PROJECT INFORMATION FORM

Please complete a unique Project Information Form <u>for each project</u> in the application. There are no character limits on specific questions but the Project Information Form as a whole may not exceed <u>10 pages</u>.

1. Project Name: Well 22 Rehabilitation

2. Local Project Sponsor (if different than grantee): Mission Springs Water District (MSWD)

3. Please provide the latitude and longitude of the project site. For linear projects or those covering a large area, report the coordinates for a central point. If this information is confidential, it must be clearly labeled "confidential." You can find the latitude and longitude easily using google maps. You can find instructions at the following link: https://support.google.com/maps/answer/18539?hl=en&co=GENIE.Platform%3DDesktop.

   Latitude: 33.916684 Longitude: -116.525557

4. Please briefly describe the proposed project.

   This project will rehabilitate MSWD's Well 22 (see Attachment 1A) which was removed from service due to a failure of the pumping equipment and subsequent water quality violation. In July 2020, MSWD corresponded with the Division of Drinking Water (DDW) regarding the condition and status of Well 22 (see Attachment 1B). Well 22 repeatedly tested positive for coliform. To address this issue, DDW recommended 1) downhole disinfection and flushing of the well, 2) a cycle bacteriological test, 3) searching for other deficiencies in the well that may contribute to the positive coliform, and 4) a 4-log virus inactivation of the well. Upon further investigation, it was also determined that several site features did not meet current health code, including the well head, electrical system, and chlorine injection system. As such, MSWD plans to rehabilitate the well casing and equipment to restore the lost water supply capacity and perform site improvement to meet current health code.

   The zone served by Well 22 only has one remaining well (Well 29) providing service to approximately 5,500 homes and 16,300 people in a pressure zone that serves a severely disadvantaged community (SDAC). The pressure zone has a demand of over 2.4 million gallons per day (MGD), with Well 22 serving approximately 40% of this demand and Well 29 serving the remaining 60%. Well 22 being out of service is considered an emergency. Water from other zones needs to be moved to this zone to meet the daily demands in the pressure zone that are typically provided by Well 22. Movement of water between zones is more energy intensive than utilizing Well 22. Well 22 service needs to be immediately restored to provide additional supply capacity and system redundancy in the affected pressure zone. When Well 22 is back online, the community will benefit from increased water supply reliability.

5. Does this project respond to an existing emergency to humans and/or wildlife? If so, please describe the emergency and how this project is addressing it.

The communities that Well 22 serve are currently considered to be in an emergency situation, due to lack of adequate water supply capacity and lack of system redundancy in this pressure zone. MSWD's service area is 91.8% SDAC by service area and 93.6% by population. The project area has a median household income (MHI) of $27,385, qualifying as a SDAC. As noted above, any service interruptions or fluctuations in demand will result in loss of service to the SDAC served by Well 22 and Well 29 (see map in Attachment 1A). The Well 22 Rehabilitation Project will restore the lost water production capacity and restore system redundancy, providing a reliable supply of water to the community.

6. Each project must meet one of the following purposes as it relates to drought. Please select the appropriate purpose for your project.
    a. ☒Address immediate impacts on human health and safety, including providing or improving availability of food, water, or shelter.
    b. ☐Address immediate impacts on fish and wildlife resources.
    c. ☒Provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies.

7. Each project must enhance regional drought resilience and align with the goals and objectives of the relevant approved Integrated Regional Water Management Plan. You can find the relevant IRWM Region by using the map at the following link: https://gis.water.ca.gov/app/dacs/

    The IRWM Plans can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs/Plan-Review-Process. If you have any questions about the IRWM region the contact list can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs. Applicants are encouraged to contact and coordinate with the applicable RWMG for the IRWM region in which the project is located

    Please identify the IRWM objective your project addresses.
    The following objectives from the 2018 Coachella Valley IRWM Plan are met through this project ((https://www.cvrwmg.org/irwm/irwm-plan/):

    A - Provide reliable water supply for residential and commercial, agricultural community and tourism needs. (This project will rehabilitate a local water supply well thus increasing MSWD's water supply reliability and redundancy.)

    L - Address water and sanitation needs of DACs, including those in remote areas. (MSWD's service area and population are predominately SDAC as noted. Therefore, this project primarily addresses a water supply need of a DAC.)

    M - Maintain affordability of water. (The cost of implementing infrastructure projects can result in the need for a rate increase. For DAC and SDAC customers, rate increases have a greater impact than on non-DAC customers as they are less able to afford the increased rates. The proposed grant will pay for approximately 27% of the project cost, which helps MSWD offset the need to potentially raise rates to complete the project.)

8. Describe the Primary Benefit of the project.
    Quantified benefit: 1,937

Units (Drop down):Acre feet per year If other please enter:
Benefit Type: Water Supply - Ground If other please enter: Project will restore 1,200 gallons per minute (1,937 AFY) of reliable water supply

9. Describe the Secondary Benefit of the project:
   Quantified benefit: 272
   Units (Drop down):Other If other please enter:MWh-year (megawatt-hours per year)

   Benefit Type: Improve operational efficiency If other please enter:

10. Please briefly describe how the project will achieve the claimed benefits.
    With Well 22 currently out of service, the proposed rehabilitation of the well will directly restore water supply once it is placed back into service. Well 22 is expected to provide 1,200 gpm (1,937 AFY) or more of potable water production once rehabilitation of the casing and equipment is complete. Once Well 22 is back online, it will eliminate the need to move water from other zones to meet daily demands.

    For each month Well 22 is out of service, MSWD is expending over 22,700 kWh per month (272 megawatt-hours per year, or MWh-year) in excess energy moving water from other pressure zones to supplement the lost capacity in the zone in order to meet daily demands. Once the well is rehabilitated and back online, 22,700 kWh per month will be saved.

11. Briefly describe how the community/area benefiting from this project is being impacted by the current drought.
    MSWD is located within Riverside County (the County) which is experiencing drought conditions according to the U.S. Drought Monitor. The bulk of the County is experiencing severe drought conditions, while 13.65% of the County is experiencing extreme drought conditions. The County is also experiencing its 14th driest year to date over the past 127 years (January to November 2021). Furthermore, MSWD relies upon groundwater as its only source of potable water, making groundwater management a high priority. MSWD's residents are among the lowest per capita water users in the Coachella Valley. Even with the community's low water use, MSWD is only able to meet demand by moving water from other zones within the system. Any service interuptions or fluctuations in demand will result in loss of service to the SDAC served by Well 22 and Well 29.

12. How will this project alleviate the impacts described in your answer to Question 11?
    The area served by Well 22 is in an emergency situtation due to lack of adequate water supply capacity and no system redundancy. As noted above, any service interruptions or fluctuations will result in loss of service to the SDAC served by Well 22 and Well 29. The Well 22 Rehabilitation Project will restore the lost water production capacity, restore system redundancy, and provide 1,937 AFY of reliable water supply to the SDAC served by Well 22.

13. Please complete the following budget table for the project. (Identify funding sources in Question 15)

	BUDGET CATEGORY	**Grant Amount**	**All Other Cost**	**Total Cost**

(a)	Project Administration	0	130,000	**130,000**
(b)	Land Purchase / Easement	0	0	**0**
(c)	Planning / Design / Engineering / Environmental Documentation	0	50,000	**50,000**
(d)	Construction / Implementation	338,787	731,213	**1,070,000**
	TOTAL COSTS	**338,787**	**911,213**	**1,250,000**

14. Please describe why state funding is needed for this project. If state funding is not secured, what will happen to the project?

    MSWD considered applying for the State Revolving Fund (SRF), but the timeline to receive the funding would be too long to address this critical emergency. The current lack of production, lack of redundancy, and operational inefficiencies makes this project a high priority. Without state funding, MSWD will be forced to raise water rates to help offset the cost of rehabilitating Well 22, which will be a financial burden to the SDAC residents in MSWD's service area. Grant funding will help MSWD in offsetting the cost of construction and reduce the overall cost to provide water to the SDACs served by the well.

    In addition, rehabilitating Well 22 is the most cost effective option to restore the 1,200 gpm in lost water supply capacity. The cost of securing supplemental supplies or constructing a new production facility greatly outweighs the Well 22 Rehabilitation cost.

15. Will the applicant provide cost share (encouraged but not required) and/or will this project require any additional funding from sources other than this solicitation? If so, please describe the funding source and indicate if the funding has been secured. If the funding has not been secured, please describe the plan to secure the necessary funding.

    MSWD will provide approximately 73% cost share for the project, utilizing its Capital Improvement Plan funds to help fund the project.

16. Is land acquisition or landowner permission required for this project? If so, please briefly describe the status of the acquisition or agreement with the landowner. If the acquisition is not complete or permission not secured at the time of application, please describe the plan to complete it.

    No land acquisition or landowner permission is anticipated for this project. MSWD owns the existing well site.

17. Has planning and design for this project been completed? If not, please describe the status of planning and design.

    MSWD is currently in the design process and will complete the well rehabilitation design documents by March 2022.

18. Are the CEQA (and NEPA if applicable) and permitting processes for this project complete? If

not, please briefly describe the permits and CEQA (or NEPA) documents to be completed and projected schedule for completion.

This project is categorically exempt under Class 1 Existing Facilities as it is minor alteration of an existing public facility and it does not include expansion of the use or capacity of the existing well. MSWD is completing a Notice of Exemption as part of the design process currently underway and will be complete by March 2022.

19. Please briefly describe the necessary construction/implementation for this project.

Following completion of design, MSWD will issue a notice of inviting bids to solicit a construction contractor, which will involve advertisement for bids, holding a preconstruction meeting, bid opening, bid evaluations, MSWD staff recommendations, MSWD Board of Directors approval, and awarding the construction contract.

In addition, MSWD will complete a procurment process for a consultant to provide construction management support services. Said services include administration, project-partner coordination, preconstruction conference coordination, construction progress meetings, invoicing, requests for information and requests for copy responses, change order execution, and other related management duties, materials testing, inspection, and construction staking.

The well rehabilitation construction activities are outlined below. It is anticipated that the entire construction can occur within 6-months from Notice to Proceed to the contractor.

- Brushing, bailing chemical treatment and repair of the well casing
- Swabbing and pumping to cleaned well
- Rebuilding the well pump motor, header, bowls and column
- Rebuilding the well pump base
- Reinstalling the new and/or refurbished well equipment
- Replacing the discharge piping and appurtances
- Replacing the chemical storage and feed system
- Installing new electrical equipment
- Water quality and quantity testing and disinfection of the well, pump and above ground appurtances

20. Please complete the schedule below for the project. Projects must be complete by March 31, 2026, to allow time for final invoice processing and retention payment before the State funds expire on June 30, 2026. Project administration should end at least three months after construction.

	Categories	**Start Date**	**End Date**
(a)	Project Administration	3/1/2022	2/28/2023
(b)	Land Purchase / Easement		
(c)	Planning/ Design / Engineering / Environmental Documentation	12/1/2021	3/31/2022
(d)	Construction/ Implementation	4/1/2022	12/31/2022

PROJECT INFORMATION FORM

Please complete a unique Project Information Form <u>for each project</u> in the application. There are no character limits on specific questions but the Project Information Form as a whole may not exceed <u>10 pages</u>.

1. Project Name: Valley View Mobile Home Park Water Consolidation Project - Phase 1

2. Local Project Sponsor (if different than grantee): Coachella Valley Water District (CVWD)

3. Please provide the latitude and longitude of the project site. For linear projects or those covering a large area, report the coordinates for a central point. If this information is confidential, it must be clearly labeled "confidential." You can find the latitude and longitude easily using google maps. You can find instructions at the following link: https://support.google.com/maps/answer/18539?hl=en&co=GENIE.Platform%3DDesktop.

   Latitude: 33.642040 Longitude: -116.129170

4. Please briefly describe the proposed project.

   From 2018 through 2020, CVWD completed the East Coachella Valley Water Supply Project (ECVWSP), a planning effort to identify and prioritize small water systems (SWSs) in eastern Coachella Valley that could benefit from consolidation with CVWD's potable water system. The Valley View Mobile Home Park (MHP) Water Consolidation Project was one of the two highest priority projects identified as part of the ECVWSP. CVWD conducted outreach to the nine SWSs that would be consolidated as part of the project, prepared the Valley View Preliminary Engineering Report, and completed the Valley View Initial Study/Mitigated Negative Declaration (IS/MND). Throughout the ECVWSP and preparation of the Valley View MHP Water Consolidation Project planning and environmental documents, CVWD's Disadvantaged Community Infrastructure Task Force (https://www.cvwd.org/365/Disadvantaged-Communities-Task-Force), comprised of nonprofits, regulatory and governmental entities, and local interested parties, was engaged and provided input. CVWD also partnered with Pueblo Unido Community Development Corporation (PUCDC), a local nonprofit that advocates for the water and wastewater needs of the rural and disadvantaged communities in eastern Coachella Valley, to support SWS outreach.

   The Valley View MHP Water Consolidation Project includes the installation of new water mains along Airport Blvd, Filmore Street, and Avenue 55, and along Desert Cactus Drive to consolidate nine SWSs into CVWD's potable water system: Luciano Valenzuela, Vista Norte Estates, Valley View MHP, Desert View MHP, Magdaleno Lopez, Campos MHP, Meza's Ranch, De Leon Ranch, and Soto Water (see map included in Attachment 2A). These SWSs are currently using private wells for drinking water supply. These systems have reported exceedances of drinking water Maximum Contaminant Levels (MCLs) and poor water supply reliability. The new infrastructure for the project would consist of 7,880 linear feet (LF) of 30-inch pipe, 9,100 LF of 12-inch pipe, 1- and 2-inch service pipes, and 6-inch fire service assemblies. A

Preliminary Engineering Report (available upon request) was prepared in 2019 and revised in May 2020. Design and construction are yet to be completed. CEQA documentation (Valley View IS/MND) was completed in 2019, with a Subsequent IS/MND addressing a refined pipeline crossing of the Coachella Valley Stormwater Channel (CVSC) anticipated in March 2022. The Draft Valley View IS/MND is available for download here: https://www.cvwd.org/ArchiveCenter/ViewFile/Item/746.
The Valley View MHP Water Consolidation Project will be completed in two phases. CVWD is requesting funding to complete the design and construction of Phase 1 of the Valley View MHP Water Consolidation Project, which will consolidate three MHPs located south of Airport Boulevard that are small, disadvantaged communities (DACs). Construction of Phase 1 would consolidate the Desert View MHP, Valley View MHP, and Vista Norte Estates into the CVWD potable water system (see map in Attachment 2B).

In addition to the nine SWSs that will be consolidated by the Valley View MHP Water Consolidation Project, the project will also facilitate the future consolidation of up to 10 nearby SWSs. The 10 systems located south of the Project between Airport Boulevard and 60th Avenue total 99 additional connections that serve approximately 400 residents within DACs. Phase 1 of Valley View MHP Water Consolidation Project will construct the backbone pipeline along Airport Boulevard that is needed to connect and loop CVWD's existing pipelines to provide sufficient domestic water, fire flows, and reliability to these additional 10 SWSs in the future.

5. Does this project respond to an existing emergency to humans and/or wildlife? If so, please describe the emergency and how this project is addressing it.

Based on the County of Riverside Inspection Reports, five SWSs within the Project have shown MCL exceedances for arsenic and/or fluoride at their respective private wells. Four SWSs have installed under-the-counter treatment systems to address arsenic and or fluoride; however, this is a short-term solution intended to improve water quality until the consolidations can be completed. The Valley View MHP Water Consolidation Project will improve water supply reliability and quality to the nine SWSs; Phase 1 will directly benefit three SWSs located south of Airport Boulevard by connecting MHP users to CVWD's potable water system.

The general area around Valley View MHP is mapped in the Department of Water Resources (DWR) Disadvantaged Communities Mapping Tool as DAC (https://gis.water.ca.gov/app/dacs/). Construction of Phase 1 would consolidate the Desert View MHP, Valley View MHP, and Vista Norte Estates into the CVWD potable water system, all of which are small DACs (see map in Attachment 2B). This improvement in water service will directly benefit the DACs within the SWSs by ensuring access to clean, safe drinking water.

Achieving drinking water reliability for the identified SWSs is critical to ensuring public health. The SWSs are currently operated by the MHP owners that rely on single, privately-owned groundwater wells with no redundancy, poor water quality, and uncertain reliability. The residents living in the MHPs rely on the private groundwater wells for drinking water and need a more reliable water supply that will not have MCL exceedances for arsenic, fluoride, or any other constituent. Consolidating the SWSs into the CVWD potable water system will provide a higher level of security, reliability, and redundancy.

Additionally, due to the limited or nonexistent fire suppression systems for three of the SWSs, the MHPs are at risk for fires that could result in damage and loss of life; the SWSs offer less protection than a municipal water supply could provide. Consolidation into the CVWD system will provide a more robust and reliable means for fire protection for these systems, and an immediate upgrade for the SWSs that currently have no fire suppression system.

6. Each project must meet one of the following purposes as it relates to drought. Please select the appropriate purpose for your project.
    a. ☒ Address immediate impacts on human health and safety, including providing or improving availability of food, water, or shelter.
    b. ☐ Address immediate impacts on fish and wildlife resources.
    c. ☒ Provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies.

7. Each project must enhance regional drought resilience and align with the goals and objectives of the relevant approved Integrated Regional Water Management Plan. You can find the relevant IRWM Region by using the map at the following link: https://gis.water.ca.gov/app/dacs/

    The IRWM Plans can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs/Plan-Review-Process. If you have any questions about the IRWM region the contact list can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs. Applicants are encouraged to contact and coordinate with the applicable RWMG for the IRWM region in which the project is located

    Please identify the IRWM objective your project addresses.
    A. Provide reliable water supply for residential and commercial, agricultural community, and tourism needs. (This project seeks grant dollars to provide a reliable water supply to DACs through consolidation into the municipal water system.)

    B. Manage groundwater levels to reduce overdraft, manage perched water, and minimize subsidence. (Consolidation of vulnerable SWSs into the muncipal water system increases resilience to potential groundwater supply limitations if groundwater levels decline due to repeated droughts like those experienced in the last decade.)

    L. Address water and sanitation needs of disadvantaged communities (DACs), including those in remote areas. (This project directly addresses the water needs of DACs. The SWSs are currently operated by MHP owners that rely on single, privately-owned groundwater wells with no redundancy, poor water quality, and uncertain reliability. This project will consolidate the SWSs into the CVWD potable water system to provide a higher level of security, reliability, and redundancy.)

    M. Maintain affordability of water. (The cost of implementing capital projects can result in a need for rate increases. For DAC customers, rate changes have a greater impact than on non-DAC customers because they are less able to afford the increased rates. Providing grant funding for this project helps to maintain the affordability of water.)

8. Describe the Primary Benefit of the project.

Quantified benefit: 61
Units (Drop down):Acre feet per year If other please enter:
Benefit Type: Water Supply If other please enter:

9. Describe the Secondary Benefit of the project:
   Quantified benefit: 3
   Units (Drop down):Other If other please enter: SWSs (small DACs) connected to CVWD's potable water system
   Benefit Type: Water Supply Reliability If other please enter:

10. Please briefly describe how the project will achieve the claimed benefits.
    Designing and constructing Phase 1 of the Valley View MHP Water Consolidation Project will allow for the consolidation of three SWSs into CVWD's potable water system: the Valley View MHP, Desert View MHP, and Vista Norte MHP located south of Airport Boulevard. According to the 2020 Preliminary Engineering Report, these three SWSs have 71 existing service connections serving 284 people (assuming four people per household for mobile home parks, per County Department of Health guidance). The existing maximum daily demand for these households is 38 gallons per minute (gpm), or 61 acre-feet per year (AFY). Phase 1 of this project will provide 61 AFY of clean, safe drinking water to these DACs.

    As part of the consolidation, new connections to the potable water system will be provided, along with fire flow and hydrants to serve the MHP residences. This will ensure that the MHPs drinking water supply meets all State and federal drinking water standards (including the fluoride MCL of 2 mg/L and the arsenic MCL of 10 ug/L) and is reliably serviced.

11. Briefly describe how the community/area benefiting from this project is being impacted by the current drought.
    The SWSs in the East Coachella Valley currently rely on individual private wells owned and operated by the MHP owners, which may be relatively shallow or insufficiently maintained. Drought conditions – both within the local watershed and in imported watersheds – reduce the amount of water supply available for replenishment in the groundwater basin, which supports groundater production. Because this is the sole source of supply for these small DACs, it is critical to provide a more reliable water supply in light of the current drought. If the SWSs experience additional water quality violations, a well failure, or declining groundwater levels, the MHP owners may struggle to rehabilitate or redrill the wells. Maintenance of these SWS wells is a concern identified in County of Riverside Inspection Reports, related to both water access and quality.

12. How will this project alleviate the impacts described in your answer to Question 11?
    The 2022 Indio Subbasin Water Management Plan Update (http://www.indiosubbasinsgma.org/alternative-plan-update/) identifies water system consolidations as an important water management strategy to ensure clean, safe drinking water for local residents, specifically DACs. Consolidation of vulnerable SWSs increases resilience to potential groundwater supply limitations if groundwater levels decline due to repeated droughts like those experienced in the last decade (along with current Statewide drought). CVWD's muncipal water system depends on groundwater production from the deep aquifer in the Eastern Coachella Valley and includes wellhead treatment as necessary to meet all MCLs. The Valley View MHP Water

Consolidation Project will result in connection of three small DACs to CVWD's potable water system, ensuring high quality, reliable water supply to the SWSs.

13. Please complete the following budget table for the project. (Identify funding sources in Question 15)

	BUDGET CATEGORY	Grant Amount	All Other Cost	Total Cost
(a)	Project Administration	0	50,000	**50,000**
(b)	Land Purchase / Easement	50,000	0	**50,000**
(c)	Planning / Design / Engineering / Environmental Documentation	550,000	450,000	**1,000,000**
(d)	Construction / Implementation	0	3,000,000	**3,000,000**
	TOTAL COSTS	**600,000**	**3,500,000**	**4,100,000**

14. Please describe why state funding is needed for this project. If state funding is not secured, what will happen to the project?

    CVWD is unable to use existing ratepayer funds for consolidation projects (i.e., new users). However, small DACs cannot fund design and construction of the project due to financial burden. Without state grant funding, the project would not be implemented and the SWSs would continue to rely on the poor quality and unreliable private groundwater wells. The Valley View MHP Water Consolidation Project will be delayed until State funding is secured.

15. Will the applicant provide cost share (encouraged but not required) and/or will this project require any additional funding from sources other than this solicitation? If so, please describe the funding source and indicate if the funding has been secured. If the funding has not been secured, please describe the plan to secure the necessary funding.

    CVWD will provide cost share for the Valley View MHP Water Consolidation Project. It has submitted a Drinking Water State Revolving Fund (DWSRF) grant application which is currently under review by the State Water Resources Control Board. It is anticipated a grant agreement will be executed in 2022. Planning and design costs incurred prior to execution of the DWSRF grant agreement execution can be reimbursed retroactively and are eligible for grant funding.

16. Is land acquisition or landowner permission required for this project? If so, please briefly describe the status of the acquisition or agreement with the landowner. If the acquisition is not complete or permission not secured at the time of application, please describe the plan to complete it.

    Easements will be required for construction of Phase 1 of the Valley View MHP Water Consolidation Project. CVWD intends to conduct land acquisition and easement coordination as part of the funded project and secure necessary rights prior to construction.

17. Has planning and design for this project been completed? If not, please describe the status of planning and design.

    Planning for the Valley View MHP Water Consolidation Project was completed in 2019 and updated in 2020 with the preparation of the Valley View MHP Water Consolidation Project Preliminary Engineering Report (see site photos in Attachment 2C). Design has not yet begun. CVWD will retain a consultant to complete design after DWR grant funding is secured. The design consultant will be responsible for the delivery of 30, 60, 90, and 100% plans and specifications for construction of the water pipeline and connection to the CVWD system. Design plans and specifications must adhere to CVWD design requirements and therefore will require review and approval by CVWD.

18. Are the CEQA (and NEPA if applicable) and permitting processes for this project complete? If not, please briefly describe the permits and CEQA (or NEPA) documents to be completed and projected schedule for completion.

    The Valley View MHP Water Consolidation Project IS/MND was completed in 2019. A Subsequent IS/MND is currently being prepared to refine analysis of the pipeline crossing over the CVSC, a component of the Valley View Project. The Subsequent IS/MND will be finalized in March 2022. Preparation of the Subsequent IS/MND is being funded through the IRWM Program, DAC Involvement grant for the East Coachella DAC Design and Environmental project.

    Encroachment permits from the County of Riverside, Caltrans, and Union Pacific Railroad will be required, as well as a Drinking Water Supply Permit amendment from SWRCB Division of Drinking Water. A Permit to Construct from the South Coast Air Quality Management District and General Permit for Construction Discharges from RWQCB will be acquired prior to construction. A CDFW Streambed Alteration Agreement will also be necessary. Permits will be confirmed during final design and acquired prior to construction.

19. Please briefly describe the necessary construction/implementation for this project.

    Construction of Phase 1 of the Valley View MHP Water Consolidation Project consists of constructing a 30-inch water main along Airport Blvd between Pierce St and Fillmore St, as well as a 30-inch pipeline to connect to the existing CVWD water main on Palm Street and continue east under Highway 111 and the CVSC to Airport Boulevard. The 30-inch pipeline diameter would increase to 32-inches for the portion of the pipe crossing under the CVSC. The new water main would connect to CVWD's existing water mains allowing for the consolidation of the three SWSs. Master water meter piping would be constructed to connect the water mains to the property boundaries of each SWS and on-property pipelines would be constructed to connect the new service piping to the existing potable distribution system within each SWS. The private wells currently serving the SWSs would be destroyed per County of Riverside standards and CVWD would begin supplying the three SWSs with potable water.

    CVWD will hire a consultant to complete contract services which consists of solicitation for a construction contractor, advertisement for bids, holding a preconstruction meeting, bid opening, bid evaluations, CVWD staff recommendations, CVWD Board of Directors approval, and awarding the construction contract, which includes confirming the contractor's insurance requirements and bonds. For each contract, CVWD must issue a Request for Proposals, evaluate submitted proposals, and issue recommendations.

CVWD will hire a consultant to complete construction administration which includes managing contractor submittal review, answering requests for information, and issuing work directives. Construction observer duties include: documenting of pre-construction conditions, daily construction diary, preparing change orders, addressing questions of contractors on site, reviewing/updating project schedule, reviewing contractor log submittals and pay requests, forecasting cash flow, notifying contractor if work is not acceptable. CVWD will complete the inspection during construction.

20. Please complete the schedule below for the project. Projects must be complete by March 31, 2026, to allow time for final invoice processing and retention payment before the State funds expire on June 30, 2026. Project administration should end at least three months after construction.

	Categories	**Start Date**	**End Date**
(a)	Project Administration	3/1/2022	3/31/2026
(b)	Land Purchase / Easement	6/1/2022	10/31/2024
(c)	Planning/ Design / Engineering / Environmental Documentation	4/1/2022	10/31/2024
(d)	Construction/ Implementation	11/1/2024	1/1/2026

PROJECT INFORMATION FORM

Please complete a unique Project Information Form <u>for each project</u> in the application. There are no character limits on specific questions but the Project Information Form as a whole may not exceed <u>10 pages</u>.

1. Project Name: Well C8 Drilling and Equipping

2. Local Project Sponsor (if different than grantee): City of Banning

3. Please provide the latitude and longitude of the project site. For linear projects or those covering a large area, report the coordinates for a central point. If this information is confidential, it must be clearly labeled "confidential." You can find the latitude and longitude easily using google maps. You can find instructions at the following link: https://support.google.com/maps/answer/18539?hl=en&co=GENIE.Platform%3DDesktop.

   Latitude: 33° 56' 9.0888'' N Longitude: 116° 55' 53.9868'' W

4. Please briefly describe the proposed project.

   The Well C8 Drilling and Equipping project will construct a new potable water well on the western end of the City of Banning's (City) service area (see map in Attachment 4A). The well will have a production capacity of up to 2,000 gallons per minute, or up to 3,200 acre-feet per year (if the well is run 24-hours per day). It would be drilled to 1,100 feet deep and enclosed in a block building to protect the equipment and reduce noise and visual impacts to neighbors. The wellhouse building will be 30' by 35'. The project also includes installation of disinfection facilities at the wellhead and a transmission main to connect to the City of Banning's existing distribution system. The transmission main will connect to an 18-inch pipeline immediately to the east of the wellsite property that will be constructed in the near future as part of a residential development that will begin construction in early 2022.

5. Does this project respond to an existing emergency to humans and/or wildlife? If so, please describe the emergency and how this project is addressing it.

   Per the U.S. Census Bureau, the City of Banning has a median household income (MHI) of $42,274, which is 56% of statewide MHI for 2015-2019. As such, the City of Banning qualifies as a severely disadvantaged community (SDAC) (see map in Attachment 4A).

   The City of Banning recently lost Well M12 due to a cave-in in 2020 and is seeking to construct Well C8 to replace this well. Well C8 will pump water from a groundwater storage unit that is less vulnerable to drought than some of the City's other groundwater storage units (see map in Attachment 4B), which will reduce withdrawals from drought-vulnerable storage units (see next paragraph). The City has an emergency interconnection with Beaumont-Cherry Valley Water District and used it in Summer 2020 and the second half of 2021 to help meet demands while four of its wells were out of service due to declining water levels, mechanical repairs, and maintenance. This project will allow the City to access a more reliable source of groundwater and counteract the loss of Well M12.

The City of Banning relies on a mix of water supplies that includes imported water from the State Water Project (SWP), groundwater, and surface water. Both SWP and surface water supplies are limited during drought, increasing reliance on groundwater to meet demands. Groundwater is pumped from five storage units within the San Gorgonio Pass Subbasin: Beaumont, West Banning, Cabazon, Banning Bench, and Banning Water Canyon, which each have varying levels of vulnerability to drought. SWP supplies are used to recharge the Beaumont Storage Unit, and then pumped out for delivery to customers. Surface water from the Whitewater River is recharged into the Banning Water Canyon Storage Unit, via the Whitewater Flume. The City's supplies have been impacted by the 2020 Apple Fire which damaged some of the conveyance infrastructure that is part of the Whitewater Flume. The City currently operates within or under the safe yield or adjudicated amounts available to it in each of its five storage units. For the adjudicated Beaumont Storage Unit, the City is limited to pumping only the volume of water that it has stored in the storage unit. During drought, recharge is limited, and groundwater basins and storage units are vulnerable to overpumping. The proposed Well C8 would be drilled to replace the lost well M12 and would pump stored water from the Beaumont Storage Unit, which is less vulnerable to drought than the West Banning Storage Unit is, which is where Well M12 is located. This project would allow the City to reduce its reliance on storage units that are more vulnerable to the effects of drought, including the Banning Water Canyon Storage Unit (affected by reduced surface water flows in the Whitewater River available for diversion as well as the wildfire damage to conveyance infrastructure), and provide for additional operational flexibility that will allow the City to better respond to changes in supply availability.

6. Each project must meet one of the following purposes as it relates to drought. Please select the appropriate purpose for your project.
    a. ☒ Address immediate impacts on human health and safety, including providing or improving availability of food, water, or shelter.
    b. ☐ Address immediate impacts on fish and wildlife resources.
    c. ☐ Provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies.

7. Each project must enhance regional drought resilience and align with the goals and objectives of the relevant approved Integrated Regional Water Management Plan. You can find the relevant IRWM Region by using the map at the following link: https://gis.water.ca.gov/app/dacs/

    The IRWM Plans can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs/Plan-Review-Process. If you have any questions about the IRWM region the contact list can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs. Applicants are encouraged to contact and coordinate with the applicable RWMG for the IRWM region in which the project is located

    Please identify the IRWM objective your project addresses.
    This project addresses the following objectives from the San Gorgonio IRWM Plan (https://www.sgirwm.org/):

Objective 1c: Maximize the use of groundwater supplies, including local storage of imported water. (Project will allow the City to better access stored groundwater, including stored imported water.)

Objective 2c: Support projects to increase resilience and redundancy of local production and distribution facilities. (Project will construct a new well that will provide additional operational flexibility and address a current shortfall in production capacity due to the loss of Well M12.)

Objective 8: Seek funding opportunities to ensure all communities have access to a reliable water supply and adequate wastewater treatment. (Well C8 will improve water supply reliability for the City's entire service area. Grant funding for the new Well C8 will reduce the cost to the City (and subsequently its customers) for producing water from the new well.)

Objective 9: Support projects that provide safe, sustainable and livable communities and to promote future economic development of local DACs. (The City maps entirely as a SDAC. Water supply reliability is critical to ensuring the long-term success of a community. The new well will increase water supply reliability, and improve sustainable management of the City's groundwater storage units.)

The project meets these objectives and will serve a SDAC and provide a reliable groundwater supply in a vulnerable basin.

8. Describe the Primary Benefit of the project.
   Quantified benefit: 3200
   Units (Drop down):Acre feet per year If other please enter:
   Benefit Type: Water Supply - Ground If other please enter:

9. Describe the Secondary Benefit of the project:
   Quantified benefit: 31125
   Units (Drop down):Other If other please enter:people
   Benefit Type: Water Supply Reliability If other please enter:

10. Please briefly describe how the project will achieve the claimed benefits.
    The water supply benefit is based on the production capacity of the well. The new Well C8 is sited and woud be designed to achieve the the planned production capacity of up to 2,000 gpm, or up to 3,200 AFY. A siting study completed in 2019 has indicated that the location is appropriate for the well size and desired production capacity. Water from the well will be disinfected at the wellhead and immediately put into the distribution system for delivery to customers.

    The addition of a new well will allow the City to draw on banked supplies and will provide additional flexibility in the system. Further, it will allow the City to reduce pumping from groundwater storage units that are more susceptible to drought, such as the Banning Water Canyon and Banning Bench storage units, which are relatively shallow and depend on annual rain and snowmelt for recharge. Being located in the Beaumont Storage Unit, Well C8 will allow the City to continue to meet the needs of the community while avoiding long-term impacts of drought on groundwater basins. The City's supply system is interconnected,

and the addition of the new well will improve supply reliability across the entire system. Per the City's 2020 Urban Water Management Plan, the City's 2020 service area population is 31,125 people. The total service area population is growing rapidly, and is expected to reach 38,180 in 2025, shortly after the project will be completed, and more than doubling by 2045.

11. Briefly describe how the community/area benefiting from this project is being impacted by the current drought.

As previously noted, the City of Banning relies on a mix of water supplies that includes imported water from the State Water Project (SWP), groundwater, and surface water. Groundwater is pumped from five storage units, some of which have experienced a decline in groundwater levels as a result of the drought, and recharge with local surface water has been further hindered by fire damage to the Whitewater Flume. The City recently lost Well M12, and is seeking to construct Well C8 to replace this well's production capacity and reduce withdrawals from vulnerable groundwater storage units. The City has an emergency interconnection with Beaumont-Cherry Valley Water District, and used it in Summer 2020 and the second half of 2021 to help meet demands while four of its wells were down due to emergency repairs, declining water levels, and maintenance. As the drought continues, the City anticipates needing to reduce groundwater pumping from more vulnerable basins as a result of changes in groundwater levels. Storage units without access to imported water for recharge purposes have seen declining water levels, which has caused a reduction in the production capacity of many wells, especially in the West Banning and Cabazon storage units. The Beaumont Storage Unit is less vulnerable to drought impacts due to its access to imported water for recharge.

12. How will this project alleviate the impacts described in your answer to Question 11?

The project will allow the City to access stored (banked) water that is less vulnerable to drought. The new Well C8 would be drilled in the Beaumont Storage Unit, which is adjudicated and serves as a storage basin for the City. The City has 51,000 AF of storage in the Beaumont Storage Unit which is available even during drought because it is banked water. However, the City's existing pumping capacity in the Beaumont Storage Unit is insufficient to allow for reduction of pumping from other storage units that are more vulnerable to drought impacts.

13. Please complete the following budget table for the project. (Identify funding sources in Question 15)

	BUDGET CATEGORY	**Grant Amount**	**All Other Cost**	**Total Cost**
(a)	Project Administration	0	20,000	**20,000**
(b)	Land Purchase / Easement	0	0	**0**
(c)	Planning / Design / Engineering / Environmental Documentation	0	738,383	**738,383**
(d)	Construction / Implementation	513,326	1,767,000	**2,280,326**

	TOTAL COSTS	**513,326**	**2,525,383**	**3,038,709**

14. Please describe why state funding is needed for this project. If state funding is not secured, what will happen to the project?

    Grant funding is needed to help reduce the cost of the project to the City of Banning customers and allow the project to be implemented quickly. Current construction costs are high, and bids, expected in spring 2022, are anticipated to be even higher given recent supply chain issues and quickly rising costs due to the COVID-19 pandemic. As noted above, the City of Banning meets DWR's definition of a SDAC. The cost of implementing projects can result in a need for rate increase. For SDACs, rate changes have a greater impact on customers than customers in non-DAC or non-SDAC areas because they are less able to afford the increased rates. Grant funds will also allow this project to be constructed more quickly by making a large portion of the project funding available quickly, reducing the risk of worsening drought impacts on existing wells and allowing the City to more quickly address the risk of shortage from losing one of its wells last year.

15. Will the applicant provide cost share (encouraged but not required) and/or will this project require any additional funding from sources other than this solicitation? If so, please describe the funding source and indicate if the funding has been secured. If the funding has not been secured, please describe the plan to secure the necessary funding.

    The City of Banning will provide approximately $2.5 million in cost share from its Water Enterprise Fund. Approximately $700,000 has already been committed to the project for planning and design work under the City's Capital Improvement Plan. If grant funds are awarded, the City will commit the remaining funds under the Water Enterprise Fund to allow the project to be completed in a timely fashion and within the required completion date for this grant program.

16. Is land acquisition or landowner permission required for this project? If so, please briefly describe the status of the acquisition or agreement with the landowner. If the acquisition is not complete or permission not secured at the time of application, please describe the plan to complete it.

    The City is in the process of aquiring the land for this wellsite, which will be dedicated to the City upon tract map recordation, expected in early 2022. The developer for this residential tract development is also willing to sign an Memorandum of Understanding (MOU) or grant a construction easement, which will grant the City's contractors access to the wellsite should drilling activities move forward before the tract map is recorded. The pipeline would be constructed within the future road right-of-way. No additonal land acquisition or landowner permission would be required.

17. Has planning and design for this project been completed? If not, please describe the status of planning and design.

    The City has completed a Well Siting Study and Preliminary Plans and Specifications for Well C8. Design for drilling is complete, and the design of above-ground improvements is expected to be completed in early to mid-2022 after the well is drilled and has been tested to verify production capacity and water quality, since sizing of the pump and disinfection facilities are dependent on the results of step-drawdown testing.

18. Are the CEQA (and NEPA if applicable) and permitting processes for this project complete? If not, please briefly describe the permits and CEQA (or NEPA) documents to be completed and projected schedule for completion.

    The City has already begun work on an Initial Study and Mitigated Negative Declaration (IS/MND) for the project. A public Draft IS/MND is expected to be released for public review in January 2022, and final IS/MND is expected in March 2022. A drilling permit will be obtained from the County by the selected drilling contractor once that work goes out to bid.

19. Please briefly describe the necessary construction/implementation for this project.

    Construction of the well will include site preparation and clearing, drilling of the well, construction of the block building, and installation of the additional pipeline to connect the well to the existing distribution system. The well will be drilled to 1,100 feet deep using the fluid reverse circulation rotary drilling method. A wellhead treatment system will be installed with the well for disinfection, consistent with the City's other wells. The block building will be approximately 35 feet by 30 feet, and a height of 15 feet. The transmission main to connect to the City's existing distribution system would be installed via open trench within the roadway right of way. A total of 150 linear feet of 18-inch pipe will be installed to connect to a new 18-inch transmission main that will connect to the City's existing distribution system. This new transmission main will be constructed in 2022 as part of a surrounding residential development, and is separate from the project in this proposal.

20. Please complete the schedule below for the project. Projects must be complete by March 31, 2026, to allow time for final invoice processing and retention payment before the State funds expire on June 30, 2026. Project administration should end at least three months after construction.

	Categories	**Start Date**	**End Date**
(a)	Project Administration	3/1/2022	3/31/2024
(b)	Land Purchase / Easement		
(c)	Planning/ Design / Engineering / Environmental Documentation	9/18/2018	12/31/2022
(d)	Construction/ Implementation	3/1/2022	12/31/2023

PROJECT INFORMATION FORM

Please complete a unique Project Information Form <u>for each project</u> in the application. There are no character limits on specific questions but the Project Information Form as a whole may not exceed <u>10 pages</u>.

1. Project Name: Juniper Riviera County Water District Well No. 03 Profiling and Modification

2. Local Project Sponsor (if different than grantee): Juniper Riviera County Water District (District)

3. Please provide the latitude and longitude of the project site. For linear projects or those covering a large area, report the coordinates for a central point. If this information is confidential, it must be clearly labeled "confidential." You can find the latitude and longitude easily using google maps. You can find instructions at the following link: https://support.google.com/maps/answer/18539?hl=en&co=GENIE.Platform%3DDesktop.

   Latitude: 34° 25' 37" N Longitude: 117° 6' 35" W

4. Please briefly describe the proposed project.

   In 2004, the District began planning for an additional well to support the community water supply and manage the District's local aquifer (part of the Upper Mojave River Valley groundwater basin, DWR Basin No. 6-042) by removing some of the demand off Well No. 01 in order to plan for a sustainable water future for the community. Well No. 03 was completed in 2008, but it is currently being used as a standby well due to the arsenic and fluoride levels exceeding the State's maximum contaminant levels (MCL) of 10 micrograms per liter (ug/L) and 2 milligrams per liter (mg/L), respectively. The project will perform a chain survey to determine the optimum access path into the well, followed by dynamic flow profile and dynamic groundwater profiling. The results will be used to develop and implement a well modification plan including packer installation to isolate and block the strata that are producing arsenic and fluoride, thus resulting in a well that meets the arsenic and fluoride MCLs, which could be used for potable water supply in order to alleviate the drawdown on Well No. 01 due to drought conditions. Additionally, eight aging pressure reducing valve (PRV) stations will be repaired or replaced. These PRV stations were built in 1979 and are in dire need of attention in order to maximize water conservation. These PRVs are located throughout the District distribution system and the District relies on them to reduce pressure to downstream customers (See Attachment 5A). The dilapidated condition of the valves results in water loss through the leaking valves and contributes to the over-working of the drought-taxed Well No. 01. The proposed system upgrades will provide water supply that meets drinking water standards and help conserve water. These upgrades will also result in easing pumping demand on the over-taxed Well No. 01, which will help relieve drought related drawdown. The project is expected to provide 45 acre-feet per year (AFY) increased water supply reliability and 6 mg/L fluoride reduction in groundwater supplies.

5. Does this project respond to an existing emergency to humans and/or wildlife? If so, please

describe the emergency and how this project is addressing it.

The District is a small water system, supplying potable water to 262 rural residences in a disadvantaged community (DAC) (See Attachment 5B). According to the DWR DAC Mapping tool, the project location has a median household income (MHI) of $44,978, qualifying as a DAC (https://gis.water.ca.gov/app/dacs/).

The District currently relies on three wells (Wells No. 01, 02 and 03) to provide water to 600 residents within a disadvantaged community (DAC). Historically, 98% of the District's production comes from Well No. 01. Well No. 2 is operational, but is only used minimally because it is not a good producer. However, during drought years, Well No. 01 has experienced water drawdown. Although Well No. 01 is still meeting water demands, the well will continue to be over-taxed as drought conditions continue. Furthermore, Well No. 03's arsenic and fluoride levels exceed the drinking MCLs. As a result, Well No. 03 can only be used as a standby well and thus has limitations from the Division of Drinking Water (DDW) on when the well can be used and the duration that it can be used. If Well No. 01 fails, the District will be forced to rely on Well No. 03, which does not meet current public health standards and would require public notification for extended use. Therefore, enabling Well No. 03 to meet MCLs is critical for the District to continue providing a safe, reliable water supply. The proposed project will reduce the arsenic and fluoride levels in Well No. 03 by blocking off the strata that are contributing to the MCL exceedances and will repair and/or replace eight PRVs that will reduce water loss.

6. Each project must meet one of the following purposes as it relates to drought. Please select the appropriate purpose for your project.
   a. ☒ Address immediate impacts on human health and safety, including providing or improving availability of food, water, or shelter.
   b. ☐ Address immediate impacts on fish and wildlife resources.
   c. ☒ Provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies.

7. Each project must enhance regional drought resilience and align with the goals and objectives of the relevant approved Integrated Regional Water Management Plan. You can find the relevant IRWM Region by using the map at the following link: https://gis.water.ca.gov/app/dacs/

   The IRWM Plans can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs/Plan-Review-Process. If you have any questions about the IRWM region the contact list can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs. Applicants are encouraged to contact and coordinate with the applicable RWMG for the IRWM region in which the project is located

   Please identify the IRWM objective your project addresses.
   The project addressing the following objectives from the Mojave IRWM Plan (https://www.mywaterplan.com/files/mojave_irwm-plan_final_62614.pdf) which are considered high priority:

   Objective 1: Balance average annual future water demands with available future supplies to ensure sustainability throughout the Region between now and the 2035 planning horizon

and beyond. (The project will provide water supply that meets drinking water standards and ease pumping demand on the over-taxed Well No. 01, which will help relieve drought related draw-down.)

Objective 3: Maintain stability in previously overdrafted groundwater basins and reduce overdraft in groundwater basins experiencing ongoing water table declines. (The project will reduce localized overdraft in the Upper Mojave River Valley aquifer by reducing pumping demand on Well No. 01, reducing draw-down in the vicinity of Well No. 01.)

Objective 5: Optimize the use of the Region's water related assets to maximize available supplies to meet projected demands while mitigating against risks. Water related assets to be optimized include financial resources, groundwater storage programs, available imported water supplies, transfer and exchange opportunities, available physical infrastructure, and management policies. (This project maximizes available supplies by improving the water quality of the groundwater extracted from Well No. 03.)

Objective 7: Provide support assistance to Disadvantaged Communities and help facilitate projects and programs the benefit those communities. (The District's entire service area is considered a DAC. This project will provide improved water supply reliability to a DAC.)

Objective 11: Obtain financial assistance from outside sources to help implement this Plan across a range of project sizes during the planning horizon. (This project is seeking grant assistance from the Department of Water Resources for completion.)

8. Describe the Primary Benefit of the project.
   Quantified benefit: 45
   Units (Drop down):Acre feet per year If other please enter:
   Benefit Type: Water Supply Reliability If other please enter:

9. Describe the Secondary Benefit of the project:
   Quantified benefit: 6
   Units (Drop down):mg/L If other please enter: Fluoride reduction

   Benefit Type: Water Quality - Groundwater If other please enter:

10. Please briefly describe how the project will achieve the claimed benefits.
    The project will achieve the claimed benefits by blocking off the arsenic and fluoride producing strata of Well No. 03 allowing it to be returned to active service and by replacing failing pressure reduce valves (PRVs). Once Well No. 03 is added to the District's active operations, the well will provide an immediate benefit to the District, supplying 45 AFY of water supply reliability to the District's domestic customers. Furthermore, Well No. 03 will be the main producing well and immediately minimize the need to constantly pump Well No. 01, which is experiencing drawdown due to the current drought conditions. While both Well No. 01 and No. 03 are in the same subbasin aquifer (the Este subarea of the Upper Mojave River Valley groundwater basin), the existing conditions are creating a localized overdraft in the vicinity of Well No. 1. After the project is complete, the District will be able to pump approximately 50% to 60% less water from Well No. 01, which will reduce the localized depression caused by overpumping Well No. 1. While Well No. 02 is still

operational, only 2% of the District's production comes from this well. DDW requires that community water systems have two active groundwater wells per Section 64554(c) of Title 22 of the California Code of Regulations and that the system be able to meet maximum day demand with one well offline. The District is not able to meet this requirement with the current water quality issues in Well No. 03 and low production from Well No. 02. Completing this project will provide long-term water supply reliabilty for the District.

In addition, the project will reduce arsenic and fluoride in Well No. 03. Arsenic levels in Well No. 03 have ranged from 11 to 13 micrograms per liter (ug/L) between 2014 and present, which are over the MCL of 10 ug/L. Fluoride levels in the well have ranged from 7.6 to 8.3 milligrams per liter (mg/L) between 2014 and present, which is over the MCL of 2 mg/L. The project will reduce the arsenic level by at least 1 to 3 ug/L and the fluoride level by at least 6 mg/L by isolating and blocking the strata that contain arsenic and fluoride. This will allow the DDW to permit Well No. 03 for the District as an active source of supply that can be used yearround.

11. Briefly describe how the community/area benefiting from this project is being impacted by the current drought.

The District is located within San Bernadino County (the County), which is experiencing drought conditions according to the latest U.S. Drought Monitor. 89.23% of the County is experiencing extreme drought conditions, while 4.68% of the County is experiencing exceptional drought conditions. The County is also experiencing its 11th driest year to date over the past 127 years (January to November 2021). The District currently depends on two wells to provide safe water supplies to over 600 residents within its service area which is entirely DAC as shown in Attachment 5B. The two wells are currently able to meet demand, but drought conditions have caused Well No. 01 to experience water drawdown, which impacts the District's water supply reliability. As drought conditions and the impacts of climate change continue in the State, there is a strong possibility that Well No. 01 will be overdrafted, which will cause locally depressed groundwater levels, reducing water supply and increase pumping costs. This project will improve water supply reliability to a DAC.

12. How will this project alleviate the impacts described in your answer to Question 11?

Well No. 01 is struggling to keep up with demand due to the inability to operate Well No. 03 as an active source. Well No. 03 is currently a standby well due to its arsenic and fluoride levels exceeding the drinking water MCLs. The project will reduce the fluoride and arsenic levels in Well No. 03 by blocking off the strata that produce these contaminants. The District would benefit from having Well No. 03 added to their operations to offset the reliance on Well No. 01, assist in production and avoid future water drawdown in Well No. 01 causing a localized groundwater depression. Once completed, the project will provide additional water supply, help relieve drought related drawdown and improve water quality issues. The PRV station repair and/or replacment will reduce water system leaks and therefore reduce demands from water loss, and reduce groundwater pumping.

13. Please complete the following budget table for the project. (Identify funding sources in Question 15)

	BUDGET CATEGORY	**Grant Amount**	**All Other Cost**	**Total Cost**

(a)	Project Administration	0	5,000	**5,000**
(b)	Land Purchase / Easement	0	0	**0**
(c)	Planning / Design / Engineering / Environmental Documentation	0	0	**0**
(d)	Construction / Implementation	198,217	0	**198,217**
	TOTAL COSTS	**198,217**	**5,000**	**203,217**

14. Please describe why state funding is needed for this project. If state funding is not secured, what will happen to the project?

    This budget is based on construction and implementation only. Because both elements to this project are for remediation and/or repairs to existing structures, the need for planning and design is eliminated. Remediation recommendations for the work on Well No. 03 will be done based on findings from the physical profiling. Repair and replacement work for the Pressure Reducing Stations (PRVs) will be solely based on the findings when the field crew physically inspects each PRV to determine if repair is feasible or if an entire replacement will be necessary. Project administration and related costs will be covered by the District as District staff will be performing general administrative and project management tasks.

    The District began planning for additional well support in 2004. Well No. 03 was designed and budgeted for four years before it was drilled and completed in 2008. The District has invested over $150,000 only to discover that Well No. 03's arsenic and fluoride levels exceed the drinking water MCLs, which prevents the District from realizing any real return on investment. Without State funding, the project would experience lengthy delays because the District would have to seek other competitive state and/or federal funding. Similarly, the cost of repairing and/or replacing the PRVs would require the District to seek competitive state and/or federal funding to complete the project.

15. Will the applicant provide cost share (encouraged but not required) and/or will this project require any additional funding from sources other than this solicitation? If so, please describe the funding source and indicate if the funding has been secured. If the funding has not been secured, please describe the plan to secure the necessary funding.

    This project is proposed to be entirely grant funded. No monetary cost share will be provided by the District, however District Staff will provide both general administative support and project mangement for the entirety of the project as well as filing the Categorical Exemption as required. Staff time support is estimated at $5,000 (50 hours at $100 per hour).

16. Is land acquisition or landowner permission required for this project? If so, please briefly describe the status of the acquisition or agreement with the landowner. If the acquisition is not complete or permission not secured at the time of application, please describe the plan to complete it.

Land acquisition or landowner permission is not required because the District owns the land or has easements for the locations of Well No. 03 and the eight PRVs.

17. Has planning and design for this project been completed? If not, please describe the status of planning and design.

    Yes, the planning and design for this project is not applicable, due to the nature of the project type. The well project is essentially a "design-build" type project where the contractor will design and implement the needed changes to the well after the studies are completed. Planning and design is also not applicable for the PRV project. The PRVs will be evaluated in the field and either repaired or replaced with a standard model PRV of the same size. The well contractor and PRV contractor are ready to mobilize as soon as grant funding is awarded and the District can issue Notice to Proceed.

18. Are the CEQA (and NEPA if applicable) and permitting processes for this project complete? If not, please briefly describe the permits and CEQA (or NEPA) documents to be completed and projected schedule for completion.

    The project is CEQA exempt because project activities consists of alterations to an existing well. The PRV repair and/or replacement is also CEQA exempt as it consists of a Class 2 exemption for replacement or reconstruction of utility systems and/or facilities with no expansion of capacity. Juniper Riviera County Water District will file a Categorical Exemption within 60 days from the Notice of Award.

19. Please briefly describe the necessary construction/implementation for this project.

    District Staff will be responsible for issuing request for proposals, handling bid evaluation and award of the project which shall be in strict compliance with District construction and procurement policy. In addition, Staff will oversee the project and file the NOE as part of our "non-quantified cost share".

    The necessary construction and implementation of the project will consist of an access-survey with equipment to verify viability of access as needed to perform profiling, immediately followed by a video survey of the well, which will be complete in four to ten hours (a maximum of one full working day). The dynamic flow-profiling work onsite will consist of inserting narrow tubing into the well via the access pipe, which will then be used to inject small volumes of NSF 60-certified Rhodamine Red tracer within the well while the pump is operating. The tracer is measured in the discharge of the well. The tracer concentrations will be analyzed in order to calculate the flow rate within various strata of the well. Changes in the flow rate will be used to calculate the zonal contribution of groundwater along the length of the well screen and identify the zones of high, moderate, and low production. It is estimated that it will take one full day (up to ten hours) onsite to complete this testing.

    The final field-work of the profile is the dynamic chemistry survey. Narrow tubing will be inserted into the well via access pipe and a miniaturized groundwater sampling pump will be installed on the end of the tubing. The tubing will be deployed to multiple, targeted depths within the well while the pump is operating. The HydroBooster pump will be used to collect groundwater samples at these depths, using pressurized gas to lift the sample to the surface. This water will be collected in sample bottles by field scientists and sent to the lab by the District for analysis of selected constituents, including arsenic and fluoride. This chemisty profiling will be completed in one full day onsite (up to ten hours). It will take approximately two weeks to receive the sample results from the laboratory.

Once the field work is completed, the data from the flow profile is processed and analyzed to determine the flow contributions of each zone within the well. Data from the chemistry profile will show the water quality at selected depths, from which the chemical contribution of each zone can be calculated, thus characterizing the water chemistry within the aquifer itself. This work will be performed offsite and will be completed within two to three days.

PRV Station repair/replacement will consist of manufacturer's personnel completing site visits to perform valve rebuilds and/or replacements as deemed appropriate by field inspection, which will be completed in two to three days onsite. The tie-in and mainline re-connection will be performed by the District's subcontractor and will be complete in two to three business days.

20. Please complete the schedule below for the project. Projects must be complete by March 31, 2026, to allow time for final invoice processing and retention payment before the State funds expire on June 30, 2026. Project administration should end at least three months after construction.

	Categories	**Start Date**	**End Date**
(a)	Project Administration	3/1/2022	9/30/2022
(b)	Land Purchase / Easement		
(c)	Planning/ Design / Engineering / Environmental Documentation		
(d)	Construction/ Implementation	3/1/2022	6/30/2022

PROJECT INFORMATION FORM

Please complete a unique Project Information Form <u>for each project</u> in the application. There are no character limits on specific questions but the Project Information Form as a whole may not exceed <u>10 pages</u>.

1. Project Name: Residential Water Meter Replacement Program

2. Local Project Sponsor (if different than grantee): Bighorn-Desert View Water Agency (BDVWA)

3. Please provide the latitude and longitude of the project site. For linear projects or those covering a large area, report the coordinates for a central point. If this information is confidential, it must be clearly labeled "confidential." You can find the latitude and longitude easily using google maps. You can find instructions at the following link: https://support.google.com/maps/answer/18539?hl=en&co=GENIE.Platform%3DDesktop.

   Latitude: 34°15'57.96" N Longitude: 116°23'35.09" W

4. Please briefly describe the proposed project.

   BDVWA provides potable water for three separate service areas: Johnson Valley, Bighorn-Desert View and Goat Mountain and is planning to replace residential water meters in the Bighorn-Desert View portion of its service area, a severely disadvantaged community (SDAC) (See Attachment 6A). BDVWA installed new meters in 2008, but these water meters are beginning to decline in accuracy, and the variance between metered consumption and metered production has increased to between 16% and 22% in the last ten years (see Attachment 6B - table provided from FY2020/21 Audit). The project will replace these meters to enable users to better understand and control their water usage. BDVWA has identified approximately 1,075 meters for replacement to measure water consumption more accurately and to promote conservation through accurate metering of water usage. In addition, the project will assist BDVWA in maintaining a fair and balanced approach to water conservation messaging. Overall, the project will provide approximately 80 acre-feet per year (AFY) water conservation benefit and an electrical savings of approximately 56 megawatt hours per year (MWh-year).

5. Does this project respond to an existing emergency to humans and/or wildlife? If so, please describe the emergency and how this project is addressing it.

   BDVWA provides water service to approximately 1,977 connections and as shown on Attachment 6A, the entirety of its service area qualifies as a SDAC. According to the DWR DAC Mapping tool, the project location has a median household income (MHI) of $31,150 (https://gis.water.ca.gov/app/dacs/).

   BDVWA relies on State Water Project (SWP) water to supplement its groundwater supply. As noted in the 2015 Mojave Salt and Nutrient Management Plan, 637 AFY of SWP water provides 31% of the average annual recharge to the Ames-Means Valley groundwater basins, which BDVWA overlies. In December 2021, the Department of Water Resources (DWR) announced its initial SWP allocation of zero percent (0%)

for 2022 along with several steps to manage the State's water supply in anticipation of a third dry year. DWR has stated that the initial allocation will focus on health and safety needs for 2022. There is a strong possibility that BDVWA's SWP water will be decreased in order for the State to allocate SWP water for health and safety needs. The proposed project will replace the aging meters, which will result in the accurate metering of water consumption. The accurate metering of water consumption will promote water conservation in the region since customers can measure their water use, making these communities more resilient during droughts. This will increase water supply resiliency of the communities and conserve water to alleviate water shortages that may be caused by reduced allocations.

6. Each project must meet one of the following purposes as it relates to drought. Please select the appropriate purpose for your project.
    a. ☒ Address immediate impacts on human health and safety, including providing or improving availability of food, water, or shelter.
    b. ☐ Address immediate impacts on fish and wildlife resources.
    c. ☐ Provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies.

7. Each project must enhance regional drought resilience and align with the goals and objectives of the relevant approved Integrated Regional Water Management Plan. You can find the relevant IRWM Region by using the map at the following link: https://gis.water.ca.gov/app/dacs/

    The IRWM Plans can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs/Plan-Review-Process. If you have any questions about the IRWM region the contact list can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs. Applicants are encouraged to contact and coordinate with the applicable RWMG for the IRWM region in which the project is located

    Please identify the IRWM objective your project addresses.
    This project fulfills the following objectives from Mojave's IRWM Plan, which are rated at high priority:

    Objective 2. Continue improving regional water use efficiency by implementing a portfolio of conservation actions that are regionally cost-effective. (This project implements a conservation action by replacing inefficient water meters.)

    Objective 7. Provide support and assistance to disadvantaged communities and help facilitate projects and programs that benefit those communities. (This project will be implemented in a SDAC.)

    Objective 11: Obtain financial assistance from outside sources to help implement this Plan across a range of project sizes during the planning horizon. (Understanding water usage will help promote targeted conservation of water resources through education on actual usage patterns to promote drought resilience within a SDAC.)

8. Describe the Primary Benefit of the project.
    Quantified benefit: 80

Units (Drop down):Acre feet per year If other please enter:
Benefit Type: Water Conservation If other please enter:

9. Describe the Secondary Benefit of the project:
   Quantified benefit: 56
   Units (Drop down):Other If other please enter:Mwh-year
   Benefit Type: Improve operational efficiency If other please enter:

10. Please briefly describe how the project will achieve the claimed benefits.
    Water meters wear out over time, which impacts the accuracy of registering flow and results in "un-metered" water loss. Of this volume of water lost, up to 100 AFY of water is presumed due to customer metering inaccuracies as all production meters are within specification. Replacing meters will restore the measuring accuracy of consumer demands. If accuracy is restored to 96% through the replacement of meters, BDVWA estimates that approximately 80% of the 100 AFY loss would be recovered. Therefore, the anticipated increased accuracy in metered consumption with the new installed meters will reduce loss by approximately 80 AFY, bringing the un-billed water loss closer to 4%. This will be achieved by encouraging customers to consider water use audits of their property to assist them in understanding usage patterns and to be more efficient with landscape watering practices. These self-imposed water usage habit changes will reduce water consumption and reduce demands on the groundwater basins that BDVWA has historically been dependent on.

    On average, the electrical cost to produce an acre foot of water via groundwater pumping is 700 kilowatt-hours (kWh) in the region (Source: Coachella Valley Water District communication). Conserving 80 AFY of water will result in an electrical savings of 56 (MWh-year).

11. Briefly describe how the community/area benefiting from this project is being impacted by the current drought.
    The project area qualifies as a SDAC and is located in San Bernardino County (the County), which is experiencing drought conditions based on the U.S. Drought Monitor. 89.23% of the County is experiencing extreme drought conditions, while 4.68% of the County is experiencing exceptional drought conditions. The County is also experiencing its 15th driest year to date over the past 127 years (January - October 2021). The Ames-Means Valley groundwater basin relies on an annual average mountain-front recharge (via precipation) of up to 790 AFY, which is a total of 38% of the total inflows to the basin (Source: 2015 Mojave SNMP). Less precipitation in the area results in less natural recharge, which results in a possible overdraft. To respond to this potential overdraft, BDVWD would rely on SWP water to provide replenishment water. However, as the 2022 allocation of SWP will be focused on health and safety needs, this will likely decrease BDVWA's allocation, impacting the amount of SWP water BDVWA receives for replenishment of the potential overdraft. As noted in the response to question 5, the Ames-Means Valley groundwater basin relies on SWP water for 31% of the average annual recharge to the basin, which BDVWA overlies.

12. How will this project alleviate the impacts described in your answer to Question 11?

This project will promote water conservation through accurate metering of water usage patterns, which will increase drought resiliency. As mentioned previously, BDVWA will encourage customers to evaluate their water use audits of their property to assist them in understanding

usage patterns. BDVWA anticipates that this understanding of usage patterns will change water usage behaviors and habits, resulting in a reduction in water consumption. Utilizing grant funds for the project will directly benefit the SDAC customers who would otherwise be paying for the project from rates and fees charged by BDVWA. Reducing energy consumption through reduced pumping as a result of self-imposed conservation reduces overall revenue requirements from rates and fees (customer benefit) and also reduces the energy footprint of BDVWA (less energy needed for pumping costs per resident).

13. Please complete the following budget table for the project. (Identify funding sources in Question 15)

	BUDGET CATEGORY	Grant Amount	All Other Cost	Total Cost
(a)	Project Administration	0	5,000	**5,000**
(b)	Land Purchase / Easement	0	0	**0**
(c)	Planning / Design / Engineering / Environmental Documentation	0	0	**0**
(d)	Construction / Implementation	235,000	5,000	**240,000**
	TOTAL COSTS	**235,000**	**10,000**	**245,000**

14. Please describe why state funding is needed for this project. If state funding is not secured, what will happen to the project?

    If BDVWD is not able to secure State funding, this project would be delayed. Current un-metered water loss means that approximately 16-22% of water being delivered to customers is not paid for, which impacts the overall budgeted revenue stream. If the revenue stream cannot cover operating costs, then rates need to be raised on all customers, not just those with poor performing meters. The higher water rates disproportionately impact SDAC customers.

15. Will the applicant provide cost share (encouraged but not required) and/or will this project require any additional funding from sources other than this solicitation? If so, please describe the funding source and indicate if the funding has been secured. If the funding has not been secured, please describe the plan to secure the necessary funding.

    BDVWA will provide cost share in the form of personnel (i.e. payroll costs) to administer and manage the project. BDVWA will prepare and file a Categorical Exemption for the project, develop the Public Works contract documents and manage the bidding, award, execution and completion of the project. BDVWA staff will oversee the execution of the contract and direct the contractor to the properties targeted for meter replacement.

16. Is land acquisition or landowner permission required for this project? If so, please briefly describe the status of the acquisition or agreement with the landowner. If the acquisition is not

complete or permission not secured at the time of application, please describe the plan to complete it.

Land acquisition or landowner permission is not required for this project. The meters would be replaced for existing customers in existing meter boxes.

17. Has planning and design for this project been completed? If not, please describe the status of planning and design.

    Planning and design are not required for this project. The meter locations have been identified and would be replaced on the existing water service line by a contractor.

18. Are the CEQA (and NEPA if applicable) and permitting processes for this project complete? If not, please briefly describe the permits and CEQA (or NEPA) documents to be completed and projected schedule for completion.

    This project will require a Categorical Exemption. CEQA can be completed within 60 days from the Notice of the Award.

19. Please briefly describe the necessary construction/implementation for this project.

    BDVWA will put a contract out to bid for the purchase and installation of the meters. BDVWA will cover all of its own internal costs related to CEQA, bid document development, Notice and Award of work, field supervision and identification of locations for replacement, and project close-out.

    Construction will include the replacement of approximately 1,075 existing water meters within the SDAC residential community.

20. Please complete the schedule below for the project. Projects must be complete by March 31, 2026, to allow time for final invoice processing and retention payment before the State funds expire on June 30, 2026. Project administration should end at least three months after construction.

	Categories	**Start Date**	**End Date**
(a)	Project Administration	3/1/2022	3/1/2023
(b)	Land Purchase / Easement		
(c)	Planning/ Design / Engineering / Environmental Documentation	3/1/2022	6/1/2021
(d)	Construction/ Implementation	6/1/2022	12/1/2022

PROJECT INFORMATION FORM

Please complete a unique Project Information Form <u>for each project</u> in the application. There are no character limits on specific questions but the Project Information Form as a whole may not exceed <u>10 pages</u>.

1. Project Name: Lucerne Valley Groundwater Recharge Project

2. Local Project Sponsor (if different than grantee): Mojave Water Agency (MWA)

3. Please provide the latitude and longitude of the project site. For linear projects or those covering a large area, report the coordinates for a central point. If this information is confidential, it must be clearly labeled "confidential." You can find the latitude and longitude easily using google maps. You can find instructions at the following link: https://support.google.com/maps/answer/18539?hl=en&co=GENIE.Platform%3DDesktop.

   Latitude: 34°25'47.86"N Longitude: 116°50'20.25"W

4. Please briefly describe the proposed project.

   MWA proposes to construct an approximate three acre (3-acre) groundwater recharge basin on vacant land within its existing five acre (5-acre) Lucerne Valley Booster Pump Station property (see map in Attachment 7A). The pump station is part of the Morongo Basin Pipeline that delivers State Water Project (SWP) water from MWA's turnouts in the eastern portion of its service area to recharge basins in the western portion of MWA's service area. The recharge area will be developed by constructing multiple three to five (3 to 5) foot high berms in varying configurations as needed to manage flow and percolation rates into the ground (see map in Attachment 7B). The berming patterns will change based on operational factors. The berms are used to cause the water being delivered to this site to spread out over the largest surface possible to gain the largest amount of percolation into the ground. The depth of water behind a berm is anticipated to vary from a few inches to up to 18 inches. The flow rate of SWP water being delivered to the site will match the percolation rate into the ground as no SWP water will be allowed to flow off the recharge area site. It is anticipated that approximately 500 acre-feet per year (AFY) of water can be recharged into the groundwater basin at this site.

   Water will be delivered via gravity flow through the Morongo Basin Pipeline from a proposed turnout in the SWP Aqueduct to the Lucerne Valley Booster Pump Station site. Currently, approximately 20 to 80 cubic feet per second (cfs) typically flows from the aqueduct to the Rock Springs/Deep Creek outlets (see map in Attachment 7C), and approximately 12 cfs typically continues to flow through this pipeline from the Rock Springs/Deep Creek Outlets, bypassing the booster pump station at the Lucerne Facility, where it travels east to the Johnson Valley Booster Pump Station. The water is then pumped through the Johnson Valley booster pumps where it continues east and south to the Winters Road Turnout and the 5 million gallon (MG) Warren Vista reservoir. From the reservoir, water flows to the south at current rates that vary between 8 and 12 cfs eventually reaching the Warren Valley, Hi-Desert Water District (HDWD), and Joshua Tree groundwater recharge areas.

The proposed Project will add a turnout (6-inch to 10-inch diameter) along the existing pipeline at the Lucerne Valley Booster Pump Station to allow approximately one (1) cfs to flow to the proposed recharge area. It is anticipated that the site will allow percolation of SWP water into the ground at approximately two feet (2 ft) per day. It is anticipated that approximately one acre of the recharge area will be in use at any one time, thereby allowing a total of approximately 500 AFY to be recharged into the groundwater basin, providing water supply resiliency by reducing the risk of future overdraft or groundwater quality deterioration.

5. Does this project respond to an existing emergency to humans and/or wildlife? If so, please describe the emergency and how this project is addressing it.

   The project is in a severely disadvantaged community (SDAC) where the median household income is less than 60% of the Statewide average (see map in Attachment 7A).

   The Lucerne Valley relies solely on groundwater supplies. Individual homes and small water systems in the community depend on wells as the only source of water. The proposed recharge basin overlies the Lucerne Valley groundwater basin (DWR Basin 7-019) and for planning purposes is split into a Lucerne Valley-North and Lucerne Valley-South basins. The Lucerne Valley-North basin has high total dissolved solids (TDS) and very little groundwater extraction. The Lucerne Valley-South basin has limited sources of recharge (mountain front recharge, and effluent from Big Bear Regional Wastewater Agency [BBRWA][SNMP]). BBRWA is planning to recycle most of its current effluent for groundwater recharge in its service area to support water levels in Big Bear Lake through its Replenish Big Bear project (Source: www.replenishbigbear.com). This will reduce the current Lucerne Valley-South basin effluent discharge from approximately 4,700 AFY to 2,700 AFY starting as early as 2025. Without an additional source of recharge water to the Lucerne Valley-South basin, groundwater production in Lucerne Valley area will need to be curtailed to prevent negatively impacting groundwater levels.

   Additionally, changes in groundwater levels can mobilize both naturally-occurring and anthropogenic sources of groundwater contamination such as TDS, arsenic, and nitrate and reduced recharge can cause the existing TDS and nitrate in the basin to further concentrate. The Lucerne Valley Groundwater Recharge Project will provide MWA with the ability to import SWP water to recharge the groundwater basin to reduce groundwater level decline and associated water quality and water supply impacts.

6. Each project must meet one of the following purposes as it relates to drought. Please select the appropriate purpose for your project.
   a. ☒ Address immediate impacts on human health and safety, including providing or improving availability of food, water, or shelter.
   b. ☐ Address immediate impacts on fish and wildlife resources.
   c. ☒ Provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies.

7. Each project must enhance regional drought resilience and align with the goals and objectives of the relevant approved Integrated Regional Water Management Plan. You can find the relevant IRWM Region by using the map at the following link:

https://gis.water.ca.gov/app/dacs/

The IRWM Plans can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs/Plan-Review-Process. If you have any questions about the IRWM region the contact list can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs. Applicants are encouraged to contact and coordinate with the applicable RWMG for the IRWM region in which the project is located

Please identify the IRWM objective your project addresses.
This project fulfills the following objectives from Mojave's IRWM Plan, which are rated at high importance:

Objective 5. Optimize the use of the Region's water-related assets to maximize available supplies to meet projected demands while mitigating against risks. Water-related assets to be optimized include financial resources, groundwater storage programs, available imported water supplies, transfer and exchange opportunities, available physical infrastructure, and management policies. (This project will optimize the use of the Region's surface water and groundwater basin assets to meet projected demands in the Lucerne Valley-South groundwater basin. This project optimizes available physical infrastructure by using the Lucerne Pump Station site and the Morongo Basin Pipeline to transport SWP water for recharge in the Lucerne Valley-South groundwater basin.)

Objective 7. Provide support and assistance to disadvantaged communities and help facilitate projects and programs that benefit those communities. (This project will support a SDAC by maintaining groundwater supplies in the project area, a SDAC and economically distressed area (EDA).)

Objective 10. Preserve water quality as it relates to local beneficial uses of water supplied by each source, including groundwater, stormwater, surface water, imported water, and recycled water. (This project will help maintain water quality in the Lucerne Valley-South groundwater basin by prolonging the anticipated TDS increase projected in the basin and reducing the impact of decreasing basin inflows due to neighboring drought resiliency projects (e.g. Replenish Big Bear).)

Objective 11. Obtain financial assistance from outside sources to help implement this Plan across a range of project sizes during the planning horizon. (This project is being partially funded by this grant program to reduce impacts to DAC customers in the groundwater basin.)

8. Describe the Primary Benefit of the project.
   Quantified benefit: 500
   Units (Drop down):Acre feet per year If other please enter:
   Benefit Type: Groundwater recharge If other please enter:

9. Describe the Secondary Benefit of the project:
   Quantified benefit: 7
   Units (Drop down):mg/L If other please enter:Over 70 years, the recharge of SWP will reduce the ambient TDS from 535 mg/L to 528 mg/L. If the BBRWA project is implemented, the

recharge of SWP will reduce the ambient TDS by 8 mg/L from 546 to 538 mg/L.

Benefit Type: Water Quality - Groundwater If other please enter:

10. Please briefly describe how the project will achieve the claimed benefits.

The Lucerne Valley Groundwater Recharge Project will provide the necessary infrastructure to import SWP water into the Lucerne Valley-South basin. This will not only offset water supply deficits and improve MWA's ability to manage the basin, but will also gradually improve groundwater quality by diluting the concentrations of contaminations such as TDS, arsenic, and nitrate.

MWA "owns" approximately 1 cfs of the capacity of the Morongo Basin Pipeline; the pipeline that the Lucerne Valley Booster Pump Station is a part of. One cfs is equivalent to 730 AFY, however, recharge basins require down time for cleaning scraping. The 500 AFY value is an estimate factoring in down time for cleaning and maintaining the recharge basins. It should be noted that currently, and for the foreseeable future, the Morongo Basin Pipeline is not being used at full capacity and any unused capacity is available to MWA for use for this recharge project. A small pilot recharge test was conducted in 2021 and an initial percolation rate (before clogging of the test basin) of approximately four feet (4 ft) per day was measured. Note that 4 ft per day over a one acre basin is equivalent to 1,460 AFY assuming the basin operates 24 hours per day, 365 days per year without cleaning and maintenance. Therefore, the 500 AFY that MWA is proposing for this project is a conservative estimate.

The 2015 Mojave SNMP calculated that the Lucerne Valley-South basin would see an increase of 108 mg/L in TDS over 70 years from the 2012 ambient of 427 mg/L to 535 mg/L in 2081. The drinking water secondary standard for TDS is 500 mg/L and the Lahanton Regional Water Quality Control Board has set the Basin Plan Objective for TDS in this basin at 500 mg/L. The 2015 calculations did not include recharge of SWP water. These calculations were updated to account for this project. Recharging 500 AFY over 70 years at an assumed SWP water TDS of 250 mg/L results in a delay in the ambient TDS of the basin reaching 500 mg/L by four (4) years. In 2081, the ambient TDS will reach 528 mg/L instead of 535 mg/L, which is a decrease in 7 mg/L over the 70 year period. If the BBRWA project is implemented, the ambient TDS in the basin will reach 546 mg/L in year 2081 and if SWP recharge is implemented, this will be reduced to 538 mg/L in year 2081.

11. Briefly describe how the community/area benefiting from this project is being impacted by the current drought.

The Lucerne Vally is a SDAC in San Bernadino County (the County), which is experiencing drought conditions based on the U.S. Drought Monitor. 89.23% of the County is experiencing extreme drought conditions, while 4.68% of the County is experiencing exceptional drought conditions. Lucerne Valley is also located in the arid Mojave Desert where groundwater is the only water supply. Infrequent episodic winter rains (mountain front recharge) are the only natural source of groundwater recharge in the basin. The last significant rainfall-runoff-recharge event for the basin was in 2011. The basin is entering its 11th year without any material groundwater recharge from natural sources. The lack of groundwater recharge puts this community at risk of groundwater overdraft and decreased groundwater quality.

12. How will this project alleviate the impacts described in your answer to Question 11?

The project will directly mitigate for drought conditions by importing large quantities of SWP water during wet hydrologic conditions to store for later use when drought conditions occur through groundwater recharge. This project provides storage in a "drought resilient" desert aquifer away from developed and dynamic groundwater areas. Groundwater storage in the project area should experience minimal migration away from the project area. The project will also help offset the impact to the groundwater basin from other drought-resiliency projects in the area, such as Replenish Big Bear, which will reduce recharge to the Lucerne Valley groundwater basin.

13. Please complete the following budget table for the project. (Identify funding sources in Question 15)

	BUDGET CATEGORY	Grant Amount	All Other Cost	Total Cost
(a)	Project Administration	0	0	**0**
(b)	Land Purchase / Easement	0	0	**0**
(c)	Planning / Design / Engineering / Environmental Documentation	0	100,000	**100,000**
(d)	Construction / Implementation	202,590	197,410	**400,000**
	TOTAL COSTS	**202,590**	**297,410**	**500,000**

14. Please describe why state funding is needed for this project. If state funding is not secured, what will happen to the project?

    The Mojave Basin Area Adjudication provides a solution to groundwater over-draft through the ramp-down of groundwater "free production allowance." This process brings groundwater production into safe yield and provides a funding mechanism for imported SWP water for any production above safe yield. The Adjudication has not yet fully matured and the basin is, as of now, still over allocated. The ability to recharge the basin with SWP is essential for maintaining groundwater levels and water supply management.

    Without state funds for this project, the project would not be completed and the SDAC runs the risk of future overdraft or groundwater quality deterioration without recharge and supply management in the basin.

15. Will the applicant provide cost share (encouraged but not required) and/or will this project require any additional funding from sources other than this solicitation? If so, please describe the funding source and indicate if the funding has been secured. If the funding has not been secured, please describe the plan to secure the necessary funding.

    Not all project costs will be covered through the grant. MWA will make up the difference between the grant funding and the project total cost out of its capital reserves.

16. Is land acquisition or landowner permission required for this project? If so, please briefly

describe the status of the acquisition or agreement with the landowner. If the acquisition is not complete or permission not secured at the time of application, please describe the plan to complete it.

No, all project land is already owned by MWA. Project will be constructed at a 5-acre site where MWA's booster station is already located. The project will use three of the undeveloped acres at this site.

17. Has planning and design for this project been completed? If not, please describe the status of planning and design.

    Engineering design is underway. MWA has a contract engineering firm (Merrell Johnson, Apple Valley CA) on staff and has already begun design. Design is anticipated to be completed in approximately 3 months.

    MWA has a contract engineer on staff: Carry Packer of Merrell Johnson Engineers. A site walk to discuss design parameters was held on November 29, 2021. Given the grant deadline, MWA has made design of this project a priority. Design has begun but not yet reached any review stage as of yet.

18. Are the CEQA (and NEPA if applicable) and permitting processes for this project complete? If not, please briefly describe the permits and CEQA (or NEPA) documents to be completed and projected schedule for completion.

    CEQA was completed in 2018. However, due to a change in listing status of the Mojave Desert Joshua Tree on the endangered species list, the CEQA documentation is being updated. In addition, an Incidental Take Permit is being applied for. A priority proposal for the updated CEQA and Incidental Take Permit have been requested from the consultant who performed the original CEQA document. The updated CEQA will be completed within approximately 6 months. The Incidental Take Permit is anticipated to be issued in approximately 1 year.

19. Please briefly describe the necessary construction/implementation for this project.

    Construction will primarily consist of earthwork for constuction of the recharge basins and modifying existing pipeline facitilies at the Lucerne Valley Pump Station to accommodate SWP water release into the recharge basins.

    Specifically, a combination of excavating and grading equipment would be used to construct a new turnout and to grade one to five (1-5) feet of existing native soil to build up natural soil berms in various configurations throughout the 3-acre recharge area. Modifications will be made to the pump station pipeline to install valves, controls, and a turnout pipe to the new recharge area.

    MWA has made this project a priority in order to take advantage of grant funding. The bottleneck in completion at this time is the Joshua Tree Incidental Take Permit, which is anticipated to take approximately 1 year. Once the Incidental Take Permit has been obtained, MWA will bid and award the project, which will take approximately three to five months. Construction activities should be completed within approximately six months of Notice to Proceed to the contractor. Therefore, the project should be completed by June 2024.

20. Please complete the schedule below for the project. Projects must be complete by March 31, 2026, to allow time for final invoice processing and retention payment before the State funds

expire on June 30, 2026. Project administration should end at least three months after construction.

	Categories	**Start Date**	**End Date**
(a)	Project Administration	3/1/2022	9/30/2024
(b)	Land Purchase / Easement		
(c)	Planning/ Design / Engineering / Environmental Documentation	11/1/2021	6/30/2023
(d)	Construction/ Implementation	7/1/2023	6/30/2024

PROJECT INFORMATION FORM

Please complete a unique Project Information Form for each project in the application. There are no character limits on specific questions but the Project Information Form as a whole may not exceed 10 pages.

1. Project Name: Estancia Park Irrigation Efficiency Project

2. Local Project Sponsor (if different than grantee): Heber Public Utility District (HPUD)

3. Please provide the latitude and longitude of the project site. For linear projects or those covering a large area, report the coordinates for a central point. If this information is confidential, it must be clearly labeled "confidential." You can find the latitude and longitude easily using google maps. You can find instructions at the following link: https://support.google.com/maps/answer/18539?hl=en&co=GENIE.Platform%3DDesktop.

   Latitude: 32.738188 Longitude: -115.542.607

4. Please briefly describe the proposed project.

   The project will replace sprinklers, valves, and controls for the automatic watering system in Estancia Park. Estancia Park is a seven (7) acre park and stormwater retention basin (See Attachment 8A). In order to increase efficiency of the sprinkler system and promote water conservation, the irrigation sprinklers, valves, and controls will be replaced. The irrigation system has been damaged and only 80% of the 482 sprinkler heads work with manual operation. There are 42 sprinkler stations (see Attachment 8A), with approximately 11 to 12 sprinkler heads per station. HPUD staff operate the 5 horsepower (hp) pump for the working portion of the irrigation system for 14 hours per day three days per week in the summer as each of the stations gets 20 minutes three times per day, for a total of 60 minutes per station. During the winter, the stations are operated for 5 minutes three times per day. The remaining 20% of the sprinkler heads do not function and HPUD staff flood irrigate the park to maintain dust control with minimum vegetation ground cover. This method of flood irrigation via hose delivers water to the ground faster than it can be absorbed, leading to runoff offsite into local stormwater systems. Additionally, water can only be delivered during business hours and summer temperatures reach well over 100 degrees Fahrenheit during the summer, leading to additional evaporation loss during manual operation of the functioning sprinklers and flood irrigation.

   This project will upgrade the irrigation system at Estancia Park to be more efficient and will directly contribute to water savings, installing high efficiency rotary nozzles, which uniformly deliver water at a lower rate than flood irrigation, significantly reducing runoff and erosion. The California Department of Food and Agriculture's (CDFA) State Water Efficiency and Enhancement Program (SWEEP) tools were used to estimate water savings and reduced greenhouse gas (GHG) emissions for the project. Changing from flood irrigation to sprinklers will result in an annual water usage savings of 24% and a reduction of 12.5 metric tons of carbon dioxide equivalent (MTCO2e).

5. Does this project respond to an existing emergency to humans and/or wildlife? If so, please describe the emergency and how this project is addressing it.

   As shown in Attachment 8B, Estancia Park is located in an unincorporated area of Imperial County (the County) where its residents have a median household income of $39,125, qualifying as a severely disadvantaged community (SDAC). HPUD serves a population of approximately 6,600 people with 1,628 water service connections through the Heber townsite.

   The County is currently experiencing moderate drought. This project will conserve water through sprinkler replacement to discontinue flood irrigating, which is a less efficient form of watering. Conserving water during the drought will ensure water resources are available as an emergency supply, including fire protection. The HPUD falls under the Imperial Irrigation District Interim Water Supply Policy for non-Agricultural water Supply and through a formula of population and growth projections is alloted water for the HPUD community. Heber and the surrounding communities are reliant on water from the Colorado River, which is a supply that is vulnerable to climate change. In August 2021, The U.S. Bureau of Reclamation declared the first-ever Colorado River water shortage.

6. Each project must meet one of the following purposes as it relates to drought. Please select the appropriate purpose for your project.
   a. ☒ Address immediate impacts on human health and safety, including providing or improving availability of food, water, or shelter.
   b. ☐ Address immediate impacts on fish and wildlife resources.
   c. ☐ Provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies.

7. Each project must enhance regional drought resilience and align with the goals and objectives of the relevant approved Integrated Regional Water Management Plan. You can find the relevant IRWM Region by using the map at the following link: https://gis.water.ca.gov/app/dacs/

   The IRWM Plans can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs/Plan-Review-Process. If you have any questions about the IRWM region the contact list can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs. Applicants are encouraged to contact and coordinate with the applicable RWMG for the IRWM region in which the project is located

   Please identify the IRWM objective your project addresses.
   This project meets the Imperial IRWM plan water supply objective to "Implement water conservation measures that demonstrate reasonable beneficial use of the available supplies and are consistent with established industry standards, and state and federal requirements." (Replacing the sprinkler system will result in direct water savings.)

8. Describe the Primary Benefit of the project.
   Quantified benefit: 4
   Units (Drop down):Acre feet per year If other please enter:
   Benefit Type: Water Conservation If other please enter:

9. Describe the Secondary Benefit of the project:
   Quantified benefit: 3
   Units (Drop down):Other If other please enter:MTCO2e per year

   Benefit Type: Improve operational efficiency If other please enter:

10. Please briefly describe how the project will achieve the claimed benefits.
    Based on 2020-2021 meter records, the park's irrigation demand is approximately 13.4 acre-feet per year (AFY) with a peak month irrigation use at 2.2 acre-feet in August. However, as shown on the aerial map and street view map in Attachment 8A, HPUD is only sufficiently irrigating the portion of the park near the shade structure and the 1.9 AF per acre that HPUD is applying is not sufficient to maintain the entire 7-acre park at a vegetation level typically of an irrigated park. Using the CDFA's SWEEP Irrigation Water Savings Assessment Tool for turf grass on a loamy clay soil shows a range of water demand of 5.8 AF per acre (least efficient) to 3.6 AF per acre (most efficient, including soil moisture sensors).

    HPUD will replace sprinkler heads by converting the existing manual flood irrigation to an automatic system that replaces sprinkler heads, valves, and control. The CDFA's SWEEP Irrigation Water Savings Assessment Tool was used to calculate the water savings for this project, assuming turf grass as the crop and loamy clay was the soil type. The calculator was used to estimate irrigation usage to support typical park turfgrass, assuming that the park is 20% flood irrigated and 80% manually irrigated with a sprinkler system, compared to a 100% automatic sprinkler system after the project. Flood irrigation uses approximately 70 acre-inches per acre (5.8 AF per acre) and inefficient manual irrigation uses approximately 53.8 acre-inches per acre (4.5 AF per acre) for a current total of 57 acre-inches per acre (4.8 AF per acre). This is equivalent to an annual usage for the 7-acre park of 33.6 AFY. Per the CDFA's SWEEP calculator, the new solid set irrigation system with automatic watering should use 50 acre-inches per acre (4.2 AF-acre). After the project is complete, the park will use an estimted 29.4 AFY. Therefore, the project will result in a water savings of 13% or 4.2 AFY.

    CDFA's SWEEP Greenhouse Gas Calculator tool was used to estimate the greenhouse gas (GHG) emissions reduced based on the water savings calculated in the Irrigation Water Savings Asssessment Tool. Using the booster pumps located at the plant and the 4.2 AFY reduction, results in an annual GHG reduction of 3.4 metric tons of carbon dioxide equivalent (MTCO2e) per year. The resulting water demand reduction will also result in energy savings of approximately 1 megawatt-hours (MWh) per year.

11. Briefly describe how the community/area benefiting from this project is being impacted by the current drought.
    In October 19, 2021, Governor Newsom expanded the drought emergency statewide, which included Imperial County. According to the U.S. Drought Monitor, all of the County is experiencing moderate drought conditions. The County is also experiencing its 55th driest year to date over the past 127 years (January to October 2021).

    The HPUD falls under the Imperial Irrigation District Interim Water Supply Policy for non-Agricultural water Supply and through a formula of population and growth projections is

alloted water for the community. Heber and the surrounding communities are reliant on water from the Colorado River, which is a supply that is vulnerable to climate change. In August 2021, the U.S. Bureau of Reclamation declared the first-ever Colorado River water shortage. While Imperial Irrigation District has senior rights to Colorado River water, water conservation in the Imperial Valley can help stretch water supplies allowing for other Colorado River water users to benefit. Long term, if year over year shortages exist on the Colorado River, cutbacks may be required by all Colorado River water users, which may decrease the amount of water the community receives from the Colorado River.

12. How will this project alleviate the impacts described in your answer to Question 11?

Increasing the efficiency of the Estancia Park sprinkler system is estimated to reduce water demand by 13%. Reducing water use directly reduces Colorado River demand and decreases HPUD's demand on its IID allotment. Water savings of 4.2 AFY will make the community more drought resilient and reduce Colorado River water use by 4.2 AFY. The water demand reduction will also result in energy savings and reduced GHG emissions.

13. Please complete the following budget table for the project. (Identify funding sources in Question 15)

	BUDGET CATEGORY	Grant Amount	All Other Cost	Total Cost
(a)	Project Administration	16,000	0	**16,000**
(b)	Land Purchase / Easement	0	0	**0**
(c)	Planning / Design / Engineering / Environmental Documentation	0	0	**0**
(d)	Construction / Implementation	114,374	0	**114,374**
	TOTAL COSTS	**130,374**	**0**	**130,374**

14. Please describe why state funding is needed for this project. If state funding is not secured, what will happen to the project?

HPUD has identified the need to replace the sprinklers, valves, and controls at Estancia Park as the current system is not functioning and the HPUD is flood irrigating this basin to maintain dust control with minimum ground cover. The project is listed in HPUD's Capital Improvement Program of Projects for Fiscal Year 2021-2022, but remains unfunded, and thus, will not be constructed without State assistance.

15. Will the applicant provide cost share (encouraged but not required) and/or will this project require any additional funding from sources other than this solicitation? If so, please describe the funding source and indicate if the funding has been secured. If the funding has not been secured, please describe the plan to secure the necessary funding.

This project would be funded entirely by grant funds. No cost share will be provided.

16. Is land acquisition or landowner permission required for this project? If so, please briefly describe the status of the acquisition or agreement with the landowner. If the acquisition is not complete or permission not secured at the time of application, please describe the plan to complete it.

    Land acquisition is not required, as HPUD owns Estancia Park and will be replacing parts of an existing sprinkler system.

17. Has planning and design for this project been completed? If not, please describe the status of planning and design.

    This project does not required design. HPUD will solicit quotes from irrigation system suppliers and prepare a bid for installation.

18. Are the CEQA (and NEPA if applicable) and permitting processes for this project complete? If not, please briefly describe the permits and CEQA (or NEPA) documents to be completed and projected schedule for completion.

    The sprinkler replacement project is exempt from CEQA. No additional permits are required.

19. Please briefly describe the necessary construction/implementation for this project.

    HPUD will purchase the equipment from vendors after requesting quotes and/or bids. HPUD will hire a licensed contractor to install the new irrigation system following the adopted procurement policy and procedures. HPUD does not have staff to construct or install this system. It is estimated that the project will take two months to complete, including awarding the contract.

20. Please complete the schedule below for the project. Projects must be complete by March 31, 2026, to allow time for final invoice processing and retention payment before the State funds expire on June 30, 2026. Project administration should end at least three months after construction.

	Categories	**Start Date**	**End Date**
(a)	Project Administration	3/1/2022	11/30/2022
(b)	Land Purchase / Easement		
(c)	Planning/ Design / Engineering / Environmental Documentation		
(d)	Construction/ Implementation	3/1/2022	8/30/2022

PROJECT INFORMATION FORM

Please complete a unique Project Information Form for each project in the application. There are no character limits on specific questions but the Project Information Form as a whole may not exceed 10 pages.

1. Project Name: Heber PUD Water Pipeline Installation

2. Local Project Sponsor (if different than grantee): Heber Public Utility District (HPUD)

3. Please provide the latitude and longitude of the project site. For linear projects or those covering a large area, report the coordinates for a central point. If this information is confidential, it must be clearly labeled "confidential." You can find the latitude and longitude easily using google maps. You can find instructions at the following link: https://support.google.com/maps/answer/18539?hl=en&co=GENIE.Platform%3DDesktop.

   Latitude: 32.73040 Longitude: -115.53137

4. Please briefly describe the proposed project.

   HPUD's service area currently includes 25.5 miles of asbestos cement pipe (AC), much of which is old and in need of replacement, which supplies water to a severely disadvantaged community (SDAC) (see map in Attachment 9A). The project will install 1,900 feet of 20-inch diameter polyvinyl chloride (PVC) C905 pipe parallel to an existing 10-inch diameter AC pipeline (see map in Attachment 9B). (Note: AWWA Standard C905 is for PVC transmission pipe diameters ranging from 14 to 48 inches). The existing 10-inch diameter AC pipeline is approximately 65 years old, is undersized to meet fire flows and can no longer sustain the pressure of 90 pounds per square inch (psi) in this portion of the distribution system. The pipeline will run from the Heber Water Treatment Plant down the alley behind Ingram Avenue, east to Heffernan Avenue, then north to Highway 86.

   The current water distribution system runs at high pressure (at approximately 90 psi) to meet fire flow demands at schools and commercial development compared to the normal system operating pressure of 60 psi. The AC pipelines were not intended to sustain high pressure, increasing the vulnerability to water line breaks and resulting in water loss. The project area has already experienced eight water line breaks in the past three years, resulting in 40,000 to 252,000 gallons of water loss per breakage event.

   The water treatment plant currently has only two transmission lines leaving the plant: one heading east and one west. Adding a third transmission line from the plant improves plant distribution system redundancy and ensures the system meets fire flow requirements.

   Installing a new water line running parallel to those located in the California Department of Transportation (Caltrans) right of way (ROW) greatly reduces project costs and expands the water distribution system to improve flows. Replacing the

water line in Caltrans Highway 86 instead of the proposed alignment to the south of Highway 86 would be costly to obtain the Caltrans encroachment permits, provide traffic control on Highway 86 and the increased costs of trenching and asphalt replacement to Caltrans standards. Locating the water line in the alley just south of Highway 86 reduces costs as the alley is not paved and HPUD has existing ROW easements.

5. Does this project respond to an existing emergency to humans and/or wildlife? If so, please describe the emergency and how this project is addressing it.

   HPUD serves a population of approximately 6,600 people with 1,628 water service connections in the Heber townsite. The U.S. Census shows a median household income of $39,125 for the Heber Census Designated Place, which qualifies as a SDAC. As shown on Attachment 9A, all of Heber PUD's service area meets the Economically Distressed Area (EDA) criteria with approximately half of its service area also meeting disadvantaged community (DAC) or SDAC criteria per DWR's DAC mapping tool (https://gis.water.ca.gov/app/dacs/).

   This project area has experienced eight water breaks in the past three years. Currently, there are more work orders to repair broken and leaking water lines in this area compared to others, as these are some of the oldest water lines in HPUD's distribution system. If the lines break in the project area, approximately 400 households will be without water for approximately four hours until the lines can be repaired and returned to service. If the lines cannot be repaired under pressure and require disinfection and coliform sampling per Division of Drinking Water requirements, the water outage could extend up to 48 hours. This project will also replace broken and aging water valves in this area as many are not functioning. Therefore, this project is considered to be urgent. In the event of a water line break, there will also be additional areas without water as several valves on the existing 10-inch diameter AC line are not functioning. A nonfunctioning water valve that cannot be turned off to isolate the repair area requires operators to shut off a larger number of customers and expand the area without water until they can shut off water to the broken pipeline. Valves in this area are at least 60 years old and get stuck or break when exercised. The addition of a 20-inch water line in parallel to the existing 10-inch line will allow the HPUD to reduce the pressure in aging water lines and ensure HPUD can provide a reliable water supply for potable use and fire flow. Currently, to maintain fire flow requirements which include a minimum pressure at a minimum flow, HPUD must boost the pressure to 90 psi to ensure that the undersized transmission line results in a minimum pressure of 20 psi while providing fire flow at 2,000 gallons per minute (gpm) or higher while also meeting system maximum day demand.

6. Each project must meet one of the following purposes as it relates to drought. Please select the appropriate purpose for your project.
   a. ☒ Address immediate impacts on human health and safety, including providing or improving availability of food, water, or shelter.
   b. ☐ Address immediate impacts on fish and wildlife resources.
   c. ☒ Provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies.

7. Each project must enhance regional drought resilience and align with the goals and objectives

of the relevant approved Integrated Regional Water Management Plan. You can find the relevant IRWM Region by using the map at the following link: https://gis.water.ca.gov/app/dacs/

The IRWM Plans can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs/Plan-Review-Process. If you have any questions about the IRWM region the contact list can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs. Applicants are encouraged to contact and coordinate with the applicable RWMG for the IRWM region in which the project is located

Please identify the IRWM objective your project addresses.
This project meets the Imperial IRWM plan water supply objective to "Meet 100% of future demands without adverse impact to existing users that are not mitigated." (Through this project, HPUD will provide a reliable water supply to existing customers.)

8. Describe the Primary Benefit of the project.
   Quantified benefit: 3
   Units (Drop down):Acre feet per year If other please enter:
   Benefit Type: Water Conservation If other please enter:

9. Describe the Secondary Benefit of the project:
   Quantified benefit: 1
   Units (Drop down):Other If other please enter:MWh-year
   Benefit Type: Improve operational efficiency If other please enter:

10. Please briefly describe how the project will achieve the claimed benefits.
    HPUD will install 1,900 feet of 20 inch AC pipeline to run in parallel with aging 10 inch AC pipe. Overtime, AC pipe undergoes gradual degradation in the form of corrosion due to internal calcium leaching from water conveyed and external leaching due to groundwater levels. As the water pipelines age, the number of AC pipeline failures increase with time. As noted previously, HPUD loses 40,000 to 252,000 gallons of water per breakage event and has experienced eight breaks in the last three years. Assuming an average loss of 146,000 gallons per break and average of approximately three breaks per year, HPUD will save approximately 438,000 gallons per year or 1.3 acre feet per year (AFY). In addition, HPUD is estimating that an additional 600,000 gallons per year (1.8 AFY) is being lost to leaks in this line for a total of 3 AFY. Reducing and/or eliminating water breaks and leaks in this area will save HPUD approximately 3 AFY of water per year, which equals a minimum of 0.18% of total annual water production.

    The finished water flows from Tank No. 3 at the HPUD Water Plant via hydrostatic pressure to the Higher Service Pump Station (HSPS)/high-pressure water distribution booster pump station. At the HSPS, the finished water is pumped into the distribution system at a pre-set pressure of 60 psi via four variable speed centrifugal pumps. Each pump is capable of pumping 1,800 gpm at 80 psi. Normally, up to two pumps operate to supply 3,000 gpm (4,839 AFY) to the distribution system with two pumps remaining on reserve for additional peak flow demand and redundancy purposes. This project assumes that the pumps are 75 horsepower each, are operating at 60 psi (140 feet total dynamic head), with 75% efficiency, and the pumps use approximately 924 megawatt hours per year (MWh-year)

when operating 24 hours per day, 7 days per week. Assuming a 0.18% reduction in water distribution of 3 AFY, the resulting power usage is 923 kWh-year for a savings of 1 MWh-year.

11. Briefly describe how the community/area benefiting from this project is being impacted by the current drought.

HPUD is located in Imperial County (the County), which is experiencing moderate drought conditions based on the latest update of the U.S. Drought Monitor. According to the U.S. Drought Monitor, the County is experiencing its 55th driest year to date over the past 127 years (January to October 2021).

The HPUD falls under the Imperial Irrigation District Interim Water Supply Policy for non-Agricultural water Supply and through a formula of population and growth projections is alloted water for the community. Heber and the surrounding communities are reliant on water from the Colorado River, which is a supply that is vulnerable to climate change. In August 2021, The U.S. Bureau of Reclamation declared the first-ever Colorado River water shortage. While Imperial Irrigation District has senior rights to Colorado River water, water conservation in the Imperial Valley can help stretch water supplies allowing for other Colorado River water users to benefit. Long term, if year over year shortages exist on the Colorado River, cutbacks may be required by all Colorado River water users, which may decrease the amount of water the community receives from the Colorado River.

12. How will this project alleviate the impacts described in your answer to Question 11?

Increased operational efficiency leads to increased water supply reliability for HPUD, especially during periods of drought. Reduction in water breaks and leaks conserves water and energy needed to produce and distribute water to customers.

13. Please complete the following budget table for the project. (Identify funding sources in Question 15)

	BUDGET CATEGORY	Grant Amount	All Other Cost	Total Cost
(a)	Project Administration	13,224	0	**13,224**
(b)	Land Purchase / Easement	0	0	**0**
(c)	Planning / Design / Engineering / Environmental Documentation	88,160	0	**88,160**
(d)	Construction / Implementation	440,800	0	**440,800**
	TOTAL COSTS	**542,184**	**0**	**542,184**

14. Please describe why state funding is needed for this project. If state funding is not secured, what will happen to the project?

This project is considered urgent due to the issues with interruption in service. However, without State funding, it would not be implemented because there is currently no funding available through the Capital Improvement Plan (CIP).

HPUD's Five Year CIP for water related projects includes over $3 million in water line repairs. HPUD does not have sufficient funding to complete these projects and is applying for grant funding in order to complete these water line repairs. HPUD's number one priority in the CIP for its water system over the next three years is to secure funding to replace aging water distribution lines that are over 60 years old. This section of HPUD's service that includes these older AC pipelines has the greatest number of water breaks and leaks. Replacement of all of these lines is not currently possible, as there is not sufficient grant funding available to complete the replacements. However, installing a new 20-inch diameter water line parallel to existing 10-inch water line will reduce the pressure that must be maintained in HPUD's distribution system, which should reduce the breaks and leaks in this section of failing water mains and distribution system.

15. Will the applicant provide cost share (encouraged but not required) and/or will this project require any additional funding from sources other than this solicitation? If so, please describe the funding source and indicate if the funding has been secured. If the funding has not been secured, please describe the plan to secure the necessary funding.
    This project will be entirely grant funded. No cost share will be provided.

16. Is land acquisition or landowner permission required for this project? If so, please briefly describe the status of the acquisition or agreement with the landowner. If the acquisition is not complete or permission not secured at the time of application, please describe the plan to complete it.
    The proposed pipeline will be constructed within the public right-of-way within the existing alleyway. HPUD has right of way easements for this alley, but will need to secure encroachment permits from the County of Imperial. HPUD does not expect to need any additional right of way easement acquisition for this project.

17. Has planning and design for this project been completed? If not, please describe the status of planning and design.
    HPUD's Board of Directors approved a contract with The Holt Group, Inc. on June 17, 2021. The Holt Group, Inc. has completed 30% design of the water pipeline installation project. Remaining design must be completed before construction can begin. The $88,160 will cover the remainder of design costs, survey, and permits, and design bid and construction management.

18. Are the CEQA (and NEPA if applicable) and permitting processes for this project complete? If not, please briefly describe the permits and CEQA (or NEPA) documents to be completed and projected schedule for completion.
    The project is CEQA exempt under Class 3-New Construction of Small Structures (construction of water lines less than 16-inches in diameter and less than 1 mile in length) and HPUD will file a Notice of Exemption for the project. HPUD has a right of way for the alleyway where the water line will be constructed, but will need to secure grading permits and encroachment permits from the County of Imperial. Additionally, there is one connection at Heffernan Avenue that will require a Caltrans encroachment permit. However, as noted previously, HPUD has designed the project to minimize the need for Caltrans permitting.

19. Please briefly describe the necessary construction/implementation for this project.

HPUD engineers will prepare a Request for Proposal and submit through various public forums to ensure qualified, licensed contractors can apply. A pre-bid meeting may be held to answer questions. Bids will be reviewed and opened in a public setting and after review of each proposal by a group of HPUD employees and contracted engineers, a recommended contractor will be presented to the Board of Directors at a regularly scheduled meeting. At that meeting, the HPUD Board of Directors will award the contruction contract, budget amount, and authorize a HPUD representative to execute contracts as needed on behalf of HPUD. Following award and approval, the construction will begin and the contracted engineers will perform construction management to ensure the construction meets HPUD standards and specifications.

The pipeline would be installed below grade within the existing right-of-way located in the alley. Preliminary design indicates the pipeline would have an average trench depth of four feet and a maximum depth of five feet. Equipment may include jack hammers, pavement saws, graders, bulldozers, loaders, and trucks. A backhoe, excavator, or trencher would be used to dig trenches for pipe installation. In general, trenches would have vertical side walls to minimize the amount of soil excavated, and the area needed for the construction easement.

HPUD staff will manage the grant funds and all financial aspect of the project. HPUD will ensure the contract invoices are accurately paid and reimbursement requests are completed along with any reports to the Department of Water Resources

20. Please complete the schedule below for the project. Projects must be complete by March 31, 2026, to allow time for final invoice processing and retention payment before the State funds expire on June 30, 2026. Project administration should end at least three months after construction.

	Categories	**Start Date**	**End Date**
(a)	Project Administration	3/1/2022	1/31/2023
(b)	Land Purchase / Easement		
(c)	Planning/ Design / Engineering / Environmental Documentation	6/17/2021	6/2/2022
(d)	Construction/ Implementation	6/2/2022	10/1/2022

PROJECT INFORMATION FORM

Please complete a unique Project Information Form <u>for each project</u> in the application. There are no character limits on specific questions but the Project Information Form as a whole may not exceed <u>10 pages</u>.

1. Project Name: Bicarbonate Contaminant Treatment

2. Local Project Sponsor (if different than grantee): Palo Verde County Water District (Palo Verde CWD)

3. Please provide the latitude and longitude of the project site. For linear projects or those covering a large area, report the coordinates for a central point. If this information is confidential, it must be clearly labeled "confidential." You can find the latitude and longitude easily using google maps. You can find instructions at the following link: https://support.google.com/maps/answer/18539?hl=en&co=GENIE.Platform%3DDesktop.

   Latitude: 33° 24' 14" N Longitude: 114° 43' 39" W

4. Please briefly describe the proposed project.

   Palo Verde CWD recently had a new well drilled and installed in July 2019 that supplies water to a severely disadvantaged community (SDAC) (see map in Attachment 10A). Based on sampling results from October 2021, the water in the aquifer has a very high concentration of bicarbonate alkalinity (approximately 390 milligrams per liter (mg/L) as calcium carbonate) and high total hardness of 340 mg/L. This results in the formation of calcium carbonate scaling of the new well casing, pumps, and associated equipment. The scaling of the well casing reduces production due to reducing the screen size openings in the well casing and increases the costs to pump water from the well. The project would install a pH adjustment system which will reduce the pH of the well water through acid injection to reduce and eliminate the effects of the high bicarbonate in the potable water on the well (see map in Attachment 10B). This process keeps the calcium in solution and avoids precipitating as calcium carbonate scale on the well casing and downstream equipment. The acid would be injected "downhole" into the well to reduce the existing scaling of the well screens and prevent further damage. This will extend the useful life of the well and ensure water supply reliability for a SDAC. The type of chemical added will be acetic acid (white vinegar). Citric acid and alum can also be used instead to resolve the scaling issue, although they are more expensive. The lower pH will also result in less chlorine demand needed to meet chlorine disinfection requirements as chlorine disinfection becomes more effective for inactivating pathogens, such as Giardia and virus, as pH decreases.

5. Does this project respond to an existing emergency to humans and/or wildlife? If so, please describe the emergency and how this project is addressing it.

   Palo Verde is a small town south of Blythe, CA located in Imperial County (the County). Palo Verde is considered a SDAC with median household income of $28,029 (see map in Attachment 10A).

Per Section 64554(c) of Title 22, CCR, community water systems such as Palo Verde CWD are required by SWRCB - Division of Drinking Water to have at least two groundwater wells, and the system is required to meet its maximum day demand (MDD) with at least one source offline. Palo Verde CWD relies on two groundwater wells, North Well and a new South Well which replaced the failing South Well, which has been abandoned. If the new South Well completely fouls, it will not be able to produce water for the community and the system will be at risk for not being able to provide a reliable water supply to its customers. In addition to the scaling in the well casing, the distribution pumps and other equipment are failing due to fouling from bicarbonate alkalinity. This damage will prevent the system's iron and manganese removal treatment equipment, chlorination equipment and distribution pumping from being able to both provide safe water quality and quantity to system customers.

Palo Verde CWD draws groundwater from an aquifer adjacent to a tributary of the Colorado River with the continued drought and potential reductions in Colorado River supply, Palo Verde CWD is at risk of experiencing declining groundwater levels. The decline in groundwater levels will likely result in a more concentrated groundwater quality constituents, causing the bicarbonate alkalinity issue to worsen. Installation of the pH adjustment system will also allow the well to continue operating under drought-induced declining groundwater levels.

6. Each project must meet one of the following purposes as it relates to drought. Please select the appropriate purpose for your project.
    a. ☒ Address immediate impacts on human health and safety, including providing or improving availability of food, water, or shelter.
    b. ☐ Address immediate impacts on fish and wildlife resources.
    c. ☒ Provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies.

7. Each project must enhance regional drought resilience and align with the goals and objectives of the relevant approved Integrated Regional Water Management Plan. You can find the relevant IRWM Region by using the map at the following link: https://gis.water.ca.gov/app/dacs/

    The IRWM Plans can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs/Plan-Review-Process. If you have any questions about the IRWM region the contact list can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs. Applicants are encouraged to contact and coordinate with the applicable RWMG for the IRWM region in which the project is located

    Please identify the IRWM objective your project addresses.
    This project addresses the following objectives from the Imperial IRWM Plan (https://www.iid.com/water/water-supply/water-plans/imperial-integrated-regional-water-management-plan):

    Water Quality Objective 5: Preserve and, where and when technology allows, improve quality of groundwater resources in the Imperial Region. (Through this project, Palo Verde CWD will improve the quality of extracted groundwater to preserve existing infrastructure.)

8. Describe the Primary Benefit of the project.
   Quantified benefit: 14
   Units (Drop down):Acre feet per year If other please enter:
   Benefit Type: Water Supply - Ground If other please enter:

9. Describe the Secondary Benefit of the project:
   Quantified benefit: -1
   Units (Drop down):Other If other please enter:pH units
   Benefit Type: Water Quality - Groundwater If other please enter:

10. Please briefly describe how the project will achieve the claimed benefits.
    By controlling the bicarbonate alkalinity, it will improve operation of the well, thus keeping potable water supply available to Palo Verde residents. The existing well produces 12,500 gallons per day or 14 acre feet per year (AFY). The hardness associated with the water, specifically the bicarbonate concentrations, are considered very high at 390 mg/L. Water with a high pH is associated sometimes with high bicarbonates. Therefore, adding an acid downhole in the well to reduce the pH of the well water will keep the calcium carbonate from precipitating in the water and prevent fouling of the new well casing, iron and manganese removal treatment, new TTHM reduction equipment, distribution pumps and other equipment. The aquifer water has a pH of 8.0, the goal would be to reduce the water to a pH of approximately 6.5 inside the well, which is a reduction of 1.5 pH units.

    The reduction in scaling of the well casing and downstream equipment will also improve operational efficiency, as a scaled casing and pumping equipment will result in higher energy needs to pump groundwater from the well and through the treatment equipment.

    Palo Verde CWD is required to meet Giardia and virus disinfection requirements for the water pumped from its groundwater wells due to the proximity of the wells to surface water. The chlorine contact time (CT) required for 3-log Giardia inactivation at a temperature of 10 degrees Centrigrade and a pH of 8.0 is 182 milligrams per liter per minute (mg/L-min) assuming a chlorine residual of 2.0 mg/L. At a pH of 6.5, the CT requirement is reduced to 87 mg/L-min, which is approximately half of the CT requirement at a pH of 8.0. (Source: EPA Long Term 1 Enhanced Surface Water Treatment Rule Guidance Manual, Appendix B). Therefore, this project will also reduce the chlorine requirements for Palo Verde CWD and the associated chemical costs and chemical pumping costs.

11. Briefly describe how the community/area benefiting from this project is being impacted by the current drought.
    According to the U.S. Drought Monitor, 100% of the County is experiencing moderate drought conditions. The County is also experiencing its 50th driest year to date over the past 127 years (January to November 2021). Palo Verde CWD draws groundwater from an aquifer adjacent to a tributary of the Colorado River In August 2021, the U.S. Bureau of Reclamation declared the first-ever shortage on the Colorado River. Any reductions in Colorado River flow due to drought and/or climate change threaten both the community and its groundwater aquifer due to declining groundwater levels.

12. How will this project alleviate the impacts described in your answer to Question 11?
    This project will increase the water supply reliability for a SDAC in Palo Verde, providing 12,500 gallons per day (14 AFY) of safe potable water. The treatment of groundwater will protect

the integrity of the newly installed extraction well and its existing treatment and disinfection system, and ensure residents have access to two groundwater wells for supply under both existing and future drought conditions and impacts of climate change. This ensures water supply reliability in the community.

13. Please complete the following budget table for the project. (Identify funding sources in Question 15)

	BUDGET CATEGORY	Grant Amount	All Other Cost	Total Cost
(a)	Project Administration	5,000	0	**5,000**
(b)	Land Purchase / Easement	0	0	**0**
(c)	Planning / Design / Engineering / Environmental Documentation	25,000	0	**25,000**
(d)	Construction / Implementation	220,000	0	**220,000**
	TOTAL COSTS	**250,000**	**0**	**250,000**

14. Please describe why state funding is needed for this project. If state funding is not secured, what will happen to the project?

    Palo Verde CWD does not have the means to be able to fund the project. If not funded from the State, Palo Verde CWD will have to find funding elsewhere or raise customer rates, which may be a financial burden to the SDAC. If the well, treatment system and distribution pumping system fouls, the cost to repair and/or replace the damaged well and equipment will be greater than the grant funding request of $250,000. If State funding is not secured, the project will not be able to complete the project, or will need to secure funding from an alternate source.

15. Will the applicant provide cost share (encouraged but not required) and/or will this project require any additional funding from sources other than this solicitation? If so, please describe the funding source and indicate if the funding has been secured. If the funding has not been secured, please describe the plan to secure the necessary funding.

    This project will be entirely grant funded. No cost share will be provided.

16. Is land acquisition or landowner permission required for this project? If so, please briefly describe the status of the acquisition or agreement with the landowner. If the acquisition is not complete or permission not secured at the time of application, please describe the plan to complete it.

    Land acquisition would not be required as this project will install a water treatment system at Palo Verde CWD's property where the well and treatment system are located.

17. Has planning and design for this project been completed? If not, please describe the status of

planning and design.

Planning includes survey, site plan preparation, preliminary and final design for the project. A plan has been conceptualized for the pH adjustment system. David Dale, PE completed the concept plan. It consists of a chemical tote, a chemical feed pump and piping to inject the acid downhole into an existing opening in the well casing. A pH analyzer will be installed to verify the pH and control the acid feed pump. It is anticipated that the survey, site plan and design engineering will take three months to complete and obtain approval through the Imperial County Department of Environmental Health and the State Division of Drinking Water.

18. Are the CEQA (and NEPA if applicable) and permitting processes for this project complete? If not, please briefly describe the permits and CEQA (or NEPA) documents to be completed and projected schedule for completion.

    This project would be a minor change to the existing well and treatment system. It is anticipated that a Notice of Exemption would be prepared.

    The change in treatment would require a minor permit amendment to Palo Verde CWD's drinking water supply permit. This permit would issued by the Imperial County Department of Public Health, Environmental Health Division who has been delegated authority from the SWRCB- Division of Drinking Water. It is anticipated that this process would take three months.

19. Please briefly describe the necessary construction/implementation for this project.

    The necessary construction/implementation for this project includes installation of a system to reduce the pH of the well water and to neutralize bicarbonate in solution and prevent fouling of the well casing, pumps, and equipment. The project will include an acid tank, acid containment structure, shade structure, chemical feed pump, piping, and pH meter. Project implementation includes bidding and construction as well as construction management.

20. Please complete the schedule below for the project. Projects must be complete by March 31, 2026, to allow time for final invoice processing and retention payment before the State funds expire on June 30, 2026. Project administration should end at least three months after construction.

	Categories	**Start Date**	**End Date**
(a)	Project Administration	3/1/2022	2/31/2023
(b)	Land Purchase / Easement		
(c)	Planning/ Design / Engineering / Environmental Documentation	3/1/2022	6/1/2022
(d)	Construction/ Implementation	6/1/2022	11/31/2022

PROJECT INFORMATION FORM

Please complete a unique Project Information Form <u>for each project</u> in the application. There are no character limits on specific questions but the Project Information Form as a whole may not exceed <u>10 pages</u>.

1. Project Name: Golf Course Irrigation Efficiency Project – Phase 1

2. Local Project Sponsor (if different than grantee): City of Needles

3. Please provide the latitude and longitude of the project site. For linear projects or those covering a large area, report the coordinates for a central point. If this information is confidential, it must be clearly labeled "confidential." You can find the latitude and longitude easily using google maps. You can find instructions at the following link: https://support.google.com/maps/answer/18539?hl=en&co=GENIE.Platform%3DDesktop.

   Latitude: 34°50'47.58" N Longitude: 114°36'13.87" W

4. Please briefly describe the proposed project.

   The City of Needles water system has 1,706 services connections and its entire service area is primarily a severely disadvantaged community (SDAC) and an economically distressed area (EDA). The City of Needles owns and operates an 18-hole golf course called Rivers Edge, located on the banks of the Colorado River (See map in Attachment 11A). Currently, the irrigation system is supplied water from Well #12, an existing 2,000 gallon per minute (gpm) well at a fixed pumping rate that is located on the course (See map in Attachment 11B). A staff member is responsible for manually installing every in-pack sprinkler head throughout the golf course in a rotating motion to irrigate the golf course. The existing in-pack sprinkler heads date back to the mid 1960's and spray 65 gallons per minute (gpm). The course has approximately 660 in-pack sprinklers heads which each need to be manually set up to irrigate the 125-acre golf course. With the current method, a staff member will install 55 sprinklers spaced six (6) heads apart and move forward every hour to fully irrigate the front and back half of the golf course. The watering route is shown in Attachment 11B and requires the staff member to complete an approximately seven (7) mile route to water the golf course. The current method results in over-irrigation of the course because each sprinkler head needs to be set up manually and removed manually to stop the flow of water.

   The entirety of the proposed irrigation efficiency project is not able to be funded by the available grant amount provided by the Colorado River Funding Area (CRFA) Underrepresented Community (URC) Set-Aside of the 2021 Urban and Multibenefit Drought Relief Grant Program ("Drought Grant"). Therefore, the project has been split into two phases. Phase 1 will be funded by the URC Set-Aside and the City is applying for funds through the competitive solicitation for the 2021 Drought Grant in the hopes of funding Phase 2 of the project.

   Phase 1 will consist of procuring approximately 660 new water-efficient sprinkler heads and corresponding sprinklers to replace the inefficient 1960's sprinklers that

the City currently has in use. The City will also design and install an automatic irrigation system that will control the new sprinklers. Phase 2 will include the addition of soil moisture sensors to the automatic watering system as well as a 250,000 gallon tank, a new booster pump, and xeriscape. In Phase 1 alone, this project will provide 50 acre feet per year (AFY) of water savings and 44 megawatt hours per year (Mwh-yr) of energy savings through the installation of new water efficient heads and sprinklers and an automatic watering system.

5. Does this project respond to an existing emergency to humans and/or wildlife? If so, please describe the emergency and how this project is addressing it.

   The City of Needles is geographically isolated from other cities in San Bernardino County and is considered a SDAC with a median household income of $38,715 and per capita income of $21,148 (CA Profile-Facts/Data, 7/1/21). The City currently has active four wells to meet their potable and non-potable demands. Of the four wells, only one well (#15) can be utilized for delivering potable water to its 1,706 services connections that services a population of 4,302. This well runs 23 hours a day, making the system vulnerable to failing, especially during peak season. Currently, the City uses Well #12 as a backup supply to the City's water system. This requires a larger horsepower pump to provide pressure to the water system, as Well #12 is located in the low zone and the water system includes a high and a low zone. The City is currently in the process of installing another well (Well #16) that can serve as a backup to the system. After the irrigation system is connected for automatic operation, the State Water Resource Control Board – Division of Drinking Water (DDW) has asked that Well #12 be removed from serving as a backup to the City's potable water system in order to prevent backflow of non-potable water into the distribution system. After Well #12 is disconnected from the City's potable water system, a smaller horsepower pump with improved efficiency can be used for watering the golf course, as lower discharge pressure to either the adjacent course or the adjacent tank can be provided compared to the potable distribution system.

   The City's pumps rely solely on groundwater from an aquifer that is located adjacent to and is influenced by the Colorado River. The proposed improvements will save both water and energy and will allow the additional water saved to remain in the aquifer for use by City residents to meet their potable needs.

6. Each project must meet one of the following purposes as it relates to drought. Please select the appropriate purpose for your project.
   a. ☒ Address immediate impacts on human health and safety, including providing or improving availability of food, water, or shelter.
   b. ☐ Address immediate impacts on fish and wildlife resources.
   c. ☐ Provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies.

7. Each project must enhance regional drought resilience and align with the goals and objectives of the relevant approved Integrated Regional Water Management Plan. You can find the relevant IRWM Region by using the map at the following link: https://gis.water.ca.gov/app/dacs/

   The IRWM Plans can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs/Plan-Review-Process. If you have any

questions about the IRWM region the contact list can be found at the following link: https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs. Applicants are encouraged to contact and coordinate with the applicable RWMG for the IRWM region in which the project is located

Please identify the IRWM objective your project addresses.
This project is not located in an IRWM Region and is not covered by an IRWM plan. This question is not applicable.

8. Describe the Primary Benefit of the project.
   Quantified benefit: 50
   Units (Drop down):Acre feet per year If other please enter:
   Benefit Type: Water Conservation If other please enter:

9. Describe the Secondary Benefit of the project:
   Quantified benefit: 44
   Units (Drop down):Other If other please enter:MWh-yr
   Benefit Type: Improve operational efficiency If other please enter:

10. Please briefly describe how the project will achieve the claimed benefits.
    In 2016, the City of Needles entered into a System Conservation Implementation Agreement (SCIA) between the United States Bureau of Reclamation (USBR) and the City to implement a pilot system conservation program. The grant provided funding in the amount of $505,000 which reduced the turf acres at the golf course by 40% from 125-acres to 70-acres for the period of 2016 through 2025. In the agreement, USBR estimated that if the City were to implement an efficient irrigation system, including automatic watering and use of moisture sensors, that the City could save additional water.

    In 2025, the City will begin watering the entirety of the 125-acre course again. Therefore, the water saving has been calculated based on 125-acres instead of the current irrigated area of 70 acres. The California Department of Food and Agriculture's (CDFA) State Water Efficiency and Enhancement Program (SWEEP) Irrigation Water Savings Assessment Tool was used to estimate water savings. Changing from hand moved sprinkler irrigation to a solid set sprinkler system will result in an annual water usage savings of 13%. The Assessment Tool was used to calculate the water savings for this project, assuming turf grass as the crop and sand as the soil. The estimated water usage by hand moved sprinklers is 54.8 acre-inches per acre or 571 acre feet per year (AFY) for the approximately 125-acre course. Installing new solid set sprinklers results in an estimated water usage of 50 acre-inches per acre or 421 AFY. This results in a water savings of 9% or 50 AFY. If only the current irrigated area of 70 acres is considered, the water savings is reduced to 28 AFY.

    An automatic sprinkler system will also reduce the amount of time the well needs to run in order to water the golf course. Currently, the 225 horsepower (hp) well runs for 8 hours a night, every day of the year. With an assumed 75% pump efficiency, this assumes 490 megawatt hours per year (Mwh-yr) to run the well. It is assumed that an automatic system will cut the sprinkler run time in half, conserving 245 Mwh-yr. Assuming the 9% reduction in water usage, also results in a 9% operational run time, the energy usage will be reduced to 446 MWh-year for a savings of 44 MWh-year.

11. Briefly describe how the community/area benefiting from this project is being impacted by the current drought.

In October 19, 2021, Governor Newsom expanded the drought emergency statewide, which included the County of San Bernardino (the County). According to the U.S. Drought Monitor, almost all of the County is experiencing extreme drought conditions, including the City of Needles. The rest of the County is experiencing severe drought. The City of Needles is entirely reliant on the Needles Valley groundwater basin (DWR Basin No. 7-044), which per USGS, has the Colorado River as its main source of recharge. (Source: USGS Groundwater Quality in the Colorado River Basins, California: https://pubs.usgs.gov/fs/2012/3034/pdf/fs20123034.pdf). In August 2021, The U.S. Bureau of Reclamation declared the first-ever Colorado River water shortage. Reductions in Colorado River flows will also reduce recharge into the Needles Valley groundwater basin. The City has an annual water demand of approximately 781 million gallons per year (2.1 million gallons per day or 2396 AFY). Phase 1 of the golf course efficiency project will save 50 AFY or 2% of the City's annual demand.

12. How will this project alleviate the impacts described in your answer to Question 11?

This project will directly reduce the amount of the Needles Valley groundwater and related Colorado River aquifer recharge that will be extracted by the City to water the golf course. This preserves the available groundwater supply for the City's potable use and emergency supply such as for fire protection.

13. Please complete the following budget table for the project. (Identify funding sources in Question 15)

	BUDGET CATEGORY	**Grant Amount**	**All Other Cost**	**Total Cost**
(a)	Project Administration	0	0	**0**
(b)	Land Purchase / Easement	0	0	**0**
(c)	Planning / Design / Engineering / Environmental Documentation	25,000	0	**25,000**
(d)	Construction / Implementation	690,538	1,184,462	**1,875,000**
	TOTAL COSTS	**715,538**	**1,184,462**	**1,900,000**

14. Please describe why state funding is needed for this project. If state funding is not secured, what will happen to the project?

The City has been planning on completing this project since early 2000's. The project was engineered in 2001; however, there has been no funding to complete the construction of the project. As noted, the City of Needles qualifies as a SDAC. The City of Needles is faced with

less financial resources to afford to complete this project, which is why it has not been completed in the past 20 years despite its high priority status. Without state funding or financial assistance for this project, it will not be completed.

15. Will the applicant provide cost share (encouraged but not required) and/or will this project require any additional funding from sources other than this solicitation? If so, please describe the funding source and indicate if the funding has been secured. If the funding has not been secured, please describe the plan to secure the necessary funding.

    The current grant of $715,538 will cover Phase 1 of the project. The City will apply for General Funds available through the 2021 Drought Grant for remaining project costs in Phase 2 of the project ($1,184,462). If no grant funding is received for Phase 2 through General Funds, this project will be scaled back to only include Phase 1 sprinkler replacement and automatic irrigation.

    This project was identified as a high priority project by the City of Needles in 2001. Due to the lack of available funding, it has not been completed, and the golf course has been inefficiently over-irrigated for the past 20 years. The implementation of this project will increase the efficiency of the irrigation system and reduce the amount of water lost due to over-irrigation.

16. Is land acquisition or landowner permission required for this project? If so, please briefly describe the status of the acquisition or agreement with the landowner. If the acquisition is not complete or permission not secured at the time of application, please describe the plan to complete it.

    Land acquisition is not required for this project as the City of Needles currently owns the land.

17. Has planning and design for this project been completed? If not, please describe the status of planning and design.

    Preliminary design was completed in 2001, but will be updated for the purpose of this project. The update will be completed in the summer of 2022.

18. Are the CEQA (and NEPA if applicable) and permitting processes for this project complete? If not, please briefly describe the permits and CEQA (or NEPA) documents to be completed and projected schedule for completion.

    Phase 1 of this project is CEQA exempt and permits are not required to replace sprinkler heads or install automatic irrigation.

19. Please briefly describe the necessary construction/implementation for this project.

    The City will purchase the equipment from vendors after requesting quotes and/or bids and will hire a licensed contractor to install the new irrigation system following the City's adopted procurement policy and procedures.

    Phase 1 of the project will install water efficient sprinklers, valves, and controls for the automatic irrigation system. The golf course is shut down during the summer each year (July 15th through September 15th) and the City plans to complete construction during this time. If the grant award and design are completed by August 1, 2022, the City will complete the construction by September 15, 2022. If not, the City will start construction in July 2023 and complete construction by September 15, 2023.

20. Please complete the schedule below for the project. Projects must be complete by March 31, 2026, to allow time for final invoice processing and retention payment before the State funds expire on June 30, 2026. Project administration should end at least three months after construction.

	Categories	**Start Date**	**End Date**
(a)	Project Administration	3/1/2022	12/31/2023
(b)	Land Purchase / Easement		
(c)	Planning/ Design / Engineering / Environmental Documentation	3/1/2022	8/30/2022
(d)	Construction/ Implementation	9/1/2022	9/30/2023