WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2024

Funding Opportunity No. R24AS00007

Dresser Recharge Facility Project

Applicant
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1. Technical Proposal

1.1 Executive Summary

The Shafter-Wasco Irrigation District (Shafter-Wasco, SWID, District, Applicant) proposes to construct the *Dresser Recharge Facility Project* (Project). SWID is located in the City of Wasco, in the County of Kern, in the California and is eligible to apply for this financial assistance agreement through the Bureau of Reclamation (Reclamation) as an irrigation District in an eligible state. SWID is applying to Funding Group III as a Category A applicant under Task Area A. The District is located in area of California that experiences extended drought periods interspersed by severe wet periods as a result of climate change. While regional drought was recently ended by a severe unprecedented wet year, climate change projections have identified longer more intense droughts and shorter more intense wet periods in the next 20 to 50 years. The Project, located in Kern County, includes construction of a 112-acre groundwater recharge facility that will store uncontrolled flood water from the Kern River and the Central Valley Project (CVP) delivered via the adjacent Calloway Canal for later beneficial use, and associated conveyance components. The recharge facility will have the capacity to recharge 92 acre-feet per day (AFD). To meet this capacity, an inlet with enough capacity to convey available supplies to the recharge facility and meet turnout demands will be constructed on the Calloway Canal. Additionally, in excessive wet years when the recharge facility is at capacity, overflow supplies will be diverted to a structure at the south end of the recharge facility and conveyed through a 48-inch transfer pipeline with 36-inch turnouts to adjacent existing spreading grounds. Implementation of the Project will add in-district recharge and conveyance capacity while simultaneously allowing the District to meet existing irrigation demand. The Project aims to increase the District's ability to take in water for groundwater recharge in wet years when supply is greater than demand and recover water for improved drought resiliency in dry years when surface water is scarce. Recovery of the banked water enables the District to meet irrigation demand during drought for extraction through existing landowner wells near the recharge site. This Project is supported by the 2019 Poso Creek IRWM Plan Update, the Poso Creek Drought Contingency Plan, and the District's Management Area Plan developed in compliance with California's Sustainable Groundwater Management Act.

It is anticipated the Project will be implemented over the course of approximately three years. The estimated construction start date is April 2025 and the estimated Project completion date is April 2026. The Project is not located on a Federal facility and will not involve work on Federal lands.

Background

District Service Area

SWID is located in the north-central portion of Kern County in the Southern San Joaquin Valley of California. The District supplies a service area of approximately 38,800 acres, with

approximately 29,400 acres as irrigated lands (approximately 75 percent of the District). The District lies between Interstate 5 to the west, State Highway 99 to the east, with the Cities of Wasco and Shafter both located within the district boundaries. Additionally, in 2019 the District added the 7th Standard Annex (Annex Area) to their service area. The Annex Area supplies approximately10,000 acres just south of the District boundary, with approximately 7,800 acres as irrigated lands. At its greatest extent, the District's service area is approximately 10.5 miles wide (east-west) and 12 miles long (north-south).

Primary Water Supplies and Sources

The District's primary surface water source is CVP water via the Friant-Kern Canal (FKC). The District was established as a public entity in 1937 and in 1955 entered a water contract with Reclamation to supply water for the district from the Friant unit of the CVP via the FKC. The District began importing CVP surface water in 1957 with a water service contract for 50,000 AF per year (AFY) of Class I water and 39,600 AFY of Class II water. The CVP water supplies are highly variable based on their Class 1 and Class 2 contracts and can range from 2,500 AF in a "critically dry" year to nearly 89,600 AF in a "wet" year. Average inflow from FKC Class 1 and Class 2 allocations is 41,400 AF from 2013-2022, which is well below their total contracted amount of 86,600 AFY. Besides the CVP, the District supplements CVP deliveries with transfers from neighboring Districts when water originating from other surface water sources is available or through conjunctive use of previously recharged water from the underlying groundwater basin. According to the 2019 Poso Creek Integrated Regional Water Management Plan (Poso Creek IRWM Plan), this other water includes exceptionally large amounts of uncontrolled season supplies available for short durations commonly known as Section 215 water that results from unmanaged floodwater flows in wet years. As a long-term CVP-Friant Division contractor, SWID has opportunity for first use of Section 215 flows on the FKC.

In 2014, California enacted the Sustainable Groundwater Management Act (SGMA), which requires sustainable groundwater management in California. Under SGMA, government and water agencies in high and medium priority basins are required to balance groundwater levels. To comply with SGMA in a high priority basin, the District submitted a management area plan under a Joint Powers Agreement with the Kern Groundwater Authority. This plan aims to achieve groundwater sustainability by 2040 through implementation of projects and management actions to balance SWID's inflow and outflow of surface water and groundwater in the basin. With reduced surface allocations, the District has focused efforts on enhancing their conjunctive use to support groundwater health in the basin. Thus, implementation of conjunctive use projects such as the proposed Project are not only important for maintaining the district's general water supply consisting of surface water and groundwater but the overall groundwater sustainability of the basin, which is a shared aquifer with multiple beneficial users.

In a wet year such as 2017, SWID's FKC surface water supplies were 94,600 AF, but in 2014 California experienced severe drought and SWID's FKC surface water supplies reduced to 11,900 AF as reflected in Table 1. Large fluctuations in surface water supply are common in the region and illustrate the need for additional recharge capacity. The District's total water supply, which mainly consists of FKC supplies, averages 41,400 AF from the years 2013 to 2022. Additional water supplies include water banking exchanges with neighboring water districts, other water from uncontrolled season flows, water mitigation, recirculation water and miscellaneous water purchases. The following table details the inflow and outflow of available water supplies:

Table 1: District Water Supplies Summary (AF)

	Water Source	10 Year Average (2013-2022)	Unconstrained year (2017)	Critcal Dry Year (2014)
Inflows	Friant Kern Canal	42,800	94,600	11,900
	Water Banking Returns	3,100	400	3,600
	Other water (uncontrolled season flows)	1,400	4,200	0
	Water Mitigation	300	0	0
	Recirculation water	900	500	0
	Miscellaneous water purchases	600	8,400	0
Outflows	Water Banking Delivered	7,700	24,700	0
	Total Supply (AFY)	**41,400**	**83,400**	**15,500**

Water Delivery System

Water is conveyed from the FKC to the District's service area through a network of approximately 120 miles of pressurized pipelines and 3/4 mile of lined canals. Surface water is delivered through two CVP turnouts into two separate systems (North and South) comprised of 120 miles of pressurized pipelines. The District monitors the inflow into the system from the two locations on the FKC using Venturi Meters. In 2017, the District completed construction of their first recharge facility, the Kimberlina Spreading Grounds, to facilitate District banking operations and is currently adding additional recharge sites within the District. For banking operations, spreading grounds within the District receive surface water supplies delivered through the North and South conveyance systems that were sized for irrigation delivery. Existing grower owned wells will be utilized as the return mechanism to extract and previously stored water for beneficial use in years when surface water deliveries are inadequate to meet demand.

Water Use

As a district, Shafter-Wasco provides water deliveries exclusively for irrigated agriculture. In this regard, the District serves water to about 250 water users. However, the Cities of Shafter and

Wasco, located within the District's boundaries are reliant on groundwater for domestic and industrial needs and have a combined population of more than 40,000 people.

The District has been essentially fully developed to irrigate agriculture for many years, with about 29,400 irrigated acres out of the approximate District total of 38,800 acres. The principal annual crops are alfalfa and wheat, while the principal permanent crops are almonds and grapes, with the latter accounting for a little more than three-fourths of the irrigated acreage. The Annex Area also utilizes about 7,800 irrigated acres of the approximate Annex total of 10,000 acres. The primary land use includes permanent crops, row, and field crops. There are no apparent long-term trends toward increasing or decreasing irrigated acreage; accordingly, the applied water demand is not expected to change significantly in the future.

1.2 Project Location

The Project is located in Kern County, California, approximately 3 miles northwest of the City of Shafter. The Project's recharge basin has a latitude and longitude location of 35.545742 N, -119.274844 W. Figure 1 shows the regional location of the Project. The adjacent District spreading grounds where overflow supplies will be diverted are directly south of the Dresser Recharge Facility and the associated conveyance components are within the immediate vicinity.

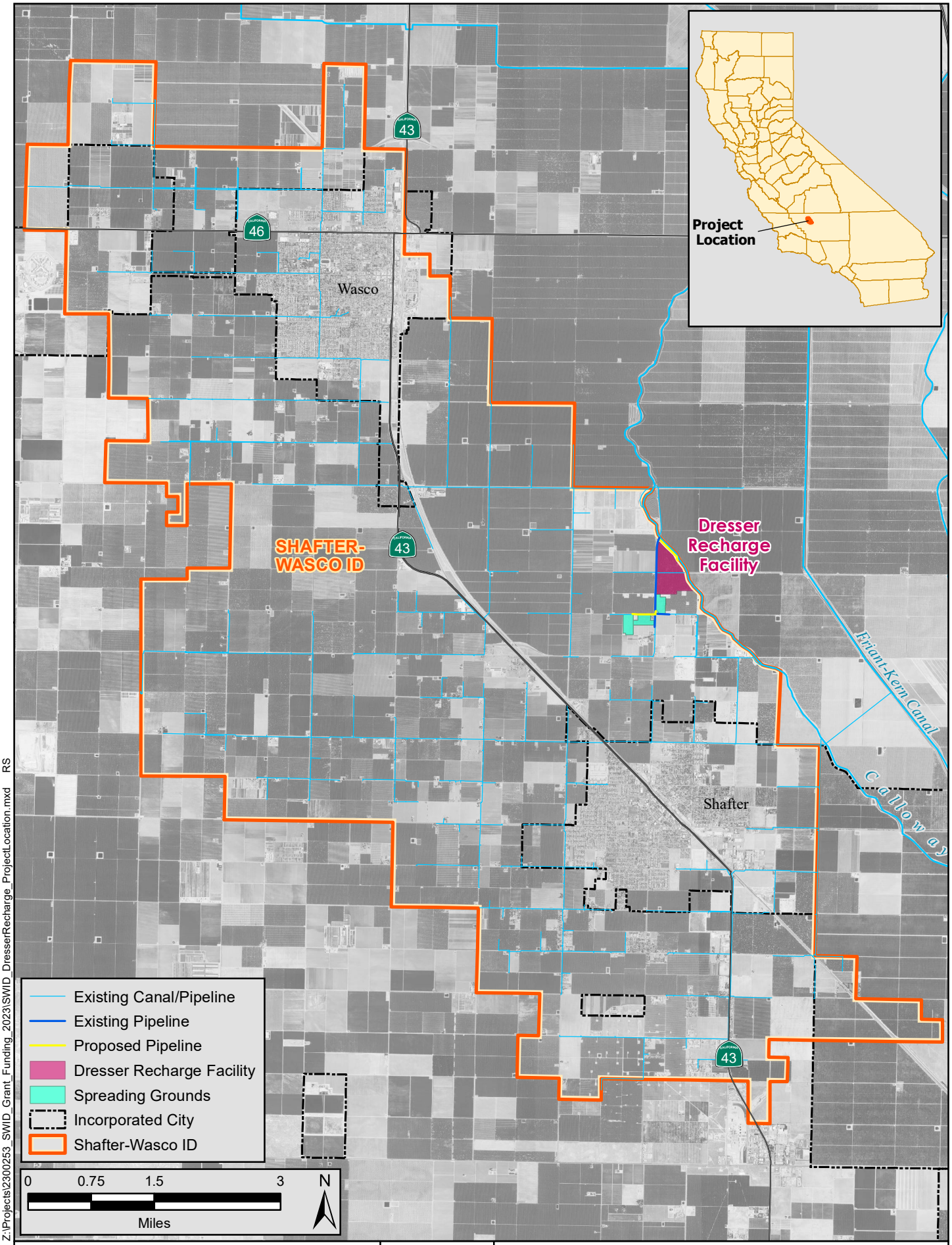
1.3 Project Description

The Project includes the construction of a 112-acre recharge basin and a triple 48-inch reinforced concrete pipe (RCP) turnout off the adjacent Calloway Canal. Additionally, several 48-inch diversion structures, one 36-inch diversion structure, and a 48-inch transfer pipeline with two 36-inch turnouts will be constructed to divert overflow supplies during excessively wet years into adjacent, existing recharge ponds. During dry years, water will be returned for use through an existing extraction well that will be retrofitted with a variable frequency drive (VFD) panel, new discharge assembly, and new panel security and connected to the system under this Project. Project implementation will provide SWID greater water storage capacity and increased flexibility to better capture and store excess CVP water for later return to their distribution system during dry years to meet demand.

Project implementation will increase drought resiliency by expanding the District's recharge capabilities. The proposed improvements will allow the District to increase groundwater recharge capacity and meet irrigation demands through return of stored water during dry years when surface water is scarce. This is in line with the District's goal to provide conjunctive use management of groundwater and surface water supplies as well as their objective of maintaining groundwater sustainability.

1.4 Performance Measures

The District measures all deliveries made from the water supply source, off the FKC into the two main delivery systems. The District maintains historical groundwater elevation level data for production wells and monitoring wells. These practices will continue to be implemented to



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Drought Resiliency Project Grant Application
Kern County, California

Shafter-Wasco Irrigation District

GEI Consultants

DRESSER RECHARGE FACILITY PROJECT LOCATION

OCTOBER 2023

FIGURE 1

measure Project performance. Additionally, metering will also occur at the turnout inlet from the Calloway Canal to the Dresser Recharge facility and diversion structure outlet to the adjacent spreading grounds so that SWID will have knowledge of volume of water banked. Meters are regularly checked for measurement accuracy as part as the Districts routine maintenance.

The recorded increase in groundwater level from recharge of the underlying groundwater aquifer would then also reduce the amount of lift required to pump groundwater. The reduction in energy can be calculated based on groundwater levels and quantities of water recharged. The District will continue to maintain delivery records and groundwater elevation data so that it can compare pre-Project and post-Project water level conditions.

1.5 Evaluation Criteria

1.5.1 Evaluation Criterion A – Project Benefits

Sub-Criterion A1.a. Adds to available Water Supplies

How will the project build long-term resilience to drought? How many years will the project continue to provide benefits?

The Project will build long term resilience to drought by adding recharge capacity to deliver wet year water to groundwater recharge for later beneficial use during dry years. For the new recharge ponds, the approximate amount of additional annual water supply is 6,631 AFY. The Project is expected to provide benefits during wet years which are estimated to occur every 4 out of 10 years. This wet year frequency is based on number wet years identified in the Department of water resources San Joaquin Valley Index from 1993 to 2022. As a secondary benefit, overflow supplies from the Dresser Recharge Facility will be conveyed to a nearby district spreading ground south of the proposed Project site. The existing adjacent recharge facility has performed better than expected and has additional capacity to deliver and store wet year water to groundwater recharge for later beneficial use during dry years. The approximate annual amount of additional water supply benefit resulting from additional conveyance capacity is 1,095 AFY. This secondary Project benefit is expected to provide benefits during wet years by adding conveyance capacity to existing spreading ponds. The total estimated average annual water supply of 7,726 AFY.

While recharged water will be recovered for later beneficial use by nearby landowners, it can be claimed as a benefit to the entire region as SWID is an active water management member within the Poso Creek Integrated Regional Water Management (IRWM) group. Bringing in additional supplemental surface water for recharge increases SWID's, as well as the overall basin's, efforts toward groundwater sustainability. The increase in recharge capacity to the basin provides a basis and a measure for the drought resiliency claim of this Project during dry years and drought conditions. The Project is anticipated to have an expected life of 50 years.

What percentage of the total water supply does the additional water supply represent? How was this estimate calculated?

The total annual supply benefit added is calculated as the sum of the recharge benefits of the Dresser facility and the adjacent spreading ground (6,631 AFY + 1,095 AFY = 7,726 AFY). The total additional water the Project would make available to the District is estimated to be 19 percent (7,726 AFY / 41,400 AFY = 19 percent) of the District's total water supply, the 10-year average water supply delivered of 41,400 AFY for years 2013 to 2022 (Table 1, Section 1.2.2). The 10-year water supply average was previously calculated in section 1.2.2 and includes the summation of surface supplies captured by Project implementation.

*What is the estimated quantity of additional supply the project will provide and how was this estimate calculated? Provide this quantity in **acre-feet per year** as the average annual benefit over ten years.*

The Project will increase the District's recharge capacity and allow for storage of flood flows via the Calloway Canal during wet years for use in dry periods. The 112-acre recharge site is anticipated to absorb 1 acre-foot per day (AFD) on 92 effective acres, or 92 AFD for up to 6 months, 4 out of 10 years. This equates to an average annual amount of approximately 6,631 AFY = [92 AFD * 30 days * 6 months * 4 / 10 wet years]. Over a 10-year period this amounts to 66,310 AF = [6,631 AFY *10 years]. The banked groundwater will help the District with operational flexibility of recharge facilities therefore improving water supply management. The recharge rate utilized for this calculation is based off performance for an adjacent, similar recharge site with 33 effective acres. Table 2 provides 2023 recharge data for March through May, which falls within the expected recharge timeframe for the proposed site, and averages 1 AFD (986 AF / 30 days / 33 acres).

Table 2: 2023 Adjacent Recharge Site Performance

March (AF)	April (AF)	May (AF)	Average (AF)	Recharge Rate (AFD)
1,043	984	932	986	1

In wet years when Dresser Recharge Facility is at maximum capacity, overflow water supplies will be conveyed to adjacent spreading grounds south of the Dresser Recharge Facility of a rate of 18 cfs or 36 AFD [18 cfs * 1.98347]. Conveyance to the adjacent recharge sites will occur 2.5 months per year, every 4 out of 10 years. This equates to an average annual amount of approximately 1,095 AFY [36 AFD * 30 days * 2.5 months * 4/10 wet years]. Over a 10-year period this amounts to 10,950 AF = [1,095 AFY *10 years]. Combined the total annual benefit is The total 10-year benefit is 77,260 AF = [66,310 AF + 10,950 AF] or 7,726 AFY.

Provide a qualitative description of the degree/significance of the benefits associated with the additional water supplies.

SWID's objective is to increase drought resiliency through expansion of the District's groundwater recharge capabilities. The significance of this additional water supply will allow for storage of unmanaged flood flows for later beneficial use. The generated additional water supply will support the health of the underlying aquifer for the region as well as provide storage of available flood flows for irrigation use in dry years. This additional water supply will improve water supply reliability and supplement varying surfaces supplies allocations in dry years. Without Project implementation, exceptionally large volumes of floodwater would not be captured, which may impact downstream areas susceptible to flooding and could lead to potential life and property loss. Adding additional conveyance and recharge capacity will mitigate these potential impacts to downstream areas by capturing and storing floodwaters during wet years.

Additionally, current water supply reliability of imported CVP water has been impacted by drought conditions. As droughts are experienced more frequently, it is crucial for the District to be able to capture any and all floodwater possible to increase supply reliability during drought periods. Not only does it increase supply reliability in the Project area, but in the basin as a whole by recharging water to support groundwater levels, which lessens the impacts to water users that share the underlying aquifer. As previously discussed, the Cities of Shafter and Wasco are located in the District and rely on groundwater as their sole source of drinking water supply. Any water brought in by the District will be of use for these cities who do not have their own recharge capacity or ability to bring water in from outside of the region.

Sub-Criterion A2.a. Climate Change

In addition to drought resiliency measures, does the proposed project include other natural hazard risk reductions for hazards such as wildfires or floods?

Project implementation will allow SWID to mitigate flood impacts to downstream users on the FKC and the Kern River. Flood waters will be able to be diverted from these sources through the Calloway Canal to the proposed Project area for recharge. Diverting floodwater for groundwater recharge will mitigate impacts to downstream users by pulling floodwater off major waterways in the system that are susceptible to flooding if not diverted and reduce the potential for downstream life and property loss. This effort is known as Flood Managed Aquifer Recharge (Flood-MAR), an ongoing statewide initiative to divert floodwater for groundwater recharge. The need for increased recharge capacity is directly supported by California Governor Newsom's recent executive orders (EOs) and newly adopted legislation.

- EO N-4-23: In March 2023, EO-N-4-23 was issued, which outlined emergency actions to allow expedited floodwater diversions for groundwater recharge to mitigate flood impacts to downstream beneficial users[1].

- EO N-7-23: In May 2023, EO N-7-23 was issued to extend EO N-4-23 expedited floodwater diversions for groundwater recharge through August 31, 2023[2].

- California Senate Bill (SB) 122: In July 2023, SB 122 codified EO N-4-23 and N-7-23 into law and allows the expedited diversions of floodwater for groundwater recharge through January 1, 2029.

As displayed through ongoing state legislation, California has experienced a severe and unprecedented wet year that is expected to be repeating, furthering the need for expanded recharge capacity floodwater diversions. Project implementation will reduce flood risks by diverting and storing floodwater, which will help protect downstream infrastructure from failing due to canal overflow and impacts public safety. Not only will impacts downstream of the diversion point be mitigated but flood threats on the San Joaquin River System (SJR) will be decreased as well. The FKC diverts water from Millerton Lake, an upstream reservoir that also diverts water through the SJR. During high flow events, water is released from Millerton Lake through both the San Joaquin River System and the FKC. Any floodwater taken off the FKC will mitigate flood impacts on the SJR system and vice versa.

Does the proposed project include green or sustainable infrastructure to improve community climate resilience?

The Project promotes sustainable infrastructure by reducing pumping costs and potential maintenance costs from reduced groundwater pumping resulting from the additional water supply benefit generated. Implementation of the Project allows the District to maintain the sustainability of groundwater supplies as groundwater levels are increased by a reduction in groundwater pumping. Increased groundwater levels reduce the energy used to lift groundwater supplies required to meet demand. This is crucial to maintain sustainability as higher energy demand is anticipated in warmer, dry years. As such, reducing groundwater pumping thereby increases the pump system affordability for communities reliant on groundwater as less operation and maintenance costs are anticipated.

[1] https://www.gov.ca.gov/wp-content/uploads/2023/03/3.10.23-Ground-Water-Recharge.pdf
[2] https://www.gov.ca.gov/wp-content/uploads/2023/05/5.17.23-EO-for-San-Joaquin-River-and-Tulare-Lake-Basins.pdf

Sub-Criterion A2.b. Environmental Benefits

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

The Project benefits endangered species in the San Joaquin River System by diverting flood water via the Calloway Canal to the proposed Project area. According to the California Department of Water Resources' (DWR) Flood-MAR white paper, the diversion of flood flows allows for floodwater to be spread to the Project area and slowed down for benefit to endangered or threatened fish and waterfowl[3]. According to the Flood Pulse Concept in River and Flood plain Systems[4], unpredictable floods, such as uncontrolled flood flows in wet years, may be disruptive to aquatic organisms. A study of the impacts of flooding on aquatic systems suggests that increases flows that occur from extreme flooding can reduce fish density during high water events, but increased fish population as flows receded[5]. Implementation of the Project would help regulate flood flows from the SJR via the Calloway Canal to protect endangered or threatened species existing in the SJR.

Sub-Criterion A2.c. Other Benefits

Will the project benefit multiple sectors and/or users?

SWID primarily supplies water for agricultural use, an industry that supports the Cities of Shafter and Wasco, two disadvantaged communities located within the District. Additionally, these communities are groundwater dependent and have no recharge capabilities of their own and relies on the District to bring in supplies to maintain groundwater levels. Therefore, water brought into the District supports the communities by supplying drinking water and maintaining the economic viability of the region, providing jobs for the residents of the local communities. Under drought conditions, water supply availability decreases, thereby reducing crop production from dry soil conditions and resulting in economic losses to the region. By building additional recharge capacity for storage of available floodwater, the Project makes additional surface water available to use in lieu of groundwater pumping during dry years and helps maintain groundwater supplies for the local communities. This is critical during dry and drought years to minimize the amount of groundwater pumping to meet existing irrigation demand, maintaining crop health, and increasing economic vitality for communities.

[3] California Department of Water Resources (DWR). 2018. Flood-MAR Using Flood Water for Managed Recharge to Support Sustainable Water Resources.
[4] Junk WJ, Bayley PB, Sparks RE. 1989. The Flood Pulse Concept in River-Floodplain Systems.
[5] Talbot, C.J., Bennett, E.M., Cassell, K. et al. The Impact of Flooding on Aquatic Ecosystem services. Biogeochemistry 141, 439–461 (2018).

Will the project benefit a larger initiative to address sustainability? Will the project help to prevent a water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?

The Project will benefit a larger initiative of addressing groundwater sustainability under SGMA. The District developed a management area plan under SGMA to address regional groundwater sustainability. Under their plan, the District has identified several project and management actions to bring in more water and reduce demand in the region to achieve groundwater sustainability by 2040. The Dresser Recharge Project is a part of this effort and is important to achieve the District's sustainability goal. Expanding conjunctive use program will help maintain groundwater levels and supplement groundwater pumping during wet years. In turn, during dry years water can be returned for irrigation when surface water is scarce. Together, conjunctive management will work to balance the inflow of surface water with groundwater usage and promote groundwater sustainability across the basin.

1.5.2 Evaluation Criterion B –Planning and Preparedness

Explain how the applicable plan addresses drought. Does the drought plan contain drought focused elements?

SWID, with other members of the Poso Creek IRWM Group (Group), developed a Drought Contingency Plan (DCP). Relevant sections of the DCP are included as Appendix A. The complete DCP can be provided upon request. The DCP provides sections on drought monitoring strategies, a vulnerability assessment that includes climate change considerations, identification of mitigation actions, development of response actions, and the process for updating the plan in accordance with the Drought Response Program Framework.

Within the plan, Drought Monitoring (Section 2 of the DCP) describes the drought severity level of the Poso Region by assessing three factors: (1) projections of water supply allocations for various local and imported sources in the region such as for the Central Valley Water Project, which SWID relies on for surface supplies, (2) minimum thresholds for groundwater level conditions as established in accordance with SGMA regulation, and (3) available drought forecasting of future hydrologic conditions to define four drought stages intended for management of drought conditions. The Vulnerability Assessment (Section 3 of the DCP) evaluates risks and impacts of climate change induced drought through evaluation of both water supply and major conveyance vulnerabilities and water quality vulnerabilities. The assessment identifies critical resources that pose drought vulnerabilities, assesses regional water demand through consideration of regional water supply availability and reliability, and considers existing water quality conditions. The assessment also includes a climate assessment on future conditions based on projected climate change discussed in Section 3.6 of the DCP. Assessment of historical data indicate that climate change projections show warmer and drier conditions that result in lower allocations of principal water resources, such as CVP surface supplies, and cause future

drought vulnerabilities from decreased water supply reliability. These projections are based on hydrological factors including rainfall, snowpack, runoff, and reservoir storage. Mitigation actions (Section 4 of the DCP) were developed for all districts and disadvantaged communities in the Poso Creek Region. The mitigation actions section, specific to SWID, is provided in Appendix A. Response Actions (Section 5 of the DCP) were developed for the different stages of drought established in the drought monitoring section and are intended to reduce the severity of the immediate impacts of drought through management of water supplies.

The four Drought stages include the (1) surplus condition stage, (2) drought stage 1– severe drought, (3) drought stage 2 – extreme drought, and (4) drought stage 3 – Exceptional Drought. The surplus condition is the most critical stage, since it involves initiating recharge and banking projects to capture, convey, and recharge available surplus water into the local aquifer. Drought Stage 1 is the first level of drought response that involves managing recovery of local banked water and regional water transfers to meet any water shortages. Drought Stage 2 is an increased level of response that triggers engagement to coordinate more active recovery of locally banked water, water transfers, and management of groundwater levels in compliance with the thresholds established under SGMA. Drought Stage 3 is the highest level of drought response in the region that includes coordination of more active recovery of locally banked water, water transfers, and management of groundwater levels in compliance with the thresholds established under SGMA. At Drought Stage 3, curtailment on groundwater supplies may occur to maintain minimum level thresholds.

Describe how the drought plan includes consideration of climate change impacts to water resources or drought.

The DCP builds off a previous climate change assessment to better manage the water resources in the region and to mitigate the effects of future drought while accounting for the future effects of climate change. To evaluate sustainability, a groundwater level monitoring network was developed to assess the groundwater conditions. Implementation of these groundwater practices such as the proposed Project would be a direct reflection of positive management actions to sustain groundwater levels and bolster drought resiliency in the region.

As previously mentioned, the DCP is developed from previous planning efforts and accounts for future climate change projections. The climate change models evaluated focus on the generalized effects of climate change on the region including changes in timing, volume, and nature of precipitation that provides water supply to beneficial users in the region. Long-term climate projections show a reduction in the volume of surface supplies and water supply reliability.

The DCP acknowledges the District's projected population growth and corresponding increase in water needs, as well as anticipated declines in surface water allocations in years of drought. The DCP discusses the vulnerabilities of water resources that are susceptible to drought. The impacts

of climate change include potential reduction of water supply, a decrease on groundwater elevations, and lower storage of surface water. This discussion is provided in the Vulnerability Assessment of the DCP.

When was the plan developed and how often is it updated?

The planning process for development of the DCP was completed and approved by Reclamation in March 2020. The DCP was developed in 2021 and submitted to Reclamation in January 2022 following the planning process. After submittal the plan, Reclamation completed review of the plan and provided SWID with comments in June 2022. The revised plan was submitted and approved by Reclamation in October 2022 and adopted in February 2023 by the Poso Creek Group in accordance with Drought Response program requirements. The DCP will be updated by the Poso Creek IWRM Group through both an ongoing process and a "post-drought evaluation." As stated in the plan, the ongoing process will test the effectiveness of the DCP under simulated drought conditions, and will be done periodically to note possible shortcomings of the DCP due to changes in technology, infrastructure, laws, political leadership, etc. The post-drought evaluation is intended to measure the real-world effectiveness of the DCP. As such, the DCP will be updated on an as-needed basis, or every 5 years at a minimum.

Was the drought plan developed through a collaborative process? Describe who was involved in preparing the plan and whether the plan was prepared with input from stakeholders with diverse interests (e.g., water, land, or forest management interests; and agricultural, municipal, Tribal, environmental, and recreation uses)? Describe the process used for interested stakeholders to provide input during the development of the plan.

In collaboration with other members of the Poso Creek IRWM Group (Group), SWID entered into an agreement with Reclamation to develop the adopted DCP. The DCP was developed in two phases: (1) Planning process guided by a developed Task Force made up of members of the Poso Creek group and various stakeholder in the region, and (2) Development of the six elements of the DCP. The DCP was expanded by the work completed in Phase I, which included development of a detailed work plan and a Communication and Outreach Plan (C&O Plan). Under the C&O Plan, the Task Force conducted public stakeholder meetings for input on work to be included in the DCP. Five Task Force meetings were held in conjunction of public Regional Water Management Group meeting during the development of the drought plan from 2019 to 2021. In addition, two public workshops were held virtually to present the key components of the DCP and provide opportunity for public input. The public and members of the community were encouraged to participate in the meetings. Development of the six elements of the DCP identified in the work plan were completed through a collaborative stakeholder process.

Describe how your proposed drought resiliency project is supported by an existing drought plan. Does the drought plan identify the proposed project as a potential mitigation or response action?

How is the proposed project prioritized in the drought plan? Does the proposed project implement a goal or need identified in the drought plan? Is the supported goal or need prioritized within the plan?

The proposed Project is similar to the identified mitigation actions (or projects) in the DCP for Improved Groundwater Recharge capacity as shown in Appendix A. The DCP accounts for an assessment of drought response and mitigation actions to proactively implement projects to offset future potential drought. Implementation of this Project will offset future drought impacts by adding recharge capacity that will provide added water to the region that can later be returned during dry or drought years. The Project will also provide opportunities for unused capacity from an adjacent District owned spreading ground to be fully utilized for recharge in wet years.

The proposed Project is supported by the following objectives identified in the drought plan: (1) Enhance reliability and effectiveness of surface water supplies delivered to the Region, (2) Improve regional water conveyance, direct recharge, and in-lieu service actions, (3) Enhance regional conjunctive water-use, (4) Adapt to change in amount, intensity, timing, and in-lieu service areas, and (5) Increase absorptive capacity for banking water when available. The Project would help to prepare for, and mitigate the reliance of groundwater usage during, drought conditions. The Project's annual benefits include 7,726 AFY of unmanaged flood water supplies to be recharged or conserved, stored, and credited to the District for later beneficial use. Overall, the implementation of the Project will meet the goals of the drought plan by supporting the long-term drought planning effort to improve regional water recharge and conveyance facilities, which will enhance reliability effectiveness of surface water supplies delivered to the region and enhance regional conjunctive water use.

1.5.3 Evaluation Criterion C –Severity of Actual or Potential Drought or Water Scarcity Impacts to be addressed by the Project

Describe recent, existing, or potential drought or water scarcity conditions in the project area. Is the project in an area that is currently suffering from drought, or which has recently suffered from drought or water scarcity?

As identified in the 2019 Poso Creek IRWM Plan Update, droughts are expected to become more frequent and intense, interspersed with severe wet periods as a result of climate change. Droughts are common throughout the Western U.S, and California experiences a drought every 7 years on average. Climate change pressures such as warming temperatures, shorter more intense wet season, shrinking snowpacks, rising sea levels, and more volatile precipitation have impacted the availability of water supplies[6]. Recent drought, such as the period from 2013-2022, have seen warmer, more intense droughts that are impacted by climate change. Risk of longer

[6] Mount, Jeffrey, Daniel Swain, and Paul Ullrich. 2019. Climate Change and California's water.

more intense droughts and shorter more intense wet periods in the next 20-50 years are anticipated.

The 2019 IRWM Plan developed by SWID and other members of the Poso Creek IRWM Group indicated that water supply and water demand appear to have the highest vulnerability to potential climate change impacts. Climate change has led to general increases in temperature, and variability and unpredictability in precipitation thus resulting in increased evapotranspiration that increase water demand in warmer seasons. In 2006, the San Joaquin River settlement was reached, whereby some of the flows that historically would have been diverted to CVP-Friant contractors, will (in the future) be discharged to the river channel below Friant Dam. As a result of dry hydrologic conditions and the settlement, surface CVP-Friant Division supplies, which SWID is reliant on, have historically been reduced thereby presenting concerns for water supply reliability. As such, the full allocation of Class 1 CVP water supplies are expected in 65 percent of years (or 6 to 7 years in 10 years).

As a Friant-CVP contractor, SWID has been severely impacted by the subsidence along the FKC that resulted in decreased by nearly 40 percent of original conveyance capacity to the region as mentioned in the District's Management Area Plan, under SGMA. Subsidence monitoring data shows that land through SWID had subsided up to 12-inches throughout the extent of the SWID and NKWSD boundaries during the years 2015-2022, with annual subsidence rates between 0.3 to 1.7 inches per year. Both the change in climate and decline in the FKC conveyance capacity has led to increasingly unstable surface water deliveries in the region, even during normal and wet periods.

According to the U.S. Drought Monitor the most recent and severe drought Kern County faced, which is the area in which the District is located, was from 2014-2016 with "Exceptional Drought" conditions all three years. The Drought Monitor tool also showed "Severe Drought" to "Exceptional Drought" in 2021 to 2022 as well. In Figure 2, the 2022 Drought Monitor map of California shows the Kern County area being in "Extreme Drought" and with variable conditions from "Moderate Drought to "Severe Drought" observed in the past year. In Figure 3, the 2023 Drought Monitor map of California shows the Kern County area non-drought conditions ("None"). Although drought conditions have decreased in 2023 from an increase in rainfall in the past year, projected climate change estimates indicate that drought conditions will only become more frequent and severe. As California faced its last major drought in 2016, as well as years 2021 and 2022, more frequent drought periods are likely to occur in the future.

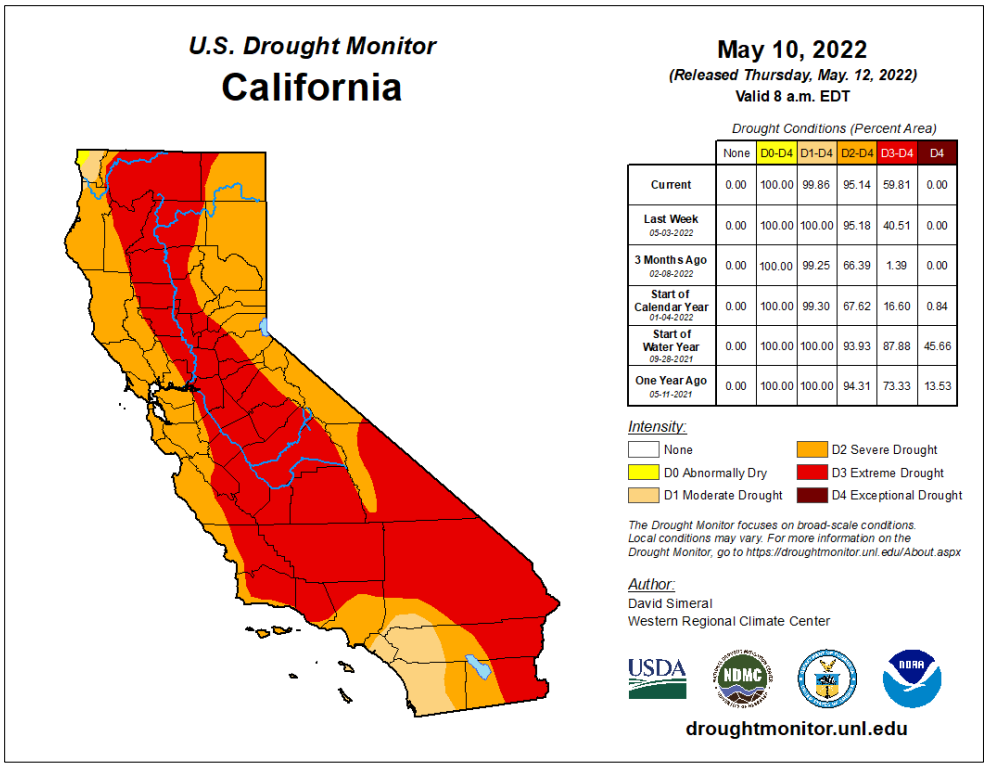

Figure 2. U.S. Drought Monitor Map 2022

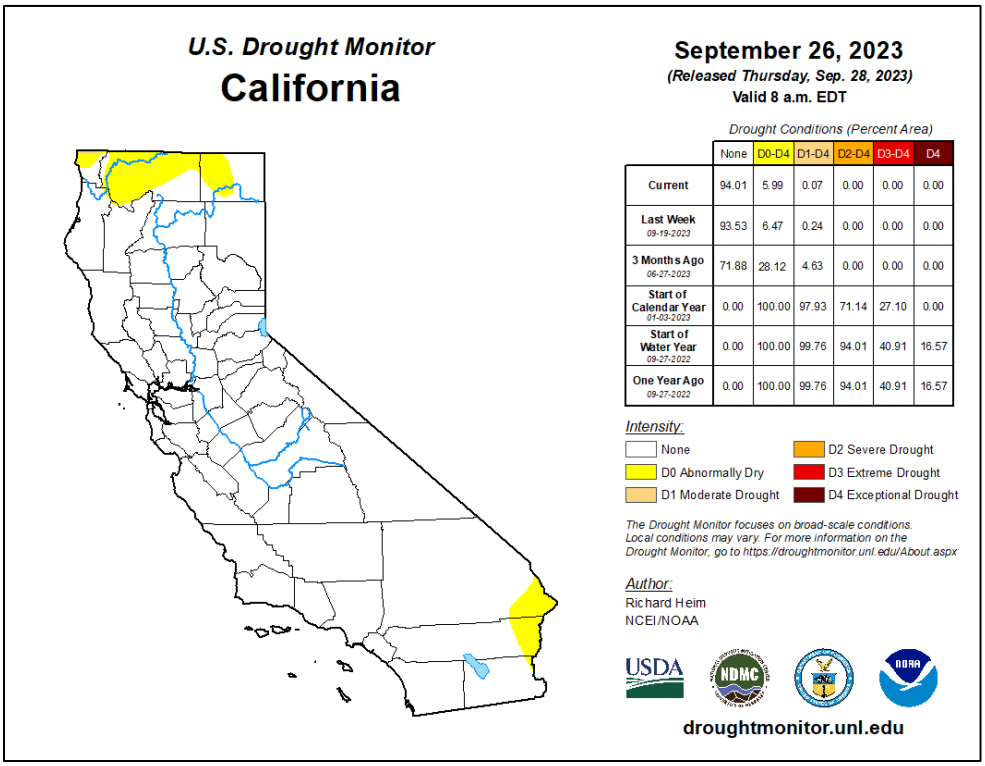

Figure 3. U.S. Drought Monitor Map 2023

What are the ongoing or potential drought or water scarcity impacts to specific sectors in the project area if no action is taken, and how severe are those impacts?

The Cities of Shafter and Wasco are disadvantaged communities located in the District that rely on groundwater in the Project area as their sole source of drinking water. Since the basin is a shared aquifer, water brought in and recharged by SWID impacts the supplies to these two disadvantaged communities. As previously mentioned, reduction of available surface supplies lead to additional groundwater pumping from the depleted groundwater aquifer may result in lesser water quality supplies. The two disadvantaged communities do not have additional water sources available to them if groundwater supplies are depleted and impacted. Additional supply brought in by SWID will help maintain groundwater levels and supply reliability for these communities.

Whether there are local or economic losses associated with current water conditions that are ongoing, occurred in the past, or could occur in the future (e.g., business, agriculture, reduced real estate values).

The area neighboring the proposed recharge facility mainly consists of agriculture and residential areas. As a result of ongoing drought conditions, inadequate surface water supplies will be supplemented by groundwater pumping. However, in order to maintain groundwater levels to comply with SGMA regulations, groundwater pumping may be limited. This lack of supply to meet irrigation demand could impact crop production of local landowners and may result in potential land fallowing. Reduced crop production impacts the regional economy that is reliant on agriculture. According to the National Integrated Drought Information System (NIDIS)[7], California's agriculture sector lost approximately $1.8 billion in 2015 when drought in the Central Valley was "exceptional" on the U.S Drought Monitoring map. According to a report done by UC Merced[8], the impact of drought in 2021 and 2022 resulted in economic losses in California of $1.32 billion and $1.72 billion respectively. According to the Kern County Crop reports, the total crop value without timber in 2017, a wet year, was $7.25 billion[9], whereas the total crop value without timber in 2015, a critical dry year, was $6.88 billion[10]. The estimated loss in crop sales in Kern County as a result of drought conditions is approximately $370 million. This data leads to the reasonable conclusion that crop value may have been maintained or increased by various factors such as better conjunctive use of available water resources and inflation of prices to the consumer.

[7] National Integrated Drought Information Systems (NIDIS). 2023. Agriculture..
[8] UC Merced. 2022. Economic Impacts of the 2020-22 Drought on California Agriculture.
[9] Department of Agriculture and Measurement Standards. 2017. 2017 Kern County Agricultural Report.
[10] Department of Agriculture and Measurement Standards. 2015. 2015 Kern County Agricultural Report.

1.5.4 Evaluation Criterion D – Presidential and DOI Priorities

Disadvantaged or Underserved communities

Describe how the proposed project will serve or benefit a disadvantaged or underserved community, identified using the tool described above.

There are several disadvantaged and underserved communities in and around the District's service area, including the Cities of Shafter and Wasco. These communities are solely reliant on groundwater pumping for water supplies and benefit from District groundwater banking operations. Any recharged water supplies brought into the District from this Project replenish the shared underground aquifer; thus, any effort made to better manage groundwater benefits all beneficial users in the basin, including disadvantaged communities, as well numerous domestic well owners scattered across the district. The City of Wasco boundary, identified from the Climate & Economic Justice Screening Tool, is directly north of the Project area. As such, City of Wasco landowners will likely benefit from the additional water supply for irrigation to nearby landowners.

1.5.5 Evaluation Criterion E – Readiness to Proceed and Project Implementation

Describe the implementation plan of the proposed project. Include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.

The Project will be implemented under the direction of SWID through a series of tasks performed by consultants, engineers, and contractors. Seven milestones are discussed below. Some tasks, including Grant Administration, Reporting, and Environmental & Cultural Resources Compliance, are anticipated to involve coordination and collaboration with Reclamation staff.

Task 1: Grant Administration – Activities are anticipated to include coordination with Reclamation; preparation of grant modification or amendment requests as needed; and Federal and non-Federal cost-share administration.

Task 2: Project Reporting – Activities include preparation of interim and final performance and financial reports submitted per the schedule stipulated by Reclamation, anticipated to be at a frequency of twice a year for interim reports.

Task 3: Project Design and Bidding – It is anticipated the design process will include surveying, geotechnical investigation, utility investigation, and several iterations of design culminating in a 100% design package furnished by a registered engineer. In addition to design, a specification package will be prepared for use in construction contracting. It is anticipated that construction of the Project will be advertised publicly for bid, in accordance with applicable Codes of Federal

Regulation and public contracting codes, for a period of approximately a month during which a consultant will coordinate with bidders, prepare responses to requests for information, prepare addenda as needed, conduct pre-bid and bid opening meetings, and review and analyze bids. It is anticipated that the construction contract will be awarded to the lowest responsive and responsible qualified bidder.

Task 4: Environmental and Cultural Resources Compliance – Environmental documentation meeting the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) will be prepared for the Project, as required. Regarding NEPA, SWID anticipates the environmental consultant will work with Reclamation staff to determine the level of documentation required (i.e., a Categorical Exclusion Checklist, Environmental Assessment, etc.) and on biological, cultural, and tribal consultations with respective agencies, as needed. In support of environmental documentation, biological and cultural surveys will be performed as needed. CEQA documentation will be prepared as appropriate. SWID acknowledges earth-disturbing activities must not commence until a notice to proceed is received from Reclamation. As required, a qualified biologist will complete pre-construction surveys and conduct environmental and cultural worker awareness training; construction personnel will complete training prior to commencing ground-disturbing work, as needed.

Task 5: Permits and Approvals – The engineer and contractor will collaborate to obtain needed permits. Specific, anticipated permits are discussed in detail below.

Task 6: Project Construction – As discussed above, a construction contract will be awarded to the lowest responsive and responsible qualified contractor that bids on the Project. Construction will include construction of a 112-acre recharge basin and a triple 48-inch RCP turnout off the adjacent Calloway Canal. Additionally, several 48-inch diversion structures, one 36-inch diversion structure, and a 48-inch transfer pipeline with two 36-inch turnouts will be constructed to divert overflow supplies into adjacent, existing recharge ponds. Construction activities are anticipated to include mobilization; demobilization; environmental compliance; preparation and restoration of access routes; soils investigation; clearing and grubbing; excavation; grading; turnouts and diversion structures; reinforced concrete pipe, HDPE pipe, and PVC pipe; road crossing construction; connections to existing District conveyance; valves and flow meters; and control systems, discharge assembly, and control and monitoring system. To the extent it is required, material will be procured in compliance with the *Build America, Buy America Act*. Labor will be obtained in compliance with applicable regulations such as the Davis-Bacon Act and prevailing wage, as required.

Task 7: Construction Management – Construction Management will be performed by a consultant and is anticipated to include tasks such as construction observation; coordination and conducting of construction progress meetings; reviewing and responding to submittals; reviewing and responding to requests for information; preparing change orders as needed;

reviewing invoices and recommending payments to the District; project closeout coordination; and general coordination with the contractor and District.

The estimated schedule for the tasks discussed above is presented in Table 3. Project tasks and durations are based on experience with similar projects. The schedule assumes a signed grant award on October 31, 2024. It is anticipated that Project Design and Bidding and Environmental and Cultural Resources Compliance will commence prior to an executed agreement, or "pre-award". The Project is expected to be completed by July 2026, including Project closeout, which is within Reclamation's prescribed three-year duration limit for this Funding Group.

Table 3: Project Schedule

Milestone	Start	Finish
Signed Agreement	October 2024	
Task 1- Grant Administration	November 2024	July 2026
Task 2- Project Reporting	November 2024	July 2026
Task 3- Project Design & Bidding	August 2023	March 2025
Task 4- Environmental & Cultural Resources Compliance	July 2024	November 2025
Task 5- Permits and Approvals	November 2025	April 2025
Task 6- Project Construction	April 2025	April 2026
Task 7- Construction Management	April 2025	April 2026

Describe any permits or approvals that will be required (e.g., water rights, water quality, stormwater, or other regulatory clearances). Include information on permits or approvals already obtained. For those permits and approvals that need to be obtained, describe the process, including estimated timelines for obtaining such permits and approvals.

It is anticipated that approvals and documentation related to NEPA will be required. The NEPA process is expected to take approximately one year. It is anticipated that NEPA activity will include coordination between the environmental consultant and Reclamation staff to determine the level of documentation required and for biological, cultural, and tribal consultations with respective agencies, as needed. The environmental consultant will complete CEQA documentation as needed. It is anticipated that if required, the CEQA process will include preparing reports and documentation, and public noticing. CEQA is anticipated to take approximately six months to a year and would likely be completed concurrently with the NEPA process.

The majority of construction is anticipated to occur on District property; in the event the pipeline connections or other Project components need to be installed in a right of way belonging to someone other than the District, such as the County of Kern, the engineer and contractor will work together to obtain an encroachment permit. Encroachment permit application processes typically include preparation and submittal of an application provided by the permitting agency

and submittal of relevant drawings and plans. Permit application timelines vary; however, in the District's experience most processes take approximately six weeks on average. Additional permits and approvals related to access, such as road crossing permits, will be obtained by the engineer or contractor as needed.

As needed, a National Pollutant Discharge Elimination System (NPDES) Permit and Dust Control Plan or notification will be obtained by the contractor under their construction contract. The NPDES process is anticipated to take approximately four to six months and will be completed by the prime construction contractor or their subcontractor. The process includes preparation of a Notice of Intent and Stormwater Pollution Prevention Plan (SWPPP) that will be reviewed by the State Water Resource Control Board. The SWPPP will include Best Management Practices to prevent waste and pollutants from flowing to surface water and groundwater. Approval in the form of a Waste Discharge Identification (WDID) is expected to be issued. The NPDES process is expected to commence shortly after a construction contract is awarded and will be completed prior to construction.

Regarding the Dust Control Plan, an application or notification will be made by the contractor to the San Joaquin Valley Air Pollution Control Board for a PM-10 Dust Management Plan permit. This permit will require that dust control management be implemented during construction to prevent air pollution if disturbed land is of a certain size or greater. The process is expected to take approximately three months and will commence shortly after a construction contract is awarded and will be completed prior to construction.

Construction of the Project includes a turnout off the Calloway Canal, which is owned and operated by a neighboring water storage district. The owner of the canal has expressed support of the Project and to the extent necessary, approvals will be obtained to construct the turnout.

It is noted that the District is not subject to Kern County's building and grading permits.

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

Preliminary engineering and design of the Project has commenced, including a conceptual design and construction cost estimate. Accordingly, pre-award costs are requested in the budget.

Describe any land purchases that must occur before the project can be implemented.

The District is in the process of purchasing the land for the recharge site. It is expected that the purchase will be completed prior to execution of a grant award.

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

The District understands that a resolution from the Board of Directors will be required if the Project is selected for funding. No other administrative actions are anticipated to be needed to implement the Project.

The Project is in accordance with the District's established banking agreement. No new policies are anticipated to be needed to implement the Project.

1.5.6 Evaluation Criterion F – Nexus to Reclamation

Describe the nexus between the proposed project and a Reclamation project or Reclamation activity. Please consider the following: Does the applicant have a water service, repayment, or O&M contract with Reclamation? If the applicant is not a Reclamation contractor, does the applicant receive Reclamation water through a Reclamation contractor or by any other contractual means? Will the proposed work benefit a Reclamation project area or activity? Is the applicant a Tribe?

The Project will help with the District's management of water supplies for SWID through the proposed recharge facility (i.e., banking recharge and return). As a contractor of Reclamation's CVP- Friant Division, SWID receives federal waters and while the specific Project location is not related to a Reclamation project or activity, it will provide storage of unmanaged floodwater to supplement CVP surface water for In-District use. The applicant is an irrigation district. Project implementation will benefit other CVP contractors in the region by utilizing uncontrolled flood water from the Kern River diverted through the Calloway Canal to allow for more flexible timing of Central Valley Project (CVP) deliveries, improving operational flexibility in the region.

1.5.7 Evaluation Criterion G – Stakeholder Support for Proposed Project

Describe the level of stakeholder support for the proposed project. Are letters of support from stakeholders provided? Are any stakeholders providing support for the project through cost-share contributions or through other types of contributions to the project?

Letters of support are provided from the Poso Creek IRWM Group, North Kern Water Storage District, the City of Shafter, and the City of Wasco. As previously mentioned, stakeholders were involved in the planning of mitigation actions to address ongoing concerns with future drought conditions. These mitigation actions were developed in support of the Poso Creek region. North Kern, as the owner of the Calloway Canal, supports the proposed Project as it will improve drought resiliency and groundwater sustainability for the region through recharge activities. Similarly, City of Wasco and City of Shafter support the proposed Project as well. SWID will provide all cost-share contributions for the Project. All letters of support are provided in Appendix B.

Explain whether the project is supported by a diverse set of stakeholders, as appropriate, given the types of interested stakeholders within the project area and the scale, type, and complexity of the proposed project. For example, is the project supported by entities representing agricultural, municipal, Tribal, environmental, or recreation uses?

The Project is supported by the Poso Creek IRWM Group, which SWID is a member of, since implementation of the Project will provide benefits to the region. Stakeholders involved in the Poso Creek IRWM Group include state, federal, and local agencies such as neighboring water districts, state-wide organizations, and agricultural water and environmental advocacy groups. This includes, but is not limited to, the original Poso Creek regional water management group consisting of seven agricultural water districts, Rosedale-Rio Bravo Water Storage District, Buena Vista Water Storage District, Lost Hills Utility District, Lost Hills Water District, DWR, USBR, Kern County Water Agency, and Kern National Wildlife Refuge. Stakeholder involvement in the planning process included development of projects similar to the proposed Project. This Project is supported by the plan as recharge projects are identified as a priority for improving conjunctive use of surface water and groundwater supplies available to the region.

2. Project Budget

The mandatory Budget Narrative and Budget Detail are uploaded into Grants.gov with the submission of this application. A summary of Non-Federal and Federal Funding Sources is shown in Table 4.

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

Funding Sources	Amount
Non-Federal Entities	
1. Shafter-Wasco Irrigation District	$4,243,590
Non-Federal Subtotal	**$4,243,590**
Requested Reclamation Funding	**$4,243,590**

3. Environmental and Cultural Resources Compliance

The following section summarizes SWID's approach to avoid, minimize, and mitigate any potential environmental impacts related to the Dresser Recharge Facility Project. The District understands that ground disturbing activities shall not occur until Reclamation concludes environmental compliance review and provides a Notice to Proceed. The following paragraphs address the specific questions posting in the Environmental and Cultural Resources Compliance section of the Notice of Funding Opportunity.

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

The extent of construction activities for the Project will occur within the 112-acre parcel owned by the District adjacent to the Calloway Canal, and within an area extending pipeline connections with the District and County of Kern Rights-of-Way. The proposed recharge facility and pipeline components will be located on previously disturbed soils, land that is currently under cultivation, or in roadway ditches. Regardless, all applicable environmental compliance measures will be followed, at a minimum, to ensure no improper disturbances are made to the environment and animal life. Such environmental measures include executing the PM-10 Dust Control Prevention Plan, SWPPP, and all necessary biological site surveys and avoidance and minimization measures.

The Contractor will be required to obtain a PM-10 Dust Control Permit from the San Joaquin Valley Air Pollution Control District prior to earth-disturbing activities. Dust-control measures required by the PM-10 Dust Control Prevention Plan include but are not limited to the application of water to prevent excessive dust during all clearing, grading and earthmoving activities. Additionally, during grading and construction activities, all equipment will be powered down when not in use to reduce unnecessary emissions; all equipment will be maintained and tuned; and to the extent possible, all equipment will be equipped with exhaust systems to minimize emissions. Equipment and vehicle speeds will be limited on unpaved roads and traffic areas. Furthermore, wind barriers will be implemented as needed, and if high winds occur, ground disturbing activities will cease.

Because the Project would disturb more than one acre of soil, a NPDES Permit from the State Water Resources Control Board will be obtained prior to construction, and as part of the NOI process, a SWPPP for the Project will be developed. Best Management Practices (BMPs) detailed in the SWPPP will be implemented during construction to minimize potential impacts of waste and pollutants from flowing to surface water and groundwater.

The District will engage a qualified biologist to conduct a pre-activity survey prior to the start of construction to ensure that the construction area remains unoccupied by sensitive and/or endangered species. In addition, standard avoidance and minimization protocols for species will be included in the Project specifications and will be maintained and tracked during construction. Moreover, the duration of construction activity is expected to be relatively short, to occur over a period of six months within the window for utilizing the grant funds.

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

The District is aware that threatened and endangered species exist in the Southern San Joaquin Valley. The Fish and Wildlife Service (FWS) Endangered Species Database listed several threatened and endangered species within Kern County. However, based on experience of and within the District, the Kern Council of Governments Habitat Conservation Map, and Federally-listed species mapping, no known endangered species inhabit the area of the recharge basin and pipeline components. However, if potential impacts are identified, the District will follow recommendations by the qualified biologist (discussed above) to reduce those impacts to a less-than-significant level.

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

No; wetlands and other surface water locations have been eliminated from potential Project sites during the design process. Therefore, the Project boundaries would not fall under Clean Water Act (CWA) jurisdiction as, "Waters of the United States".

When was the water delivery system constructed?

The water delivery system was constructed around the time the District began importing CVP surface water in 1957 with a water service contract for 50,000 acre-feet per year (AFY) of Class I water and 39,600 AFY of Class II water. Water is conveyed from the FKC to the District's service area through a network of approximately 120 miles of pressurized pipelines and 3/4 mile of lined canals. Surface water is delivered through two CVP turnouts into two separate systems (North and South) comprised of 120 miles of pressurized pipelines.

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

The Project will not alter any existing features of the District's mainline distribution system but will include a triple 48-inch RCP turnout connection to the Calloway Canal and 48-inch diameter transfer pipeline connection to the existing spreading facility. The Calloway Canal was first interconnected with the District's distribution mainline in 2012 when the District added its first in-district spreading facility.

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

No; the selected Project site does not contain existing buildings or structures. The District will retain a private cultural resources management consultant, or arrange for Reclamation staff to determine what, if any, previous cultural resources surveys have been conducted in the Project area. It is anticipated that no buildings, structures, or irrigation features would be listed, or eligible for listing since the Project components will be constructed in actively disturbed agricultural lands and are not located adjacent to building structures or features.

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

No; because the Project will be located on previously disturbed land, it is expected that there will be no obstacles to receipt of clearance with respect to archeological sites. Furthermore, the District is prepared to implement any necessary mitigation measures should cultural resources be identified by the private cultural resource's management consultant.

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

No; construction of the Project will support the important agricultural-based economy in the Southern San Joaquin Valley and should have only positive impacts on low income or minority persons living in the region.

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

No; implementation of the Project will not limit access to or ceremonial use of Native American sacred sites, or Tribal lands.

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

No; the Project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species in the region.

Appendix B – Letters of Support

720 Commerce Way, Shafter, California, 93263

October 11, 2023

Mr. Kris Lawrence
General Manager
Shafter-Wasco Irrigation District
16294 Central Valley Hwy,
Wasco, CA 93280

SUBJECT: LETTER OF SUPPORT FOR DRESSER RECHARGE FACILITY PROJECT

Dear Mr. Lawrence:

As the Director of Public Works for the City of Shafter (City), I am writing this letter in support of the Dresser Recharge Facility Project (Project) and efforts to build drought resiliency through the expansion of the Shafter-Wasco Irrigation District's (District, SWID) groundwater recharge capabilities. Implementing the Project will enhance water supply reliability by bringing additional water supplies to the region to be recharged and later used during a drought. It will further help improve groundwater levels in the shared aquifer from which the City relies to provide drinking water to residents.

It is worth noting that the City is considered a disadvantaged community (DAC) and does not own or operate recharge capabilities. Fortunately, water brought in and recharged by the District benefits the City by providing supply reliability and maintaining groundwater levels, which is critical for system affordability. The region will face higher system costs and water quality degradation if groundwater levels continue to lower.

SWID's continued efforts and commitment to groundwater sustainability benefit all users in this region. Implementing the Dresser Recharge Facility Project would be a valuable extension of these efforts. I encourage the funding agency considering a funding application for the Project to contact me to discuss this interest and support.

Sincerely,

Michael James
Public Works Director

746 8th Street
Wasco, CA 93280
Phone: 661-758-7214
www.cityofwasco.org/

Mr. Kris Lawrence
General Manager
Shafter-Wasco Irrigation District
16294 Central Valley Hwy,
Wasco, CA 93280

Subject: Letter of Support for Dresser Recharge Facility Project

Dear Mr. Lawrence,

I am writing on behalf of the City of Wasco to express our support for the *Dresser Recharge Facility Project*. This project aims to expand the Shafter-Wasco Irrigation District's groundwater recharge capabilities, which will enhance water supply reliability and build drought resiliency in the region. We believe that this effort will improve groundwater levels in the shared aquifer, which is the sole source of drinking water for the city of Wasco.

As a disadvantaged community, the City of Wasco does not have its own recharge capabilities. Therefore, any water brought in and recharged by the District provides significant benefits to our community by providing supply reliability and maintaining groundwater levels. This is crucial for system affordability as lower water levels can result in higher system costs, such as increased pumping costs due to the additional energy required to pump water from lower levels.

We appreciate SWID's continued efforts and commitment to groundwater sustainability for all beneficial users and look forward to the implementation of the *Dresser Recharge Facility Project.* If the funding agency would like to discuss our interest and support for the Project, we would be happy to do so.

Thank you for considering our expressions of support in your efforts to secure grant funding assistance to implement your plans.

Sincerely,

A Martinez

Alberto Martinez
Deputy PW Director, Water Operations
City of Wasco | 801 8th Street Wasco, CA 93280
P: (661) 758-7273 | F: (661) 758-1528

POSO CREEK IRWMP
Management Group

16294 Central Valley Hwy, Wasco, CA 93280
661-758-5153

Mr. Kris Lawrence
General Manager
Shafter-Wasco Irrigation District
16294 Central Valley Hwy,
Wasco, CA 93280

Subject: Letter of Support for the Dresser Recharge Facility Project

Dear Mr. Lawrence:

On behalf of the Poso Creek Integrated Regional Water Management Group (Group), I am writing this letter in support of Shafter-Wasco Irrigation District's (SWID, District) *Dresser Recharge Facility Project* (Project). This project will build drought resiliency through expansion of the District's groundwater recharge capabilities, which improves operational flexibility and increases water supply reliability in years of drought. Implementation of the Project will enhance water supply reliability by bringing additional water supplies to be banked via groundwater recharge. Additionally, the project will allow for more flexible timing of CVP deliveries by utilizing uncontrolled flood water from the Kern River diverted through the Calloway Canal, which allows CVP water to be delivered to other parts of the system in lieu of groundwater pumping.

The Project and its benefits are directly supported by the Group's IRWM Plan and Drought Contingency Plan. Both plans identify conjunctive use projects such as the *Dresser Recharge Facility Project* as vital for drought resiliency and groundwater sustainability in the region. The Group is clearly interested and supportive of this project which will benefit both the Group, SWID, and others within the region.

We hope that our expressions of support are helpful in your efforts to secure grant funding assistance to implement your plans. If the funding agency would like to discuss our interest and support for the Project, we would be happy to do so.

Sincerely,

Isela Medina

Isela Medina
Treasurer, Poso Creek IRWM Group
imedina@semitropic.com
(661) 758-5113

P.O. Box 81435
Bakersfield, CA 93380-1435
Administration
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33380 Cawelo Avenue
Bakersfield, CA 93308-9575
Water Orders and Operations
Telephone: 661-393-3361
www.northkernwsd.com

NORTH KERN WATER STORAGE DISTRICT

Mr. Kris Lawrence
General Manager
Shafter-Wasco Irrigation District
16294 Central Valley Hwy
Wasco, CA 93280

Subject: Letter of Support for the Dresser Recharge Facility Project

Dear Mr. Lawrence:

On behalf of the North Kern Water Storage District (North Kern), I am writing this letter in support of Shafter-Wasco Irrigation District's (SWID) *Dresser Recharge Facility Project* and its goal of building drought resiliency through expansion of SWID's groundwater recharge capabilities. This effort will help improve operational flexibility and increase water supply reliability in drought years. Implementation of the Project will enhance water supply reliability by bringing in additional water supplies to the region to be banked via groundwater recharge. Additionally, the project will allow for more flexible timing of CVP deliveries by utilizing uncontrolled flood water from the Kern River diverted through the Calloway Canal, which allows CVP water to be delivered to other parts of the system in lieu of groundwater pumping.

As the owner of the Calloway Canal, North Kern would like to express support of SWID's project and their efforts to build regional drought resiliency and groundwater sustainability. These efforts will also reduce flood risk on the Friant-Kern Canal and the Kern River by diverting flood water for recharge via the Calloway Canal. The benefits are directly aligned with North Kern's Sustainable Groundwater Management Act (SGMA) implementation efforts. Under SGMA, maintaining groundwater levels is an important aspect to achieving groundwater sustainability. Conjunctive use projects such as the *Dresser Recharge Facility Project* help provide operational flexibility by capturing wet year water for groundwater recharge while also supporting groundwater levels in the region.

We hope that our expressions of support are helpful in your efforts to secure grant funding assistance to implement your Project. If the funding agency would like to discuss our interest and support for the Project, we would be happy to do so.

Sincerely,

Ram Venkatesan
Deputy General Manager
North Kern Water Storage District
ram@northkernwsd.com