Funding Opportunity Number: R24AS00007

Funding Program: WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year (FY) 2024

Title of Project: Union Water Supply Corporation Water System Resiliency Improvements

Applicant: Union Water Supply Corporation

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Section 1: Technical Proposal and Evaluation Criteria

1.1 Executive Summary

Date: October 1, 2023
Applicant Name: Union Water Supply Corporation, Texas
City, County, State: Rio Grande City, Starr County, Texas
Applicant Type: Category A
Task Area: Task D
Project Duration: 30 months
Estimated Construction Start Date / Completion Date: August 2024 / January 2027
Project Located on Federal Facility? No
Registered through SAM.gov with a valid UEI? Yes; UEI: PTKKDM8FCJJ1
Requesting Cost-Share Waiver? Yes, financial hardship

Project Summary:

The project will include planning, design, and construction for a new groundwater well and a groundwater treatment plant. Pilot well drilling and testing will be done at two locations nearby Union Water Supply Corporation's (UWSC) existing treatment plant. The results of the piloting will be used to determine where to drill permanent the new well and the type of treatment necessary to produce safe drinking water. The intent is to secure 0.5 to 1.0 MGD (560 to 1,120 acre-ft/yr) of additional water supplies with the project. The new treatment facilities are planned to be located near the existing treatment plant or at the secondary well site, approximately 1.8 miles due west from the existing plant. The treated water will be blended with the existing surface water and conveyed into UWSC's distribution system. Over the last 10 years, UWSC has consistently used 100% of its permitted surface water rights from the Rio Grande River and has been forced to lease additional water rights for an additional 433 acre-ft/yr, bringing the total annual water supply to 900 acre-ft/yr. This project would enable UWSC to stop leasing additional water rights and become independent in supplying water to their service area. Additionally, this project would improve the overall resiliency of their water system because they would not be solely dependent upon surface water from the Rio Grande River, which is in high demand throughout South Texas and is significantly impacted during periods of drought.

Relevant Background Information:

UWSC is a legally chartered corporation that provides potable water and wastewater utility services for rural residents that live along U.S. Highway 83 and along FM 1430 southeast of Rio Grande City in Starr County, Texas. UWSC's Water Certificate of Convenience and Necessity (CCN) service area map is included as Figure 1. Its service area includes 55 square miles that are bound by the Rio Grande River to the south and their existing water system currently includes a 1.6 MGD surface water treatment plant that treats raw water supplied from the Rio Grande River.

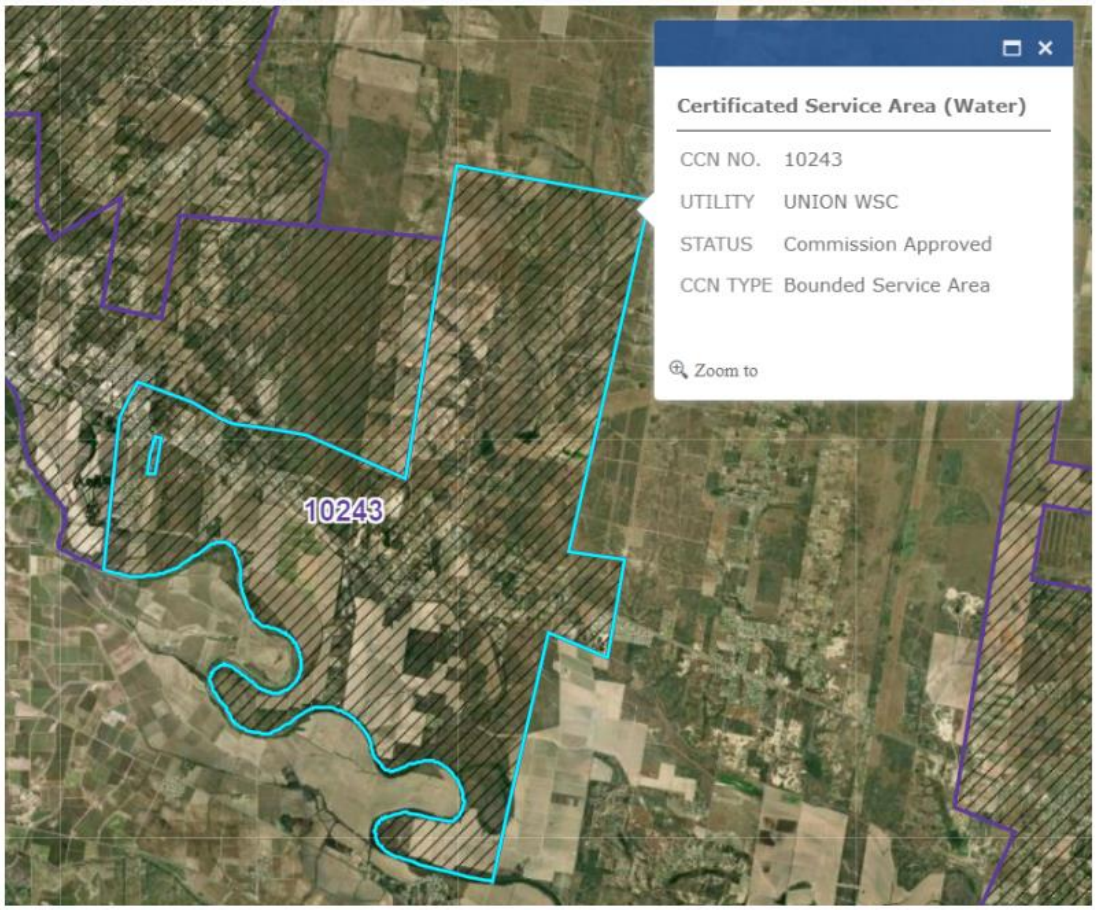

Figure 1: UWSC Water CCN 10243

UWSC currently serves a population of 6,909 people with 2,294 connections. UWSC primarily serves residential customers (approximately 95%), but also serves other water sectors/users. UWSC's population is projected to increase along with the rest of the Lower Rio Grande Valley (LRGV). Population projects for Starr County and the rest of the Texas Water Development Board's (TWDB's) Region M Water Planning Group are included in Table 1 below.

COUNTY	2020	2030	2040	2050	2060	2070
Cameron	478,974	559,593	641,376	729,461	820,068	912,941
Hidalgo	981,890	1,219,225	1,457,502	1,696,257	1,935,015	2,167,137
Jim Hogg	5,853	6,356	6,790	7,274	7,694	8,082
Maverick	63,107	72,491	81,243	90,304	98,988	107,327
Starr	70,803	80,085	88,633	97,107	104,687	111,555
Webb	318,028	393,284	464,960	530,330	591,945	647,433
Willacy	25,264	28,479	31,559	34,840	38,012	41,121
Zapata	16,819	19,709	22,876	26,365	29,976	33,742
Total	1,960,738	2,379,222	2,794,939	3,211,938	3,626,385	4,029,338

Existing Water Supplies:

UWSC currently owns 467 acre-ft/yr of water rights from the Rio Grande River. This is their only source of water supply for their entire service population of approximately 6,909 people. Over the last 10 years, they have consistently used 100% of their permitted surface water rights and have been forced to lease additional water rights for an additional 433 acre-ft/yr, bringing their total annual supply to be 900 acre-ft/yr (owned surface water rights + leased). The total amount of water available that UWSC owns the rights for is equal to the 467 acre-ft/yr included in their permit. UWSC's 10-year average annual water supply is equal to the 900 acre-ft/yr that has consisted of the surface water that they own plus the volume that they lease to supplement supply. This amount has been fully utilized each year for the past 10+ years.

1.2 Project Location

This project is located Southeast of Rio Grande City, Starr County, Texas at the United States and Mexico Border North of the Rio Grande River. The project latitude is 26.299693 and longitude is –98.733569. A map showing UWSC's location in relation to the State of Texas is included as Figure 1. The project location and existing water distribution system are displayed in Figure 2.

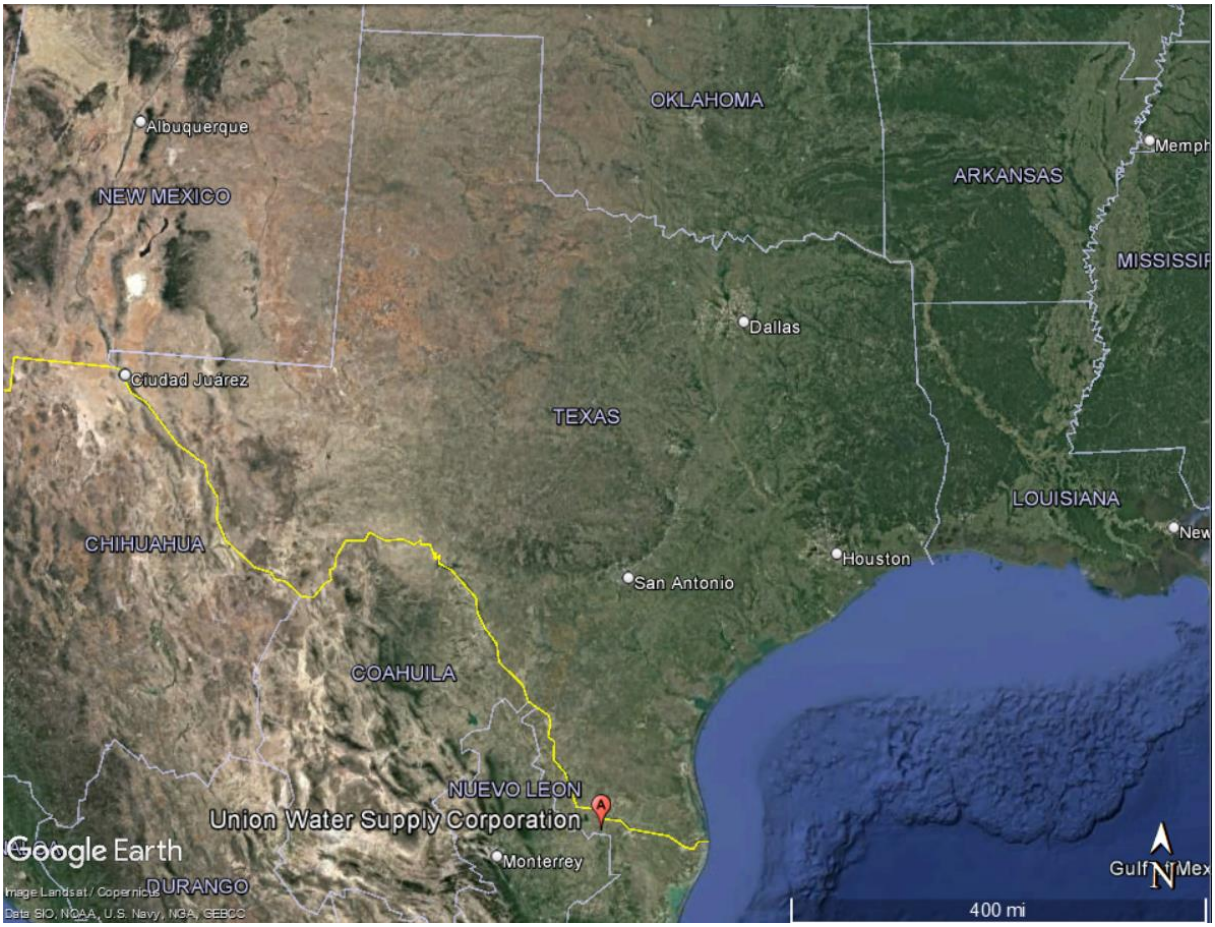

Figure 1: UWSC's Location in Relation to the State of Texas

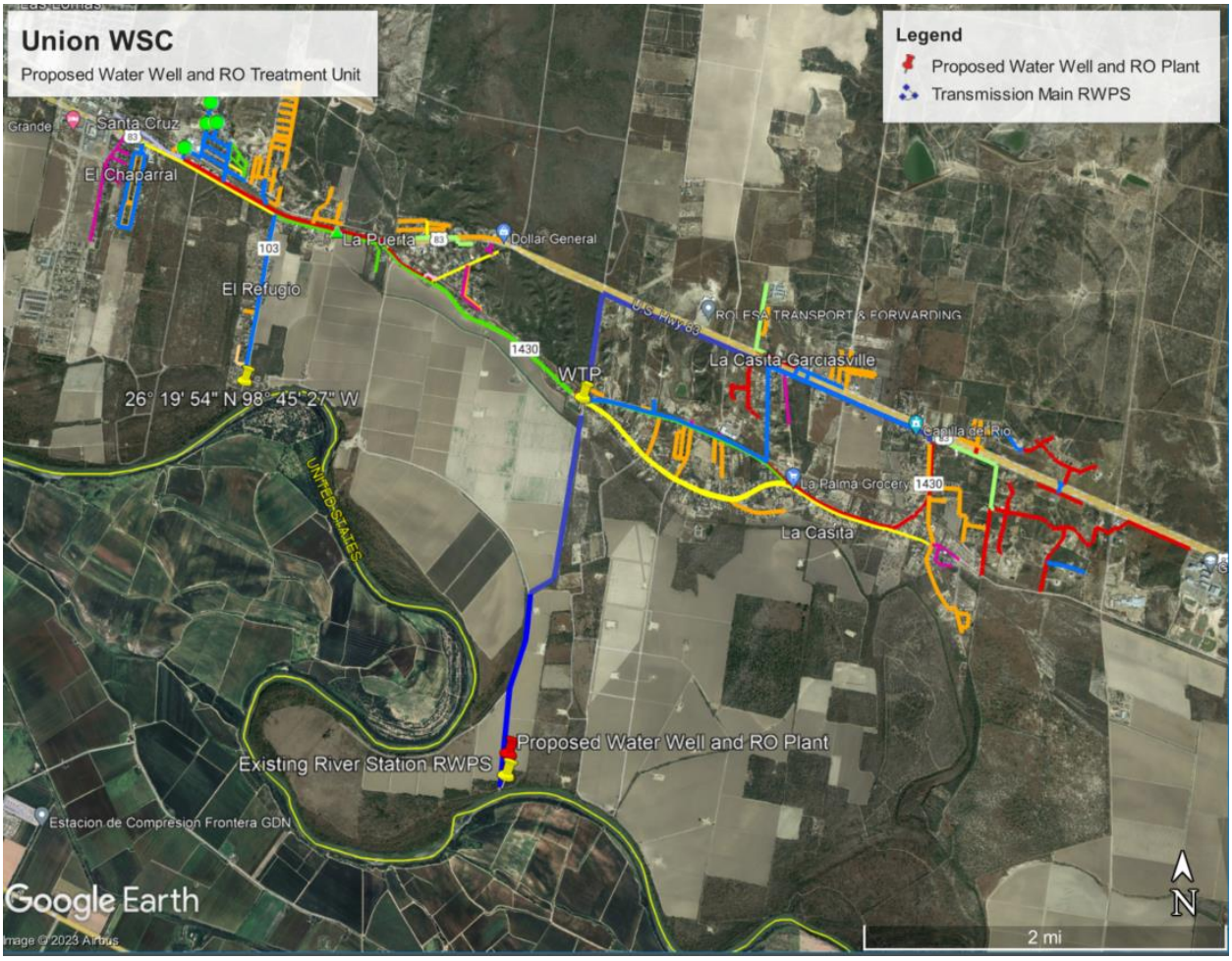

Figure 2: UWSC Water Distribution System and Project Location

Technical Project Description

The project will include engineering design, land acquisition, and construction of a new groundwater well site that will supply drought-resistant groundwater as well as a new groundwater reverse osmosis (RO) treatment plant to serve this new well site. The new well site will supply an additional 0.5 to 1.0 MGD (560 to 1,120 acre-ft/yr) of drought resistant groundwater to the community. This source will supplement their existing surface water intake at the Rio Grande River, which is currently their only water source. This project will provide much needed resiliency and diversification to their water supply portfolio and enable them to no longer need to rely fully upon the Rio Grande River to provide their service area with water.

The new RO treatment plant will be designed to properly service and treat the groundwater produced from the new well and will be located adjacent to the new well. The final treatment specifications will be based on the groundwater quality and steps necessary to produce finished water that meets EPA primary drinking water standards and secondary standards as may be applicable. Both the well and the RO treatment plant will be located on approximately 1.5 acres of land that will be acquired for this project. The land will be acquired adjacent to the Union's existing raw water transmission main to capitalize on existing infrastructure and eliminate the cost of building a new transmission main.

1.3 Performance Measures

Proposed Performance Measures

Proposed performance measures include the volume of drought-resilient, new source water pumped from the proposed groundwater well. It is estimated that the proposed well will supply approximately 0.5 to 1.0 MGD (560 to 1,120 acre-ft/yr) of water to new RO plant. The anticipated capacity of the well will be finalized through a pilot study that will include pump tests. This new groundwater supply could result in a decreased amount of water pumped from the Rio Grande River because UWSC will prioritize the use of groundwater for the supply.

1.4 Evaluation Criteria

1.5.A Evaluation Criterion A – Project Benefits (30 points)

The Climate and Economic Justice Screening Tool (CEJST) was utilized to assess the local community serviced by UWSC and who stand to benefit from the proposed project. Every census tract that is located at least partially within the UWSC service area was assessed using the CEJST with respect to climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. The results of this analysis by census tract are displayed in Table 1. Every single census tract within the UWSC service area is identified as being disadvantaged with low-income percentiles ranging between 89th – 97th.

Table 2: CEJST Data for UWSC Service Area

Census Tract	Disadvantaged ?	Low Income Percentile	Population	Other CJEST Burdens
48427950401	Yes	92nd	5274	Climate Change (agriculture loss, building loss, population loss) Energy (cost, PM 2.5), Health (diabetes), Workforce Development (linguistic isolation, low median income,

Census Tract	Disadvantaged ?	Low Income Percentile	Population	Other CJEST Burdens
				poverty, unemployment, high school education)
48427950402	Yes	93rd	5251	Energy (PM 2.5), Health (diabetes), Transportation (transportation barriers), Workforce Development (linguistic isolation, low median income, poverty. unemployment, high school education)
48427950108	Yes	89th	3723	Health (Diabetes), Transportation (transportation barriers), Workforce Development (linguistic isolation, high school education)
48427950106	Yes	97th	3199	Climate Change (building loss, population loss), Energy (energy cost, PM 2.5), Health (diabetes), Housing (lack of indoor plumbing), Workforce Development (linguistic isolation, low median income, high school education)

The proposed project aims to provide a reliable, stable supply of quality potable water to the disadvantaged community that UWSC serves. As discussed in Section 1.5.C, Evaluation Criterion C – Severity of Actual or Potential Drought or Water Scarcity Impacts to be Addressed by the Project, the raw surface water supplies from the Rio Grande River that currently supply the entire service area are under threat due to the effects of climate change, long-term drought conditions, and the increasing high demand on the Rio Gande River. Additionally, UWSC does not currently even have enough supply to meet the needs of their service area. For the last ten years, they have been required to lease additional surface water rights in order to meet demand. This gap in supply directly translates into a primary driver behind why the community does not currently have reliable access to domestic water supplies. Reliance upon external providers means that UWSC's ability to provide water is partially out of their control and an interruption in supply could occur at any point in time. The addition of a groundwater well to provide an alternate source of water to UWSC outside of the Rio Grande river would also reduce tensions along the Mexican border with community stakeholders that rely on a limited supply of surface water from the Rio Grande River that is already over-allocated and subject to significant future threat from the impacts of climate change.

Explain how the proposed project will increase reliable access to domestic water supplies. Provide this quantity in acre-feet per year the average annual benefit that the domestic water supply project

will provide. How many people is it estimated to serve? How were these estimates calculated (average benefit and population)?

The plan is to provide an additional 0.5 to 1.0 MGD (560 to 1120 acre-ft/yr) of water supply from the well dependent on the results of the pilot study and test holes at two different locations in UWSC's service area. Assuming maximum day demands of 240 gallons per capita per day (gpcd) and approximately 3.72 people served per acre-ft/yr of water supply, the average annual benefit associated with the proposed project in terms of population served ranges from approximately 2,083 to 4,166 people. The number of water users served by the project will ultimately be dependent upon the well's permanent capacity and the RO plant will be sized to treat the anticipated capacity. This project will continue to provide benefits throughout the entire estimated useful life of the well and RO plant, which are estimated to be between 20-30 years.

Wells

Pilot well drilling and testing will be completed at two nearby locations. The results will be documented and analyzed in a study that will be used to determine the location of the permanent wells and treatment type necessary. The plan is to secure 0.5-1.0 MGD (560 to 1120 acre-ft/yr) of additional water. This estimated capacity is based on existing nearby wells in the area and their current capacities. The anticipated well capacity of 560 to 1120 acre-ft/yr will comply with all state laws, ordinances, and other applicable groundwater governance. UWSC is located within the Starr County Groundwater Conservation District (SCGCD). UWSC will follow all protocol and submittal requirements in order to receive approval for the well through the SCGCD.

After this project is completed, the groundwater that is produced will provide the majority of UWSC's total water supply. They currently own surface water rights for 467 acre-ft/yr from the Rio Grande River. Considering an anticipated well capacity of 560 to 1120 acre-ft/yr, the total available annual supply will range between 1,027 to 1,587 acre-ft/yr. This means that groundwater will provide anywhere from 54-70% of UWSC's total annual water supply. This new groundwater supply will significantly increase the overall resiliency of the water system and enable UWSC to no longer need to rely upon leased water from an external provider to cover the supply gap. Additionally, UWSC will no longer be solely dependent upon water from the Rio Grande River, which is in extremely high demand and is significantly impacted by drought conditions. T

The applicant does not currently participate in an active recharge program that contributes to groundwater sustainability because prior to the proposed project, they have not utilized groundwater as part of their water supply. As part of the pilot study, two different locations near the existing surface water treatment plant will be assessed as options to drill the new groundwater well. According to the TWDB's Groundwater Data Viewer, existing wells nearby currently withdraw from either the Rio Grande River's alluvium, the Jasper Aquifer, the Gulf Coast Aquifer, or the Beaumont Clay, Lissie Formation, and Goliad Sand (https://www3.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer). Local aquifers will be assessed in the study to identify which aquifer is the most likely to provide the target capacity of the well. In

addition to capacity, other considerations such as recharge rate, hydraulic conductivity, transmissivity, current demand, and aquifer size will be made in order to make a thoughtful determination on which aquifer will be the best fit for UWSC's new groundwater well.

Test holes will be constructed to identify the most appropriate location for the final production well in the vicinity of UWSC's existing transmission main line. As part of the test well efforts, 36-hour pump tests will be conducted to determine the potential production capacity of the well and groundwater samples will be lab-tested to determine water chemistry and composition. The analytical results will be used for the design parameters of the new RO facility. From a desktop analysis of permitted wells in the vicinity, it is anticipated that a maximum production well of 800 gpm should be expected. The well will be drilled to an estimated depth of 150-300 ft deep. Casing diameters are anticipated to be 16-20 inches and screen placement will be according to the hydrogeology and borings collected during the test hole phase. The size of the well's pump and motor will be dependent upon the pump test results but are anticipated to be sized to produce the target capacity of 800 gpm that is already being achieved by existing wells in the area. The groundwater well will be designed with the appropriate power and controls according to the anticipated capacity.

A groundwater monitoring plan will be undertaken with monitoring triggers for mitigation actions. The monitoring triggers will include regular water level checks at the well, which will provide direct insight into potential overpumping of the target aquifer. Mitigation actions will include decreased pumping activity during periods when well water levels are reading relatively lower compared to the static water level after pumping is regulated at the new site. During times that the water level is reading lower, UWSC can shift their supply to prioritize surface water from the Rio Grande and minimize their groundwater withdrawal by not constantly running the well. This groundwater monitoring plan with the monitoring triggers for mitigation actions will enable UWSC to help avoid contributing to any adverse impacts to the aquifer and/or any third parties due to groundwater pumping.

Climate Change

This project includes risk reductions for wildfires and floods through an increased ability to manage these natural disasters and protect residents if they were to occur through supplemental water supply. The increased resiliency and capacity of the water system would allow the City to respond quickly and thoroughly to a potential wildfire with the supply needed to combat it. In terms of floods, a resilient water supply would enable the City to consistently be able to provide critical resources, such as water, to its residents despite flooding. The proposed project will not establish and use a renewable energy source, nor will it reduce greenhouse gas emissions by sequestering carbon in soils, grasses, trees, or other vegetation.

The proposed project includes sustainable infrastructure that will improve community climate resilience. A variable frequency drive (VFD) will be assessed for utilization in the design of the groundwater well and the RO plant will consider green infrastructure in its design once treatment options are finalized. A VFD can

significantly lower emissions from the groundwater well motor because of the precise and efficient control of the electrical motors. VFDs modulate the supplied power of the motors to match the energy requirement of the equipment being driven, which will optimize the energy consumption of the system. VFDs will also extend the lifespan of the well's motor, which will reduce the associated waste because it will not need to be replaced as often. The inclusion of VFDs will improve community climate resilience by minimizing the new groundwater well's emissions footprint. The project will also support sustainability of UWSC's water system and improve community climate resilience by providing a groundwater source that is less affected by drought compared to the Rio Grande River. This is particularly critical considering that the impacts of climate change are anticipated to worsen the reliability of the water supply in the Rio Grande further.

The proposed project seeks to mitigate climate pollution. The groundwater that will be pumped from the new well will be treated at the nearby proposed treatment facility. This will mitigate climate pollution in the form of water pollution because the treatment will remove any existing contamination (whether it be natural or anthropogenic) and improve the overall quality of the water supply while also increasing the amount of clean water in the City's distribution system that will be consumed and utilized by residents.

Environmental Benefits

Does the project seek to improve ecological climate change resiliency of a wetland, river, or stream to benefit to wildlife, fisheries, or habitats? Do these benefits support an endangered or threatened species?

The proposed project seeks to improve ecological climate change resiliency and benefit wildlife through reducing the demand on the Rio Grande River. Reduced demand will support environmental freshwater flows that support a number of threatened and endangered species that include, but are not limited to: Swallow-tailed kite, Tropical parula, Zone-tailed hawk, Alligator gar, American eel, river goby, Swallowtooth sawfish, Tamaulipan clubtail dragonfly, Mexican fawnsfoot, Salina mucket, Texas hornshell, Rio Grande river cooter, and Shinner's rocket. According to Texas Parks and Wildlife (https://tpwd.texas.gov/gis/rtest/), Starr County is currently home to 92 species of amphibians, birds, fish, mammals, reptiles, insects, arachnids, mollusks, and plants that are considered rate, endangered, or threatened. Another major environmental benefit provided by this project would be the protection of habitats throughout the Region that are supported by surface water. By not adding pursuing additional surface water rights from the Rio Grande, these habitats are protected by the preservation of the existing surface water. This project will reduce the likelihood of a species listing for species that inhabit areas that are supported by surface water. The surface water that is currently present in these habitats will not be depleted for the purpose of water supply, therefore reducing the likelihood of a species listing due to habitat loss.

If UWSC's demands are equal to their 10-year average water supply of 900 acre-ft/yr, and the new groundwater well adds anywhere from 0.5-1.0 MGD (560 to 1120 acre-ft/yr), there is a chance that UWSC's demands could be served completely by the new well. If this occurred, additional stream flows in the Rio

Grande River would be equal to UWSC's existing permitted surface water rights of 467 acre-ft/yr. If the new well was only able to produce 560 acre-ft/year, the project will still result in additional stream flows of 127 acre-ft/yr because the supply from the Rio Grande would only need to fill a gap of 340 acre-ft/yr (900 acre-ft/yr – 560 acre-ft/yr) = 340 acre-ft/yr.

Other Benefits

The proposed project will assist in mitigating water-related crises associated with the Rio Grande River through reduced demand on the river and increased reliance upon groundwater. The Rio Grande is currently over-allocated and freshwater flows from the Rio Grande are diminishing. The proposed project supports the Rio Grande Compact and could further help relieve cross-border tensions between the U.S. and Mexico with regards to the Mexican Water Treaty of 1944 that discusses how water should be shared across the watershed on either side of the border.

The proposed project will benefit multiple sectors and/or users including municipal, agricultural, environmental, and recreation. Municipal benefits include consistent and reliable water supply for potable and non-potable use. For municipal users in disadvantaged communities, increased drought resiliency for the water supply means a lower likelihood of the restriction conditions that are outlined in UWSC's drought contingency plan (Appendix A) being required. Water use restrictions and penalties due to drought would directly impact UWSC's service population in a negative way because it could increase their financial burden and also potentially restrict their ability to use water to serve their businesses that they rely upon for income.

Agricultural benefits include improved water system resiliency for farmers and ranchers that rely upon UWSC to provide water to irrigate their crops, animals, and land. Lastly, the environmental and recreational sectors will benefit from the project through increased resiliency that will provide consistent supply to users that rely upon the water supply in the county for recreational and environmental users that include, but are not limited to, Falcon State Park, Fort Ringgold Golf Course, Roma Historic District, and Roma Historical Museum.

The project will benefit a larger initiative to address sustainability for the Rio Grande River the addition of an alternative water source that will help to conserve water in the Rio Grande River and support municipal surface water conservation. The larger initiative of water conservation was identified by the Rio Grande Regional Water Planning Group (RWGP), Region M. The RWGP is one of 16 local bodies in Texas that were established by Senate Bill 1 to coordinate long-range water supply planning for the State of Texas. The regional and state water plans are facilitated by the Texas Water Development Board. Advanced municipal water conservation was identified as a recommended water management strategy for UWSC in the 2022 State Water Plan and the 2021 Region M Water Plan. This initiative is further described in Section 1.5.B, Evaluation Criterion B – Planning and Preparedness.

There is frequent tension related to the Rio Grande River's water use and the prolonged periods of drought experienced throughout South Texas. Drought conditions throughout the LRGV are well documented and tensions are further complicated by the lack of compliance by Mexico to the Mexican Water Treaty of 1944 that defines how the U.S. and Mexico share water supplies from the Rio Grande River. This project will result in additional stream flows to the in-demand Rio Grande River as a result of a supplemental groundwater supply for UWCS.

1.5.B Evaluation Criterion B – Planning and Preparedness (20 points)

This proposed project was developed through a collaborative process that started at the local level and was elevated to the state planning level. UWSC's local Drought Contingency Plan (Appendix A) outlines the potential responses if drought resiliency is not improved, and conservation is not prioritized at the local level. Stakeholders with various interests were included in the development of the local drought contingency plan through meetings where stages and responses were identified.

Additional planning efforts take place at the state level. The RWGP is one of 16 local bodies in Texas that were established by Senate Bill 1 to coordinate long-range water supply planning for the State of Texas. The regional and state water plans are facilitated by the Texas Water Development Board and incorporate collaboration across all regional water planning groups. The regional water planning groups also incorporate direct input from each entity that is included in the plan through surveys and meetings. Advanced municipal water conservation, conversion of water rights, and municipal drought management were all identified as recommended water management strategies for UWSC in the 2022 State Water Plan and the 2021 Region M Water Plan. A figure from the 2021 Region M Water Plan showing all UWSC's recommended water management strategies is included below as Figure 3. The proposed project supports both municipal water conservation, conversion of water rights, and municipal drought management.

UWSC's Drought Contingency Plan, the 2022 State of Texas Water Plan, and the 2021 Region M Water Plan all incorporate elements of drought planning. Prolonged periods of drought are intensifying and becoming more frequent throughout the State of Texas. The Rio Grande River is one waterbody in the state where the impacts of drought are immediately realized for users. Water suppliers must work together to identify strategies that will enable their water systems to be as resilient as possible during drought periods, especially those that serve disadvantaged communities that do not have potential access to alternate supplies and could solely rely upon supplied water to support their livelihood.

Union Water Supply Corporation

Union WSC has a need in every decade (Table 5.3-257); WMSs recommended to meet that need are shown in Table 5.3-258.

Table 5.3-257 Union WSC Existing Supply Balance (acft/yr)

UNION WSC	2020	2030	2040	2050	2060	2070
Supplies	542	542	542	542	542	542
Demand	1,261	1,402	1,535	1,672	1,800	1,917
Need(-)/Surplus(+)	(719)	(860)	(993)	(1,130)	(1,258)	(1,375)

Table 5.3-258 Union WSC WMS Supplies (acft/yr)

UNION WSC	2020	2030	2040	2050	2060	2070
Advanced Municipal Water Conservation	0	100	178	258	350	447
Conversion of Water Rights	715	752	804	857	890	907
Waterline Replacement and Automatic Meter Reading System	88	88	88	88	88	88
Municipal Drought Management	29	33	37	40	43	46
New Supplies from WMS	**832**	**973**	**1,106**	**1,243**	**1,371**	**1,488**
WUG Balance After WMS	**113**	**113**	**113**	**113**	**113**	**113**

Figure 3: UWSC Recommended Water Management Strategies in 2021 Region M Water Plan

1.5.C Evaluation Criterion C – Severity of Actual or Potential Drought or Water Scarcity Impacts to be Addressed by the Project (15 points)

Starr County is currently categorized as being in a state of "D2 moderate drought" by Drought Monitor as of November 2023. This category is an improvement from the start of water year when this region was classified as a "D3 extreme drought." Overall, Starr County, and the rest of the Lower Rio Grande Valley, have experienced significant drought conditions on and off over the last several years but particularly since 2019 as supported by data from droughtmonitor.unl.edu in Table 3.

Table 3: Data from Drought Monitor for Starr County, Texas

Week	Date	None	D0	D1	D2	D3	D4	DSCI
Current	10/31/2023	0	0	25.2	74.8	0	0	275
Last Week to Current	10/24/2023	0	0	25.2	74.8	0	0	275
3 Months Ago to Current	8/1/2023	0	13.81	38.71	47.47	0	0	234
Start of Calendar Year to Current	12/27/2022	99.17	0.83	0	0	0	0	1
Start of Water Year to Current	9/26/2023	0	0	0	19.15	80.85	0	381
One Year Ago to Current	11/1/2022	77.85	22.15	0	0	0	0	22

DO Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought
DSCI Drought Severity Coverage Index (0-500)

UWSC's current water supply is completely dependent upon the Rio Grande River, which is impacted greatly during times of drought. Water levels decrease and supplies are minimized for users that rely upon the river for their customers. UWSC sole dependence on the Rio Grande River puts them at extreme risk during times of drought and at this point in time, they face a constant risk of water scarcity and supply interruption at all times because they do not have enough water rights to provide for their customers. Because their current demand cannot be supplied through the permitted water rights, UWSC is forced to rely upon external water suppliers that can lease them the additional water rights that they need for their customers.

Starr County and the LRGV have experienced numerous direct effects because of the prevalent drought and water scarcity conditions throughout the area. One of the sectors that has been most directly affected has been the agricultural sector. Drought conditions have forced farmers and ranchers in the LRGV to downsize their farms, herds, and subsequent production, which also directly impacts their income from farming and ranching. In 2022, drought conditions have led to historically low levels in the Falcon Dam (9% full) and the upstream Amistad Dam being less than one-third full. The 2022 State Water Plan details that demand is anticipated to continually exceed supply in the LRGV and in other areas throughout the state. Additionally, climate change impacts are expected to intensify droughts. Drought conditions can also present public health challenges for populations that rely upon water for a variety of health reasons beyond just hydration. This is particularly troublesome for disadvantaged communities, such as UWSC's service population, which do not likely have the means or access to alternate sources of water.

According to the National Oceanic and Atmospheric Administration (NOAA) and the National Integrated Drought Information System (NIDIS) (https://www.drought.gov/states/texas/county/starr), Starr County

experienced their 45th driest year to date over the past 129 years in 2023. NOAA and the NIDIS estimate that 100% of people in Starr County are currently directly affected by drought. NOAA and NIDIS list the social vulnerability index for Starr County as being the highest possible in terms of needing support to prepare for and recover from hazards like drought. Additionally, stream flows are low, and agriculture is being affected significantly. As of October 27, 2023, 16,162 acres of sorghum, 10,367 acres of hay, 6,317 acres of corn, 19,520 heads of cattle, and 3,535 sheep are currently in drought in Starr County. These numbers highlight the direct impacts that drought has on the agricultural sector and water users throughout Starr County and UWSC's service area. They also represent the economic losses that drought can have on resources that customers use to generate an income and provide for their families, such as agricultural commodities. If periods of prolonged drought continue to occur as a result of climate change, these impacts will likely compound and become more severe.

Drought conditions throughout the LRGV and UWCS's service area are a significant threat to raw water supplies and consumers' ability to receive domestic water supplies reliably. These conditions are anticipated to worsen because of projected increases in population and negative effects due to climate change such as increased and intensified periods of drought. Water systems' resiliency during times of drought is a key component to ensuring that customers will still be able to receive water. If no action is taken by UWSC to improve the overall reliability of their water system, all consumers could potentially be at risk of receiving no water during times of drought. This is especially true because UWSC cannot currently supply enough water to meet their customers' demands and must rely upon external supplies to provide the remainder of the water through lease agreements.

If no action is taken, the sectors that would be directly affected are municipal, agricultural, environmental, and recreational. The impacts that would be felt because of not being able to receive water would be severe. If water supply from the Rio Grande River was completely or partially unavailable due to severe drought conditions, all of UWSC's customers could be completely without water or only able to use very limited amounts. Demand would greatly exceed the groundwater supply and the conditions of UWSC's Drought Contingency Plan would go into effect. These conditions would require immediate responses that could have a significant impact on the disadvantaged population that UWSC serves. Additionally, users would be limited in their consumption including strict requirements for irrigation, aesthetic purposes (washing vehicles, etc.), ponds or fountains, and any other non-essential uses of water. Any violations of these requirements could put further financial stress on the disadvantaged community that UWSC serves.

1.5.D Evaluation Criterion D – Presidential and DOI Priorities (15 points)

1.5.D.1 Disadvantaged or Underserved Communities

Data from the White House Council on Environmental Quality's interactive CEJST are included in Section 1.5.A, Evaluation Criterion A – Project Benefits. The proposed project will serve and benefit UWSC's entire

disadvantaged and underserved community through the supplemental water supplies provided by the new groundwater well. This project will add an additional 0.5 to 1.0 MGD of capacity to UWSC's water supply dependent upon the results of the pilot testing.

The proposed project will improve the water system's resiliency to drought and other natural hazards/disasters, which means that the surrounding communities will be able to rely upon the reliable and resilient water supply for whatever uses they have. Consistent water supply could provide economic growth opportunities for the surrounding disadvantaged community because users know that they can count on consistent water supply and that they will not need to worry about service interruptions potentially hindering their businesses. Similarly, farmers and ranchers in the service area could choose to maintain their existing crops and expand into new agricultural commodities and/or facilities because they know that they'll have the water supply to do so. These economic opportunities could improve some of the existing burdens on the population as a result of local climate change impacts.

1.5.D.2 Tribal Benefits

The proposed project will not directly serve and/or benefit a Tribe nor support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe.

1.5.E Evaluation Criterion E – Readiness to Proceed and Project Implementation (10 points)

The implementation plan for the proposed project is outlined below in Table 6.

Table 4: UWSC Project Milestones and Schedule

Milestone / Task / Activity	Planned Start Date	Planned Completion Date
Anticipated Project Award and Agreement Execution	August 2024	December 2024
Project Management	January 2025	January 2027
Environmental and Cultural Resources Compliance	August 2025	November 2025
Design	January 2025	October 2025
Bidding	October 2025	December 2025
Permitting	August 2025	October 2025
Construction	January 2026	December 2026
Testing and Closeout	December 2026	January 2027

Describe any permits or approvals that will be required (e.g., water rights, water quality, stormwater, or other regulatory clearances). Include information on permits or approvals already obtained. For

those permits and approvals that need to be obtained, describe the process, including estimated timelines for obtaining such permits and approvals.

UWCS's water system already exists, which means that no major approvals or permits will be needed through the Texas Commission on Environmental Quality (TCEQ). The proposed project will require approval of design from the TCEQ prior to construction and operation. The TCEQ's approval process includes submitting the plans, specifications, and related documents to the TCEQ for review. The TCEQ's anticipated review and approval timeline is 60 days. Other permitting requirements include a completed well registration form for the Starr County Groundwater Conservation District.

Engineering design work will commence upon notification from the BOR. Design work will specifically include the groundwater well and the RO water treatment plant. There are no land purchases that need to occur before the project can be implemented and there are no new policies or administrative actions that will be required to implement the project.

1.5.F Evaluation Criterion F – Nexus to Reclamation (5 points)

The applicant does not have a water service, repayment, or O&M contract with Reclamation. UWSC does not receive Reclamation water through a Reclamation contractor or by another other contractual means. No, UWSC is not a tribe.

This project is consistent with the BOR's Lower Rio Grande Basin Study (Study) that was completed in December of 2013. The BOR collaborated with the Rio Grande Regional Water Authority for the Study, which includes 53 local member entities. The Study focused on 166,000 square miles along the United States-Mexico border. The Study determined that there would be a need for an additional 592,000 acre-ft/yr of water by 2060. The Study also determined that the impacts of climate change would likely increase the shortage by an additional 86,438 acre-ft/yr. The Study emphasizes the need to broaden water supplies outside of the Rio Grande River to preserve downstream flows for irrigation/push water and environmental needs. This project directly aligns with the Study's objectives by utilizing groundwater for supplemental water supply rather than more water from the Rio Grande. As a result, more raw water from the Rio Grande will be available for irrigation, municipal supply, and critical environmental flows.

1.5.G Evaluation Criterion G – Stakeholder Support for Proposed Project (5 points)

This project will benefit numerous other entities that rely upon the Rio Grande for their water supply and use. UWSC's decreased dependence on the Rio Grande through a new groundwater well will positively influence the river by lessening the current demand. Decreased demand will result in additional water supplies being available for other entities and purposes such as irrigation, municipal supply, critical environmental flows, and recreation.

Letters of support from Starr County Judge, Mr. Eloy Vera, and Dr. Henry Cuellar, U.S. Congressman of the 28th District of Texas, are included in Appendix C.

The letters of support that were submitted reflect the significant impact that the proposed project will have on UWSC's service area. Mr. Eloy Vera, Starr County Judge, and Dr. Henry Cuellar, U.S. Congressman of Texas' 28th Congressional District, represent not only UWSC's entire service area, but also Starr County as a whole and the 28th Congressional District of Texas, which includes Atascosa, Bexar, Duval, Guadalupe, Jim Hogg, McMullen, Starr, Webb, and Zapata Counties.

The significant roles that they play in the local community in their roles as Starr County Judge and U.S. Congressman of the 28th Congressional District subsequently represent the interests of all sectors and users that UWSC supports. These include agricultural, municipal, environmental, and recreational users of UWSC's water supply.

Section 2: Project Budget

2.1 Budget Proposal

Table 4: Summary of Federal and Non-Federal Funding Sources

Funding Sources	Amount
Non-Federal Entities	
1. Not applicable (requesting waiver for financial hardship)	$0
Non-Federal Subtotal	$0
REQUESTED RECLAMATION FUNDING	$9,436,120

2.2 Budget Narrative

Attachment B
Attachment B is included with the Grants.gov application and uploaded via the online system. It contains the detailed budget along with the budget narrative.

Budget Form
Budget Form SF-424C is included with the Grants.gov application and uploaded via the online system.

Section 3: Environmental and Cultural Resources Compliance

The proposed project is anticipated to have minimal impact on the surrounding environment because all work will be completed in compliance with National Environmental Policy Act (NEPA) requirements. UWSC's original water system was constructed in 2010. A complete environmental review will be completed after the initial pilot study is completed and a site is selected for the groundwater well and treatment plant. The proposed project will have minor and temporary impacts on the surrounding environment that could include temporary increases in dust and partial loss of vegetation. All measures will be taken by the selected

contractor to mitigate any potential effects on the air, water, and animal habitats that surround the project area. These measures include, but are not limited to:

- Utilizing erosion control devices such as buffer zones, flow diversion, gabions, and sediment traps;
- Minimizing the amount of disturbed soil;
- Meeting or exceeding any local or state sediment or erosion control plans;
- Minimizing the amount of removed vegetation;
- Ensuring efficient and timely construction;
- Construction personnel will post signage of work area;
- Construction personnel will facilitate ingress and egress of vehicles to project site through on-street traffic direction; and
- The Construction Contractor will alert local emergency response entities that construction vehicles will be located within the project area.

UWSC is not aware of any listed or proposed Federal threatened or endangered species or designated critical habitats located directly in the project area that would be affected by any activities associated with the proposed project. There are no wetlands or other surface waters inside the project boundaries that fall under CWA jurisdiction as "Waters of the United States."

Section 4: Required Permits or Approvals

UWSC anticipates receiving approval from the TCEQ for the design and construction of the new groundwater well along with approval from the local groundwater conservation district, the Starr County Groundwater Conservation District. Anticipated permits and approvals are discussed in Section 1.5.E., Evaluation Criterion E – Readiness to Proceed and Project Implementation.

Section 5: Additional Required Material

5.1 Overlap or Duplication of Efforts Statement

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 is not in any way duplicative of any proposal or project that has been or will be submitted for funding consideration to any other potential funding source - whether it be Federal or non-Federal.

5.2 Conflict of Interest Disclosure

Per the Financial Assistance Interior Regulation (FAIR), 2 CFR §1402.112, UWSC states that there are no actual or potential conflicts of interest that exist at the time of submission of this application.

5.3 Uniform Audit Reporting Statement

UWSC did not expend more than $750,000 in U.S. dollars or more in Federal award funds in the most recently closed fiscal year. Therefore, UWSC was not required to submit a Single Audit report through the Federal Audit Clearinghouse Internet Data Entry System in accordance with 2 CFR §200 subpart F for that year.

5.4 Disclosure of Lobbying Activity

Not applicable to this project.

5.5 Letters of Project Support

Letters of project support are listed below and are included as Appendix C:

- Mr. Eloy Vera, Starr County Judge
- Dr. Henry Cuellar, U.S. Congressman of Texas' 28th Congressional District

5.6 Official Resolution

If selected, an Official Resolution will be adopted by UWSC in compliance with the BOR's requirements and submitted to the BOR after it is finalized.

5.7 Letters of Funding Commitment

Not applicable. This project does not include any third-party funding commitments.

Section 6: Cost-Share Waiver Request – Financial Hardship

6.1 Population-Weighted Median Household Income

According to the American Community Survey's 2021 5-year data for 2017-2021, the City's population-weighted median household income and average unemployment rate within the study area and the state based on the latest available data from the U.S. Census Bureau's American Community Survey is included below in Table 5 (Source: https://www.census.gov/programs-surveys/acs/data/data-tables.html).

Table 5: ACS 2021 5-Year Data for UWSC's Service Area

Location	Median Household Income	Average Unemployment Rate
Texas	$67,321	5.4%
Starr County	$33,334	12.1%
Tract: 48427950401	Not included in ACS data	Not included in ACS data
Tract: 48427950402	$30,500	11.1%
Tract: 48427950108	$42,317	4.5%
Tract: 48427950106	$46,002	6.3%

6.2 Average Unemployment Rate within Study Area and State

(https://www.census.gov/programs-surveys/acs/data/data-tables.html).
According to the ACS' 5-year data, the current average unemployment rate for the State of Texas is 5.4%. Starr County's current unemployment rate is 12.1%. This data is summarized in Table 6.

Table 6: ACS 2021 5-Year Unemployment Data for Starr County and the State of Texas

Texas Unemployment	Starr County Unemployment
5.4%	12.1%

6.3 Family Poverty Level

Family poverty level for the State of Texas as estimated by guidelines published annually by the U.S. Department of Health and Human Services (aspe.hhs.gov/poverty-guidelines) are included below in Table 7.

Table 7: Family Poverty Guidelines in Texas

2023 POVERTY GUIDELINES FOR THE 48 CONTIGUOUS STATES AND THE DISTRICT OF COLUMBIA	
Persons in family/household	**Poverty guideline**
1	$14,580
2	$19,720
3	$24,860
4	$30,000
5	$35,140
6	$40,280
7	$45,420
8	$50,560
For families/households with more than 8 persons, add $5,140 for each additional person.	

6.4 Current Financial Statement of the Applicant

A current financial statement stating that UWSC does not possess sufficient funds or assets to pay for all or part of the required cost share is included as Appendix C.

Eloy Vera
Starr County Judge

Starr County Courthouse Annex
100 N. FM 3167, Ste. #202

Office Phone (956) 716-4800
Fax (956) 352-6573

November 6, 2023

Re: Letter of Support for Union Water Supply Corporation's application for WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2024

Dear Review Committee:

Please accept my strong support and recommendation for Union Water Supply Corporation application for the Drought Response Program. The proposed project is desperately needed to ensure resiliency for the community, via an alternate water source during time of drought when surface water may not be as readily available.

Union's water demand currently uses over 100% of their available water rights. The Falcon and Amistad Reservoir system continue to be near record lows, and the region must prepare for long-term capacity shortages in the Rio Grande area.

This project will create a new water source for Union, in the form of a groundwater well with a corresponding water treatment unit, to not only supplement the river surface water source but also to ensure access to a different source of water for the community.

Therefore, we strongly recommend this project and urge the Bureau of Reclamation to select Union Water Supply's project for funding award.

Thank You,

Eloy Vera
Starr County Judge

HENRY CUELLAR, PH.D.
U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEES:
HOMELAND SECURITY, RANKING MEMBER
DEFENSE
MILITARY CONSTRUCTION, VETERANS AFFAIRS, AND RELATED AGENCIES

DEMOCRATIC STEERING AND POLICY COMMITTEE
CHIEF DEPUTY WHIP
U.S.-MEXICO INTERPARLIAMENTARY GROUP CO-CHAIRMAN

November 6, 2023

Camille Calimlim Touton
Commissioner, U.S. Bureau of Reclamation
1849 C Street NW
Washington D.C. 20240

Dear Commissioner Touton:

I write to express my support for the Union Water Supply Corporation's application for the Drought Response Program. The proposed project is desperately needed to ensure resiliency for the community, via an alternate water source during time of drought when surface water may not be as readily available.

The Union's water demand currently exceeds their allocated water rights. The Falcon and Amistad Reservoir system continues to be near record lows, and the region must prepare for long-term capacity shortages in the Rio Grande area.

If awarded, the funds will create a new water source for Union, in the form of a groundwater well with a corresponding water treatment unit, to not only supplement the river surface water source but also to ensure access to a different source of water for the community.

Thank you for your full and fair consideration of this application, consistent with applicable agency guidelines. Please do not hesitate to contact either myself or my Legislative Assistant, Randy Aguilar, at Randy.Aguilar@mail.house.gov or (202) 225-1640 if you have any questions or need additional information.

Sincerely,

Henry Cuellar

Dr. Henry Cuellar
U.S. Congressman
28th District of Texas

Appendix C

Dear Reviewing Committee,

Union Water Supply Corporation applied for a grant with the Bureau of Reclamation WaterSMART Drought Response Program Drought Resiliency Projects for Fiscal Year 2024.

Union Water Supply Corporation is in Starr County Texas, and Starr County ranks 4th in poverty levels in the state based on per capita income. The poverty rate within the population totals 30.6% is below the poverty guidelines. The unemployment rate in Starr County is 8.3% as compared to the State of Texas at 4.1% and the US at 3.8%.

Union Water Supply Corporation leases 410-acre feet of water on a yearly basis at $80/acre to fulfill our obligations.

Union Water Supply Corporation has submitted this application because we need improvements, but we are requesting the 5% waiver because we cannot raise the funds necessary to pay off the 5% matching funds.

We recently began servicing on USDA loan for other critical infrastructure improvements and monthly payments of $26,000.00 are already a burden on our financial status. However, that loan did not cover other urgent needs now being addressed in this application.

These expenses and the low income of our service area limit our ability to raise rates to cover these expenses.

Union Water Supply Corporation asks that you consider waving the 5% matching funds included in this application.

We thank you for your time and consideration on this request.

Thank you,

Jorge Bazan
General Manager

PO Box 31 Garciasville, TX 78547
Tel. (956) 487-3744 Fax (956) 487-6573

5992 FM 1430 Rio Grande City, TX 78582
unionwatersupply@yahoo.com