

Groundwater Banking and Recharge Improvement Project
Rosedale-Rio Bravo Water Storage District
Kern County, California

2021 WaterSMART: Drought Resiliency Project
Grant Application
FOA No. BOR-DO-20-F002



Rosedale-Rio Bravo Water Storage District
Groundwater Banking and Recharge Improvement Project

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1. Technical Proposal

1.1 Executive Summary

Applicant Information: August 5, 2020
Rosedale-Rio Bravo Water Storage District
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Bakersfield, Kern County, California
Markus Nygren – Technical Contributor

The Groundwater Banking and Recharge Improvement Project aims to address severe drought issues present in the Kern County Subbasin, of the San Joaquin Valley, an area in California most impacted by a decline in groundwater depths. Rosedale-Rio Bravo Water Storage District’s (herein referred to as the District or RRBWSD) project will accomplish this by building drought resiliency by banking more water in wet years, for availability in drought seasons. This will be accomplished by adding additional groundwater recharge capacity to its conjunctive-use program. The District previously acquired 115 acres of prime recharge property from the local McCaslin farming family, which is currently in the planning and environmental stage. Subsequent to the previous acquisition the McCaslin family offered a second 80 acre block of property to the District. This created an additional groundwater recharge opportunity with minimal conveyance development costs. This is the subject of this grant application and is referred to as McCaslin Recharge Ponds Phase 2. This would add an additional 75 acres of net recharge ponds critical to the District’s strategy of accessing wet-year supplies to bolster the area’s drought resiliency.

This additional phase would support the proactive approach by USBR to drought resiliency by better utilizing surface water supplies, and significantly improving water management practices. Two main ways that a storage district can build long term drought resiliency: more recharge basins (greater wetted area) and through improved water management (taking advantage of every drop of surface water when available). This Project meets the Objective of the Funding Opportunity Announcement No. BOR-DO-20-F002 by leveraging the District’s money and resources through cost sharing with Reclamation to develop projects that that will increase the reliability of water supplies, improve water management, and provide benefits for fish, wildlife, and the environment, to mitigate impacts caused by drought. This project is expected to store an average of **3,536 AFY** and would proceed immediately upon notification of grant funding, break ground in September 2021 and could be completed by August 2022. The proposed projects are not located on any Federal Facility.

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Funding Source	Funding Amount
Non-Federal Entities	
Rosedale-Rio Bravo Water Storage District	\$ 468,000
	\$ -
Non-Federal Subtotal	\$ 468,000
Requested Reclamation Funding	
Recharge Project Construction	\$ 385,000
Reclamation NEPA Review	\$ 15,000
Total Project Funding	\$ 868,000

Table 1. Funding Sources

1.2 Background Data

Rosedale-Rio Bravo Water Storage District (RRBWS or the “District”) is located in the southern San Joaquin Valley in the Kern County, immediately west of the City of Bakersfield, and has a gross area of approximately 44,000 acres (Figure 1.). The District lands identified for the spreading facility are located within the Kern River Alluvial Fan where historic runoff created an efficient aquifer system from which the District recharges groundwater so as to support groundwater pumping for agricultural, municipal, and industrial uses. The District is an independent special district, organized on August 27, 1958, under the provisions of the California Water Storage District Law (Division 14 of the Water Code of the State of California) (the “Act”). The District’s boundaries encompass a portion of the City of Bakersfield. The property within the District is agricultural, municipal and industrial. Of the total 44,000 acres, approximately 28,000 acres are currently in crops, which include forage, nuts, dairy, almonds, pistachios, and vegetables. The balance is a mix of open ground, rural development (0.25-10 acre lots), and light industrial businesses that mainly support the agricultural and petroleum industries. These uses are served potable water by both individual and mutual domestic water wells.

In 1959, the voters within the District approved a general project consisting of the construction of recharge basins and water conveyance facilities capable of capturing water supplies and percolating those supplies into the underground aquifer for replenishment of water pumped by landowners within the District (the “Recharge Project”). The construction of the initial phases of the Recharge Project was completed in 1962. Additional improvements to the Recharge Project have been made and additional facilities and properties have been added since the original project was completed. Subsequent to the completion of construction of the Recharge Project, the District acquired a State Water Project (SWP) water supply through the Kern County Water Agency (the “Agency”). The District has also been a historic user of surplus Friant-Kern Canal flows and a user of Kern River water via its contract with the Kern County Land Company (now City of Bakersfield) to serve irrigation demands and for groundwater recharge programs.

The District operates a water delivery system consisting of 25 miles earthen canals, 2 miles of pipelines, check structures, pipelines, and wells all designed for the primary function of groundwater banking and conjunctive use (recharge and recovery). There are approximately 20 connections to landowner irrigation systems that are used for in-lieu groundwater recharge

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purposes. The District acquires wet-year supplies via various contracts and banking programs which require that a portion of the supplies are returned in dry years. Conveyance systems for banking return are a mix of pipelines and earthen canals, thus water evaporation and seepage reduces the project's return capabilities. The District and its landowners are served by the Pacific Gas and Electric Company; the vast majority of energy used for groundwater recovery and conveyance is electrical based.



Figure 1: Project Location

The District has developed and enjoys partnerships with many different state, federal, and local entities to help improve water management and meet future water demand needs. Currently and historically, the District has worked with the U.S. Department of the Interior, Bureau of Reclamation (USBR) and Fish and Wildlife Service to provide water to the Kern National Wildlife Refuge (KNWR) to the northwest of the District and to obtain water from the Central Valley Project (CVP). The District also partners with multiple Federal Friant-Kern water agencies for mutually beneficial recharge and recovery projects, namely: Arvin-Edison WSD, Kern-Tulare WD, and Delano-Earlimart ID. Below is a list of the various contracts involving the District and Federal agencies:

KNWR Purchase & Conveyance Agreements
Year 2007

CVP Short-Term/Temporary Water Service Contracts (non-CVP Contractor)

Year 1965, No. 14-06-200-769A	Year 1973, No. 14-06-200-4032
Year 1973, No. 14-06-200-229A	Year 1973, No. 14-06-200-7228A
Year 1973, No. 14-06-200-4162A	Year 1978, No. 14-06-200-229A
Year 1993, No. 3-07-20-W1058	Year 1995, No. 5-07-20-W12

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Year 2001, No. 01-WC-20

Year 2003, No. 03-WC-20-2654

Year 2011, No. 11-WC-20-0090

Year 2011, No. 11-WC20-0104

Federal Exchange and Banking Agreements

Arvin-Edison WSD, 1997, 2003, 2009, 2011, 2012, 2013

Delano-Earlimart ID, 2009

Kern-Tulare WD, 2001, 2004, 2005, 2007

The District recently acquired approximately 80 acres of land, in the Kern County of the Southern San Joaquin Valley, 5 miles west of Bakersfield. Under this proposal, the District seeks to clear and grub, build recharge berms, and interbasin flow structures on the McCaslin property, and a turnout from the nearby Goose Lake Channel. The District's proposal for increased groundwater storage capabilities and better water management tools will more efficiently utilize surface water supplies in wet years and benefit the District's and Kern County Sub-basin's goal of groundwater sustainability.

The District contracts with the state of California for a water supply from the Sacramento/San Joaquin Delta ("Delta"). Surface supplies have become increasingly less reliable south of the Delta. For instance, while the District pays for 100% of the water contracted, nearly \$3 million per year, the District receives on average only 60% of the water. In an effort to ensure stable sources of water supply due to environmental, climatic, and legal restrictions in the Delta and comply with landmark Sustainable Groundwater Management Act legislation, the District is looking to develop a series of projects intended to acquire and store additional water at a reduced overall cost. In order to support recharge of wet year supplies the District has identified McCaslin Phase 2 Recharge Ponds as an excellent and cost effective opportunity.

These improvements complement the District's overall water supply improvements and their response to the severe drought impacting western states. In March 2014, the District declared a drought emergency and has initiated Drought Relief Projects, including expediting the construction of 11 recovery wells and conveyance facilities to provide for emergency drought water needs. Added direct recharge and conveyance facilities would allow the District to better utilize these critical recovery facilities during drought conditions. The proposed project of this proposal are intended to improve absorptive capacity and optimize these recovery activities going forward with the addition of the ability to absorb wet year water supply.

1.3 Technical Project Description

The Groundwater Banking and Recharge Improvement Project is designed to improve the District's overall drought resiliency by increasing groundwater storage in wet years. This will be accomplished through the construction of the McCaslin Recharge Ponds Phase 2 (80 acres). The stored groundwater as a direct result of the Project will provide additional water to:

- Support District water-users (agricultural, municipal, and industrial).
- Provide enhanced protection against prolonged drought and climatic changes.
- Reduce groundwater pumping lifts and resulting energy savings.
- Support third-party banking and transfer partners.

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- Provide intermittent wetlands for wildlife environmental benefits.

This Project meets the Objective of Section A.2 of the Funding Opportunity Announcement No. BOR-DO-20-F002 by leveraging District money and resources by cost sharing with Reclamation for developing project components that expand Drought Resiliency Projects. Projects that will increase the reliability of water supplies; improve water management; and provide benefits for fish, wildlife, and the environment to mitigate impacts caused by drought. These improvements are a result of the District's March 2014, drought emergency declaration when it began implementing critical "Drought Relief Projects" that it had identified in response to the severe 2012-2016 drought impacting western states. For project implementation, the District is taking a five-step approach to handle the major tasks associated with the project:

1. **Feasibility Study** – The District's technical staff and consultants, have evaluated the feasibility of the project as shown on the Project Summary Matrix Water Management Program Score, benefits, and costs in Appendix A and in the technical memo in Appendix D.1 & D.2. The evaluation includes considering issues such as water delivery effectiveness, construction reasonableness, environmental impacts, costs, and benefits.
2. **Environmental and Regulatory** – The District will take the necessary measures to satisfy federal and state environmental requirements and regulations. Using the environmental information obtained from various studies, required steps will be taken to meet CEQA and/or NEPA compliance and all necessary permit applications will be submitted. Refer to Section 3 for further information on environmental and regulatory compliance.
3. **Design** - This task includes the preliminary and final designs of the facilities.
4. **Installation** – This task includes procurement of materials, contractor bidding and selection, inspection, and construction.
5. **Inspection and Testing** – Upon completion of construction, a detailed inspection will occur, equipment training, testing and calibration, as well as a performance evaluation will be followed by a final report to provide an account of project progression and expenditures. In addition, any state and federal required project completion reports will be provided to the respective agencies. Ongoing monitoring of project performance and evaluation will be conducted to determine actual water deliveries and groundwater benefits.

As with most major projects, many aspects or details from each of the listed steps require parallel progression and overlap is necessary to produce an efficient project schedule. It is estimated that the Project will be completed in approximately 20 months, however, reimbursement for expenses incurred may occur over 2 years. Please see Appendix B for a preliminary Project Schedule. This project consists of the following specific components:

McCaslin Recharge Ponds – The District seeks to construct approximately 75 net acres of direct recharge ponds via the placement of 65,000 CY of compacted levees that are approximately 2-5 feet in height. Upwards of 8,200 acre-feet could be delivered in each wet

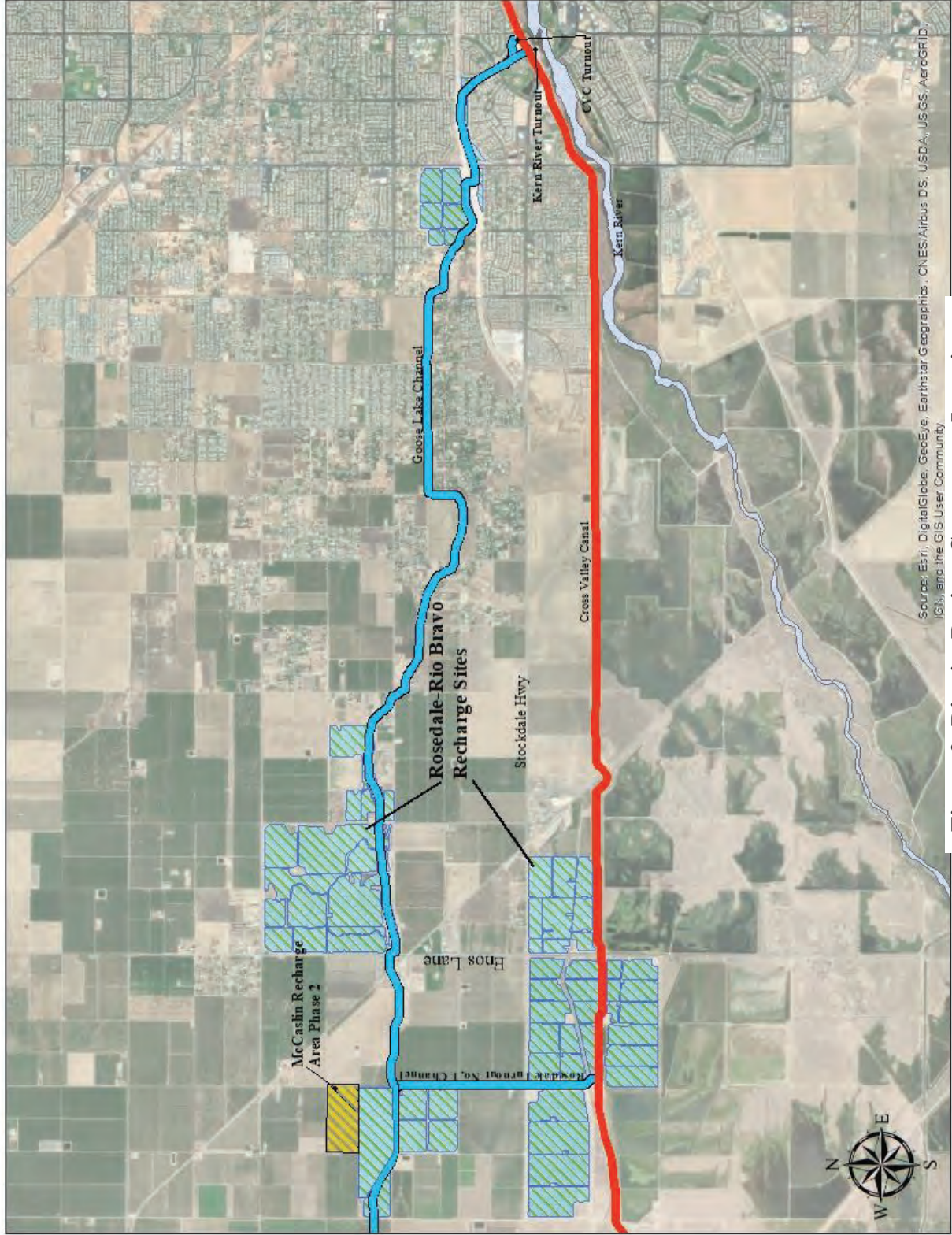
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year. Recharge water will be conveyed from pond to pond via 3 inter-basin check structures. Water would be conveyed into the facility by means of a newly constructed sluice gated intake and diversion weir within the Goose Lake Channel. Approximately 35 cfs of intake capacity would be required to serve this site. See Figure 2 and Appendix E for component location, and Appendix D.1 & D.2 for additional technical information.

1.4 Performance Measurements

Performance measurements will be a key instrument to quantifying water better managed and saved through this project. After project completion pertinent data will be included in our annual operations report with a monthly summary of flow measurements into the McCaslin Phase 2 property. The data will be compared with projected annual water management as calculated in this grant. Flow at the McCaslin Weir will be reported, and recharge volumes can be calculated based on real data, compared to projected data.

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 2: District Project Component Locations

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1.5 Evaluation Criteria/Performance Measures

1.5.1 Evaluation Criterion A-E.1.1. Project Benefits

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

The RRBWSD has been built on the strategy of accessing wet year water supplies for aquifer storage sufficient to weather prolonged drought periods. This project will reduce irrigation demand from existing overlying orchards and convert that demand into an area dedicated for groundwater storage. The benefits will exist for 50 plus years.

Will the project make additional water supplies available?

The project will make an **additional 3,536 AFY** available for district use. This number originates from knowledge of local hydrology in the area, leading to expected recharge rates of around 0.6 ft/day. Due to historical data, an anticipated 810 days of operational use spanning over 10 years. The existing almond orchard will be removed hence decreasing the local annual demand by 3 AF/acre. See Appendix D.1 & D.2 for detailed analysis.

RRBWSD'S average annual water supply (1993-2013) for agricultural use is about 108,000 AFY from various sources (i.e. Kern River, State Water Project, Central Valley Project, banked groundwater, exchanges, safe yield, and precipitation). With climatic changes and SGMA requirements, the District is about 11,000 AFY in shortage, the completion of this project, an additional 3,536 AF (3% of annual District supply) would reduce the shortage by one-third.

$$\frac{\text{Additional Water Supplies} = 3,536 \text{ AFY}}{\text{Water Deficit in the District} = 11,000 \text{ AFY}} = \mathbf{32\% \text{ of deficit cut}}$$

Will the project improve the management of water supplies? For example, will the project increase efficiency, increase operational flexibility, or facilitate water marketing (e.g., improve the ability to deliver water during drought or access other sources of supply)?

RRBWSD has identified the benefit of groundwater recharge as it reduces local groundwater overdraft conditions. The estimated quantity of **3,536 AFY of water** will be better managed with the addition of added groundwater recharge ponds.

$$\frac{\text{Estimated Amount of Water Better Managed} = 3,536 \text{ AFY}}{\text{Average Annual Water Supply} = 108,000 \text{ AFY}} = \mathbf{3\% \text{ of water better managed}}$$

This district is currently developing a water marketing platform. Water savings from the removed orchard could be made available to that market for sale by the District and then exchanged between landowners. The purpose of this tool is to encourage water trading within the District, and ultimately to reduce local overdraft.

The District will be employing water level transducers over crests and converting to flows. The Cal Poly Irrigation Training Research Center has recommended this methodology along with information gathered while attending USBR training sessions in Lakewood CO. Better data of

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diversion, water level, and demand information would also be provided to our numerical groundwater model that the District has developed, which evaluates and helps predict project and drought impacts.

Will the project have benefits to fish, wildlife, or the environment? If so, please describe those benefits.

The project will also be very beneficial to local wildlife and migratory species. At the 80-acre Property an aged almond orchard will be converted to 75 acres of intermittent wetlands and upland habitat. The San Joaquin Valley is crucial nesting ground for many species of waterfowl, and migratory bird species. Historically, birds have flown south to avoid freezing temperatures and enjoy natural wetlands, this project will give migratory species a better habitat to winter, breed, and nest.

1.5.2 Evaluation Criteria B - E.1.2. Drought Planning and Preparedness

The District has a plan set in place to reach SGMA requirements for drought preparedness, see SGMA Fact Sheet in Appendix F. With benchmarks set for projects and management actions the District plans to achieve sustainability as early as 2030. By 2030 the District hopes to implement 10,000 AFY of water supply development to groundwater sustainability to protect against prolonged drought periods.

To ensure that a drought plan was developed with the input of stakeholders, an exhaustive yearlong stakeholder process was undertaken by the District. Meetings were held monthly and will continue to occur during the implementation period. DWR has set guidelines for climate change in the next 50 years and how it will affect the availability of water supplies. The demands and the projections have both been adjusted in the drought plan, and this project addresses those future water projections with climate change over a 50-year span.

1.5.3 Evaluation Criteria C - E.1.3. Severity of Actual or Potential Drought Impacts to be addressed by the Project

- *Describe the severity of the impacts that will be addressed by the project*
- *Describe existing or potential drought conditions in the project area*

The project is surrounded mainly around the agricultural industry and the impacts from SGMA (Sustainable Groundwater Management Act). To the extent that water levels fall another 50 feet below previous drought conditions, additional monetary impacts of \$640M will be reconciled by district, agricultural, industrial, and municipal water users. These impacts are water availability and quality driven. Ongoing environmental impacts are addressed by SGMA and have significant impacts on the agriculture industry. Along with the large monetary obligation, landowners will be provided less water, and be required to fallow more land to reduce demand on the groundwater basin. In the years 2012 through 2016 the entire Kern County Basin suffered a historical drought. Due to the water demand and lack of supply the groundwater aquifer

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endured significant losses, some water levels fell 200 feet in just four years. Fortunately, good hydrology and proactive efforts similar to this proposed project have helped water levels recover.

1.5.4 Evaluation Criteria D - E.1.4. Project Implementation

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

With funding assistance from the Bureau of Reclamation in connection with a 2021 WaterSMART Grant, the District will proceed with implementing the proposed project according to the estimated schedule. The District will contract with applicable engineering design firms to complete designs and specifications by November 2021. The bidding and contract administration will be handled by the District. Wherever possible, and as the schedule will allow, project component tasks are staggered to make the best use of time but as with all large projects efficient planning is required and therefore parallel efforts and overlap are unavoidable. Once the project is CEQA and NEPA compliant, the construction activities for components to include ground disturbing activities will begin. Additionally, project activity will have to be coordinated with normal District operations. The District wants to begin construction of the projects as early as February 2022 and finish construction by August 2022. Please refer to Appendix B for the full schedule.

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

It is the intention of the District to satisfy all CEQA and NEPA compliance requirements in December 2021, prior to any project groundbreaking activities of project components proposed under the project. An Environmental Impact Report (EIR) for like components included in this grant application was circulated and certified in 2015 at a programmatic level (see SCH# 2013091076). Continued project planning, designs and procurement will be performed concurrently with project level CEQA and NEPA process when best suited for planning efficiency.

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

District has completed land surveying services to get accurate elevations across the property. Design of recharge ponds would be done by a local consultant who has over 30 years of experience designing and constructing recharge ponds.

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

Besides CEQA and NEPA requirements there are no other administrative. Based on prior projects with Reclamation and other similar departments, no additional compliance costs have or need to be discussed.

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Describe how the environmental compliance estimate was developed. Has the compliance cost been discussed with the local Reclamation office?

Based on similar past projects environmental compliance represents about 5-10% of the total project costs. The District anticipates tiering off a previous programmatic portion of a related DEIR (SCH #2013091076) for CEQA purposes and providing the USBR staff with a draft EA as prepared by District staff for the NEPA process. Minimal additional site studies would be required as the District recently completed those for a previous project and included those efforts herein. SWPPP and PM10 air permits would be acquired by the earthwork contractor. Field biologist would be contracted with for preconstruction and construction monitoring as required in the completed CEQA mitigation and monitoring plan.

1.5.5 Evaluation Criteria E - E.1.5. Nexus to Reclamation

How is the proposed project connected to a Reclamation project or activity?

Increased acreage in recharge ponds will indirectly and directly benefit multiple Federal project districts by increasing the District's recharge abilities and resultant dry-year supplies that it can return to them via banking and exchange projects.

Will the project benefit any tribe(s)?

No, tribes are in the District, so while the District strives to benefit tribes and native people wherever possible, this project will be of no direct benefit to them.

Does the District receive Reclamation project water?

The District does receive Reclamation project water through the Central Valley Project.

Is the project on Reclamation project lands or involving Reclamation facilities?

The project only resides on District property and does not involve any Reclamation facilities.

Is the project in the same basin as a Reclamation project or activity?

Yes, the District shares the same Kern County Sub-basin with many Federal contract districts.

Will the proposed work contribute water to a basin where a Reclamation project is located?

Yes, the project is located within the CVP Place of Use.

1.5.6 Evaluation Criteria F - E.1.6. Department of the Interior Priorities

1.a. Revise and streamline the environmental and regulatory review process while maintaining environmental standards.

The District is in the environmental stages of multiple similar projects at this time. Some of which have very similar impacts on the environment, look no further than the adjacent 112 acres to the south where we have begun NEPA review with the Bureau in June 2020. With past projects, and the projects currently undergoing the environmental and regulatory review process, the District may be able to utilize those efforts to streamline any environmental and regulatory

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legwork for this project, while still maintain environmental standards by the state and at the federal level.

1.d. Review the Department's water storage, transportation, and distribution systems to identify opportunities to resolve conflicts and expand capacity.

The biggest potential conflict affecting landowners in the San Joaquin Valley is complying with the Sustainable Groundwater Management Act (SGMA). SGMA in simple terms, means that groundwater pumped out of the ground must be balanced. The state of California, and more specifically the Kern Subbasin, is an area that heavily relies on pumped groundwater. As part of SGMA every water district in the Kern Subbasin must be in balance by 2040. As seen in Appendix E, Rosedale-Rio Bravo has a deficit of over 11,000 acre-ft. With environmental obstacles on building dams and reservoirs, this is the consensus best way to build and expand water storage in the Kern Subbasin. Landowners in the District use in-lieu demand when surface water supplies are available, and with an additional 80 acres of recharge basin available, more water is stored in the ground, as well as more water available via surface water supplies to adjacent farmers. This project helps to reduce a portion of the groundwater deficit and move in a direction of a sustainable and resilient groundwater balance.

1.e. Foster relationships with conservation organizations advocating for balanced stewardship and use of public lands.

The District has partnered with a conservation organization called the Environmental Defense Fund (EDF), a nonprofit environmental advocacy group. In partnership with EDF, the District has created a web-based water management platform for the landowners. The District is also in a partnership, with the goal to better manage land for habitat rehabilitation. In partnership with EDF the District has begun developing recharge ponds designed and operated not only for water storage but to be intermittent wetlands, or multi-benefit recharge facilities see Appendix C.

When filled these ponds provide support to migrating waterfowl species at the crucial wintering and nesting phase of their life cycle. When the District lacks surface water, the ponds provide a critical upland habitat for other species.

2.d. Manage competition for grazing resources

Drought year conditions can make surface water supplies not readily available. Due to the optimal growing condition of the pond bottoms obnoxious, nonnative weeds and grasses tend to grow up to 1-6 ft. high. Rather than spraying pesticides into the ponds and potentially damaging water quality, District opts to lease out the land for local sheep to graze the pond bottoms.

2. Project Budget

2.1 Funding Plan

- 1. How you will make your contribution to the cost share requirement, such as monetary and/or in-kind contributions and source funds contributed by the applicant (e.g., reserve account, tax revenue, and/or assessments). The District's cost-match will be covered by the District's capital facility improvement portion of the regular budget and in-kind contributions. The*

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District maintains a capital improvement account and receives revenue through delivery of water to rate paying customers and land assessments.

2. *Describe any in-kind costs incurred before the anticipated project start date that you seek to include as project costs.* The District will not assess any in-kind contributions prior to the project start date.
3. *What project expenses have been incurred?* The District purchased the 80 acre parcel, for \$30,000/ac = \$2.4 Million. Other than the property purchase, Rosedale Rio Bravo Water Storage District has not incurred any costs.
4. *Provide the identity and amount of funding to be provided by funding partners, as well as the required letters of commitment.* No funding partners are involved in the project, thus, no letters of commitment were necessary.
5. *Describe any funding requested or received from other Federal partners. Note: other sources of Federal funding may not be counted towards your 50 percent cost share unless otherwise allowed by statute.* There are currently no other Federal partners for this proposed Project.
6. *Describe any pending funding requests that have not yet been approved, and explain how the project will be affected if such funding is denied.* There are no pending funding requests for this Project.

Table 2. Summary of non-Federal and Federal funding sources

Funding Source	Funding Amount
Non-Federal Entities	
Rosedale-Rio Bravo Water Storage District	\$468,000
Rosedale-Rio Bravo Water Storage District (in-kind)	\$ 0
Non-Federal Subtotal	\$468,000
Requested Reclamation Funding	\$ 400,000
Total Project Funding	\$868,000

Table 3. Funding Group II funding request

Funding Group II Request			
	Year 1 (FY 2021)	Year 2 (FY 2022)	Year 3 (FY 2023)
Funding Requested	\$200,000	\$200,000	\$0 (Project Complete FY 2022)

Currently, there is no other funding request submitted or funding applications pending approval. The Project is a substantial construction project where Reclamation funding would increase the likelihood of successful project completion and continue a partnership between the District and USBR. The Project directly makes available a quantifiable amount of additional water that can be used to meet increasing water demand and groundwater deficits. Although federal assistance is requested, if USBR declined to participate in the Project, the District would continue to seek other funding opportunities to move forward and attempt to complete the Project.

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2.2 Budget Proposal

The estimated cost of the project including feasibility study, environmental assessments, all associated construction cost, CEQA documents and permits is \$868,000. Please refer to Table 5. below for a detailed budget. The District is requesting approximately **\$400,000** (or about 46% of total project costs) in federal funding from USBR for this Project. The Project will directly provide drought resiliency beyond twenty years and the District is estimated to provide 54% of project funding if the requested award amount is granted. At this time, the District is solely responsible for the funding of the Project.

Table 4. Funding Sources

Funding Sources	Percent of Total Project Cost	Total Cost by Source
Recipient Funding	54%	\$ 468,000
Reclamation Funding	46%	\$ 400,000
Other Federal Funding	0%	\$ 0
Total	100%	\$ 868,000

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Table 5. Budget Proposal

ROSEDALE-RIO BRAVO WATER STORAGE DISTRICT								
Groundwater Banking and Recharge Improvement Project								
Item	Budget Item Description	RRBWS D Project Costs			Budget			Explanation of Estimate
		\$/Unit	Unit	QTY	RRBWS D Funding	Reclamation Funding	Total	
1	<i>Demolition and Removal</i>						\$ 188,000	
a	Clearing, Demolition, and Grubbing	\$ 2,350	Acre	80	\$ 88,000	\$ 100,000	\$ 188,000	past project
2	<i>Construction</i>						\$ 542,000	
a	Mob/Demob/Construction Water Supply	\$ 25,000	LS	1	\$ 15,000	\$ 10,000	\$ 25,000	past project
b	Over-ex, Sacarify, Recompact	\$ 2,000	Acre	15	\$ 20,000	\$ 10,000	\$ 30,000	past project
c	Construct Berms, In-Place Fill	\$ 6	CY	65000	\$ 135,000	\$ 255,000	\$ 390,000	past project
d	Finish Grading (level, rip, float)	\$ 260	Acre	75	\$ 9,500	\$ 10,000	\$ 19,500	past project
e	Interbasin Structures	\$ 12,500	Each	3	\$ 37,500		\$ 37,500	past project
f	Intake Structure	\$ 40,000	Each	1	\$ 40,000		\$ 40,000	past project
3	<i>Engineering and Administration</i>						\$ 95,000	
a	Engineering Design	\$ 25,000	LS	1	\$ 25,000		\$ 25,000	past project
b	Staking and Testing	\$ 25,000	LS	1	\$ 25,000		\$ 25,000	past project
c	Inspection	\$ 25,000	LS	1	\$ 25,000		\$ 25,000	past project
d	Administration	\$ 20,000	LS	1	\$ 20,000		\$ 20,000	past project
4	<i>Environmental and Regulatory Compliance</i>						\$ 43,000	
a	Reclamation NEPA Review	\$ 15,000	LS	1	\$ -	\$ 15,000	\$ 15,000	past project
b	CEQA Preparation and Studies	\$ 10,000	LS	1	\$ 10,000	\$ -	\$ 10,000	past project
c	SWPPP and PM10 Compliance	\$ 8,000	LS	1	\$ 8,000	\$ -	\$ 8,000	past project
d	Biological Monitoring	\$ 10,000	LS	1	\$ 10,000	\$ -	\$ 10,000	past project
	E&R percent of total cost						5%	
5	<i>Total</i>						\$ 868,000	
a	RRBWS D Contribution				\$ 468,000			
b	Reclamation Contribution					\$ 400,000		
c	Percent Funded by RRBWS D						54%	

2.3 Budget Narrative

The following is a description of the line items in the above table.

Demolition and Removal – Work in this section will be done by contractors and District forces. The estimated costs are based on recent past projects. Efforts include removal of almond orchard (knocking down trees, removing roots, grinding and removal, irrigation system removal, and grubbing of earth). A recent April 2020 orchard removal effort was about \$2,200 per acre (\$205/acre knock down, \$175/acre of root removal, \$1720/acre grinding, \$80/acre irrigation system removal, plus dump fees and haul off costs. Escalator was applied to a rate of \$2,350.

Construction – Work in this section will be done by contractors and District forces. The District has performed, and is performing, several similar pond and structure construction projects in the past 5 years. Unit rates are shown and reflect and applied escalator from these projects.

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Engineering and Administration – Work in this section will be done by consultants and District forces. The District has performed several similar pond and structure construction projects in the past 5 years. Typically, the District estimates the engineering, staking, testing, inspection, and administration costs on typical projects to be 15%, with each receiving an equal share. This project would likely be in concert with other projects which could offer a savings. Therefore a 13% value was used.

Environmental and Regulatory Compliance - According to previous FOA guidelines, "...a minimum amount budgeted for environmental compliance should be equal to 1-2 percent of the total project costs." The District intends to work with Reclamation to determine the potential environmental effects the proposed Project may have in relation to NEPA, NHPA, ESA, and the Clean Water Act to ensure compliance with all applicable environmental laws. Based on inspection of the FOA, it is understood that Reclamation will determine who will perform the work under this category (i.e. Reclamation, the Applicant, or a consultant). For purposes of this grant proposal, based on previous project performed by the District, it was assumed that the work would be performed at an estimated cost equal to 5 percent of the total project costs. The District will provide all funding related to environmental and regulatory compliance for the Project in regards to CEQA requirements.

- a) This is the estimated cost for the USBR to prepare necessary NEPA documentation.
- b) This is the estimated cost to conduct project biological and cultural surveys by qualified consultants as required for CEQA and NEPA compliance.
- c) This is the estimated cost to prepare all necessary studies, reports and other documents for the project. This includes cost for environmental consultants.
- d) This is the percent of the total project cost that is attributed to environmental and regulatory compliance.

Total – These are the totals for RRBWSD contribution, Reclamation contribution, and the total estimated cost of the project.

- a) This is the proposed total contribution by RRBWSD. **\$468,000**
 - b) This is the proposed total contribution by Reclamation. **\$400,000**
- The total project cost is **\$868,000**

2.4 Budget Form

Included in the Federal Forms is Form SF-424C, Budget Information-Construction Programs as specified by the FOA. One thing to note is that the District is requesting \$400,000 from Reclamation Funding, the preset equations on the SF-424C Form did not allow for a 46.1% to be entered.

3. Environmental Compliance

The Groundwater Banking and Recharge Improvement Project will all occur on recently purchased property. The District maintains and operates similar and adjacent facilities on a regular basis. Maintenance and operation activities include, but are not limited to, grading canal roads and canal banks, repairing or replacing head gates, silt and vegetation maintenance, pump removal and repairs, ditch tending, vehicle and personnel traffic.

The District has certified an Environmental Impact Report according to the regulations and guidelines of the California Environmental Quality Act (CEQA) on a programmatic basis and will proceed as required for project level CEQA compliance. Additionally, National Environmental Policy Act (NEPA) compliance will be required if Federal funds are applied to the project. The District will assist and support the Bureau of Reclamation in the NEPA compliance process as necessary.

3.1 Impacts to Surrounding Environment

The proposed project will require earth-disturbing activities. When considering the potential surface area to be disturbed, the recharge pond levee construction would be the single project component that would disturb the most surface area. This would require clearing and grubbing of approximately 80 acres of area that is currently heavily disturbed with on-going intensive farming activities. Other components of this project would require minimal excavation to construct interbasin structures.

RRBWSD, as well as local contractors, have extensive experience with excavating activities and utilize best management practices concerning dust and erosion control. RRBWSD or the contractor would utilize a water truck or portable pumps for necessary dust suppression. Dust impacts to the environment will be minimal but will be evaluated according to CEQA and NEPA requirements.

All earth disturbing activities will be done absent of local irrigation or drain water in the canals or drains. Disturbed earth will have no contact with flowing water and therefore will have no impact to irrigation supply water or drain water. Project activities would not occur on natural stream or river channels. There will be no impacts to water but the potential impacts will be evaluated according to CEQA and NEPA requirements.

All project activities will occur on routinely disturbed ground and therefore will have minimal or no impact to animal habitat. The presence of working facilities along with routine RRBWSD and farmer activities make it unlikely for animals to use project sites as habitat. Potential impacts to animal habitat will be evaluated according to CEQA and NEPA requirements. Any necessary biological or cultural surveys will be conducted by qualified personnel as required for CEQA and NEPA compliance.

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3.2 Endangered or Threatened Species

Although all project activities are going to be conducted on land that is routinely disturbed by farming operations, Kern County is known to have habitat that can support endangered and threatened species. Listed below are several species listed as a Federal endangered species near the project sites. This list below is intended only to provide a list of potential endangered or threatened species in the general region of RRBWSD. By the limited nature of the construction, the District does not expect to have any impact on any of these species or corresponding suitable habitat within the project sites.

1. Tipton Kangaroo Rat
2. Blunt-nosed Leopard Lizard
3. San Joaquin Kit Fox
4. Burrowing Owl

Potential impacts to Endangered or Threatened Species will be evaluated according to CEQA and NEPA requirements. As part of the environmental work, the District will retain a certified biologist to conduct a biological reconnaissance survey and prepare a report to evaluate potential impacts to biological resources within the project site. If potential impacts are identified, the District will follow recommendations by the biologist to reduce those impacts to a less than significant level.

3.3 Wetlands

According to the U.S. Fish and Wildlife Service National Wetlands Inventory, there are no wetlands within project boundaries. There are however wetlands indicated in the nearby vicinity of this project sites, but are not expected to be negatively impacted by this project due to the limited nature of the ground disturbance.

3.4 Water Delivery System

RRBWSD operates a surface water delivery system with more than 25 miles of earthen canals. The water delivery system was developed in the 1970's. Many of the canal alignments have been realigned or modified over that time. Also, most all of the check and gate structures have been replaced or updated over the same period in order to maintain a working water delivery system.

3.5 Modification to System Features

None.

3.6 National Register of Historic Places

There are no registered historical landmarks within the project boundaries. RRBWSD does not have any knowledge of any other items that are listed or may be eligible for listing under the

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National Register of Historic Places. If Reclamation deems necessary, the District will retain a private cultural resources management consultant or arrange for Reclamation staff to again carry out a consultation to evaluate if any buildings or structures are eligible under the National Register of Historic Places. The expectation is that none will be identified inasmuch as the project improvements will be constructed in actively disturbed agricultural lands.

3.7 Archeological Sites

RRBWSO does not have any knowledge of known archeological sites within or in the vicinity of the proposed project sites. There has been over a century of ongoing farming operations and it is very unlikely that archaeological sites would be currently located or discovered within district boundaries. If Reclamation deems necessary, the District will work with Reclamation cultural resources staff to obtain clearance for archaeological sites within the project area. The District will retain a private cultural resources management consultant or arrange for Reclamation staff to carry out a consultation to conduct a Phase I intensive pedestrian cultural resource survey, a cultural resources records search, and Native American consultation to evaluate any impacts to cultural sites. Impacts to cultural resources are not expected. Nevertheless, the District is prepared to implement any necessary mitigation measures should cultural resources be identified for any component of the Project.

3.8 Other Environmental Concerns

Other environmental and cultural concerns that were noted regarding the Project area are:

1. 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.
2. The Project will not limit access to or ceremonial use of Native American sacred sites or tribal lands.
3. The Project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native species in the region.

4. Required Permits or Approvals

Due to the nature and location of the selected project, we expect that no third-party approval or permits will be required from local, state, or federal agencies in order to break ground for the Project. Contractors will be required to prepare and submit routine stormwater pollution prevention plans (SWPPP) as necessary.

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5. Official Resolution

The Rosedale-Rio Bravo Water Storage District Board of Directors will approve Resolution No. 509 on August 11, 2020 at the monthly board meeting.

RESOLUTION NO. 509

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE
ROSEDALE-RIO BRAVO WATER STORAGE DISTRICT
WATER SMART GRANT APPLICATION**

WHEREAS, Rosedale-Rio Bravo Water Storage District has prepared an application to apply for federal funding from the United States Department of the Interior, Bureau of Reclamation (Reclamation) to assist in the funding of the Drought Resiliency Projects; and

WHEREAS, the funding opportunity provided by Reclamation through their Grant Program entitled "2020 WaterSMART: Drought Response Program: Drought Resiliency Projects for 2021" Funding Opportunity Announcement No. is #BOR-DO-20-F002; and

WHEREAS, the Groundwater Recharge and Conveyance Project involves the construction of approximately 80 acres of recharge ponds to improve overall system efficiency by increasing groundwater recharge; and

THEREFORE, BE IT RESOLVED, the Rosedale-Rio Bravo Water Storage District Board of Directors have reviewed the application and support its submittal for Reclamation assisted funding. The Board of Directors approve Dan Bartel, Assistant General Manager-Engineer, as the official with legal authority to enter into a cooperative agreement with Reclamation and confirm that Rosedale-Rio Bravo Water Storage District is capable of providing the amount of funding specified in the application. Rosedale-Rio Bravo Water Storage District will work with Reclamation to meet established deadlines for entering into a cooperative agreement.

PASSED APPROVED AND ADOPTED on this _____ day of _____, 20__ by the following roll-call vote:

AYES:
NOES:
ABSENT:
ABSTAINED:

**ROSEDALE-RIO BRAVO WATER
STORAGE DISTRICT**

President/Board of Directors

ATTEST:

Secretary/Board of Directors