustainability and conservation initiatives that rely on system-wide water conservation. These include interconnections between EPCWID1-owned property (Riverside Regulating Reservoir), stormwater capture and reuse, and projects with environmental water conservation benefits.

- *Please describe any other ecosystem benefits as a direct result of the project.*

This question does not apply to the project.

- *Will the project directly result in more efficient management of the water supply? Will the project provide greater flexibility to water managers, resulting in a more efficient use of water supplies?*

Water conserved as part of the Riverside Canal Concrete Lining Project will directly benefit all water users, including environmental, municipal, agricultural, and industrial water users. As local water demand is met by a more efficient conveyance system, EPCWID1 can better manage its allocation of Rio Grande Project water and allow more storage in Elephant Butte and Caballo Reservoirs to accumulate and provide critical water in drought years when unmet water demands are the highest.

Addressing a specific water and/or energy sustainability concern(s). Will the project address a specific sustainability concern? Please address the following:

- *Explain and provide detail of the specific issue(s) in the area that is impacting water sustainability, such as shortages due to drought and/or climate change, increased demand, or reduced deliveries.*

The El Paso region has an arid climate and receives an average annual rainfall of about 8 inches with net evaporation exceeding 80 inches. The region faces unique water challenges characterized by an agricultural system that is a century old, prolonged drought conditions, limited and dwindling supplies of water, a growing population, a growing sister city in Mexico with shared groundwater and surface water supplies, interstate and international treaties, and interstate litigation that may impact EPCWID1's water supply from the Rio Grande Project.

Source of Water Supply and District Water Use

EPCWID1 obtains water by annual allocation from the United States Bureau of Reclamation's Rio Grande Project. EPCWID1's diversion right of water during a full allocation year during the primary irrigation season is 376,860 acre-feet. Rio Grande Project water is released from storage in Elephant Butte Reservoir and regulated through Caballo Reservoir. The methodology for determining diversions for EPCWID1, Elephant Butte Irrigation District (EBID) in New Mexico, and the Republic of Mexico is described in the Operating Agreement and Operating Manual that the two districts and Reclamation negotiated and approved in 2008 and the 1906 Convention between the United States and Mexico. The Operating Agreement is currently in litigation (*Texas v New Mexico and Colorado*).

EPCWID1 provides water from the Rio Grande for 69,010 acres of water rights lands divided into more than 30,000 water user accounts. Irrigation users include approximately 325 large farms and 4,500 irrigated tracts of five acres or less. Irrigated crops include cotton, alfalfa, pecan orchards, sorghum, chilies, wheat, onions, corn, vegetables, pasture grass, and family gardens.

The City of El Paso currently has water rights for approximately 70,000 acre-feet per year from Rio Grande Project Water in contracts with EPCWID1. Rio Grande Project water is used to meet approximately 50% of municipal demand for a population of over 800,000. EPCWID1 delivers water for municipal use to the City of El Paso at the W.E. Robertson/Umbenhauer Water Treatment Plant located in downtown El Paso and at the Jonathan W. Rogers Water Treatment Plant located in the El Paso Lower Valley. The amount of water attainable by the City of El Paso is subject to availability and is dependent on the EPCWID1's total diversion rights and prior appropriations.

Water Conveyance Losses

The number one potential water supply shortfall for EPCWID1 is water losses due to seepage. A report from the United States Geological Survey (USGS) investigated cumulative seepage losses along a 64-mile reach of the Rio Grande from below Leasburg Dam in Leasburg, New Mexico to above the American Dam in El Paso, Texas (USGS 2015). This report determined that the cumulative seepage losses in 2015 (a drought year) were approximately 12,524 acre-feet per year and are a result of seepage in the Rio Grande streambed, evaporation from the water surface, and

transpiration by vegetation along the riverbanks. Measured seepage losses are higher during wet years, and these and additional losses further upstream starting from Elephant Butte Reservoir must also be accounted as part of the EPCWID1's water delivery operations and drought planning.

EPCWID1 has a limited ability to address water losses upstream. As such, EPCWID1 continuously invests in projects within its jurisdiction that increase efficiency and reduce losses. EPCWID1's ability to develop water conservation projects is partially dependent on revenues derived from water orders sourced by EPCWID1's annual allocation of Rio Grande Project water. In drought years, EPCWID1 revenues decrease. When possible, EPCWID1 partners with the Texas Water Development Board, the U.S. Bureau of Reclamation, the U.S. Section of the International Boundary and Water Commission (IBWC), and other local entities to cost-share many of its water conservation and drought mitigation projects.

Water conservation estimates and implementation strategies for El Paso County listed in the 2021 Texas State Water Plan determined that approximately 50,000 acre-feet of water per year can be saved by concrete lining select, cost-effective sections of the EPCWID1's canals. According to a Texas A&M University report sponsored by the Texas Water Development Board (TWDB), there are very limited opportunities for water conservation in Far West Texas irrigated agriculture outside of making improvements to EPCWID1's conveyance system (Michelsen et al. 2009). The reasons for this can be summarized by: the most cost-effective best management practices in irrigation have already been implemented and associated water savings realized, there are limitations to gravity flow used by the irrigation system, sediment and salinity levels limit the use of pressure piping and drip-irrigation systems, and water conservation implementation costs for a number of practices exceed the agricultural value and benefits of any water saved.

The proposed concrete lining of the Riverside Canal is among the most important projects for EPCWID1 to continue providing the water necessary to sustain agriculture and provide water to the City of El Paso for municipal use under its contracts with EPCWID1. As local water demand is met by a more efficient system, EPCWID1 can better manage its allocation of Rio Grande Project water and allow more storage in Elephant Butte and Caballo Reservoirs to accumulate and provide critical water in drought years when unmet water demands are the highest.

Projected Increases in Municipal Water Demand

The 2021 Texas State Water Plan estimates that the minimum total water demand in El Paso County during drought-of-record conditions is 307,830 acre-feet of water per year. By 2070, water demand is expected to increase to 387,190 acre-feet of water per year. The population in El Paso County is expected to nearly double to over 1.5 million by 2070. Irrigation currently accounts for over 60% of water use in El Paso County, and a significant portion of future municipal water needs are projected to be supplied using increasing amounts of water previously allocated for irrigation. Municipal water demand projections in the 2021 Texas State Water Plan are based on current and projected future per capita consumption and are therefore susceptible to any variations in actual population increases.

One such variation is the continued expansion of Fort Bliss as a result of the U.S. Army's Base Realignment and Closure (BRAC) program, which from 2005 to 2011 brought 24,000 additional military personnel and over 20,000 dependents (Fort Bliss Garrison 2011). Increasing the military value of Fort Bliss is one of the top economic development priorities for the City of El Paso, opening the possibility of future increases in military personnel (City of El Paso 2012). Fort Bliss received approximately 26% of its water supply from the City of El Paso in 2017 (Gonzalez 2017) and additional water can be supplied via emergency interconnections by El Paso Water Utilities in the event that the Fort Bliss Water Supply Corporation water systems are incapable of providing sufficient supply (FBWSC 2017).

Another variable that is not entirely accounted for in water supply and use projections is the increasing water demand in Ciudad Juarez, Mexico, which is located across the Rio Grande from the City of El Paso. The City of El Paso shares the Hueco Bolson and Mesilla Basin / Conejos Medranos aquifers with Ciudad Juarez, which are used to meet anywhere from 28-61% of municipal and industrial water needs in El Paso, depending on the availability of Rio Grande Project water. Historical groundwater overdraft in El Paso and Ciudad Juarez has caused large groundwater drawdowns, deterioration of groundwater quality, and land subsidence in the Hueco Bolson, although some shared measures have been taken to control the groundwater use (Sheng 2013).

Ciudad Juarez is currently 100% dependent on groundwater to satisfy all of its municipal and industrial water demands, according to the *Junta Municipal de Agua y Saneamiento de Juárez* (JMAS), Ciudad Juarez's municipal water utility. In 2014, 144,213 acre-feet of water were pumped from the Hueco Bolson aquifer, following a 15-year trend of average annual increases in pumping of 1,289 acre-feet since 2000 (FWTWP 2016). In 2018, water use in Ciudad Juarez was approximately 162,142 acre-feet and 30 additional wells were brought online to meet peak summer demand (JMAS 2019).

The population of Ciudad Juarez is estimated at over 1.4 million (CONAPO 2012). Water demand projections published by JMAS recommend a series of projects necessary to meet demand for a population of 1.7 million by 2030 (JMAS 2013). According to their 2012-2030 Master Plan (JMAS 2013), JMAS expects to begin constructing two surface water treatment plants for potable use in 2023 and 2028 to treat up to 38,375 acre-feet of Rio Grande Project water per year (delayed due to COVID-19). This project is expected to be partially funded by the North American Development Bank (NADBANK), a binational financial institution established by the governments of the United States and Mexico to provide financing to support the development and implementation of infrastructure projects along the U.S.-Mexico border. Meeting Ciudad Juarez' growing water demand via the construction of the two surface water treatment plants will depend on the United States' ability to meet treaty-obligated deliveries to Mexico. As such, significant collaboration and conservation investments are needed in both nations to address current and future challenges facing the region's limited water supplies.

To address water reliability concerns on the U.S. side, El Paso Water Utilities (EPWU) has adopted multiple water source diversification strategies, including desalination, advanced purification, and long-distance importation of water from outside El Paso County. Reports by EPWU (Gonzalez 2017, Balliew 2019) compared drinking water quality treatment costs per

acre-feet, determining that treatment costs for surface river water are the second least expensive option at \$300 per acre-foot, while costs for desalination are \$508 per acre-foot, costs for advanced purification are \$1,370 per acre foot, and costs for long-distance importation are \$2,840 per acre foot (see Figure 5 below). Because surface water is one of the few renewable water resources available to the El Paso region, both EPWU and EPCWID1 developed planning (via the 2022 Texas State Water Plan), engineering, environmental, and permitting work necessary to deliver Rio Grande Project water for the first time to the Upper Valley Water Treatment Plant. Two projects that advanced this effort were funded by Reclamation as part of the 2019 WaterSMART Water and Energy Efficiency Grants Program (R19AP00150) and 2019 Water Conservation Field Services Program (R20AP00046).

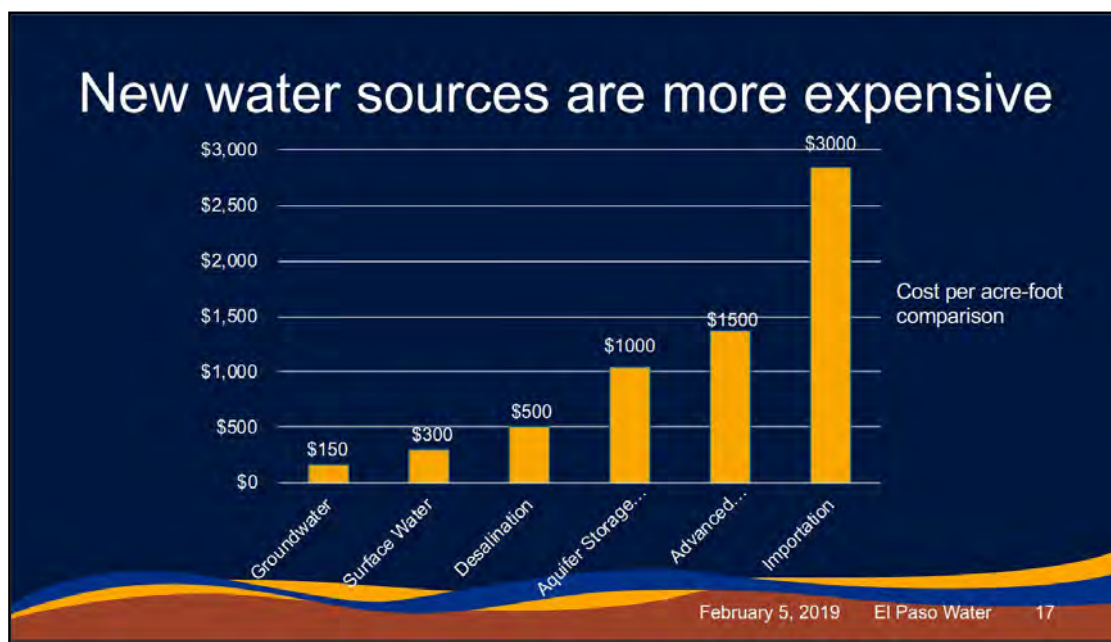


Figure 5. Cost per Acre-foot Comparison by El Paso Water (Balliew 2019)

Irrigation Water Demand Exceeds Surface Water Supply

Whereas municipal water use is priced and billed in such a way that it allows EPWU to invest in large-scale water source diversification, there are limited, cost-effective projects available for agricultural water users outside of conservation. According to the 2017 Texas State Water Plan, there are approximately 53,202 acre-feet of annual unmet water needs for irrigation in El Paso County during drought-of-record conditions (see Figure 6 below). The growing imbalance between supply and demand is expected to lead to greater reliance on non-renewable groundwater resources used by farmers in the El Paso region.

Only a portion of the agricultural land in El Paso County has access to private irrigation wells of which a majority produce water with total dissolved solids (TDS) of greater than 1,000 mg/l (many in excess of 2,500 mg/l) with significant sodium content (see Figure 7 below). The high salt content limits the amount of groundwater that can be used to grow irrigated crops. Consequently, many farmers rely on blending surface water from the Rio Grande with groundwater to meet their water quality needs or use surface water exclusively. During years of drought, many agricultural operations are fallowed or deficit irrigated.

EPCWID1 currently operates and maintains 60 active shallow groundwater wells that are used to provide supplemental irrigation water during drought. Recovered groundwater is used to supplement Rio Grande Project water during drought periods with an average system-wide capacity of 8,500 acre-feet of groundwater per month. The cost of pumping and delivering supplemental groundwater costs is approximately \$45 per acre-foot, which is significantly more expensive than surface water costs. As such, widespread groundwater use considered inadequate to meet irrigation water deficits in the El Paso region.

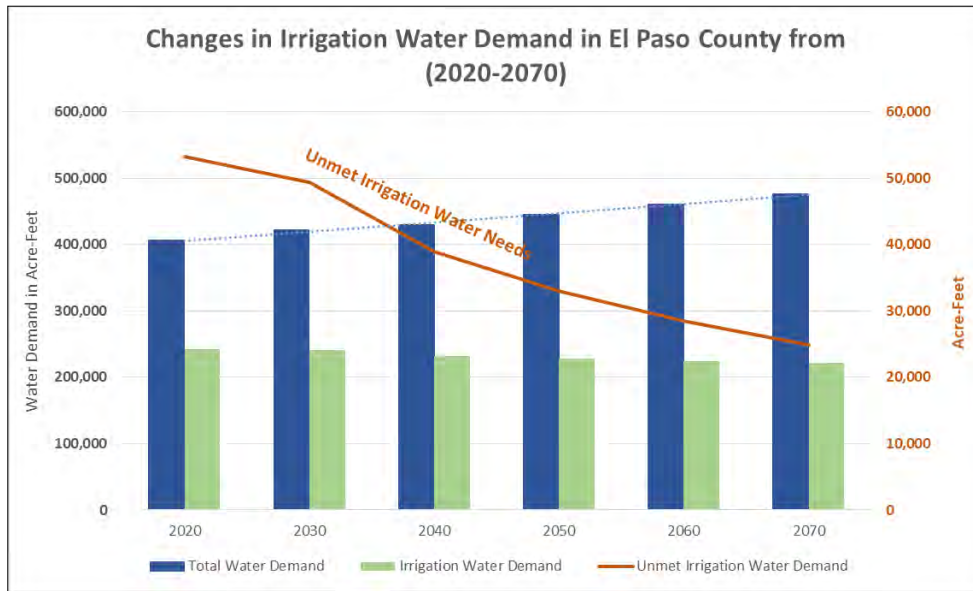


Figure 6. Changes in Irrigation Water Demand in El Paso County (FWTWP 2016)

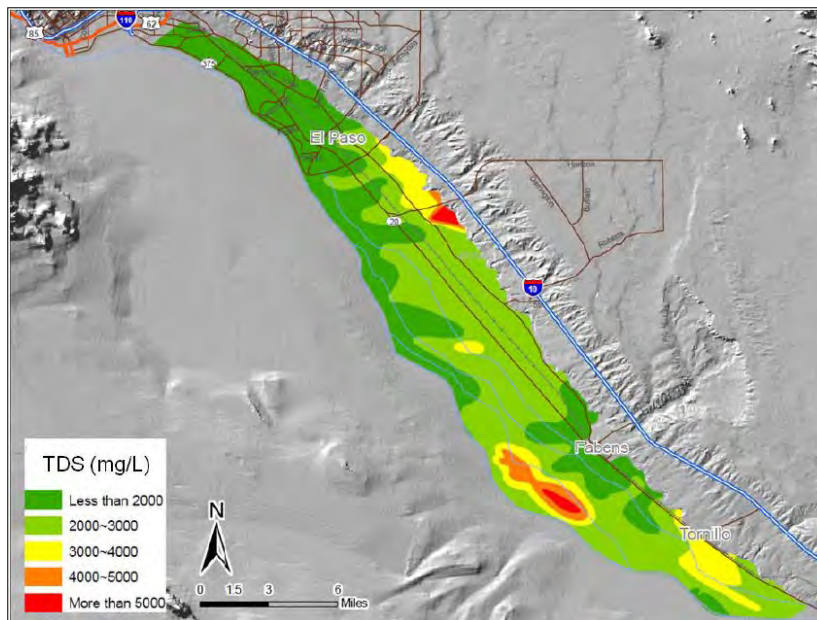


Figure 7. TDS in the Rio Grande Alluvial Aquifer (CH2MHILL 2011)

Prolonged Drought and Current Near Drought-of-Record Conditions

Surface water users in the El Paso region are currently experiencing near record-of-drought conditions. The westernmost part of Texas, as well the headwaters of the Rio Grande in Colorado and New Mexico from which the EPCWID1’s water supply originates, have been in drought for much of the past two decades, with only 2005, 2008, 2016, 2017, and 2019 experiencing average or above-average spring runoff into Elephant Butte Reservoir (see Figure 8 below). In 2018, Elephant Butte Reservoir reached near record-low levels at about 3% capacity, with just 58,240 acre-feet of water in storage as of September (total conservation capacity is 1,973,358 acre-feet). Water levels at Elephant Butte Reservoir in 2022 are similar to those in 2018 (see Figure 9 below).

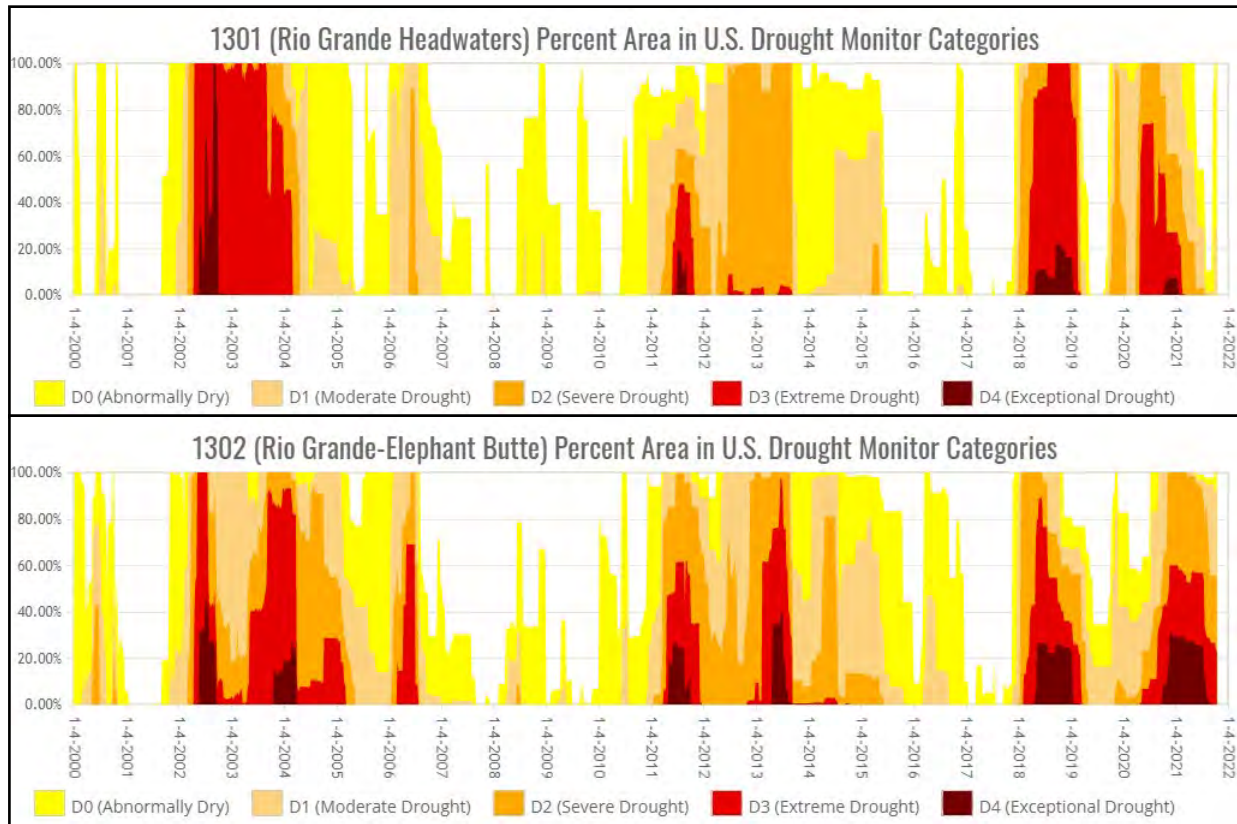


Figure 8. U.S. Drought Monitor Intensity for the Rio Grande from 2000-2021

Storage levels in Elephant Butte Reservoir in 2018 were also like those under drought conditions in 2013 (see Figure 10). EPCWID1 had the shortest irrigation season (less than six weeks) and supplied the least amount of water in over the 100-year history of the Rio Grande Project (79,200 out of 376,860 acre-feet). Storage levels in Elephant Butte Reservoir have only been at or below the 2013 and 2018 levels three times: during the drought-of-record from 1951-1957, in 1963-1964, and in 1971-1972.

To meet municipal water demands in 2013, the City of El Paso drilled new groundwater wells and operated its desalination plant at maximum capacity with per acre-foot costs that are higher than surface water treatment (EPWU 2014). These new near drought-of-record conditions prompted changes to water availability and supply projections modeled by the Texas Water

Development Board (TWDB) for the 2022 Texas State Water Plan. Based on these changes, the projected timeline, schedule, and urgency for developing water conservation projects has been accelerated.

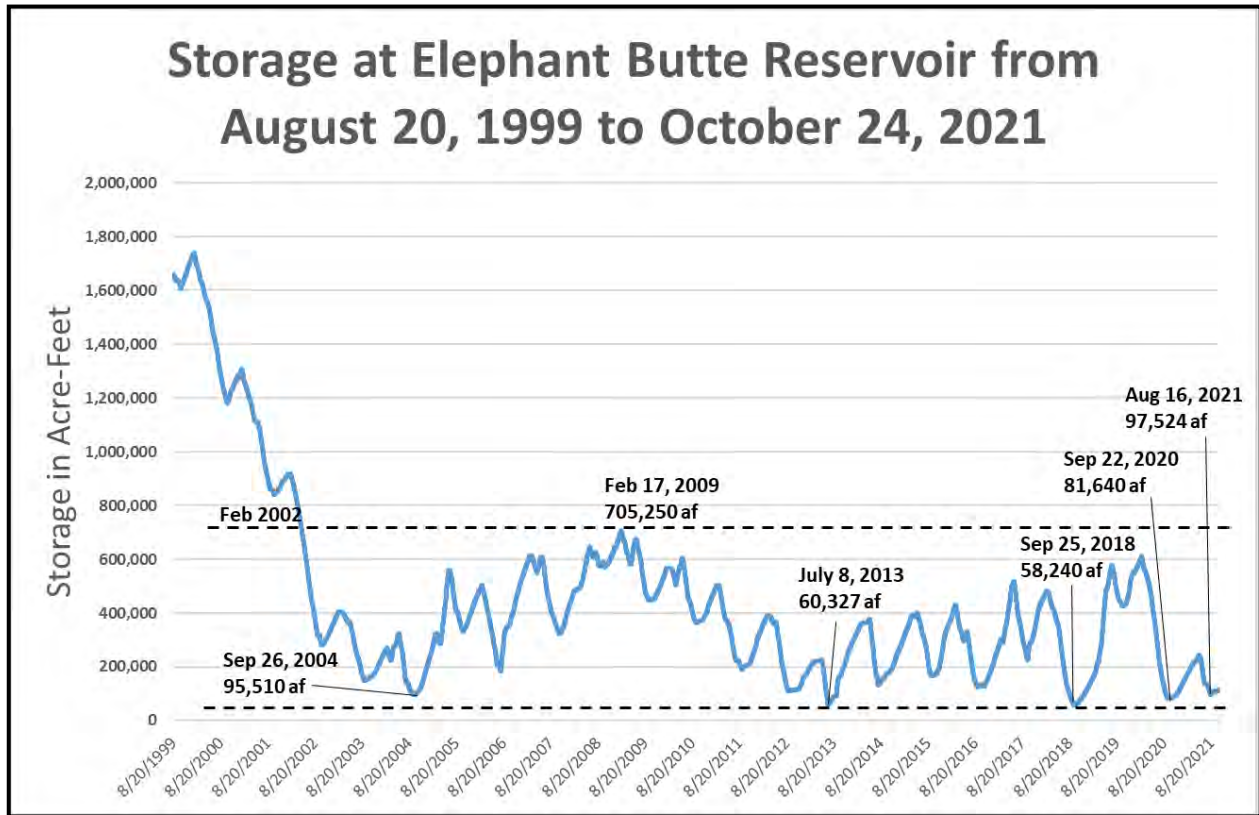


Figure 9. Storage and Level Thresholds at Elephant Butte Reservoir from 1999 - 2021

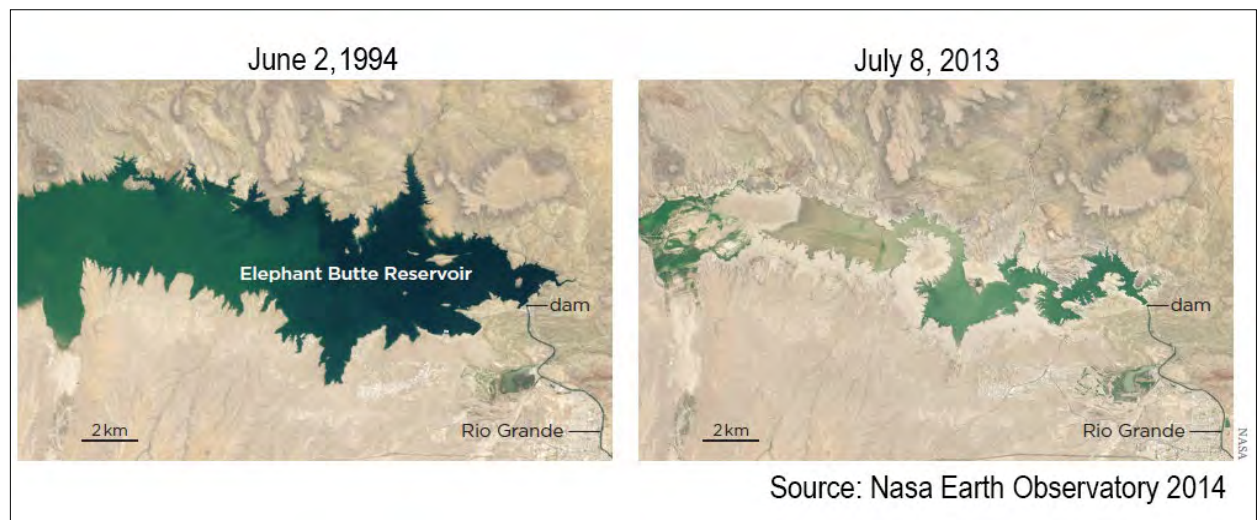


Figure 10. Images of Elephant Butte Reservoir in 1994 and 2014

By all measures, the El Paso region is currently experiencing drought. The headwaters and the lower Rio Grande Basin south of Elephant Butte Reservoir are experiencing abnormal to

moderate drought conditions as of June 28, 2022 (see Figure 11). Drought is expected to continue per estimates in the June U.S. Seasonal Drought Outlook (see Figure 12).

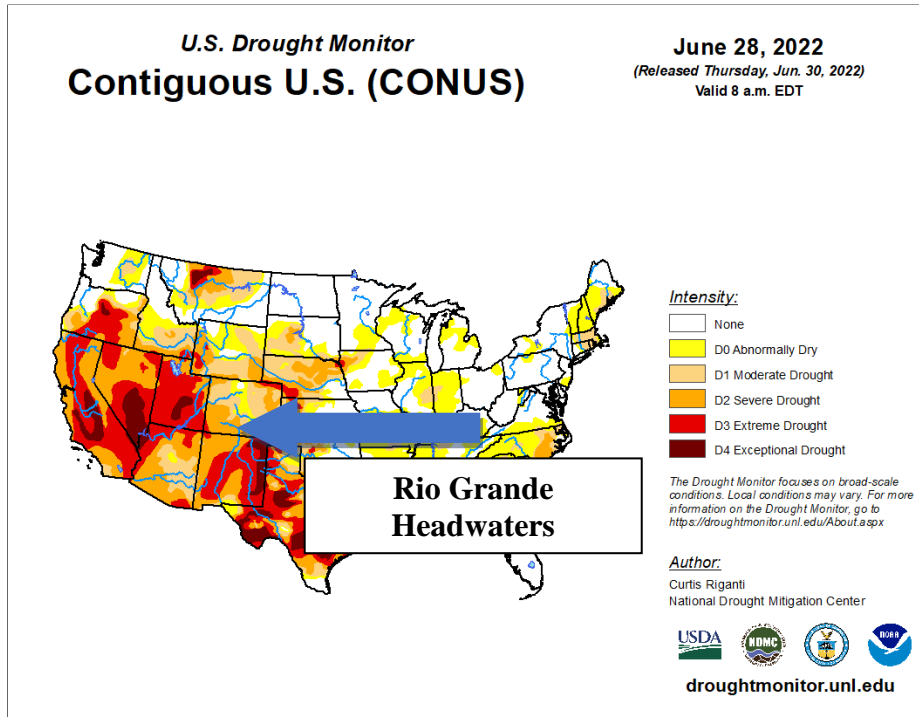


Figure 11. U.S. Drought Monitor and Rio Grande Headwaters

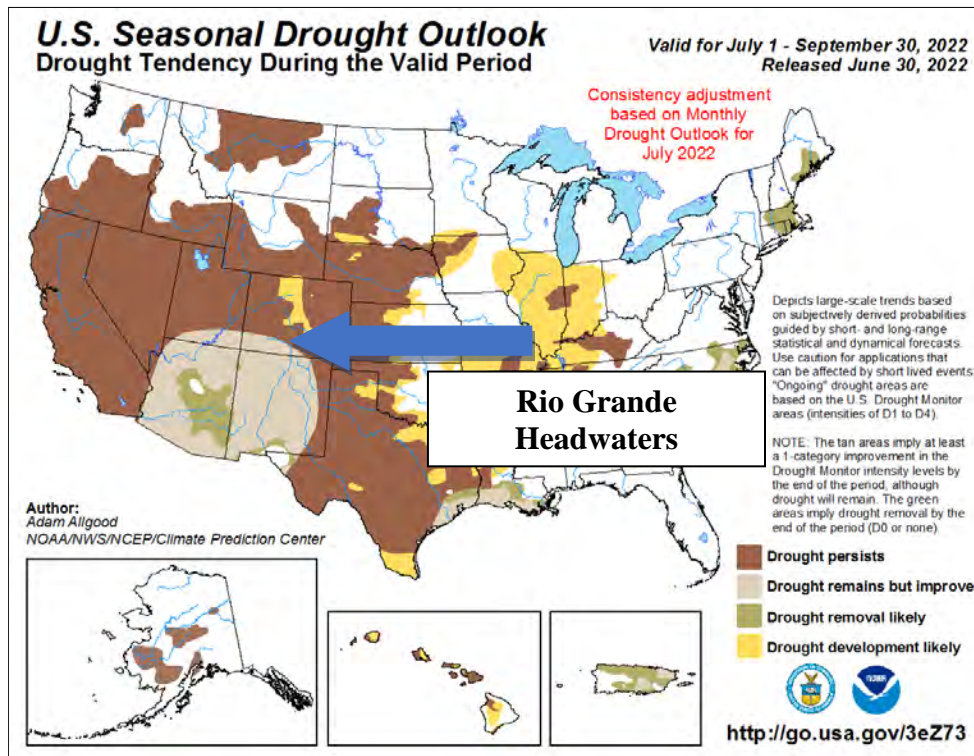


Figure 12. U.S. Drought Monitor and Rio Grande Headwaters

The Impact of Drought on the Local Economy

Beneficial use and conservation of water is critical to the El Paso economy. A TWDB study on the socioeconomic impacts of projected water shortages in El Paso County determined that, if unmet, water shortages would have a negative economic impact of \$3.45 billion by 2070 and include almost 25,000 jobs lost (TWDB 2015). The economic impact of unmet irrigation water demands directly contributes to the slowing or reversal of job growth in areas where the economy benefits from agricultural revenues. Estimates from Texas A&M University determined that \$150 million in agricultural sales were lost due to irrigation water reductions from drought conditions in 2011-2015 (TAMU 2015). All of the Upper Rio Grande Basin has received drought designations by the USDA, including El Paso County (see Figure 13).

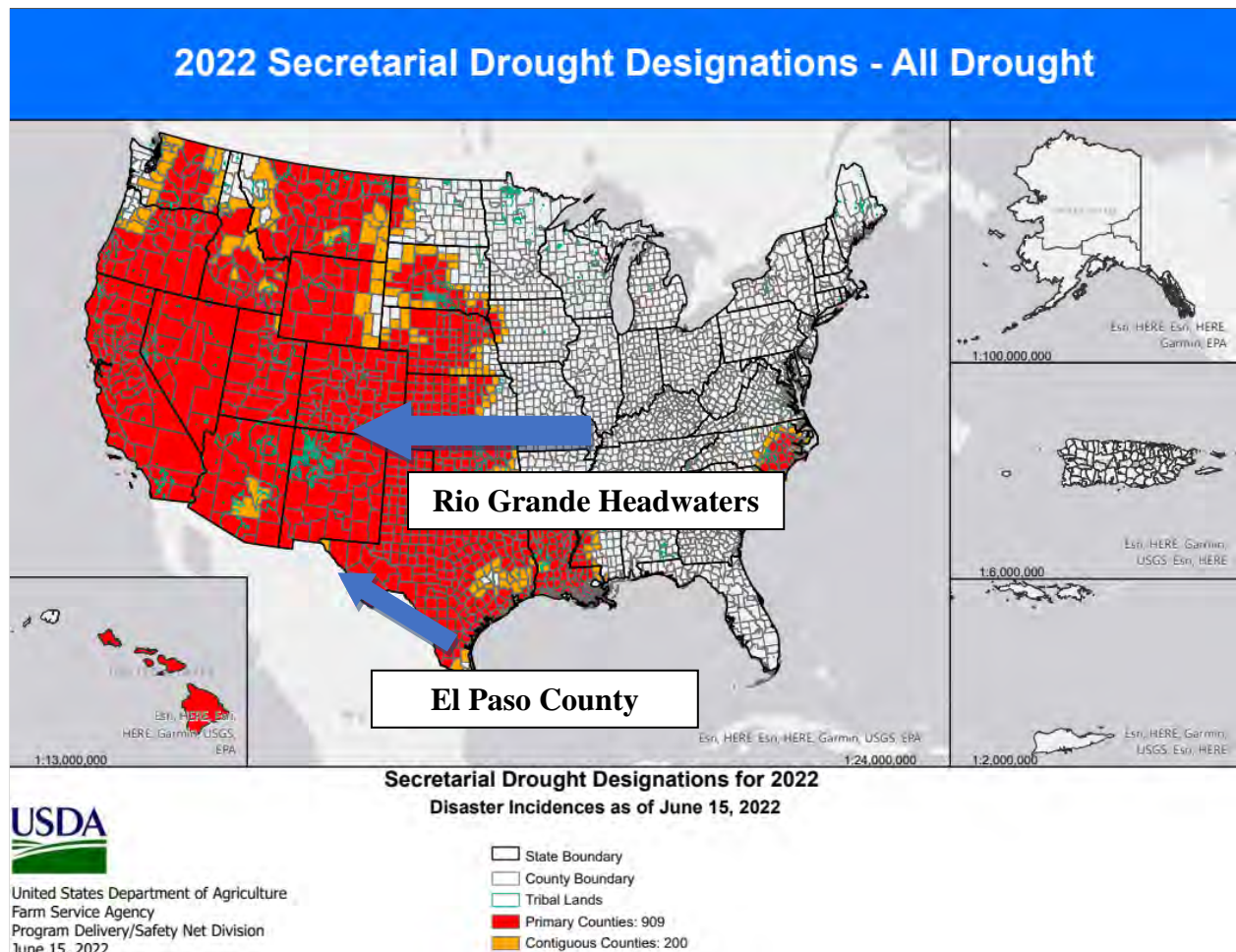


Figure 13. 2021 Secretarial Drought Designations as of June 15, 2022

Economic activity in other sectors can also be impacted by water shortages. According to the 2014 Southern New Mexico and El Paso Joint Land Use Study (JLUS 2015), water source diversification efforts have allowed Fort Bliss to augment its water supplies by purchasing water and developing emergency interconnections with the City of El Paso, thereby positively impacting the military value of the base. One (1) in 5 jobs in the El Paso region are linked to military installations. The Texas Comptroller estimates that Fort Bliss contributed \$24.1 billion to the Texas economy in 2015 (Texas Comptroller 2016).

Projected Reductions in Snowpack, Snow Water Equivalence, and Overall Water Supply

In order to sustain the local agricultural economy, growing water demand, and growing population, water users in the Rio Grande watershed will need to continue making investments in water conservation to adapt to projected reductions in surface water supply.

A Review of Observed and Projected Climate Changes (2013) by the U.S. Bureau of Reclamation noted that projected reductions in snowpack, declines in snow water equivalence, and advanced snowmelt resulting from increased temperatures will lead to a 10% to 30% reduction of water flow in the Rio Grande in the next 50 to 70 years. The usable, manageable water supply is projected to decline in the Upper Rio Grande, where supplies over the course of the 21st century are projected to decrease by about one-fourth in the Colorado portion of the basin and by about one-third in the New Mexico portion (USBR 2016). The Rio Grande at El Paso observed flows for 2001 through 2010 that were about 23% lower than the period from 1941 through 2000 (Chavarria & Gutzler 2018). Assessed annual and monthly changes in streamflow volume and surface climate variables near the headwaters of the Rio Grande River suggest that snow water equivalent has decreased by approximately 25% from 1958 – 2015 in part due to temperature increases, although small increases in precipitation have reduced the impact of declining snowpack on streamflow (Chavarria & Gutzler 2018). Reservoir evaporation at Elephant Butte Reservoir, the reservoir with the highest evaporative losses in the Upper Rio Grande Basin, is projected to increase by up to 10 percent as a result of projected increases in temperature. Decreasing runoff and streamflow also threaten Mexican irrigation, food production, and Treaty-obligated deliveries to the Rio Grande (USBR 2016).

- *Explain and provide detail of the specific issue(s) in the area that is impacting energy sustainability, such as reliance on fossil fuels, pollution, or interruptions in service.*

This question does not apply to the project.

- *Please describe how the project will directly address the concern(s) stated above. For example, if experiencing shortages due to drought or climate change, how will the project directly address and confront the shortages?*

Conserving water via concrete lining irrigation canals is among the most cost-effective water management strategies available in the El Paso region (Michelsen et al. 2009). As irrigation water demand is met by a more efficient system, EPCWID1 can better manage its allocation of Rio Grande Project water and allow more storage in Elephant Butte and Caballo Reservoirs to accumulate and provide critical water in drought years when unmet water demands are the highest.

- *Please address where any conserved water as a result of the project will go and how it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.*

Water conserved as a result of the proposed project will continue to use Rio Grande Project storage (Elephant Butte and Caballo Reservoirs) and conveyance systems (Rio Grande and EPCWID1 irrigation system). The conserved water will be used to offset the Hueco Bolson Aquifer for municipal and agricultural use in accordance with programmed Rio Grande Project allocations. Conserved water will not be used to increase overall water consumption in the region.

The City of El Paso draws groundwater from the Hueco Bolson Aquifer to meet 28-61% of municipal and industrial water demand. When a full allocation is available, EPCWID1 delivers Rio Grande Project water to the City of El Paso to meet approximately 50% of this demand. I.e., as more Rio Grande Project water is conserved and accumulated at Elephant Butte and Caballo Reservoirs, the City of El Paso can better project available water supplies and effectively reduce groundwater pumping.

Conserved water resulting from the Riverside Canal Concrete Lining Project: Phase VII will also reduce agricultural groundwater use. According to the 2021 Texas State Water Plan, there are approximately 46,737 acre-feet of annual unmet water needs for irrigation in El Paso County during drought-of-record conditions. The growing imbalance between supply and demand is expected to lead to greater reliance on non-renewable groundwater resources used by farmers in the El Paso region. The amount of groundwater used by farmers is inversely proportional to available Rio Grande Project water. As such, EPCWID1's water conservation and efficiency projects ultimately benefit the region by making more Rio Grande Project water available which will offset groundwater use.

- *Provide a description of the mechanism that will be used, if necessary, to put the conserved water to the intended use.*

Water conserved as a result of the proposed project will continue to use Rio Grande Project storage (Elephant Butte and Caballo Reservoirs) and conveyance systems (Rio Grande and EPCWID1 irrigation system).

- *Indicate the quantity of conserved water that will be used for the intended purpose(s).*

All water (approximately 1,637 acre-feet per irrigation year) conserved as a result of the project will be stored or used as needed to address water reliability concerns within EPCWID1 boundaries.

Other project benefits. Please provide a detailed explanation of the project benefits and their significance. These benefits may include, but are not limited to, the following:

- (1) Combating the Climate Crisis: Presidential Executive Order 14008: Tackling the Climate Crisis at Home and Abroad.*** Please describe how the project will address climate change, including the following:

- Please provide specific details and examples on how the project will address the impacts of climate change and help combat the climate crisis.*

The Riverside Canal Concrete Lining Project: Phase VII will lead to significant reductions in water loss due to seepage and evapotranspiration. The concrete lined canal will reduce the conveyed water surface area by approximately 3.03 acres (reduced cross section from 66 feet average to 54 feet across an 11,000-foot canal length). Increasing temperatures generally also increase evaporation rates. As such, concrete lining large sections of EPCWID1's 100+ year old irrigation system is a form of future-proofing the system's conveyance capacity in preparation for a hotter, drier future climate.

b. Does this proposed project strengthen water supply sustainability to increase resilience to climate change?

In alignment with findings from the 2021 Far West Texas Water Plan and 2022 Texas State Water Plan, agricultural water supply sustainability in El Paso will require concrete lining more than 80 miles of canals and laterals to achieve more than 25,000 acre-feet in water savings at an estimated cost of \$157 million (Water Management Strategy E-37). Via improved conveyance and seepage reductions, the Riverside Canal Concrete Lining Project: Phase VII will make EPCWID1's irrigation system more resilient to climate change by ensuring that more Rio Grande Project water is delivered to intended users and not lost to transeaporation and seepage. Additional details on Water Management Strategy E-37 and regional sustainability strategies can be referenced below:

2021 Far West Texas Regional Water Plan (Page 11-18)

<http://westtexaswaterplanning.org/wp-content/uploads/2020/11/2021-Far-West-Texas-Water-Plan.pdf>

2022 Texas State Water Plan (Interactive)

<https://2022.texasstatewaterplan.org/project/1777>

c. Will the proposed project establish and use a renewable energy source?

This question does not apply to the project.

d. Will the project result in lower greenhouse gas emissions?

This question does not apply to the project.

(2) Disadvantaged or Underserved Communities: *E.O. 14008 and E.O. 13985 support environmental and economic justice by investing in underserved and disadvantaged communities and addressing the climate-related impacts to these communities, including impacts to public health, safety, and economic opportunities. Please describe how the project supports these Executive Orders, including:*

a. Does the proposed project directly serve and/or benefit a disadvantaged or historically underserved community? Benefits can include, but are not limited to, public health and safety through water quality improvements, new water supplies, new renewable energy sources, or economic growth opportunities.

Municipal water users in El Paso County rely on the Mesilla Bolson and Hueco Bolson Aquifers to meet demand. High levels of naturally-occurring arsenic are present in the Mesilla Bolson Aquifer. Communities along the Texas-New Mexico border including the Town of Anthony, Texas, the Village of Vinton, Texas, and multiple Census Designated Places (Canutillo, Westway) rely on water purchased from the City of El Paso to meet water quality standards.

In 2006, the Environmental Protection Agency (EPA) reduced the maximum amount of arsenic allowable in U.S. Drinking water from 50 parts per billion (ppb) to 10 ppb. In order to comply with that standard with regards to the Mesilla Bolson Aquifer, where El Paso obtains 19% of its water, El Paso Water Utilities designed and constructed the \$77 million Upper Valley Water Treatment Plant.

The Record of Decision for the El Paso-Las Cruces Regional Sustainable Water Project, a planning initiative led by the Texas-New Mexico Water Commission with the U.S. Section of the International Boundary and Water Commission and El Paso Water Utilities as lead agencies (Reinert et al. 2001), selected a Preferred Alternative that called for treating up to 80 million gallons per day (MGD) (89,611 acre-feet of water per year) of Rio Grande Project Water by 2030.

Although the Upper Valley Water Treatment Plant does not currently treat surface water, El Paso Water Utilities already receives Rio Grande Project water at two other treatment plants which rely on interconnections. El Paso Water Utilities and EPCWID1 are developing a strategy to decrease reliance on non-renewable groundwater resources in the Mesilla Bolson Aquifer and allow Rio Grande Project water to be used by El Paso Water Utilities to meet federal regulations. Additional information on this joint strategy is available for reference under Water Management Strategy E-22 in the 2022 Texas State Water Plan (Interactive) at <https://2022.texasstatewaterplan.org/project/4090> and the 2021 Far West Texas Regional Water Plan (Page 5-16) <http://westtexaswaterplanning.org/wp-content/uploads/2020/11/2021-Far-West-Texas-Water-Plan.pdf>.

All Rio Grande Project water conserved will directly benefit communities in El Paso County, which meet the disadvantaged community definitions outlined in Section 1015 of the Cooperative Watershed Act (see next section). As water demand is met by a more efficient system, EPCWID1 can better manage its allocation of Rio Grande Project water and allow more storage in Elephant Butte and Caballo Reservoirs to accumulate and provide critical water to El Paso Water Utilities and its served disadvantaged communities in drought years when unmet water demands are highest

b. If the proposed project is providing benefits to a disadvantaged community, provide sufficient information to demonstrate that the community meets the disadvantaged community definition in Section 1015 of the Cooperative Watershed Act (defined as a community with an annual median household income that is less than 100 percent of the statewide annual median household income for the State), or the applicable state criteria for determining disadvantaged status.

The proposed project will improve water reliability in an area impacted by prolonged drought conditions. According to the *October 2021 StatsAmerica Distress Criteria Statistical Report* by

the U.S. Economic Development Administration (EDA), El Paso County is considered economically disadvantaged. The pre-COVID-19 Median Household Income (MHI) (2019 ACS 1-Year Estimates) is \$48,903, which is at 76.4% of the Texas MHI (\$64,034). The poverty rate stands at 18.8% compared to 13.6% in Texas. Based on MHI, the proposed project will provide benefits to multiple communities that meet the definition of “disadvantages community” per Section 1015 of the Cooperative Watershed Act.

Table 1. Distress Criteria Statistical Report in October 2021 for El Paso County, Texas

24 Month Unemployment	Threshold Calculation	BEA PCPI	Threshold Calculation	ACS 5-year PCMI	Threshold Calculation
7.11	0.55	\$37,715	66.8	\$21,683	63.6

c. If the proposed project is providing benefits to an underserved community, provide sufficient information to demonstrate that the community meets the underserved definition in E.O. 13985, which includes populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life.

EPCWID1 regularly works with agricultural producers considered historically underserved in water conservation and efficiency projects. The Riverside Canal Concrete Lining Project: Phase VII is expected to benefit historically underserved farmers. The majority of producers in El Paso fall under the US Department of Agriculture (USDA) definition of historically underserved farmers and ranchers as defined by the Agricultural Improvement Act of 2018 (2018 Farm Bill). According to the data from the 2017 Census of Agriculture for El Paso County, 444 out of 656 (67.7%) farms and 79,424 out of 142,675 (55.7%) are operated by a Hispanic producer. 166 out of 1,062 (25.3%) farms are operated by veterans. 185 out of 656 (28.2%) farms are operated by new and beginning producers.

(3) Tribal Benefits: *The Department of the Interior is committed to strengthening tribal sovereignty and the fulfillment of Federal Tribal trust responsibilities. Please address the following, if applicable:*

a. Does the proposed project directly serve and/or benefit a Tribe? Will the project increase water supply sustainability for an Indian Tribe? Will the project provide renewable energy for an Indian Tribe?

Water conserved as a result of the proposed project will benefit all Rio Grande Project water users served by EPCWID1, including the Ysleta del Sur Pueblo, a federally recognized tribe. EPCWID1 delivers water to the Ysleta del Sur Pueblo Reservation for agriculture and for two of the Ysleta del Sur Pueblo’s most important ceremonial processions: *St. Anthony of Padua Feast Day* and *Dia de Los Santos Reyes*. The Ysleta del Sur Pueblo owns 379.2 acres of land with active irrigation water rights. The Riverside Canal is used to deliver Rio Grande Project water to the Ysleta del Sur Pueblo Reservation located in Socorro, Texas.

EPCWID1 consulted with the Ysleta del Sur Pueblo multiple times starting on September 19, 2019, to discuss the multiple phases and scheduling of the Riverside Canal Concrete Lining

Project. To this end, the Ysleta del Sur Pueblo issued a statement of no opposition which can be referenced in [Appendix A](#).

b. Does the proposed project directly support tribal resilience to climate change and drought impacts or provide other tribal benefits such as improved public health and safety through water quality improvements, new water supplies, or economic growth opportunities?

As water demand is met by a more efficient conveyance system, EPCWID1 can better manage its allocation of Rio Grande Project water and allow more storage in Elephant Butte and Caballo Reservoirs to accumulate and provide critical water to the Ysleta del Sur Pueblo in drought years when unmet water demands are the highest.

(4) Other Benefits: *Will the project address water and/or energy sustainability in other ways not described above? For example:*

a. Will the project assist States and water users in complying with interstate compacts?

Texas v New Mexico Supreme Court Litigation Regarding the Rio Grande Compact

The proposed project will contribute water via conservation and efficiency improvements to delivery operations for Rio Grande Project water users. The methodology for determining diversions and allocations established in the 2008 Operating Agreement between EPCWID1, Elephant Butte Irrigation District, and Reclamation is currently in litigation (*State of Texas v State of New Mexico and State of Colorado, No. 220141 Original in the United States Supreme Court and Intervention by the United States*). Decreasing streamflow threatens Mexican irrigation, food production, and treaty-obligated deliveries to Mexico via the Rio Grande (USBR 2016).

b. Will the project benefit multiple sectors and/or users (e.g., agriculture, municipal and industrial, environmental, recreation, or others)?

Water conserved as a result of the proposed project will benefit the agriculture, municipal, and environmental water users, including:

- An average of 49,000 acres of agricultural lands
- Approximately 50% of municipal water demand for a population of over 800,000 in El Paso County
- 372 acres of designated wetlands with active irrigation water rights that are also used for recreation and eco-tourism (Rio Bosque Wetlands Park)
- 379.2 acres of tribal land with active irrigation water rights (Ysleta del Sur Pueblo)

The successful construction of the Riverside Canal Concrete Lining Project: Phase VII will also stabilize the canal banks on which the U.S.-Mexico Border Fence was constructed and facilitate access and use of the banks for U.S. Customs and Border Protection operations.

Sections of the U.S.-Mexico Border Wall are constructed on the banks of the Riverside Canal. The proposal cover page illustrates the typical, unimproved placement of the U.S.-Mexico Border Fence with respect to the Riverside Canal. As they are, the canal banks cannot be traversed by vehicles and maintenance is difficult. The proposed project will improve the continued reliability of the canal system, stabilize infrastructure build on the canal banks, and

enhance the flexibility of U.S. Customs and Border Protection (CBP) to operate along the Riverside Canal. CBP already uses the banks of canals to access areas along the U.S.-Mexico border that are blocked off due to existing infrastructure and natural features. The proposed project would narrow the cross-sectional width of the Riverside Canal, increasing the size of the banks where CBP could operate motor vehicles, reinforce existing infrastructure, and carry out other activities.

EPCWID1 reviewed the project with the CBP Officer in Charge of the Ysleta Station and the Officer in Charge of the Clint Station in 2019 in an effort to accommodate access and use requests. Accommodations recommended by CBP included wider and more stable access roads for CBP and emergency response vehicles and the ability to access the channel for rescue operations (via ingress and egress points normally used for sediment cleanup). Additionally, concrete lining will reduce vegetation growth, which will also reduce CBP's maintenance costs to clear vegetation growing on the bank of the Riverside Canal on which the U.S.-Mexico Border Fence was constructed. On April of 2022, EPCWID1 and CBP developed a Memorandum of Understanding (MOU) and services contract to improve CBP's security priorities at the Riverside Canal. A copy of the MOU is available from EPCWID1 upon request.

EPCWID1 has a history of collaboration with CBP and has previously completed shared-infrastructure improvements along the U.S.-Mexico border and at ports of entry. EPCWID1 worked with CBP during the lining of 6,040 feet of the Riverside Canal located immediately upstream from the proposed project length and is also adjacent to the U.S.-Mexico Border Wall (Agreements R18AP00193 and R20AP00056 with Reclamation). Figure 14 below shows a washout that occurred during the month of April 2020 that is a direct result of interactions between Border Fence support structures and flowing water on unlined sections of the Riverside Canal. The proposed Riverside Canal Concrete Lining Project: Phase VII would address structural support deficiencies between the Border Fence and the Riverside Canal.



Figure 14. Washout At the U.S.-Mexico Border Fence and Riverside Canal (2020)

c. Will the project benefit a larger initiative to address sustainability?

Water Management Strategy E-37

Conserving water via concrete lining irrigation canals is among the most cost-effective water management strategies available in the El Paso region (Michelsen et al. 2009). The Riverside Canal Concrete Lining Project: Phase VII is a key component of Water Management Strategy (WMS) E-37 in the 2021 Far West Texas Water Plan and 2022 Texas State Water Plan. WMS E-37 is a strategy to ensure the sustainability of agricultural water supplies in El Paso during prolonged and near drought-of-record conditions. Water stakeholders in El Paso must invest aggressively to ensure that Rio Grande Project water can be managed sustainably amidst a changing climate, increased water demand, and continuing conflicts. WMS E-37 will require concrete lining more than 80 miles of canals and laterals to achieve more than 25,000 acre-feet in water savings at an estimated cost of \$157 million. Improved conveyance and seepage reductions are necessary for sustainability.

d. Will the project help to prevent water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?

The El Paso region faces unique water challenges characterized by an agricultural system that is a century old, prolonged drought conditions, dwindling and limited water supplies, a growing population and a growing sister city in Mexico with shared groundwater and surface water supplies, interstate and international treaties, and interstate litigation that may impact the EPCWID1's water supply from the Rio Grande. EPCWID1 is located in an area considered to be of "Substantial Potential for Conflict" as defined in the U.S. Bureau of Reclamation's Technical Memorandum 86-68251-11-01 (2011). As previously stated, EPCWID1 is involved in the Texas v New Mexico and Colorado Supreme Court litigation regarding the Rio Grande Compact litigation (*State of Texas v State of New Mexico and State of Colorado, No. 220141 Original in the United States Supreme Court and Intervention by the United States*). Litigation started in 2014 and is ongoing to date.

At the center of this litigation are conditions established by the 2008 Operating Agreement which were negotiated by the District, Elephant Butte Irrigation District in New Mexico, and Reclamation. The 2008 Operating Agreement introduced the option for EPCWID1 to carry over a maximum of 232,915 feet, equivalent to 60% of EPCWID1's full yearly allocation. This is a significant conservation incentive, and as irrigation water demand is met by a more efficient system, EPCWID1 can better manage its allocation of Rio Grande Project water and allow more storage in Elephant Butte and Caballo Reservoirs to accumulate and provide critical water in drought years when unmet water demands are highest.

EPCWID1 is part of a multi-agency technical team composed of leaders from Reclamation (Albuquerque Office), Elephant Butte Irrigation District, and the State of New Mexico working to make progress as part of litigation mediation discussions. One of the focuses of this work is to undertake large-scale projects designed to improve Rio Grande Project water supply and overall performance (efficient water delivery) through partnerships and leveraging funding with Federal, state, and local entities having jurisdiction in the Project area. The Riverside Canal Concrete Lining Project is among the projects prioritized under this initiative.

D. Evaluation Criterion D: Complementing On-Farm Irrigation Improvements (10 pt)

If the proposed project will complement an on-farm improvement eligible for NRCS assistance, please address the following:

Describe any planned or ongoing projects by farmers/ranchers that receive water from the applicant to improve on-farm efficiencies.

- *Provide a detailed description of the on-farm efficiency improvements.*

EPCWID1 has a history of collaboration with the Natural Resources Conservation Service (NRCS) program and periodically hosts local work group management meetings at EPCWID1 offices. The Environmental Quality Incentives Program (EQIP) 2020 El Paso District Priorities include practices that can enhance water availability and efficient irrigation systems.

Cropland Priority 1 **Excess/Insufficient Water - Inefficient use of irrigation water**
Irrigated Cropland Priority 1 **Excess/Insufficient Water - Inefficient use of irrigation water**

The proposed project advances NRCS priorities by conserving water and improving efficiency. In addition to conserving water, the proposed project will reduce sediment levels and decrease maintenance costs for agricultural acreage that receives water via the Riverside Canal. Previous concrete lining projects performed by EPCWID1 facilitated NRCS EQIP-eligible improvements such as the installation of turnout flow meters, the concrete lining of private irrigation ditches, and installing low-cost, on-farm soil moisture sensors.

Figure 15 below illustrates part of the agricultural operations of the Ysleta del Sur Pueblo, a federally-recognized tribe. The photo shows an irrigation ditch where Rio Grande Project water diverted from the Riverside Canal is blended with groundwater from a well. A high tunnel and other structures at this site were constructed using NRCS EQIP funding (USDA NRCS 2015a; USDA NRCS 2015b; USDA NRCS 2015c).

Figure 15. Agricultural Operations of YDSP as seen from Riverside Intercepting Drain



- *Have the farmers requested technical or financial assistance from NRCS for the on-farm efficiency projects, or do they plan to in the future?*

On April 29, 2022, EPCWID1 informed the office of the local NRCS District Conservationist of the Riverside Canal Concrete Lining Project: Phase VII. The El Paso NRCS office partners with the El Paso-Hudspeth Soil and Water Conservation District (SWCD) to provide technical and financial assistance to local farmers for the implementation of on-farm efficiency projects. The SWCD contacted agricultural producers that receive water via the Riverside Canal of the proposed concrete lining construction and USDA and Reclamation's partnership. A statement of support with additional details on how NRCS and the SWCD support EQIP applicants is included in [Appendix A](#).

As previously stated, lining projects performed by EPCWID1 facilitated NRCS EQIP-eligible improvements such as the installation of turnout flow meters, the concrete lining of private irrigation ditches, and installing low-cost, on-farm soil moisture sensors. These types of improvements may not be currently feasible due to sediment levels at the Riverside Canal, as sediment can affect the accuracy of meter sensors and cause rapid wear and tear.

- *If available, provide documentation that the on-farm projects are eligible for NRCS assistance, that such assistance has or will be requested, and the number or percentage of farms that plan to participate in available NRCS programs.*

Due to prolonged drought conditions, EPCWID1 was not successful in obtaining documentation from any upcoming NRCS EQIP projects impacted by the Riverside Canal Concrete Lining Project: Phase IV. According to the USDA NRCS El Paso Office, the demand for NRCS EQIP projects is linked to drought and available Rio Grande Project water supplies. Farmer production and revenues decrease as drought forces farmers to fallow or deficit irrigate their agricultural acreage. This makes water conservation investments that are partially funded by EQIP less viable compared to non-drought periods.

- *Applicants should provide letters of intent from farmers/ranchers in the affected project areas.*

No letters of intent were secured by the time this application was submitted.

Describe how the proposed WaterSMART project would complement any ongoing or planned on-farm improvement.

- Will the proposed WaterSMART project directly facilitate the on-farm improvement? If so, how?

As previously stated, lining projects performed by EPCWID1 facilitated NRCS EQIP-eligible improvements such as the installation of turnout flow meters, the concrete lining of private irrigation ditches, and installing low-cost, on-farm soil moisture sensors. These types of improvements may not be currently feasible due to sediment levels at the Riverside Canal, as sediment can affect the accuracy of meter sensors and cause rapid wear and tear.

- Will the proposed WaterSMART project complement the on-farm project by maximizing efficiency in the area? If so, how?

The proposed project advances NRCS priorities by conserving water and improving efficiency. In addition to conserving water, the proposed project will reduce sediment levels and decrease maintenance costs for agricultural acreage that receives water via the Riverside Canal.

Describe the on-farm water conservation or water use efficiency benefits that are expected to result from any on-farm work.

- Estimate the potential on-farm water savings that could result in acre-feet per year. Include support or backup documentation for any calculations or assumptions.

No water savings data is available at this time.

Please provide a map of your water service area boundaries. If your project is selected for funding under this funding opportunity, this information will help NRCS identify the irrigated lands that may be approved for NRCS funding and technical assistance to complement funded WaterSMART projects.

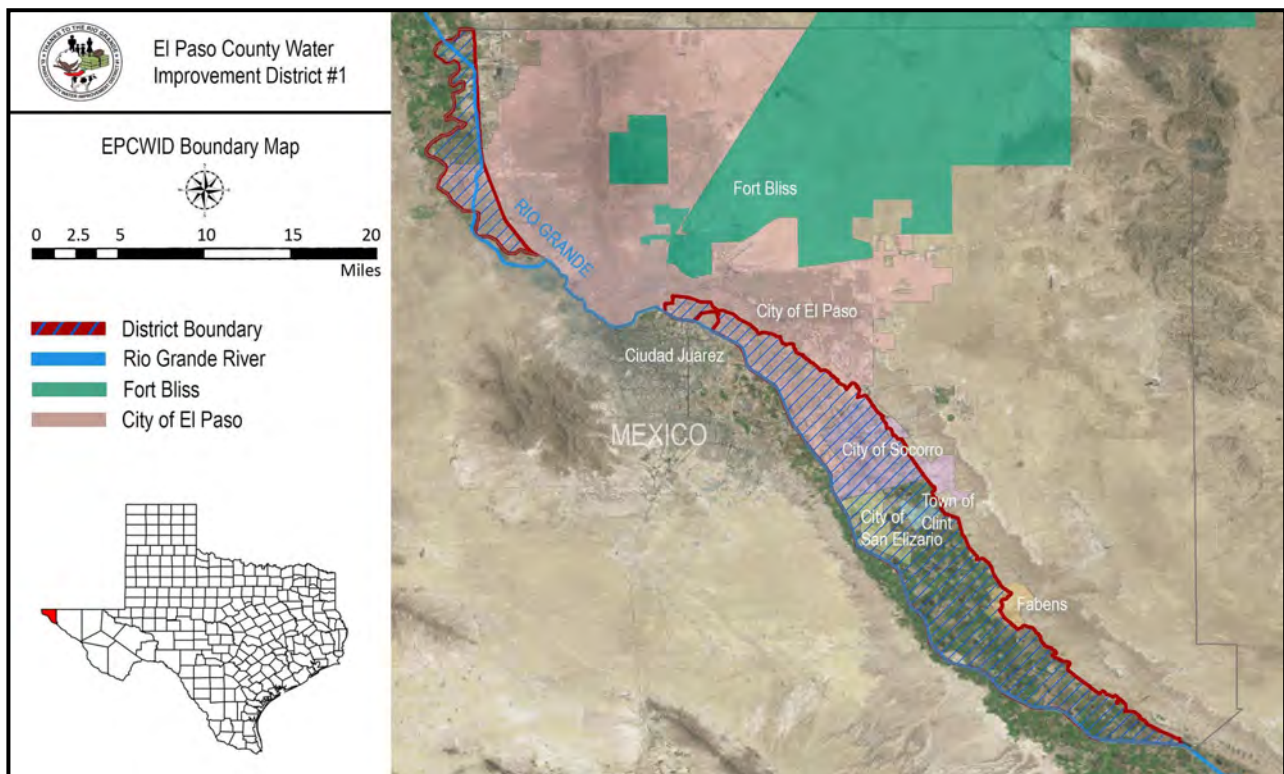


Figure 16. EPCWID1 Jurisdictional Boundaries Map

E. Evaluation Criterion E: Planning and Implementation (8 Points)

Subcriterion E.1. Project Planning

Does the applicant have a Water Conservation Plan and/or System Optimization Review (SOR) in place? Does the project address an adaptation strategy identified in a completed WaterSMART Basin Study?

Please self-certify or provide copies of these plans where appropriate to verify that such a plan is in place. Including a specific excerpt or a link to the planning document may also be considered where appropriate.

The EPCWID1 Board of Directors approved an update to the Water Conservation Plan (WCP) in 2019 and the WCP is available for reference at <https://www.epcwid1.org>. The WCP incorporates findings from an internal System Optimization Review (SOR) and prioritizes conservation and efficiency projects.

Provide the following information regarding project planning:

(1) Identify any district-wide, or system-wide, planning that provides support for the proposed project. This could include a Water Conservation Plan, SOR, Drought Contingency Plan, or other planning efforts done to determine the priority of this project in relation to other potential projects.

2022 Texas State Water Plan and 2021 Far West Texas Water Plan

The Riverside Canal Concrete Lining Project is listed under Water Management Strategy (WMS) E-37 in the 2022 Texas State Water Plan. The State Water Plan is developed at the state level by the Texas Water Development Board (TWDB) with input from local water users and historical water use data. Improvements in EPCWID1’s delivery system in WMS E-37 are estimated to conserve an aggregated 25,000 acre-feet of water per year. The proposed project is also included as part of a Recommended Water Management Strategy in the state-approved 2021 Region E Far West Texas Water Plan, which is developed by the Far West Texas Water Planning Group (FWTWPG). A letter of support from the FWTWPG is available for reference in [Appendix A](#). Projects prioritized in these water plans are eligible for state funding from the TWDB. A Letter of Support from the Texas Water Development Board for Phase IV of the Riverside Canal Concrete Lining Project with additional details is also included in [Appendix A](#).

2021 Far West Texas Regional Water Plan (Page 11-18)

<http://westtexaswaterplanning.org/wp-content/uploads/2020/11/2021-Far-West-Texas-Water-Plan.pdf>

2022 Texas State Water Plan (Interactive)

<https://2022.texasstatewaterplan.org/project/1777>

2019 EPCWID1 Water Conservation Plan

The proposed lining of the Riverside Canal is a planned conservation and efficiency improvement included in the EPCWID1’s Water Conservation Plan (WCP). EPCWID1 has

partnered with the Texas Water Development Board, the U.S. Bureau of Reclamation, the International Boundary and Water Commission (IBWC) and other local entities to cost-share many of its water conservation and drought mitigation projects. Select projects are listed below:

Table 2. Select Water Conservation Projects Prioritized in Internal SOR

Project	Date Start	Date End	Estimated Costs (\$)	*ac-ft/yr	Status
Riverside Canal Lining Phase IA	2014	2016	\$612,000	758	Completed
Riverside Canal Lining Phase II	2019	2021	\$2,302,500	2,639	Completed
Riverside Canal Lining Phase IB	2015	2016	\$550,000	621	Completed
Riverside Canal Lining Phase III	2020	2023	\$2,039,504	1,770	In Progress
Riverside Canal Lining Phase IV	2023	2025	\$2,002,417	1,145	In Progress
Riverside Canal Lining Phase V	2022	2025	\$407,260	211	In Progress
Riverside Canal Lining Phase VI	2023	2026	\$2,004,503	785	In Progress
Riverside Canal Lining Phase VII	2023	2026	\$4,031,430	1,637	Funding Req.
Riverside Canal Lining Phase VIII	2024	2028	\$5,387,457	2,187	Engineering
Franklin Canal Lining Phase I	2017	2020	\$5,223,316	874	Completed
Franklin Canal Lining Phase II	2022	2025	\$4,002,417	568	Engineering
Franklin Canal Lining Phase III	2023	2026	\$6,051,054	1,002	Funding Req.
Franklin Feeder Lining Project Phase 2	2019	2021	\$1,113,360	376	In Progress
La Union East Canal Lining	2019	2022	\$925,298	231	In Progress
Telemetry / Well Meter / GIS Upgrades	2018	2021	\$275,000	120	In Progress
Riverside Regulating Reservoir	2023	2026	\$10,000,000	3,500	Funding Req.

*Water conservation estimates may vary by year, use, allocation, and water supply availability

(2) Describe how the project conforms to and meets the goals of any applicable planning efforts and identify any aspect of the project that implements a feature of an existing water plan(s).

The project was selected based on its water conservation potential, expected return on conservation investment, and overall contribution to WMS E-37. Concrete lining the Riverside Canal will complete one of the projects listed in EPCWID1’s 2019 Water Conservation Plan and advance Water Management Strategy E-37 in the 2022 Texas State Water Plan.

The method for determining the project return on conservation investment is calculated via:

$$\text{Total project cost} / (\text{annual water savings} * \text{life expectancy}) = \text{return on conservation investment}$$

$$\$4,031,430 / (1,637 \text{ acre-feet per year} * 50 \text{ years}) = \$49.2538 \rightarrow \$49.26$$

(3) If applicable, provide a detailed description of how a project is addressing an adaptation strategy specifically identified in a completed WaterSMART Basin Study or Water

Management Options Pilot (e.g., a strategy to mitigate the impacts of water shortages resulting from climate change, drought, increased demands, or other causes).

The Riverside Canal Concrete Lining Project: Phase VI is aligned with priorities outlined in Reclamation’s Rio Grande Basin SECURE Water Act Section 9503(c) Report to Congress, which states: “For the next steps in the Rio Grande Basin, Reclamation has projects in progress to increase water conservation and efficiency...including addressing aging infrastructure.” (USBR 2021, p. 39). Canal concrete lining is one of the most effective strategies available to the El Paso region necessary to mitigate the current and future impacts of water shortages resulting from drought.

Subcriterion E.2. Readiness to Proceed

Applications that include a detailed project implementation plan (e.g., estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates) will receive the most points under this criterion.

- *Identify and provide a summary description of the major tasks necessary to complete the project.*

Task 1: Complete Environmental and Cultural Compliance

Environmental and regulatory compliance work is expected to begin in August of 2022. It is expected that completing a Categorical Exclusion Checklist will be sufficient to meet environmental compliance requirements. EPCWID1 will work with the Texas Historical Commission to ensure cultural and historical compliance requirements are met. EPCWID1 will complete Clean Water Act (CWA) compliance, which includes developing a Stormwater Pollution Prevention Plan (SWPPP) and submitting a TXR150000 General Permit request with the Texas Commission on Environmental Quality (TCEQ). Additional information about cultural and historical resource compliance necessary for the proposed project is available in [Section VII Environmental and Cultural Compliance](#).

Task 2: Fleet Mobilization

EPCWID1 owns all the equipment that will be used for project construction. Fleet mobilization involves documenting equipment work hours, designating and transporting construction equipment to the project site, assigning personnel to equipment, and performing regular equipment maintenance. EPCWID1 will mobilize and demobilize equipment as needed during the three-year construction period.

Task 3: Begin Construction

All construction work will begin at the end of the irrigation season, which is normally from October 15 to April 15. It is expected that initial earthwork and canal shaping will begin on October of 2023. EPCWID1 will monitor market conditions to procure the best prices possible for shotcrete and steel panel framework.

Task 4: Concrete Lining Construction (50%)

The second phase of construction will begin on October 2024 and end in March 2025. This schedule assumes a 6-month construction period between irrigation seasons. EPCWID1 will

procure materials necessary to complete the project in full and expects to complete 5,500 feet of concrete lining.

Task 5: Concrete Lining Construction (100%)

The second phase of construction will begin on October 2025 and end in May 2026. This schedule assumes an 8-month construction period between irrigation seasons. EPCWID1 expects to complete 5,500 feet of concrete lining and complete final earthwork and compaction. Equipment will be demobilized at the end of construction.

Task 6: Grant Administration and Project Closing

Grant administration and reporting will begin as soon as EPCWID1 receives notice of a funding award from Reclamation. EPCWID1 has experience in developing and implementing grant award funding and project contracts with Reclamation and expects to complete this process by August of 2023 or earlier. Periodic and final reporting work will be performed throughout the project and all reporting will be completed by June of 2026 or earlier. EPCWID1 will also host multiple site visits from Reclamation staff.

EPCWID1 will perform a post-construction inflow-outflow analysis using telemetry. This step is necessary to measure proposed project performance measures and was used as part of the Riverside Canal Concrete Lining: Phase II (Agreement No. R18AP00193 with Reclamation).

Riverside Canal Stallings Check (31.609178, -106.300610)

<https://epcwid.org/telemetry/csv/?site=100>

Riverside Canal Drop Check (31.590784, -106.289547)

<https://epcwid.org/telemetry/csv/?site=161>

A final report will be produced that meets specifications outlined in an agreement with Reclamation. EPCWID1 has developed and submitted Final Reports for multiple agreements with Reclamation and staff is familiar with Reclamation's grant and project closing procedures.

- *Describe any permits that will be required, along with the process for obtaining such permits.*

The project activities will be confined to EPCWID1's right-of-way and property. No other permits or approvals will be necessary for the project as proposed.

- *Identify and describe any engineering or design work performed specifically in support of the proposed project.*

Survey, engineering design, and preliminary environmental work was completed as part of a grant-awarded project by the Texas Water Development Board (TWDB) 2018 Agricultural Water Conservation Grant program. A letter of support from the TWDB is included in Appendix B with additional details. Engineering drawings and specifications for the proposed project are available in [Appendix D](#). An Environmental Summary is available in [Appendix E](#).

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

No new policies or administrative actions are required to implement the proposed project

- Please also include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.

Table 3. Estimated Project Task Schedule

Task	Estimated Start Date	Estimated End Date
1. Environmental and Regulatory Compliance	Aug 2023	May 2026
1.1 Categorical Exclusion Checklist (USBR)	Aug 2023	Sept 2023
1.2 Cultural Compliance (Section 106)	Aug 2023	Sept 2023
1.3 Clean Water Act Compliance (SWPPP / TCEQ Notice)	Sep 2023	May 2026
2. Fleet Mobilization	Oct 2023	Dec 2023
3. Begin Construction	Oct 2023	Mar 2024
3.1 Materials procurement	Oct 2023	Dec 2023
3.2 Initial earthwork, canal shaping, and dirt hauling	Nov 2023	Mar 2024
4. Concrete Lining Construction (50%)	Oct 2024	Mar 2025
4.1 Materials procurement	Oct 2024	Dec 2024
4.2 Dirt hauling and fill compaction	Oct 2024	Mar 2025
4.3 Concrete lining construction and testing	Oct 2024	Mar 2025
5. Concrete Lining Construction (100%)	Oct 2025	May 2026
5.1 Materials procurement	Oct 2025	Dec 2025
5.2 Dirt hauling and fill compaction	Oct 2025	May 2026
5.3 Concrete lining construction and testing	Oct 2025	May 2026
5.4 Fleet demobilization	May 2026	May 2026
6. Grant Administration and Project Closing	Aug 2023	July 2026
6.1 Performance and Financial (SF-425) Interim Reporting	Aug 2023	July 2026
6.2 Post-Construction Inflow-Outflow Test	June 2026	June 2026
6.3 Final report and project closing (ASAP)	June 2026	July 2026

F. Evaluation Criterion F: Collaboration (6 Points)

Please describe how the project promotes and encourages collaboration. Consider the following:

- *Is there widespread support for the project? Please provide specific details regarding any support and/or partners involved in the project. What is the extent of their involvement in the process?*

The following stakeholders issued statements of support for the Riverside Canal Concrete Lining Project (by phase). Select statements of support are available in [Appendix A](#).

Table 5. Supporting Stakeholders for the Riverside Canal Concrete Lining Project

Phase	Stakeholder	Description
Phase II	Far West Texas Water Planning Group	Developed Water Management Strategy E-37 in the 2022 Texas State Water Plan.
Phase V	Far West Texas Water Planning Group	
Phase VII	Far West Texas Water Planning Group	
Phase III	Texas Water Development Board	Funded engineering design.
Phase IV	Texas Water Development Board	Funded engineering design.
Phase V	Texas Water Development Board	Funded construction
Phase III	City of Socorro, Texas	General endorsement
Phase VII	City of Socorro, Texas	General endorsement
Phase VI	Congressman Tony Gonzales (USTX-023)	Earmark Funding Selection
Phase VII	City of San Elizario, Texas	General endorsement
Phase VII	West Texas Pecan Association	General endorsement
Phase VII	El Paso Valley Cotton Association	General endorsement
Phase VII	EP-H Soil and Water Conservation District	USDA NRCS coordination
Phase III	Congresswoman Veronica Escobar (USTX-016)	General endorsement
Phase II	Congressman Beto O'Rourke (USTX-016)	No longer in office.
Phase II	Congressman Will Hurd (USTX-023)	No longer in office.
Phase III	Congressman Will Hurd (USTX-023)	No longer in office.

- *What is the significance of the collaboration / support?*

EPCWID1 generally does not request repeat statements of support for project phases. However, the continued involvement of the Texas Water Development Board (TWDB) and members of congress has been essential in ensuring the success of the project. The TWDB funded the project engineering design as part of their Agricultural Water Conservation Grants program in 2018. The final design met both state and federal environmental and engineering standards (see [Appendix D](#) and [Appendix E](#)). The TWDB also funded construction of Phase V of the Riverside Canal Concrete Lining Project in 2022. Members of congress facilitated conversations with U.S. Customs and Border Protection (CBP) to ensure that concrete lining work met the needs of both EPCWID1, CBP operations, and future modifications to the U.S.-Mexico Border Fence.

- *Will this project increase the possibility/likelihood of future water conservation improvements by other water users?*

Water conservation improvements by other water users are being developed concurrently with the different phases of the Riverside Canal Concrete Lining Project. For example, the U.S. Section of the International Boundary and Water Commission (USIBWC) invested funds to reconstruction Riverside Canal Wasteway II and Check Structure for both flood mitigation (primary) and water conservation (avoiding leakage). The Texas Water Development Board (TWDB) funded the engineering design that allowed changes to the specifications of the waste structure to reduce sediment buildup and eliminate spills (see letter of support in [Appendix A](#)). This was beyond what the USIBWC originally intended but conceded due to its synergistic benefits.

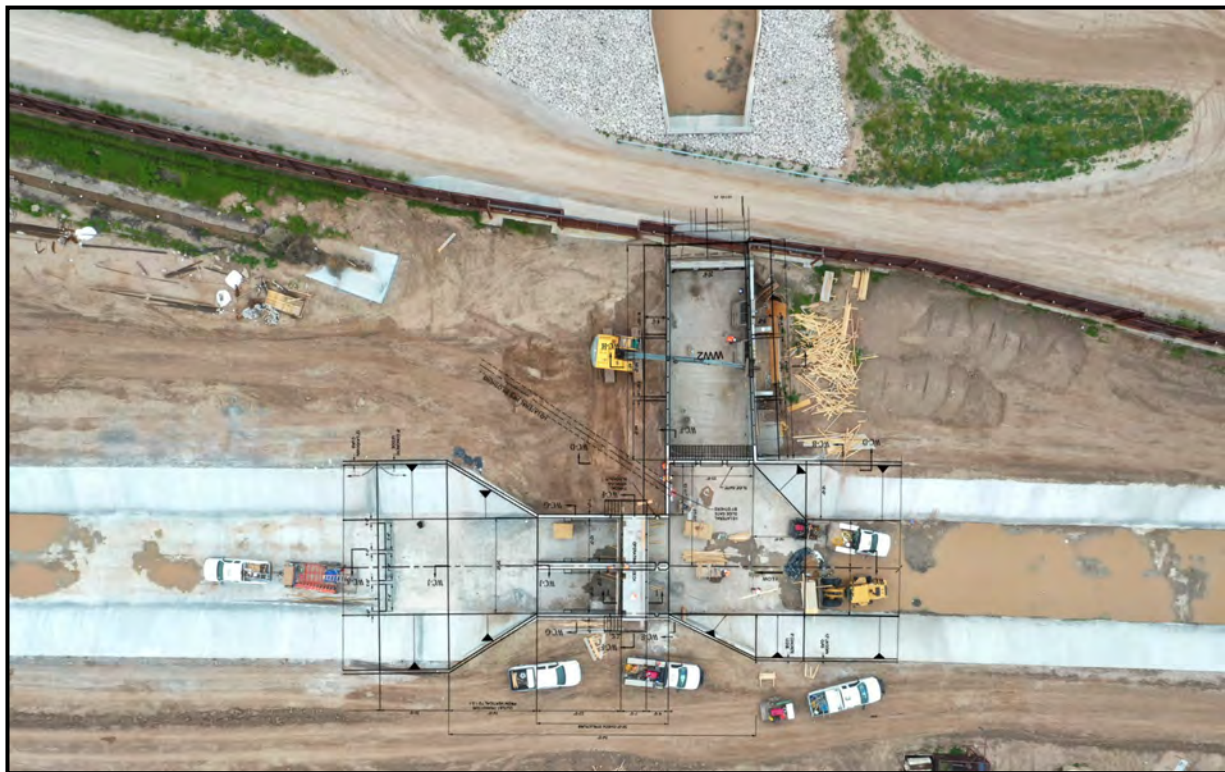


Figure 17. Riverside Canal Wasteway II and Check Structure Design and Construction

- *Please attach any relevant supporting documents.*

Please refer to statements of support included in [Appendix A](#).

G. Evaluation Criterion G: Additional Non-Federal Funding (4 Points)

Non-Federal Funding	\$2,031,430	=	50.39 %
Federal Funding	\$2,000,000	=	49.61 %
Total Project Cost	\$4,031,430		100 %

H. Evaluation Criterion H: Nexus to Reclamation (4 Points)

Describe the nexus between the proposed project and a Reclamation project or Reclamation activity. Please consider:

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

EPCWID1 obtains water by annual allocation from the United States Bureau of Reclamation's Rio Grande Project. Reclamation transferred the El Paso irrigation system to EPCWID1 in 1996.

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

The proposed project lies within the Rio Grande Basin and is part of Reclamation's Rio Grande Project.

- *Is the applicant a Tribe?*

EPCWID1 is not a tribe. Water conserved as a result of the proposed project will benefit all Rio Grande Project water served by EPCWID1, including the Ysleta del Sur Pueblo, a federally recognized tribe. EPCWID1 delivers water to the Ysleta del Sur Pueblo Reservation for agriculture and for two of the Ysleta del Sur Pueblo's most important ceremonial processions: *St. Anthony of Padua Feast Day* and *Dia de Los Santos Reyes*.

V PERFORMANCE MEASURES

EPCWID1 proposes performance measures that are similar to Phase II and Phase III of the Riverside Canal Concrete Lining Project (R18AP00193 and R20AP00056, respectively).

Period of Performance

A. EPCWID1 will complete construction from August 2023 to June 2026 (35 months)

Scope of Work and Administration

- A. EPCWID1 will concrete line 11,000 feet of the Riverside Canal
- B. EPCWID1 will ensure all environmental and cultural compliance requirements are met
- C. EPCWID1 will ensure the project follows requirements in 2 CFR Part 200
- D. EPCWID1 will ensure the project complies with applicable local, state, and federal laws
- E. EPCWID1 will submit semi-annual performance and financial reports
- F. EPCWID1 will work with designated USBR staff that will oversee the project

Water Savings

Project improvements are expected to result in annual water savings of 1,637 acre-feet.

A. EPCWID1 will perform a post-construction inflow-outflow test to verify water savings

Estimated water lost to seepage – post-construction losses = total annual water savings
1,758 af/y – 121 af/y = 1,637 acre-feet per year

EPCWID1 will perform an inflow-outflow test using existing telemetry installations to verify estimated post-construction seepage losses.

B. EPCWID1 will monitor concrete lining construction to identify any faults and cracks where additional water losses can occur

C. EPCWID1 will include all findings as part of the project Final Report

VI PROJECT BUDGET

A. Funding Plan and Letters of Commitment

How will you make your contribution to the cost-share requirement, such as monetary and/or in-kind contributions and source funds contributed by the applicant.

EPCWID1 has sufficient revenues to provide a 50.39% cost share for the project. EPCWID1's funding commitment was established via Resolution from the District Board of Directors and is available for reference in [Appendix B](#).

The proposed project includes budgeted costs that are representative of actual construction costs for concrete lining projects and are similar in scope to the proposed project (R18AP00193 and R20AP00056). Specifically, unit rates and quantities used in multiple contracts with Reclamation are used as a basis for cost estimates. EPCWID1 staff is familiar with the budget revision and justification process that is part of an award contract with Reclamation and the subsequent reporting requirements necessary for cost reimbursement and the closing of the contract.

Describe any donations or in-kind costs incurred before the anticipated project start date that you seek to include as project costs.

There are no donations or in-kind costs incurred before the project start date that are included as part of the proposed budget.

B. Budget Proposal

Table 6. Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. El Paso County Water Improvement District No. 1*	\$ 2,031,430
2.	
3.	
Non-Federal Subtotal	\$ 2,031,430
REQUESTED RECLAMATION FUNDING	\$ 2,000,000

Table 7. Total Project Cost Table

SOURCE	AMOUNT
Cost to be reimbursed with the requested Federal funding	\$ 2,000,000
Cost to be paid by the applicant (EPCWID#1)	\$ 2,031,430
Value of third party contributions	-
TOTAL PROJECT COSTS	\$ 4,031,430

Table 8. Budget Detail (1 of 2)

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	EPCWID1 Funding	Reclamation Funding	TOTAL COST
	\$/unit	Qty				
Salaries and Wages						
Maintenance Manager	\$59.60	/hour	600	Labor	\$ 35,757	\$ - \$ 35,757
Maintenance Supervisor	\$30.44	/hour	1800	Labor	\$ 54,786	\$ - \$ 54,786
Maintenance Supervisor	\$28.12	/hour	1800	Labor	\$ 50,614	\$ - \$ 50,614
Maintenance Supervisor	\$28.06	/hour	1800	Labor	\$ 50,508	\$ - \$ 50,508
Maintenance Supervisor	\$27.84	/hour	1800	Labor	\$ 50,112	\$ - \$ 50,112
Equipment Operator I / Labor	\$13.39	/hour	1800	Labor	\$ 24,102	\$ - \$ 24,102
Equipment Operator I / Labor	\$14.35	/hour	1800	Labor	\$ 25,826	\$ - \$ 25,826
Equipment Operator I / Labor	\$14.35	/hour	1800	Labor	\$ 25,826	\$ - \$ 25,826
Equipment Operator I / Labor	\$14.21	/hour	1800	Labor	\$ 25,585	\$ - \$ 25,585
Equipment Operator I / Labor	\$14.65	/hour	1800	Labor	\$ 26,364	\$ - \$ 26,364
Equipment Operator I / Labor	\$14.84	/hour	1800	Labor	\$ 26,716	\$ - \$ 26,716
Equipment Operator I / Labor	\$14.87	/hour	1800	Labor	\$ 26,772	\$ - \$ 26,772
Equipment Operator II	\$18.65	/hour	1800	Labor	\$ 33,576	\$ - \$ 33,576
Equipment Operator II	\$22.53	/hour	1800	Labor	\$ 40,547	\$ - \$ 40,547
Equipment Operator II	\$23.64	/hour	1800	Labor	\$ 42,549	\$ - \$ 42,549
Equipment Operator III	\$20.88	/hour	1800	Labor	\$ 37,581	\$ - \$ 37,581
Equipment Operator III (2)	\$24.83	/hour	1800	Labor	\$ 44,700	\$ - \$ 44,700
Welder	\$23.76	/hour	600	Labor	\$ 14,257	\$ - \$ 14,257
						Subtotal \$ 636,179
Fringe Benefits (Actual Rates 2021)						
Maintenance Manager	\$16.20	/hour	600	Labor	\$ 9,720	\$ - \$ 9,720
Maintenance Supervisor	\$6.03	/hour	1800	Labor	\$ 10,860	\$ - \$ 10,860
Maintenance Supervisor	\$5.45	/hour	1800	Labor	\$ 9,803	\$ - \$ 9,803
Maintenance Supervisor	\$5.43	/hour	1800	Labor	\$ 9,783	\$ - \$ 9,783
Maintenance Supervisor	\$5.39	/hour	1800	Labor	\$ 9,706	\$ - \$ 9,706
Equipment Operator I / Labor	\$7.87	/hour	1800	Labor	\$ 14,172	\$ - \$ 14,172
Equipment Operator I / Labor	\$3.94	/hour	1800	Labor	\$ 7,092	\$ - \$ 7,092
Equipment Operator I / Labor	\$3.94	/hour	1800	Labor	\$ 7,092	\$ - \$ 7,092
Equipment Operator I / Labor	\$3.95	/hour	1800	Labor	\$ 7,110	\$ - \$ 7,110
Equipment Operator I / Labor	\$4.21	/hour	1800	Labor	\$ 7,578	\$ - \$ 7,578
Equipment Operator I / Labor	\$4.29	/hour	1800	Labor	\$ 7,722	\$ - \$ 7,722
Equipment Operator I / Labor	\$4.31	/hour	1800	Labor	\$ 7,758	\$ - \$ 7,758
Equipment Operator II	\$4.16	/hour	1800	Labor	\$ 7,496	\$ - \$ 7,496
Equipment Operator II	\$5.13	/hour	1800	Labor	\$ 9,237	\$ - \$ 9,237
Equipment Operator II	\$5.15	/hour	1800	Labor	\$ 9,266	\$ - \$ 9,266
Equipment Operator III	\$6.62	/hour	1800	Labor	\$ 11,914	\$ - \$ 11,914
Equipment Operator III (2)	\$5.54	/hour	1800	Labor	\$ 9,974	\$ - \$ 9,974
Welder	\$6.95	/hour	600	Labor	\$ 4,172	\$ - \$ 4,172
						Subtotal \$ 160,455

Table 9. Budget Detail (2 of 2)

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	EPCWID1 Funding	Reclamation Funding	TOTAL COST	
	\$/unit	Qty					
Equipment (Rates from 2020 US-ACE USACE EP1110-1-8 District VI Expense Schedule)							
Pickup (5)	\$18.35	/hour	4000	Equipment	\$ 73,400	\$ -	\$ 73,400
Dump Truck (12/15 CY)	\$28.24	/hour	2600	Equipment	\$ 73,424	\$ -	\$ 73,424
Dump Truck (6 CY)	\$21.69	/hour	2600	Equipment	\$ 56,392	\$ -	\$ 56,392
Excavator 1	\$43.00	/hour	1500	Equipment	\$ 64,494	\$ -	\$ 64,494
Excavator 2	\$43.00	/hour	1500	Equipment	\$ 64,494	\$ -	\$ 64,494
Excavator 3	\$45.43	/hour	1500	Equipment	\$ 68,147	\$ -	\$ 68,147
Excavator 4	\$45.43	/hour	1500	Equipment	\$ 68,147	\$ -	\$ 68,147
Welding Rig	\$4.42	/hour	1800	Equipment	\$ 7,949	\$ -	\$ 7,949
Dozer	\$36.29	/hour	1000	Equipment	\$ 36,290	\$ -	\$ 36,290
Grader	\$41.57	/hour	1000	Equipment	\$ 41,573	\$ -	\$ 41,573
Sheeps Foot Roller	\$73.82	/hour	1000	Equipment	\$ 73,817	\$ -	\$ 73,817
Water Truck	\$26.70	/hour	4000	Equipment	\$ 106,810	\$ -	\$ 106,810
Rubber Tire Excavator	\$50.22	/hour	1000	Equipment	\$ 50,215	\$ -	\$ 50,215
Steel Roller Compactor	\$43.41	/hour	1000	Equipment	\$ 43,408	\$ -	\$ 43,408
Loader	\$33.69	/hour	1000	Equipment	\$ 33,688	\$ -	\$ 33,688
Shotcrete Machine	\$22.45	/hour	2200	Equipment	\$ 49,394	\$ -	\$ 49,394
Compressor	\$7.97	/hour	2200	Equipment	\$ 17,530	\$ -	\$ 17,530
Telescopic Boom 1	\$76.07	/hour	2200	Equipment	\$ 167,349	\$ -	\$ 167,349
Telescopic Boom 2	\$41.96	/hour	2200	Equipment	\$ 92,320	\$ -	\$ 92,320
						Subtotal	\$ 1,188,838
Supplies and Materials							
Concrete 4000 psi	\$130.00	/cy	7809	cubic yards	\$ -	\$ 1,015,170	\$ 1,015,170
Curing Compound	\$11.20	/gal	3123	gallons	\$ -	\$ 34,978	\$ 34,978
Steel Panel Formwork	\$67.68	/lf	11000	linear feet	\$ -	\$ 744,480	\$ 744,480
GeoFabric	\$0.20	/sf	506000	square feet	\$ -	\$ 101,200	\$ 101,200
Waddle Pins	\$0.61	/ea	33000	each	\$ -	\$ 20,130	\$ 20,130
Other Supplies (lumber, frame stands)	\$1.00	/ea	30000	each	\$ 30,000	\$ -	\$ 30,000
						Subtotal	\$ 1,945,958
Contractual Engineering / Construction							
Earthwork (see Budget Narrative)	\$50.00	/hr	2000	Hours	\$ 15,958	\$ 84,042	\$ 100,000
						Subtotal	\$ 100,000
TOTAL ESTIMATED PROJECT COSTS					\$ 2,031,430	\$ 2,000,000	\$ 4,031,430

C. Budget Narrative

Salaries and Wages (in-kind)

The following District personnel will be involved in this project. The perspective roles and value of their in-kind services is described as follows:

Pete Rodriguez is the District Maintenance Manager and has successfully led the construction of dozens of EPCWID1 canal concrete lining projects, including projects funded by Reclamation. Mr. Rodriguez will be responsible for the oversight of all construction work personnel, project management tasks, planning and coordination, quality control, and cost and equipment use reporting. It is expected that Mr. Rodriguez will contribute 600 salaried hours to the project at a rate of \$59.60.

Maintenance Supervisors are responsible for project supervision, quality control, safety, operating of equipment, other labor contributions to construction work, and generating cost and use data necessary for reporting. The Maintenance Supervisor (1) will contribute 1800 hours to the project at a rate of \$30.44. The Maintenance Supervisor (2) will contribute 1800 hours to the project at a rate of \$28.12. The Maintenance Supervisor (3) will contribute 1800 hours to the project at a rate of \$28.06. The Maintenance Supervisor (4) will contribute 1800 hours to the project at a rate of \$27.84. Maintenance Supervisors are salaried and have ample experience with concrete lining construction, including for projects funded by Reclamation.

Equipment Operators I / Ditchriders are responsible for the operation of construction equipment (light) and various manual labor tasks necessary for the completion of concrete lining construction. Equipment Operators I are generally deployed as a team and have similar start and end work periods. EPCWID1 employees classified as Equipment Operators I are not salaried, their hourly wages are in full compliance with the Davis-Bacon Act and local prevailing wages, and will be paid for any overtime.

The Equipment Operators II are responsible for the operation of construction equipment (medium and heavy) and various manual labor tasks necessary for the completion of concrete lining construction. EPCWID1 employees classified as Equipment Operators II are not salaried, their hourly wages are in full compliance with the Davis-Bacon Act and local prevailing wages, and will be paid for any overtime. Equipment Operators II have experience with concrete lining construction, including projects funded by Reclamation.

The Equipment Operators III are responsible for the operation of construction equipment (medium and heavy) and various manual labor tasks necessary for the completion of Task 2: Concrete Lining Construction. EPCWID1 employees classified as Equipment Operators III are not salaried, their hourly wages are in full compliance with the Davis-Bacon Act and local prevailing wages, and will be paid for any overtime. Equipment Operators III have ample experience with concrete lining construction, including projects funded by Reclamation.

The Welder will be responsible for metalwork necessary for the completion of concrete lining construction. This includes cutting steel panel framework on-site and other rebar reinforcement. The Welder is paid hourly, will be paid for any overtime, and the wages paid are in full

compliance with the Davis-Bacon Act and local prevailing wages. The Welder will contribute 800 hours to the project at a rate of \$23.76.

Fringe Benefits (in-kind)

The in-kind fringe benefits EPCWID1 personnel involved in this project were computed on a “Fringe” basis and were derived by subtracting the hourly salary rate for designated EPCWID1 personnel from the loaded value per hour. EPCWID1 average fringe benefit rate is 28%. Actual fringe benefit costs per employee will be determined pursuant to an award contract with Reclamation.

Certification of Labor Rates

The labor rates of identified personnel included herein are representative of the actual labor rates of personnel bearing the same title. Additional verification per employee assigned to the project is available as needed pursuant to an award contract with Reclamation.

Equipment

EPCWID1 owns all of the equipment that will be used in the proposed project. EPCWID1 is proposing to use equipment hourly usage time estimates that are based on similar concrete lining projects, including Agreements No. R18AP100193, R18AP00261, R19AP00150, R20AP00046, and R20AP00155 with Reclamation. The proposed usage cost rates are based on costs outlined by the United States Army Corps of Engineers (USACE) 2020 Construction Equipment Ownership and Operating Expense Schedule (EP1110-1-8) for District VI, which includes the State of Texas. Equipment cost rates used in the aforementioned contracts with Reclamation can be referenced in Table 10.

Because the Riverside Canal Concrete Lining Project: Phase VII is located adjacent to the U.S.-Mexico Border Fence and the Rio Grande, EPCWID1 will coordinate with U.S. Customs and Border Protection (CBP) and the U.S. Section of the International Boundary and Water Commission (USIBWC) to ensure safe operations and construction. CBP input was requested as part of the project engineering design. One incorporated request was expanding the southern bank allowing safe passage of CBP equipment and vehicles on the U.S. side of the Border Fence. This in turns calls for additional equipment use and manhours for earthwork and soil compaction. As shown in this proposal’s cover page and other images available throughout the document, the southern bank is currently not accessible by vehicles. The site has very limited access points.

To narrow the canal banks for concrete lining, EPCWID1 must haul significant quantities of dirt to the canal site from a staging site located 5.63 miles away (EPCWID1-owned Rios Yard). The U.S.-Mexico Border Fence limits access to the site. For this reason and to be able to complete the project within the three-year allowance, EPCWID1 included market-rate (May 2022) contracting costs for dump trucks (earthwork). These costs are noted in the proposed budget. Contracted earthwork is in addition to EPCWID1-owned and manned dump trucks. Approximately 3,520,000 cubic yards of clay-laden soil will be moved, shaped, and compacted as part of this project.

EP1110-1-8 Equipment (2020)	Category Number	EP1110-1-8 ID Source Tag	Page No.	Horsepower/ Specification	District Vehicle	Year	EP11101-1-8 Rates	Age Adj Mult	Final Rate
Pickup (x5)	T50	T50XX004	728	4x4, 1/2 ton, gas pickup	F-350 / 2500 HD	Varies	\$18.35	1	\$18.35
Dump Truck 1	T50	T50XX032	739	10-13 CY Dump	2017 PETERBILT 348 T-10 (12/15 YD Dump)	2017	\$28.24	1	\$28.24
Dump Truck 2	T50	T50XX032	739	10-13 CY Dump	2017 PETERBILT 348 T11 (12/15 YD Dump)	2017	\$28.24	1	\$28.24
Dump Truck 3	T50	T50XX032	739	10-13 CY Dump	2001 FREIGHLINER T6 (12/15 YD Dump)	2001	\$28.24	0.89	\$25.13
Dump Truck 4	T50	T50XX032	739	10-13 CY Dump	2001 STERLING T7 (12/15 TD Dump)	2001	\$28.24	0.89	\$25.13
Dump Truck 5	T40	T40OX002	696	8 CY Dump Option	2008 FORD F750 6YD DUMP TRUCK T9	2008	\$1.95	0.98	\$1.91
	T50	T50XX026	738	32,000 GVW Truck			\$20.39	0.97	\$19.78
Dump Truck 6	T40	T40OX002	696	8 CY Dump Option	2008 FORD F750 6YD DUMP TRUCK T8	2008	\$1.95	0.98	\$1.91
	T50	T50XX026	738	30,000 GVW Truck			\$20.39	0.97	\$19.78
Dump Truck 7	T40	T40OX002	696	8 CY Dump Option	2007 FORD F750 6YD DUMP TRUCK T2	2007	\$1.95	0.81	\$1.58
	T50	T50XX026	738	30,000 GVW Truck			\$20.39	0.97	\$19.78
Dump Truck 8	T40	T40OX002	696	8 CY Dump Option	2006 F750 6YD DUMP TRUCK T-1	2006	\$1.95	0.79	\$1.54
	T50	T50XX026	738	30,000 GVW Truck			\$20.39	0.97	\$19.78
Dump Truck 9	T40	T40OX002	696	8 CY Dump Option	1997 GMC 6YD DUMP TRUCK T-5	1997	\$1.95	0.66	\$1.29
	T50	T50XX026	738	30,000 GVW Truck			\$20.39	0.97	\$19.78
Dump Truck 10	T40	T40OX002	696	8 CY Dump Option	1995 GMC 6YD DUMP T-4	1995	\$1.95	0.66	\$1.29
	T50	T50XX026	738	30,000 GVW Truck			\$20.39	0.97	\$19.78
Excavator 1	H25	H25CA022	328	153 HP / 1.56 CY bucket	EC210BLR-1 VOLVO EXCAVATOR (159 HP, 1.5yd bucket, long-stick)	2008	\$43.43	0.99	\$43.00
Excavator 2	H25	H25CA022	328	153 HP / 1.56 CY bucket	EC210BLR-2 VOLVO EXCAVATOR (159 HP, 1.5yd bucket, long-stick)	2008	\$43.43	0.99	\$43.00
Excavator 3	H25	H25CA041	329	Cat 320DL	320DL-EXC CATERPILLAR E-9 (148 HP, .80 CY, long-stick)	2008	\$45.89	0.99	\$45.43
Excavator 4	H25	H25CA041	329	Cat 320DL	320DL-EXC CATERPILLAR E-10 (148 HP, .80 CY, long-stick)	2008	\$45.89	0.99	\$45.43
Excavator 5	H25	H25CA041	329	128 HP, .80 CY bucket	320A -EXC CATERPILLAR E-7 (138 HP, 1 CY, long-stick)	2008	\$45.89	0.99	\$45.43
Welding Rig (x2)	W35	W35XX022	781	(250 amp)	Utility Truck + Ranger 250 GTX (250 amp)	2012	\$4.80	0.92	\$4.42
Dozer	T15	T15JD007	666	JD 650K / 101 HP	JOHN DEERE 700K XLT DOZER (97 HP)	2017	\$36.29	1	\$36.29
Grader	G15	G15JD010	274	JD 770G	2009 JD 770D MOTOR GRADER G-6 (160 HP)	2009	\$55.43	0.75	\$41.57
Sheeps Foot Roller	R45	R45CA010	572	145 HP / D-off	CAT CP563 ROLLER RL-2 (145 HP)	2007	\$76.10	0.97	\$73.82
Water Truck	T50	T50XX026	738	32,000 GVW Truck	2007 Freightliner	2007	\$20.39	0.89	\$18.15
	T40	T40RS003	703	4,000 gal tank	4000 gal Water Tank Add-on	2007	\$8.73	0.98	\$8.56
Water Truck	T50	T50XX026	738	32,000 GVW Truck	1995 GMC W2	1995	\$20.39	0.89	\$18.15
	T40	T40RS002	703	3,000 gal tank	3000 gal Water Tank Add-on	1995	\$8.73	0.98	\$8.56
Rubber Tire Excavator	H30	H30CA001	375	141 HP, .69 CY bucket	EW170B VOLVO EXCAVATOR (145 HP 3/4 bucket)	2001	\$51.24	0.98	\$50.22
Steel Roller Compactor	R50	R50DY010	192	132 HP, 83" wide, 21.1 ton	DYNAPAC CA2500 D ROLLER RL-1 (130 HP, 83" wide, 13 ton)	2015	\$44.75	0.97	\$43.41
Loader	L40	L40CA019	424	CAT 924H	924H CAT LOADER L1 (128 HP, 2 YD bucket)	2010	\$34.73	0.97	\$33.69
Shotcrete Machine (x2)	P45	P45AF010	516	60 HP / 50 CY/HR	SHOTCRETE PUMP REED B50 (50 CY/HR, 110 HP)	2013	\$22.91	0.98	\$22.45
Compressor (x2)	A15	A15DP001	3	Doosan P185	DOOSAN AIR COMPRESSOR P185 AC2 (185 CFM 49 HP)	2013	\$8.30	0.96	\$7.97
Telescopic Boom 1	P40	P40TE022	168	Genie S105 / 500 lbs / 110 ft	GENIE S-120 2002 LF1 (126 ft telescopic boom, 750 lbs, 78 hp)	2002	\$77.62	0.98	\$76.07
Telescopic Boom 2	P40	P40TE021	168	500 lbs / 64 ft	JLG 600S SKYPOWER 2008 LF2 (66 ft boom, 750 lbs 78 hp)	2008	\$42.82	0.98	\$41.96

Table 10. Proposed Equipment Rates (EP1110-1-8, Most Recently Published in 2020)

Materials and Supplies

The proposed costs and itemization for materials and supplies are representative of costs and quantities from comparable concrete lining construction projects recently completed by EPCWID1, some of which were performed in collaboration with Reclamation. EPCWID1 will purchase the needed construction materials and supplies by publicly soliciting sealed bids following competitive procurement laws outlined in the Texas Water Code, EPCWID1 purchasing policies, and applicable federal regulations. Historical bid and pricing information is available upon request for the development of an agreement with Reclamation.

Shotcrete

The quantity of shotcrete needed for the project was estimated at 7,809 cubic yards. This estimate is consistent with the quantity of shotcrete used in previous concrete lining projects at the Riverside Canal. The following calculations were used to estimate the amount of shotcrete needed for the project:

$$\begin{aligned} & \text{Project length (feet) * Cross-section (feet) * Thickness (inches)/12/27} \\ & (11,000 * 46 * 5)/12/27 = 7,809 \text{ cubic yards} \end{aligned}$$

Curing Compound

Approximately 1 gallon of curing compound is needed for every 2.5 cubic yards of shotcrete used in the project and was estimated via the following:

$$\begin{aligned} & \text{cy shotcrete used / 2.5 = gallons of curing compound} \\ & 7,809 / 2.5 = 3,123 \text{ gallons} \end{aligned}$$

Geofabric liner

The following calculations were used to estimate the amount of geofabric liner:

$$\begin{aligned} & \text{Project Length (feet) * Cross Section Perimeter (feet) = Surface Area (square feet)} \\ & 11,000 * 46 = 506,000 \text{ sf} \end{aligned}$$

Steel Panel Framework

Steel panel framework is fabricated according to the canal specifications and rates vary depending on the size of sheets for the canal bottom, sides, and bends. Prefabricated steel panel framework is purchased in linear feet based on engineering design specifications and is then cut and installed EPCWID1 staff at the job site. The estimated costs are based on purchases in 2021 for Phase III of the Riverside Canal Concrete Lining Project. It is the experience of EPCWID1 that the price of steel varies on market conditions.

Waddle Pins

Waddle pins are used to secure the geofabric liner to soil. The proposed budget estimates 3 waddle pins per linear foot of concrete lining.

$$\begin{aligned} & \text{Project Length (feet) * 3 = Total Waddle Pins Needed} \\ & 11,000 * 3 = 33,000 \end{aligned}$$

Contractual Construction Costs

EPCWID1 included market-rate (May 2022) contracting costs for dump trucks (earthwork). Contracted earthwork is in addition to EPCWID1-owned and manned dump trucks. Approximately 3,520,000 cubic yards of clay-laden soil will be moved, shaped, and compacted as part of this project. The included budget request of \$100,000 is based on an estimated 2,000 hours of additional earthwork moving capacity at a market rate of \$50 per hour. This rate includes equipment, fuel, and labor. This price is based on actual prices and capacity needs from Phase III of the Riverside Canal Concrete Lining Project (R20AP00046).

Indirect Costs

Indirect costs are not included as part of the project. All costs associated with the project are accounted for separately by EPCWID1.

Total Amount of Project Costs

The total cost of the project is \$4,031,430. The Bureau of Reclamation requested share is \$2,000,000. The non-federal cost-share is \$2,031,430 as in-kind contributions from EPCWID1 and cash from EPCWID1.

VII ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

Will the proposed project impact the surrounding environment? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

Post-construction environmental impacts will be positive. There will be a reduction in wind-borne dust from the earth-lined channel, which will be concrete-lined over a 11,000-foot reach adjacent to urban development. District maintenance activities will be reduced by approximately 80%, thereby reducing dust generation, equipment noise and fuel consumption. A project Environmental Summary is available for reference in [Appendix E](#).

Special attention will be given to the following items during the construction phase:

- Dust abatement
- Noise impacts
- No clearing will be done except clearing brush within right-of-way of the District
- Mechanical compaction of the earth to prevent any damage to adjacent property from earth movement

Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

There are no anticipated impacts to threatened and endangered species by the proposed project.

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “Waters of the United States?” if so, please describe and estimate any impacts the proposed project may have.

There are no surface waters inside the project boundaries that fall under CWA jurisdiction.

When was the water delivery system constructed?

Major canals and drains in the water delivery system were constructed under the Rio Grande Reclamation Project from 1915 to 1925. The Riverside Canal was originally constructed in 1917 by Reclamation.

Will the proposed project result in any modification of or effects to individual features of an irrigation system? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

Irrigation system features such as headings and turnouts are continuously modified as part of maintenance operations. No adverse impacts to individual features of the irrigation system are anticipated as part of the proposed project.

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places?

The El Paso County Water Improvement District Number One (EPCWID1) is listed in the National Register of Historic Places (NRHP) under National Register Information System ID 97000885. There are no anticipated adverse effects of features listed in the National Register of

Historic Places as a result of the proposed project. EPCWID1 has an agreement with the Texas Historical Commission (SHPO) in regards to which facilities within the District can be concrete lined or placed underground. The proposed project is allowed under this agreement and there are no anticipated adverse effects to historical assets. A copy of the agreement is available from EPCWID1.

Are there any known archeological sites in the proposed project area?

There are no known archeological sites in the proposed project area.

Will the proposed project have a disproportionately high and adverse effect on low income or minority population?

The proposed project would not have a negative impact on minority populations or low-income communities.

Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

There are no anticipated limits to access and ceremonial use of Indian sacred sites or adverse impact tribal lands.

Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

There are no anticipated contributions to the introduction, continued existence, or spread of noxious weeds or non-native invasive species.

VIII REQUIRED PERMITS OR APPROVALS

The project activities will be confined to existing District right-of-way. No conflicts with existing utilities or facilities requiring third-party approval are anticipated. A Storm Water Pollution Protection Plan (WPPP) will be prepared and filed with the Texas Commission on Environmental Quality (TCEQ). It is not expected that any other permits or approvals will be necessary for the project as proposed.

IX OVERLAP OR DUPLICATION OF EFFORT STATEMENT

The proposed Riverside Canal Concrete Lining Project: Phase VII is a phased project that has received funding from Reclamation in FY2018 and FY2020 of the WaterSMART Water and Energy Efficiency Grants (WEEG) program. There is no overlap between the proposed project and any other active or anticipated proposals or projects in terms of activities, costs, or commitment of key personnel. This proposal does not in any way duplicate any proposal or project that has been or will be submitted for funding consideration to any other potential funding source.

X OFFICIAL RESOLUTION

A Resolution from the EPCWID1 Board of Directors authorizing the submission of this application is included in this document under [Appendix B](#).

XI LETTERS OF SUPPORT

Letters of support are included in this document under [Appendix A](#).

XII CONFLICT OF INTEREST DISCLOSURE

No actual or potential conflict of interest exists from EPCWID1 Board of Directors and staff at the time of submission for this application.

XIII UNIFORM AUDIT REQUIREMENT

EPCWID1 expended more than \$750,000 from federal awards in Fiscal Year 2021. A federal audit is currently underway and will be submitted through the Federal Audit Clearinghouse’s Internet Data Entry System in accordance with 2 CFR 200 Subpart F by October 2022 or earlier.

XIV CERTIFICATION REGARDING LOBBYING

There are no lobbying activities to report. EPCWID1 submitted a signed SF-LLL form in grants.gov concurrently with this application.

XV UNIQUE ENTITY IDENTIFIER

System for Award Management (SAM) Registration

The El Paso County Water Improvement District No. 1 maintains an active SAM registration and all information is up to date.

EIN Number: 74-1505167

Department of Treasury Automated Standard Application for Payments (ASAP)


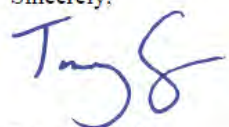
The District is currently enrolled in ASAP and is ready to engage in active financial assistance agreements with Reclamation. EPCWID1 is currently administering grant awards from Reclamation using ASAP.

XVI APPENDIX

A. Letters of Support

Please note: the proposed Riverside Canal Concrete Lining Project Phase VII was originally titled Phase VI. Statements of support herein reflect this naming. EPCWID1 had to rename this project as Phase VII because Congressman Tony Gonzales selected Phase VI for funding as part of his FY2023 Community Project Funding requests (“Earmarks”). The Riverside Canal Concrete Lining Project is being developed in 8 phases and there is no duplication of efforts.

Funding Selection Congressman Tony Gonzales

<p>TONY GONZALES 23RD DISTRICT, TEXAS</p> <p>COMMITTEE ON APPROPRIATIONS</p> <p>SUBCOMMITTEE ON MILITARY CONSTRUCTION, VETERANS AFFAIRS, AND RELATED AGENCIES</p> <p>SUBCOMMITTEE ON TRANSPORTATION, HOUSING AND URBAN DEVELOPMENT, AND RELATED AGENCIES</p>		<p>WASHINGTON OFFICE: 1009 LONGWORTH HOUSE OFFICE BUILDING WASHINGTON, DC 20515 (202) 225-4511 WWW.GONZALES.HOUSE.GOV</p>
<p>Congress of the United States House of Representatives Washington, DC 20515-4323</p>		
<p>April 28, 2022</p>		
<p>Disclosure of Financial Interest</p>		
<p>Dear Chair DeLauro and Ranking Member Granger:</p>		
<p>I am requesting funding for Riverside Canal Concrete Lining Project: Phase VI project in fiscal year 2023. The entity to receive funding for this project is El Paso County Water Improvement District No. 1, located at 13247 Alameda Ave, Clint, TX 79836-0749. The funding would be used to concrete line a 1-mile section of the Riverside Canal in the greater El Paso County region. I certify that neither I nor my immediate family has any financial interest in this project.</p>		
<p>Sincerely,  Tony Gonzales Member of Congress</p>		

Letter of Support from the Texas Water Development Board (Phase IV)



P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

September 27, 2021

Mr. Josh German
Program Analyst
United States Bureau of Reclamation
P.O. Box 25007
MS 84-27133
Denver, CO 80225

RE: Support for the Riverside Canal Concrete Lining Project: Phase IV

Dear Mr. Josh German:

The El Paso County Water Improvement District No. 1 (District) is applying for funding under the Bureau of Reclamation's Water SMART Water and Energy Efficiency Grants program for Fiscal Year 2022. The requested grant would fund the Riverside Canal Concrete Lining Project: Phase IV which will make improvements to a 1.46-mile section of the Riverside Canal in El Paso County, Texas.

The project proposed by the District is a recommended water management strategy in the 2022 Texas State Water Plan. In 2018, the Texas Water Development Board's (TWDB) Agricultural Water Conservation Grant Program awarded the District with a grant to complete the survey, engineering design, and preliminary environmental work necessary to concrete line eight miles of the Riverside Canal. Additional funding from the United States Bureau of Reclamation would allow for the implementation of the design work through construction improvements to the District's conveyance infrastructure.

If awarded, this project would serve as a great example of cooperative efforts between local, state, and federal agencies to enhance border security, support U.S. agricultural production, and improve vital water conveyance infrastructure. As such, the TWDB supports the water conservation project proposed by the District.

Please feel free to contact Kyla Peterson of our Agricultural Water Conservation staff at 512-475-1525 or kyla.peterson@twdb.texas.gov if you have any questions or need further information.

Sincerely,

Jeff Walker
Digitally signed by Jeff Walker
Date: 2021.09.15 05:24:16
-0500'

Jeff Walker
Executive Administrator

- | | | |
|--|---|---|
| Our Mission | · | Board Members |
| Leading the state's efforts in ensuring a secure water future for Texas and its citizens | · | Brooke T. Paup, Chairwoman Kathleen Jackson, Board Member |
| | · | Jeff Walker, Executive Administrator |

Statement of No Opposition from the Ysleta del Sur Pueblo



Ysleta del Sur Pueblo
Tribal Council

EPCWID 1
RECEIVED
2021 FEB -1 A 9:01

119 South Old Pueblo Road * P.O. Box 17579 * El Paso, Texas 79917 * (915) 859-8053 * Fax: (915) 859-4252

January 26, 2021,

Dear Jesus Reyes,

This letter is in response to the correspondence received in our office in which you provide Ysleta del Sur Pueblo the opportunity to comment on the Riverside Canal Concrete Lining Project: Phase 3 and the Franklin Feeder Canal Concrete Lining Project.

While we do not have any comments on the proposed undertaking and believe that this project will not adversely affect traditional, religious or culturally significant sites of our Pueblo and have no opposition to it; we would like to request consultation should any human remains or artifacts unearthed during this project be determined to fall under NAGPRA guidelines. Copies of our Pueblo's Cultural Affiliation Position Paper and Consultation Policy are available upon request.

Thank you for allowing us the opportunity to comment on the proposed project.

Sincerely,

Omar Villanueva
Tribal Council Assistant
Ysleta del Sur Pueblo
119 S. Old Pueblo Rd.
(915) 342-2557

ovillanueva@ydsp-nsn.gov

Statement of Collaboration from the Rio Bosque Wetlands Park

June 4, 2022

Mr. Jesus Reyes
General Manager
El Paso County Water Improvement District No. 1
P.O. Box 749
Clint, TX 79836-0749



Re: Riverside Regulating Reservoir

Dear Mr. Reyes,

I am writing to express our appreciation for the ongoing consultation El Paso County Water Improvement District No. 1 (EPCWID1) has engaged in with our organization regarding the proposed Riverside Regulating Reservoir.

OUR VISION: Rio Bosque Wetlands Park will be a unique natural landscape where visitors from throughout the Paso del Norte region and the world experience firsthand the biologically rich ecosystems once found in our river valley, learn about those ecosystems, and become inspired to be careful stewards of our natural world.

OUR MISSION: To provide the volunteer support needed to make Rio Bosque Wetlands Park a world-class nature park through active involvement in the Park's habitat-restoration, education, research, public outreach, advocacy and fundraising programs.

The proposed reservoir has the potential to complement and enhance Rio Bosque Wetlands Park by providing a large area of open-water habitat adjacent to the wetland habitat at Rio Bosque. A physical connection between the two sites offers opportunities for managing water in ways that benefit both.

As planning for the reservoir proceeds, we look forward to working with EPCWID1 to pursue ideas that can benefit both the reservoir and the park.

Very truly yours,

William Hoover
President
Friends of the Rio Bosque
8540 Van Haselen Ct.
El Paso, TX 79907

Resolution of Support from the City of Socorro, Texas

Ivy Avalos
Mayor
Ruben Reyes
At Large / Mayor Pro-Tem
Cesar Nevarez
District 1



Alejandro Garcia
District 2
Rudy Cruz Jr.
District 3
Yvonne Colon - Villalobos
District 4
Adriana Rodarte
City Manager

RESOLUTION 695

WHEREAS, El Paso County has an arid climate, only receives an average rainfall of about 8 inches, and irrigation, municipal, and industrial water use place significant demands on the limited water resources in the region, and the region has been in perpetual drought conditions for the last 15 years; and

WHEREAS, The City of Socorro supports projects that conserve water, mitigate drought, and promote the local agricultural economy; and

WHEREAS, The El Paso County Water Improvement District No. 1 (EPCWID1) is seeking funding from the United States Bureau of Reclamation Drought Mitigation Program and Water and Energy Efficiency Grants program for Fiscal Year 2023; and


WHEREAS, EPCWID1 is proposing to mitigate prolonged drought conditions in the region by constructing the Riverside Regulating Reservoir, concrete lining a section of the Riverside Canal, and concrete lining a section of the Franklin Canal; and

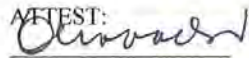
WHEREAS, the projects proposed by EPCWID1 will lead to water conservation, drought mitigation, and will benefit the residents and agricultural businesses of the City of Socorro.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Socorro supports the water conservation and drought mitigation projects proposed by the EPCWID1.

PASSED and APPROVED this 5 day of May, 2022.

CITY OF SOCORRO


Ivy Avalos
Mayor

ATTEST:

Olivia Navarro
City Clerk



Resolution of Support from the City of San Elizario, Texas

Antonio Araujo
Mayor

Leticia Miranda
Alderman Place 1

David Cantu
Alderman Place 2



Lorenzo E. Leyva Sr.
Alderman Place 3

Irene D. Jaquez
Alderman Place 4

George Almanzar
Alderman Place 5

RESOLUTION NO. 2203R.06

A RESOLUTION OF THE CITY OF SAN ELIZARIO SUPPORTING THE EL PASO COUNTY WATER IMPROVEMENT DISTRICT NO. 1 APPLICATIONS TO THE UNITED STATES BUREAU OF RECLAMATION DROUGHT MITIGATION PROGRAM AND WATER AND ENERGY EFFICIENCY GRANTS PROGRAM IN FISCAL YEAR 2023.

WHEREAS, El Paso County has an arid climate, only receives an average rainfall of about 8 inches, and irrigation, municipal, and industrial water use place significant demands on the limited water resources in the region, and the region has been in perpetual drought conditions for the last 15 years; and

WHEREAS, the City of San Elizario supports projects that conserve water, mitigate drought, and promote the local agricultural economy; and,


WHEREAS, the El Paso County Water Improvement District No. One (EPCWID) is seeking funding for three projects from the United States Bureau of Reclamation (USBR) Drought Mitigation Program and Water and Energy Efficiency Grants program for Fiscal Year 2023; and

WHEREAS, the projects proposed by EPCWID for constructing the Riverside Regulating Reservoir and making improvements to the Riverside Canal and Franklin Canal will lead to water conservation and will benefit the residents and agricultural businesses of the City of San Elizario.

NOW, THEREFORE, BE IT RESOLVED, that the City of San Elizario pledges to support the project proposed by EPCWID1 to the USBR Drought Mitigation Program and Water and Energy Efficiency Grants Program.

PASSED AND APPROVED this, the 10 day of May, 2022, by a vote of 4 (ayes) to 0 (nays) to 0 (abstentions) of the City Council of San Elizario, Texas


Antonio Araujo, Mayor

ATTEST

Nancy Montes, City Clerk

Letter of Support from the Far West Texas Water Planning Group



April 25, 2022

Ms. Robin Graber
 Water Resources and Planning Office
 United States Bureau of Reclamation
 P.O. Box 25007, MS 86-6300
 Denver, CO 80225

RE: The FWTWPG Supports Water Conservation and Drought Mitigation Projects by EPCWID1

Dear Reclamation Staff:

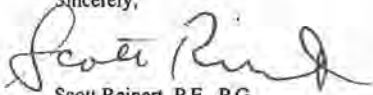
The El Paso County Water Improvement District No. 1 (EPCWID1) is applying for funding for two projects under Reclamation's WaterSMART FY2023 Water and Energy Efficiency Grants (WEEG) program and one project under FY2023 Drought Resiliency Projects program.

Program	Project	FWTWPG WMS	Texas Water Plan WMS
WEEG	Riverside Canal Concrete Lining Project: Phase VI	E42 (EPCWID1)	1777
WEEG	Franklin Canal Concrete Lining Project: Phase III	E42 (EPCWID1)	1777
Drought	Riverside Regulating Reservoir Project	E13 (EP Water)	2794
		E43 (EPCWID1)	2794

The Far West Texas Water Planning Group (WPG) pursuant to the State of Texas Water Code §16.05 is designated to develop the Region E Far West Texas Regional Water Plan with support from the Texas Water Development Board (TWDB). The Far West Texas WPG is composed of voting members from 7 counties in West Texas representing 15 water use interest categories and non-voting representatives of public stakeholder agencies, including the U.S. Bureau of Reclamation. Staff from EPCWID1 also serve as voting members in the Far West Texas WPG.

The Region E Far West Texas Regional Water Plan includes water management strategies that, when implemented, would develop, deliver, or treat additional water supply volumes or conserve water. The project proposed by EPCWID1 is a recommended water management strategy listed in the 2021 Far West Texas Regional Water Plan that is jointly proposed by EPCWID1 and El Paso Water Utilities. The project can be indexed via Water Management Strategy (WMS) ID E-42 for EPCWID1 and WMS E13 for El Paso Water. The project can also be indexed in the 2022 Texas State Water Plan under Water Management Strategy ID 2794.

Because the projects proposed by EPCWID1 were developed as part of the aforementioned planning efforts, the Far West Texas Water Planning Group supports the projects proposed by the El Paso County Water Improvement District No. 1 and recommends their funding.

Sincerely,

 Scott Reinert, P.E., P.G.
 Vice-Chair

Letter of Support from the El Paso – Hudspeth Soil and Water Conservation District

April 25, 2022

Bureau of Reclamation
Attn: Ms. Sheri Looper
2800 Cottage Way
Sacramento, California 95825

RE: El Paso/Hudspeth Soil and Water Conservation District #205 Supports Projects by EPCWID1

Dear Reclamation Staff:

I am writing on behalf of the El Paso/Hudspeth Soil and Water Conservation District #205 to express our support for three (3) water conservation projects planned by the El Paso County Water Improvement District No. 1 (EPCWID1). The projects proposed by EPCWID1 will help meet irrigation water demand in El Paso and improve the region's ability to respond to drought.

- Riverside Regulating Reservoir Construction Project
- Riverside Canal Concrete Lining Project: Phase VI
- Franklin Canal Concrete Lining Project: Phase III

The El Paso/Hudspeth Soil and Water Conservation District #205 works with the USDA Natural Resources Conservation Service (NRCS) to coordinate a Local Work Group intended to work with local agricultural producers to identify the biggest conservation needs in El Paso and Hudspeth Counties, prioritizing the conservation needs that can be addressed by USDA programs, recommend USDA conservation program application and funding criteria, assist NRCS with public outreach and information efforts, and support local applicants with accessing NRCS funding.

The Environmental Quality Incentives Program (EQIP) 2020 El Paso District Priorities include practices that can enhance water availability and efficient irrigation systems.

Cropland Priority 1 **Excess/Insufficient Water - Inefficient use of irrigation water**

Irrigated Cropland Priority 1 **Excess/Insufficient Water - Inefficient use of irrigation water**

Only a portion of the agricultural land in El Paso County and Hudspeth County has access to private irrigation wells of which a majority of the wells produce water with total dissolved solids (TDS) of greater than 1,000 mg/l (many in excess of 2,500 mg/l) with significant sodium content. The high salt content limits the amount of groundwater that can be used to grow irrigated crops. Consequently, many farmers rely on blending surface water from the Rio Grande with groundwater or to capture and reuse stormwater to meet their water quality needs or use surface water exclusively. During years of drought, many agricultural operations are fallowed or deficit irrigated.

The projects proposed by EPCWID1 advance NRCS priorities by conserving water (concrete lining) and operational improving efficiency (Riverside Regulating Reservoir). In addition to conserving water, the proposed project will reduce sediment levels and decrease maintenance costs for agricultural acreage that receives water via the Riverside Canal and Franklin Canal. Previous concrete lining projects performed by EPCWID1 were synergistic with NRCS EQIP-eligible improvements such as the installation of turnout flow meters, the concrete lining of private irrigation ditches, and installing low-cost, on-farm soil moisture sensors.

For these reasons, the El Paso/Hudspeth Soil and Water Conservation District #205 supports the projects proposed by EPCWID1 and recommend their funding.

Sincerely,



W. Scott Roosevelt
President-Chairman

Letter of Support from the El Paso Valley Cotton Association

EPVCA
EL PASO VALLEY COTTON ASSOCIATION, INC.



P. O. BOX 690 • CLINT TEXAS 79836
PHONE (915) 851-2391
FAX (915) 851-0268

April 27, 2022

Bureau of Reclamation
Attn: Ms. Sheri Looper
2800 Cottage Way
Sacramento, California 95825

RE: The El Paso Valley Cotton Association Supports Water Conservation Projects by EPCWID1

Dear Reclamation Staff:

I am writing on behalf of the El Paso Valley Cotton Association to express our support for three (3) water conservation projects planned by the El Paso County Water Improvement District No. 1 (EPCWID1). The projects proposed by EPCWID1 will help meet irrigation water demand in El Paso and improve the region's ability to respond to drought.

- Riverside Regulating Reservoir Construction Project
- Riverside Canal Concrete Lining Project: Phase VI
- Franklin Canal Concrete Lining Project: Phase III

Agricultural operations in the El Paso region have been negatively impacted by long-term drought conditions. El Paso is famously known for its industry-best Pima Cotton, and about 20 million pounds of cotton were produced in the area in 2017. However, many cotton fields are fallowed or deficit-irrigated due to limited availability of irrigation water during years of drought. More than 20,000 acres of irrigable land were fallowed in 2018. The projects proposed by EPCWID1 are major drought mitigation and water conservation initiatives developed in an effort to sustain the agricultural economy of El Paso into the future.

Should you have additional questions, please feel free to contact our office at 915-851-2391.

Sincerely,


Garrett Rogers
President



HELPING TO INCREASE AGRICULTURAL INCOME



Letter of Support from the West Texas Pecan Association



April 25, 2022

Bureau of Reclamation
Attn: Ms. Sheri Looper
2800 Cottage Way
Sacramento, California 95825

RE: The West Texas Pecan Association Supports Water Conservation Projects by EPCWID1

Dear Reclamation Staff:

I am writing on behalf of the West Texas Pecan Association to express our support for three (3) water conservation projects planned by the El Paso County Water Improvement District No. 1 (EPCWID1). The projects proposed by EPCWID1 will help meet irrigation water demand in El Paso and improve the region's ability to respond to drought.

- Riverside Regulating Reservoir Construction Project
- Riverside Canal Concrete Lining Project: Phase VI
- Franklin Canal Concrete Lining Project: Phase III

Agricultural operations in the El Paso region have been negatively impacted by long-term drought conditions. The El Paso region leads the state of Texas with about 14,500 acres of improved variety pecan orchards in El Paso County, which produced about 15 million pounds of nuts in 2017. Water from the Rio Grande is essential for the continued production of pecans. However, pecan orchards may be deficit-irrigated during years of drought when irrigation water is limited, leading to decreased production.

Projects conserving water will help sustain the agricultural economy of rural communities in El Paso. As such, the West Texas Pecan Association supports the project proposed by EPCWID1 and recommends its funding. Should you have additional questions, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Mary Elizabeth Santos". The signature is written in a cursive style.

Mary Elizabeth Santos
President

14589 Alameda Ave., Clint, TX 79836
915-765-9140 westtexaspecanassoc@gmail.com

Letter of Support from Congresswoman Veronica Escobar (USTX-016)

VERONICA ESCOBAR
16TH DISTRICT, TEXAS

ASSISTANT WHIP

HOUSE ARMED SERVICES COMMITTEE

SUBCOMMITTEE ON MILITARY PERSONNEL
SUBCOMMITTEE ON READINESS

HOUSE JUDICIARY COMMITTEE

SUBCOMMITTEE ON THE CONSTITUTION,
CIVIL RIGHTS AND CIVIL LIBERTIES
SUBCOMMITTEE ON IMMIGRATION
AND CITIZENSHIP



Congress of the United States
House of Representatives
Washington, DC 20515

WASHINGTON OFFICE:
1505 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-4831

EL PASO OFFICE:
221 N. KANSAS STREET, SUITE 1500
EL PASO, TX 79901
(915) 541-1400

<http://escobar.house.gov>

September 12, 2019

Ms. Janeen Koza
Financial Assistance Support Section
United States Bureau of Reclamation
P.O. Box 25007, MS 84-27814
Denver, CO 80225

RE: Support for the Riverside Canal Concrete Lining Project – Phase 3

Dear Ms. Koza:

I am writing to express my support for the El Paso County Water Improvement District No. 1 (EPCWID1) request for funding under the WaterSMART Water and Energy Efficiency Grants program for Fiscal Year 2020. I understand the EPCWID1 is proposing to concrete line a section of the Riverside Canal that will help the District conserve significant quantities of water lost to seepage and evaporation.

The El Paso region has an arid climate and receives an average rainfall of about 8 inches. Irrigation, municipal, and industrial water use as well as international and interstate treaties all place significant demands on the limited water resources in our region. The City of El Paso meets approximately 50% of its water demand using water from the Rio Grande River. To meet the increasing demand of water for the next 50 years, additional water supplies are being developed in the area in projects that are increasing in cost, including water desalination, the importation of water, and advanced purification. Conservation will continue to be one of the most viable and cost-effective approaches to meet the area's growing water demand.

I appreciate your full and fair consideration, consistent with applicable laws and regulations, to the application submitted by the El Paso County water Improvement District No. 1 for this important grant program.

Sincerely,

Veronica Escobar
Member of Congress

VE:DR

B. Official Resolution

RESOLUTION OF THE BOARD OF DIRECTORS

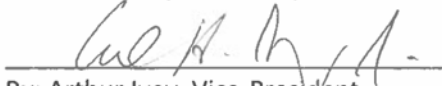
El Paso County Water Improvement District No.1

El Paso County Water Improvement District No. 1 resolves to authorize the General Manager or the District Engineer to submit and take any Administrative Action required to complete an application to the United States Bureau of Reclamation WaterSMART FY2023 Water and Energy Efficiency Grants program for a Grant totaling \$2,000,000 to conserve water and improve the District's water use efficiency by concrete lining a section of the Riverside Canal.

Whereas, the El Paso County Water Improvement District No.1 (the District) is a political subdivision of the State of Texas and was organized under Chapter 59, Article 16 of the Texas Constitution and operates under Chapter 55 and Chapter 49, in part, of the Texas Water Code;

Now Therefore, the Board of Directors of the District hereby resolve to support the District's application for a Grant and authorizes the General Manager or the District Engineer to submit and take any administrative action required to complete applications to the United States Bureau of Reclamation, including working with Reclamation to meet established deadlines for entering into a grant or cooperative agreement, and if the District is selected to receive a Grant, to negotiate an agreement to be approved by the District's Board of Directors. The District has the capability to provide the amount of funding and/or in-kind contributions specified in the Funding Plan in the application.

El Paso County Water Improvement District No.1


By: Arthur Ivey, Vice-President