

Application Submission
For
USBR WaterSMART Drought Response Program Grant #R24AS00007

Project Title:

Orland-Artois Water District Infrastructure Expansion Implementation Project



Applicant:

Orland-Artois Water District
6505 County Road 27
Orland, CA 95963-0151

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Executive Summary

Date of Application:	November 6, 2023
Applicant:	Orland-Artois Water District
Applicant's Address:	6505 County Road 27 Orland, CA 95963
Funding for Task:	A – Increasing the Reliability of Water Supplies through Infrastructure Improvements
Eligible Applicant Category:	A – Water District (Special District)
Length of Project:	36 months
Estimated Completion Date:	October 31, 2027
Funding Group III:	\$3,883,190
UEI:	C2SPRMENFUG4
Federal Facility/Land:	Yes – Tehama-Colusa Canal

Project Summary (First paragraph is the abstract for Public notice)

The Orland-Artois Water District (District) Infrastructure Expansion Implementation Project (Project) is located within Glenn County, California; 20 miles west of Chico and 90 miles north of Sacramento. This project will make it possible to deliver supplemental surface water supply, through voluntary transfers, to land within the District that will result in a reduction of groundwater pumping by approximately 4,000 to 8,000 acre-feet/year. It will also allow for CVP contract water or flood water to be delivered to two recharge basins for groundwater storage. New infrastructure will consist of 1 turnout off the Tehama-Colusa Canal (TCC) which includes connections to two existing recharge basins, two booster pumps to increase flows on existing pipelines, and expansion of its buried pipeline conveyance system to deliver supplemental surface water to approximately 4,000 acres of adjacent established farmland within the United States Bureau of Reclamation's (Bureau) Central Valley Project (CVP) Place of Use. This Project increases drought resiliency by providing a secondary source of water supply for 4,000 acres of land which provides flexibility, decreasing groundwater pumping in normal to wet years which ensures groundwater supplies will be available in dry years, and increasing groundwater supplies through groundwater recharge. California has recently experienced consecutive years of drought. These dry years have caused groundwater levels to decrease and have had negative impacts on household wells and are threatening the nearby infrastructure of the TCC and Interstate Highway 5. This project aligns with the goals of multiple local and regional water management plans to address water resiliency such as the Colusa Subbasin Groundwater Sustainability Plan and the North Sacramento Valley Integrated Regional Water Management Plan. The project has the support of the landowners, the City of Orland, Artois Community Services District, Colusa Basin Drainage District, Glenn County Board of Supervisors, Glenn

Groundwater Authority, Tehama-Colusa Canal Authority, and North Valley Community Foundation.

The District was formed in 1954 and began water deliveries in 1977. Today the District serves approximately 29,664 acres. While the District delivers a small amount of municipal and industrial water to users within its service area, the District water in the project area is used primarily for agricultural irrigation purposes for crops primarily consisting of Almonds, Walnuts, and Olives. The land within the District receives water deliveries from 8 existing diversion points off the TCC served off the Sacramento River from water originating in Shasta Reservoir.

The District has a CVP contract with the Bureau for 53,000 acre-feet (AF) annually. Additionally, the District contracts with local landowners and water districts for another 10,000 AF of transfer water each year and has two groundwater wells. The amount of available deliverable water can be reduced in drought years. The 10-year average annual water supply is 38,090 acre-feet, which includes four years of 0% allocation due to droughts in 2014, 2015, 2021, and 2022. In unconstrained years, the total amount of available water is 63,000 acre-feet per year (AF/YR). In the ten years from 2013 to 2022, the District delivered an average of 39,617 AF in years when their CVP allocation was greater than 0%. Thus, in years when the District receives water from the Central Valley Project, they have over 23,000 acre-feet of unused water that would be available to newly annexed lands.

Because the District historically has excess supplies in average to wet years, infrastructure improvements to deliver water to newly annexed lands will enable the District to beneficially use their full CVP contract water while protecting local groundwater supplies. By constructing new water distribution infrastructure and improving existing conveyance capacity, this Project will allow for an additional 4,000 acres of newly annexed established farmland to access supplemental surface water supplies. Newly annexed lands will have access to annual excess CVP supplies, CVP transfers, or other non-project water that will be conveyed off the TCC. The 4,000 acres is all within the Bureau's Place of Use. This project does not put new land into agricultural production. This Project is part of a larger annexation of 11,000 acres total.

The annexation of this land provides established farmland with an alternative source of irrigation water other than groundwater to support long-term sustainability and drought resiliency. 90% of District lands, and 95% of the potentially newly annexed lands, are planted to tree crops, which cannot be fallowed and require water every year regardless of water year type. This Project will build drought resiliency by supplying 4,000 to 8,000 AF of surface water each year to these lands, which will reduce groundwater pumping by an equal amount and protect groundwater supplies for use during dry years when District surface water is not available. This offset of groundwater pumping within the District boundary will benefit all District landowners and groundwater users in the surrounding area.

The Project will also include two new connections to existing basins, within and adjacent to the District's boundary, for the benefit of replenishing the groundwater aquifer through recharge. The basins cannot currently receive water, but deliveries on a new pipeline will enable recharge of voluntary transfer water, excess flood water, and excess District CVP supplies.

As groundwater levels have declined in Glenn County due to recent droughts and lack of access to surface water, the impacts have included hundreds of domestic (household) wells that have gone dry and land subsidence that threatens the Bureau's TCC and the State of California's Interstate 5. Management of recharge basins connected by this Project will speed up the recovery of groundwater levels, re-water domestic wells, and reduce land subsidence as they all share connectivity within the same groundwater aquifer. The town of Orland is adjacent to the District and is designated a disadvantaged community by the Climate and Economic Justice Screening Tool.

Offsetting groundwater pumping and undertaking groundwater recharge will allow the Colusa Subbasin groundwater basin to meet its goals and objectives of groundwater sustainability by Water Year 2042 as mandated within California's Sustainable Groundwater Management Act (SGMA). The District has taken a leadership role in effectively managing the local groundwater resources that they and their current landowners conjunctively manage to sustain agricultural production in Northern California. Implementation of this Project will allow for management of an additional 4,000 acres that are currently outside of the District boundary and solely rely on groundwater to meet crop demand.

This Project was envisioned through multiple planning efforts including the development of the District's Agricultural Water Management Plan, the Colusa Subbasin Groundwater Sustainability Plan (GSP), and the Northern Sacramento Valley Integrated Regional Water Management Plan to create short and long-term protections to local water supplies and public infrastructure. This Project is supported by landowners, the City of Orland, Artois Community Services District, Colusa Basin Drainage District, Glenn County, Glenn Groundwater Authority, North Valley Community Foundation, and the Tehama-Colusa Canal Authority (TCCA).

The newly annexed landowner group, in conjunction with the District, has already made a substantial investment to see this Project come to fruition. The District is looking to partner with the Bureau to execute the construction and implementation phase of this drought resiliency project.

Project Location *See Attachment A1-Geographic location map and A2-Topographic Map*

GPS: 39°40'54.55", -122°11'43.78" (approximate center of the project)

The District is in the Sacramento River watershed and the Colusa Subbasin in Glenn County, California. The District is 90 miles north of Sacramento. The distance between the towns of Orland and Artois is approximately 8.5 miles, with the District being located halfway between the two small communities.

Project Description *See Attachment A3-Infrastructure map*

The Project includes construction of water delivery infrastructure to deliver water to 4,000 annexed acres including 1 pump on the Tehama-Colusa Canal with 3 miles of pipeline extending from it, two booster pumps installed on existing pipelines, upsizing 2,400 feet of existing pipeline and extending it an additional 1,500 feet, tying into existing pipelines in four places to extend service to neighboring landowners, and installing 14 new on-farm turnouts for irrigation.

Infrastructure designs are currently at 30% completion and will be finalized in time to satisfy the grant performance period. Designs were prepared by licensed professional engineers during two and a half years of infrastructure feasibility analysis and due diligence. Designs are based on topographical site surveys completed in October and November 2022 and March 2023. For each site, a local title company provided conditional title reports, which were reviewed by a registered land surveyor who mapped all easements in the path of new infrastructure to ensure there would be no conflicts with existing infrastructure including electrical and telecommunications.

Hydraulic analyses were prepared for 3 of the District's 5 laterals using computer modeling of the District's existing water delivery system to determine available capacity in existing pipelines and identify areas where new infrastructure is needed. Designs are based on projected peak demands, which are calculated using historical data and increasing future demand by 30%. The 30% demand increase is based on a survey mailed to District landowners where landowners reported they expect to increase their use of District water by 30% over the next 5 years.

This Project includes a pipeline with two deliveries for direct groundwater recharge basins. Providing groundwater recharge in this area protects critical infrastructure and raises groundwater levels for domestic and agricultural uses. Both sites are existing basins that are the result of gravel removal for building the railroad and Interstate 5 and do not require additional excavation. The presence of the basins themselves indicates that the soil at the sites are gravelly and well-suited to groundwater recharge since the basins were developed by the removal of gravel material for infrastructure development.

The north basin is at the intersection of the Tehama-Colusa Canal and Interstate 5 and is 10 acres in area and approximately 8 feet deep. The south basin had a Feasibility and Preliminary Design Report prepared to evaluate groundwater recharge potential. According to that study, "the basin was quarried to a depth of 15 to 25 feet below ground surface and the bottom area of the basin encompasses about 20 acres. The total design volume capacity of the basin is about 200 acre-feet."

Both basins are less than 3 miles due west of a similar gravelly site that had 10 acre-feet/day infiltration in a pilot groundwater recharge project implemented by the Glenn Groundwater Authority in Spring of 2023. At this rate, and given the basin dimensions noted above, the north basin could recharge 100 acre-feet of water per day (AFD) and the south basin could recharge 200 AFD. Combined, the two basins could provide 15,000 acre-feet of groundwater recharge in 50 days. *See Attachment A4-OAWD Recharge Basins*

In the event of excess storm water in wet years this new infrastructure can be used to convey flood water via the Bureau's 3F floodwater provisions in the newly approved WIIN Act contract with the District. This Project will create a conjunctive use program designed to increase surface water supplies, improve water management operational flexibility, sustain local groundwater levels, improve District operational efficiencies, and achieve long-term sustainability goals for

all users within the District boundary. Conjunctive use provides drought resiliency for District water users because they can use District surface water in normal to wet years and rely on groundwater in dry years.

The project includes 2 phases, with the first phase consisting of infrastructure that is lower cost per acre and can be implemented more quickly, and a second phase of higher cost infrastructure that can only be completed with assistance from grant funds. Construction is expected to last approximately 21 months. The project timeline was extended to 36 months to allow for all required reviews and approvals in addition to any potential weather delays during construction.

Phase I components:

33.6E Extension – Upsize 2,400 feet of an existing Reclamation-owned pipeline (OAWD Lateral 33.6) from 15-inch asbestos-cement pipe (ACP) to 18-inch PVC pipe and extend the pipeline with an additional 1,500 feet of new pipe to serve two additional landowners with two 10-inch farm turnouts and two road crossings. The 2,400 feet of upsized pipeline will be within the existing USBR easement for the OAWD pipelines, and a new easement will be granted for the 1,500 feet of new pipe. The new easement will be granted by one of the landowners at no cost to the project. *See Attachment A5-30% Project Plan for 33.6E Extension.*

0.6 Booster Pump – Install a 90-horsepower (HP) booster pump on an existing Reclamation-owned pipeline (OAWD sublateral 35.2-0.6) to increase flow from seventeen cubic-feet-per-second (CFS) to thirty CFS. The booster pump provides more pressure and velocity to deliver supplemental surface water to 1,800 acres of newly annexed lands. Adding a booster pump on an existing pipeline is an economical and environmentally neutral way to increase acreage served while avoiding the larger cost and greater disturbance that would be required from a new pipeline. An easement will be granted by one of the landowners served by the extension at no cost to the project. Booster pump designs include a fenced gravel area surrounding the pump that is large enough for a crane to enter for maintenance and repair of the pump. *See Attachment A6-30% Project Plan for 0.6 Booster.*

Hart 342 Tie-in – Approximately 81 feet of 12-inch PVC pipe connecting into an existing Reclamation-owned pipeline (OAWD Lateral 41.2) with a 12-inch on-farm turnout, and one road crossing of a county-owned gravel road. No easements are needed, as all work will be in the existing USBR right-of-way or on the annexing property.

Knight 27 Tie-in – One connection to an existing Reclamation-owned pipeline (OAWD Lateral 35.2) with 291 feet of 14-inch PVC pipe and one 14-inch farm turnout. The infrastructure includes one road crossing and .02 acres of easement acquisition. The easement will be granted by a neighboring landowner who is also involved in the project.

Knight 33 Tie-in – One connection to existing Reclamation-owned pipeline (OAWD Lateral 41.2) with 184 feet of 14-inch PVC pipe and one 14-inch farm turnout. An easement of 0.1 acres will be granted by a neighboring landowner.

33.6N Tie-in – One connection to existing Reclamation-owned pipe (OAWD Lateral 33.6) with 55 feet of 8-inch PVC pipe and one 8-inch farm turnout. One road crossing is needed, and no easements are needed since all work will be in existing USBR right-of-way or on the annexing property.

Phase II components:

99W Pipeline – One all new lateral to serve lands in an area where no existing District water delivery system exists. The lateral begins with a 75-horsepower pump on the Tehama-Colusa Canal. The pump discharges into a pipeline that begins with 9,668 feet of 24-inch PVC pipe, reduces to 18-inch PVC pipe after the first on-farm outlets and continues an additional 5,402 feet before reducing further to 10-inch PVC pipe the last 237 feet of the pipeline to serve the final on-farm outlets. An additional 291 feet of PVC pipe of varying sizes is needed for the on-farm outlets, bringing the total length of pipe to 15,598 linear feet. The pipeline includes 6 new on-farm turnouts for irrigation (ranging from 8-inch to 14-inch outlets) and two new turnouts to deliver water to existing basins for groundwater recharge. 6 road crossings are needed along with a 0.93-acre easement from a neighboring landowner. All other easements needed will be granted at no cost by landowners served by the pipeline.

2.6 Booster Pump – Install a 70-horsepower booster pump on Reclamation-owned OAWD sublateral 35.2-2.6-2.0LT to add 20 feet of head at 22 CFS to serve four properties downstream. The booster pump design includes a small, fenced gravel area surrounding the pump. Crane access for maintenance and repair of the pump will be provided on the adjacent private road. An easement will be granted by a neighboring landowner.

The proposed infrastructure would be constructed on either newly annexed private landowners' property, existing District landowners' property, Reclamation land adjacent to the TCC, on other private lands, and adjacent to and across several Glenn County roads. Spoil from excavation will be managed on site and used as pipe backfill. No spoiled material will be exported. Pipeline diameters will range from eight (8) to thirty (30) inches. Steel casing pipe will be used in areas where the exposed pipe passes through the TCC bank. The maximum depth of ground disturbance for pipelines and farm turnouts will be nine (9) feet, while the booster pump stations would have a maximum depth of eighteen (18) feet.

Performance Measures

The Project benefits will all be quantifiable utilizing metered diversions and monitored groundwater elevations. This new data will be compared to historical data to substantiate the Project's benefits. The information will be accessible to the public on the Orland-Artois Water District website under "District Projects".

The stated goal is to supplement the Project lands with an average of one and a half Acre Foot per acre per year (AF/AC/YR) of supplemental surface water supplies through the

infrastructure's useful life. The access to, and acquisition of, voluntary surface water transfers into the District will meet a variety of goals such as:

- Reduced groundwater pumping in average to wet years
- Increased groundwater levels within the District boundary and in the Colusa Subbasin
- Reducing the potential for local domestic wells from going dry
- Create a conjunctive use program on agricultural properties historically served only by groundwater
- Building drought resiliency (a) for newly annexed lands by providing a secondary source of water supply, (b) for current District lands by reducing groundwater pumping in their vicinity and reserving groundwater supplies for dry years, and (c) for household wells by reducing groundwater pumping which will help end the trend of declining groundwater levels which have left hundreds of household wells dry.

These benefits will be quantified in the following manners:

- All new Project TCC turnouts will be metered
- All new Project field level turnouts will be metered
- All new connections to the two recharge facilities will be metered
- The new recharge facilities will incorporate additional groundwater monitoring wells located adjacent to the basins.
- All current groundwater monitoring wells will continue to be monitored, measured, and recorded, both within the District boundary and the Colusa subbasin
- All supplemental voluntary water transfers will be duly agreed upon and approved by the various agencies (Bureau, TCCA, and the District) and documented in contract form and in board meeting minutes.
- The District's annual water budgets will be amended to show annual water use projections and actual deliveries through the newly constructed Project facilities.
- The District will continue to improve their website, www.oawd.com, to allow the District landowners, water users and members of the public access to all recorded data.
- The District will work closely with the Glenn Groundwater Authority to share all common groundwater elevation data and updated District water balance information to comply with SGMA goals and objectives.

Evaluation Criterion A – Project Benefits

Sub-Criterion A1.a: Adds to Water Supplies

The Project, whose focus is infrastructure enhancement and construction, will be a long-term capital project that will be able to deliver supplemental surface water to District lands for the next fifty years. These waters will consist of existing CVP District supplies, voluntary CVP water transfers, flood water and non-project water. Through the Project, the lands will now be managed through a conjunctive use program instead of solely relying on groundwater.

Excess CVP District Supplies on average:

4,000 AF

Up to 20,000 Acre Feet of District excess CVP District supplies in certain water year types could be available for delivery in the newly constructed project. A portion of this 20, 000 Acre Feet of water would be available through the Project in 7 out of 10 years. In normal to wet years, the

District has a portion of its CVP contract water available for use within the Project area. This water is excess to the District's current demand since the District has multi-year water transfers that are on the books every year to account for dry-year hydrology. When the hydrology turns wet, the District is still obligated to buy the multi-year transfer water, therefore, there is that leaves available CVP water on the District books.

Voluntary District Transfers:

4,000-8,000 AF/YR

The District would be procuring transfer water on behalf of the 4,000 acres of land to be delivered water through this project. The transfer goal is to procure between 1-2 Acre Feet per Acre per Year. This Project will allow the District to convey water to these additional lands as it does for its current water users. The average delivery of Voluntary Transfer water would be **6,000 AF/YR**.

Over a 10-year period, the total water conveyed through the Project would be:

Excess CVP District Supplies: 4,000 AF/YR.

Voluntary District Transfers: 6,000 AF/YR

10,000 AF/YR over 10 Years = 100,000 AF

Annual crop demand met by the Project:

Average annual Project deliveries: 10,000 AF

Project Land: 4,000 Acres

Crop Demand met by Project conveyance: $10,000 \text{ AF} / 4,000 \text{ Acres} = 2.5 \text{ AF/AC}$

With an annual average District crop demand of approximately 3.5 AF/AC, the Project would be able to convey surface water to meet approximately **71%** ($2.5/3.5$) of the total demand. This would be very significant since the land's current crop demand is currently being met 100% by groundwater.

Recharge Basins:

The Recharge Basins would be used to percolate excess water in certain water year types to the Colusa groundwater basin. As described above in the Project Description, the Basins estimated recharge capacity is 15,000 AF/YR in wet years.

All three water types conveyed through the Project would be direct benefits to improving groundwater elevations and increasing storage for future dry year pumping regimes. It will also be a management project that will allow for less annual average groundwater pumping that will have a direct correlation to reducing the current rate of subsidence as depicted in the *A7-Dry Wells/Subsidence map*

Sub-Criterion A2: Environmental & Other Benefits

Sub-Criterion A2.a: Climate Change

The Project will allow for supplemental surface water deliveries to an additional 4,000 Acres of currently farmed irrigated agriculture. This will improve the overall resiliency in both drought and flood year types.

In normal to wet years, some of which will include excess flood water, supplemental surface waters will be used in lieu of groundwater pumping. Along with the deliveries to meet agricultural demand, excess supplies can be recharged to the Colusa subbasin. In dry years, the project will not be able to meet as much of the crop demand with supplemental surface water deliveries, but the vast decrease in groundwater use in normal to wet year, along with the recharge components should allow for a stable withdrawal of water that won't lead to further issues related to declining groundwater levels and subsidence.

By creating access to more acres of irrigable agriculture and recharge basins, the multi-benefit demands met by the Project will help decrease the amount of local flooding. The recharge basin management component will also help promote healthy land and soils by managing them in a constructive manner that will support local land management goals in the dry years and still maintain their recharge components when water is available. After the Project is implemented, future recharge basins may be developed to further reduce flood water risks in the area.

The Project will have access to meet a portion of its energy demand (lift pumps off the TCC) with renewable energy through Western Area Power Authority (WAPA power). It will also be able to decrease the overall power consumption off the local power grid by using WAPA power; compared to the existing efficiency of the groundwater wells off the local power system that are now being used to meet 100% of the crop demand.

Sub-Criterion A2.b: Environmental Benefits

The Project will allow for conjunctive use water management on 4,000 acres of land currently under production of walnuts, olives, and almonds. Based on the current cropping pattern, keeping more land under cultivation by providing a secondary source of water will keep the land in production for a longer period. The ability of tree crops to sequester carbon in the soil, while at the same time lowering greenhouse gas pollutants, is another factor in building infrastructure to convey supplemental surface water to groundwater dependent farming operations.

As stated by the United States Geological Service's California Water Science Center in 2018, "there are multiple benefits of carbon farming include improvement in soil health, increased forage and crop yields, increase in soil-water holding capacity and reduction in total landscape demand for water, carbon sequestration, reduction of atmospheric greenhouse gases (GHG) and diversion of urban and agricultural organic waste from methane-producing anaerobic disposal in landfills and manure lagoons, and from burning. Enhancing soil carbon in working lands at large spatial scales has the potential to measurably reduce greenhouse gas levels in the atmosphere, increase the sustainability of working landscapes and ensure the provision of other ecosystem services, including water, food, and wildlife habitat."

It's been noted that healthy landscapes can increase resilience to climate change and help increase on-farm productivity. The added flexibility and access to supplemental water can help minimize the environmental effects of flood and drought.

Sub-Criterion A2.c: Other Benefits

This Project will have a very positive impact on how the District, and on a grander scale, Northern California, maximizes the Bureau's CVP water resources through conjunctive use programs with its local groundwater supplies. The District, through its Groundwater Sustainability Agency, is in the middle of securing the California Department of Water Resources approval for its Groundwater Sustainability Plan to have a sustainable groundwater basin by Water Year 2024. The management of California's groundwater resource has become very contentious and political and has created divisiveness amongst neighboring farmers. Management activities such as this Project, which will provide flexibility and efficient use of supplemental CVP surface water to lands that currently rely solely on groundwater, will be integral to maintaining and meeting effective water management goals with a diverse set of interested and affected parties.

Evaluation Criterion B – Planning and Preparedness (20 points)

The Orland-Artois Water District Infrastructure Expansion Projects is included as a priority project in three major plans, namely the Orland-Artois Water District Agricultural Water Management Plan approved by Reclamation, the Colusa Subbasin Groundwater Sustainability Plan, and the Northern Sacramento Valley Integrated Regional Water Management Plan. Specific details are provided in the Colusa Subbasin Groundwater Sustainability Plan (GSP).

GSP's are intended to address groundwater sustainability and reduce undesirable results in groundwater basins. In the Sacramento Valley, droughts are the major cause of undesirable results and the Colusa GSP states ***"Water budget analyses suggest that groundwater level decline in the [Arbuckle and Orland] areas is due primarily to drought"***. Projects and Management Actions in GSPs are the tools available to avoid undesirable results. The Colusa GSP notes that Colusa Subbasin Projects and Management Actions ***"were formulated primarily... in the near term, to address effects of recent historical (2014-2015) and current (2020-2021) drought conditions that pose challenges to groundwater management."***

Droughts are so significant and foundational to groundwater management that the Colusa Subbasin GSP includes a 3-page Preface on drought. The Preface states ***"Development of the Colusa Subbasin Groundwater Sustainability Plan (GSP) coincided with one of the most severe and extensive droughts that has ever gripped the western United States. As of the writing of the GSP in December 2021, drought conditions throughout most of California, including the Colusa Subbasin are classified as "exceptional", the most extreme classification defined by the U.S. Drought Monitor."***

The Colusa Subbasin GSP discusses:

- Education and outreach for drought preparedness
- Reporting and tracking of dry or impaired wells
- Identifying and applying for funding resources for programs to assist residents impacted by the drought

The groundwater level monitoring network for the Colusa Subbasin includes 104 completions in 48 wells, which track groundwater levels regularly and provide critical data for measuring and

mitigating droughts. This network shows where groundwater levels are declining most in drought years. Data on household and agricultural well depths is layered over groundwater level data to highlight areas where wells are most vulnerable to going dry during droughts.

Projects and Management Actions in the Colusa Subbasin GSP address drought through long-term solutions to reduce the effects of drought and actions to provide short-term mitigation for the effects of drought, including Drought Contingency Planning for Urban Areas among others.

All future scenarios analyzed in the Colusa GSP include climate change simulations to 2070. These simulations model changes to the amount of precipitation, changes to the timing of precipitation, changes in the type of precipitation (rain v. snow), and increased evapotranspiration rates due to increased heat.

The Colusa Subbasin GSP was finalized in January 2022 and is already undergoing a major update. Other major updates will happen every 5 years until the legislatively mandated sustainability date of 2042.

The development of the Colusa GSP was a year's long process with extensive public outreach and collaboration from a wide range of stakeholders including water districts, farmers, ranchers, local and statewide environmental groups, cities, state and federal agencies, and domestic groundwater pumpers. The intent of SGMA is to ensure successful, sustainable management of groundwater resources at the local level, which requires engagement by beneficial users of groundwater. To guide and facilitate beneficial user engagement in the Colusa Subbasin GSP process, a Communication and Engagement Plan was created, regularly updated, and implemented.

The two groundwater sustainability agencies in the Colusa Subbasin collectively sponsored, publicized, and conducted 242 separate meetings. As required by California law, each meeting began with an opportunity for oral or written public comment. There were 5 major milestones when extensive public comment was solicited, and the California Environmental Quality Act requires that each comment be addressed.

For all meetings, agendas were posted no less than 72 hours in advance, all materials presented were made accessible for the public to access through websites and hard copies available at the administrative offices, and meetings were publicized through Facebook and Twitter. In advance of each public meeting and workshop, press releases were issued to a local media contact list. Local media proved to be highly responsive, and the Colusa Subbasin efforts collectively received media coverage for most public events.

Through Facebook and Twitter, regular content updates were conducted on average of a bi-monthly basis to ensure user interest and readability and to avoid information on said sites getting "stale." In addition to photographic images and SGMA / GSA / GSP content being regularly updated, the GSAs used Facebook Live to simulcast all events in the SGMA Series to ensure maximum availability for members of the public to view all outreach events from late 2020 through and including public review and subsequent GSA approval of the GSP in January 2022.

Before each public meeting and workshop, agenda-based flyers were created in English and Spanish with key information provided. Tribal engagement included regular outreach and involvement of the federally recognized Cachil DeHe Band of Wintun Indians of the Colusa Indian Community of the Colusa Rancheria. Inclusive communication of all SGMA information was also available to the Cortina Rancheria of Wintun Indians of California (Kletsel Dehe Wintun Nation), however, there was no participation by a representative from the Cortina Rancheria in the GSP process.

The District is one of 9 members of the Glenn Groundwater Authority (GGA), the local groundwater sustainability agency that prepared the Colusa GSP. The District is a signatory member and a member of the Joint Powers Authority with a representative and an alternate on the GGA board of directors. The OAWD board of directors approved the Colusa Subbasin GSP and the District representative on the GGA board also voted for approval.

The Project is supported by the Colusa GSP through its listing as a priority project in the GSP. It is supported by the GGA, which is the local groundwater sustainability agency responsible for implementing the Colusa GSP, and the GGA provided a letter of support for this Project. In addition, the GGA partnered with the District to implement over a dozen pilot groundwater recharge projects in 2023, which proved the suitability of local soils and feasibility of using the District's water distribution system to achieve groundwater recharge.

The Project is one of just a handful of projects described in detail in the Colusa Subbasin GSP and is included as a Project and Management Action. The Colusa GSP covers the 1,130 square mile (733,000-acre) Colusa groundwater subbasin in Colusa and Glenn counties in Northern California and is the largest groundwater subbasin in California's Sacramento Valley. Although projects are not ranked in the GSP, this project was recently ranked by the two groundwater sustainability agencies in the Colusa Subbasin as the second most important implementation project and was characterized thus:

“This project is a priority for the Colusa Subbasin because it provides significant near- and long-term benefits to raise groundwater levels, re-water domestic wells, and reduce land subsidence. Without this keystone conjunctive use project, it will be difficult to stabilize groundwater levels in the area and achieve groundwater sustainability in the largest subbasin in the Sacramento Valley. If this project had been in place 10 years ago, this area would not have experienced such groundwater decline and its attendant negative impacts. The Project helps the Colusa Subbasin address groundwater challenges related to three undesirable results: declining groundwater levels, land subsidence, and reduction of groundwater storage as well as address impacts to domestic wells, which is a major goal of California's Sustainable Groundwater Management Act [SGMA].”

The Project addresses declining groundwater levels affecting domestic wells in the Orland area. Although priorities are not ranked in the GSP, protection of domestic wells is informally the top priority of the GSP and its ultimate approving authority the California Department of Water Resources. The city and surrounding areas of Orland is GGA's top priority area in addressing groundwater level declines since hundreds of wells went dry there from spring 2020 to fall 2022.

The District's Project is mentioned in the Colusa Groundwater Sustainability Plan dated December 2021, Chapter Six. *See Attachment A8-Excerpt from Colusa GSP*

Evaluation Criterion C – Severity of Actual or Potential Drought Impacts to be Addressed by the Project *See Attachment A7- Dry Wells/Subsidence, A9- Economic Map and A10- Drought maps*

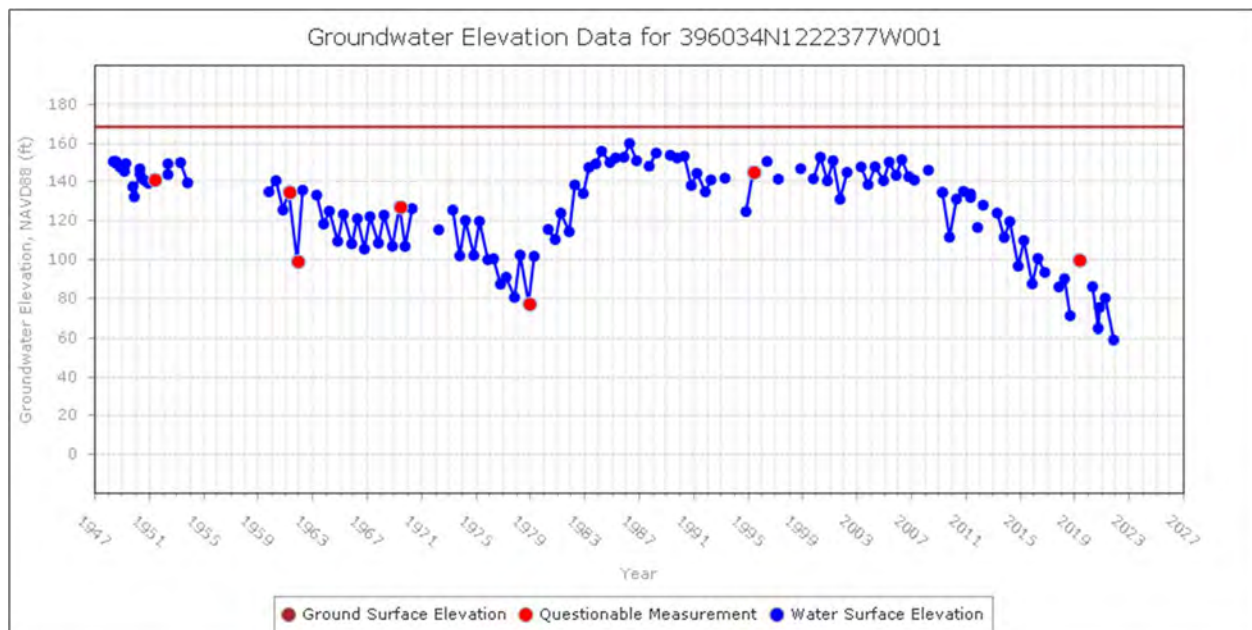
Uncertainty in surface water deliveries has increased significantly since the District first received water from Reclamation's CVP over four decades ago. Groundwater pumping increases when surface water deliveries are curtailed in an area dominated by permanent plantings of orchards. Farmers in the Orland-Artois area are facing a dual threat of smaller and less frequent surface water allocations and declining groundwater levels. This Project helps ensure two sources of water for thousands of acres and a multitude of families. For orchards that are currently irrigated with only groundwater, they gain access to surface water. For their neighbors who are already in the District, groundwater supply reliability is increased by decreasing groundwater pumping in Normal to Wet years on Project lands.

To comply with temperature and flow requirements to protect endangered fish, in recent years Reclamation has been unable to deliver historical levels of water to their water service contractors like the District. More water needs to be stored behind the dam at the CVP's Lake Shasta to keep water temperatures lower for migrating salmon and other species. This effectively shrinks the capacity of Lake Shasta, California's largest reservoir. At the same time, minimum flows required to be released into the Sacramento River out of Lake Shasta have increased, so the lake is draining faster each year. Taken together, these operational restraints have seriously hampered surface water deliveries. In the decade from 2014-2023, CVP allocations for the District averaged 56%. The decade prior, from 2004-2013, allocations averaged 86%, a full 30 percentage points higher.

Droughts make matters worse and California experienced five years of serious drought (2014-2015, 2020-2022) from 2014-2023. 2020-2022 was the driest three-year period on record in California. In 2021, surface water deliveries were down 1.5 million acre-feet (27%) due to the drought and worsened to a staggering 2.6 million acre-feet (49%) in 2022. https://wsm.ucmerced.edu/wp-content/uploads/2023/01/Economic_Impact_CA_Drought_V02-1.pdf Unfortunately, California's climate is notoriously variable and highly susceptible to droughts. Even compared to other Western states, California's annual precipitation levels stand out as the most variable. Climate change is expected to exacerbate this feature, resulting in wetter wet years and dryer dry years as well as longer stretches of dry years. Reservoirs help buffer the effects of drought by carrying over water supplies from wet years to dry years. However, given the restrictions in place for California's reservoir operations, their benefits have become more limited, and farmers have become more vulnerable to California's yo-yo weather patterns.

Droughts also put pressure on groundwater supplies. As demonstrated by the sawtooth pattern in the graph below, groundwater levels in California's Sacramento Valley tend to peak each

spring and reduce each fall following the dry summer months and irrigation season. However, more important trends are also visible in the graph below. First, groundwater levels were slowly declining from 1950 to 1980, particularly in the drought years of 1977-1978. Groundwater levels began to rise with the introduction of surface water supplies in the region from Reclamation's Tehama-Colusa Canal, as groundwater pumping was curtailed in lieu of surface water and flood irrigation helped aquifers recharge. However, after about 30 years of stability from the early 1980s to the late 2000s, groundwater levels began to decline again, and at an even faster rate. At the well shown on the hydrograph, groundwater levels are now at an all-time low.



Since 2010, there has been a shift toward a preference for groundwater supplies among local farmers, as shown on the well hydrograph, which has been driven by surface water supply uncertainty, efficient irrigation systems such as drip and micro sprinklers that many feel are better suited to groundwater, a concern about phytophthora in surface water supplies among orchardists, and the lower cost of groundwater relative to surface water. In the decade from 2000 to 2009, the District delivered an average of 54,718 acre-feet in 100% allocation years. In the following decade from 2010 to 2019, the District delivered an average of 40,422 in 100% allocation years. To increase surface water deliveries and reduce groundwater pumping, the District is annexing 11,000 acres with landowners eager to use surface water. 4,000 of those annexed acres would be served by new infrastructure in this Project.

When more groundwater is pumped from an aquifer than enters the aquifer in a given period of time, the aquifer is in overdraft. Average annual overdraft in the immediate vicinity of the District has been estimated at 2,900 AF. This number was developed using the C2VSimFG-Colusa groundwater model developed for preparation of the Colusa Subbasin GSP. Cumulative overdraft from 1990-2015 was 74,600 AF in the District area.

Dry wells and land subsidence reflect a trend of declining groundwater levels exacerbated by drought. From spring 2020 to fall 2022, 279 dry wells were self-reported in Glenn County, California. *See Attachment A7-Dry Wells/Subsidence*. These all represent households and farms who have been negatively affected by groundwater overdraft. In addition, land subsidence in the District service area was measured at 0.6 feet (7.2 inches) per year in the five-year period June 2015 to June 2020 by InSAR (Interferometric Synthetic Aperture Radar) (see same map).

Three major sectors threatened by declining groundwater in the Project area are agriculture, domestic use, and infrastructure.

Agriculture is the economic base of Glenn County and the Sacramento Valley in California. As noted above, in 2021, surface water deliveries were down 1.5 million AF (27%) due to the drought and down a staggering 2.6 million AF (49%) in 2022. A report prepared by the University of California, Davis on the 2022 drought impacts characterized the effects of those surface water curtailments in this way:

“The drought in 2022 is likely to reduce direct farm and ranch value of output in the Sacramento Valley by about \$950 million, or more than 20%, in aggregate. These losses will cost the Sacramento Valley about 5,000 on-farm jobs and reduce the value added generated from farming and ranching by about \$560 million. The impact of these farm losses and their upstream impacts to the Sacramento Valley economy are a loss of more than 9,000 jobs and almost \$1 billion in economic value added. A fuller accounting, however, takes account of the impact of lost farm production on farm processing, marketing, transport, and related downstream implications. We project that the 2022 drought impacts on farm production are likely to cause a loss of about 14,300 jobs and about \$1.315 billion in economic value added in the Sacramento Valley.”

Source: <https://norcalwater.org/wp-content/uploads/Sumneretal.DroughtSacramentoValley.may2022-2.pdf>

Domestic (private household supplies and public municipal supply) wells were also severely affected by the recent drought in California. Dry or impaired wells lead to great challenges in the affordability and accessibility of water as homeowners have to fill tanks with trucked water for hygiene and sanitation and buy bottled water for drinking and cooking. In the disadvantaged city of Orland, a municipal well went dry within city limits and hundreds of households were affected in the surrounding unincorporated area. The City of Orland received a grant from the California Department of Water Resources to extend its water delivery pipelines into the unincorporated area to serve 190 of these households. The Artois Community Services District (see letter of support) received a similar grant to extend water service to 25 households. Both projects help households access deeper public supply wells, however, they do not reduce overall groundwater use since the City of Orland and the community of Artois use groundwater for their sole source of water supply. On the contrary, this Project would bring additional water supplies into the area and offset groundwater use with surface water use.

Major public infrastructure is also threatened by groundwater overdraft. Reclamation’s TCC runs through an area affected by land subsidence *See Attachment A7-Dry Wells/Subsidence*. No impairments to the TCC from land subsidence are evident to date, but they can go unnoticed in

these situations. Land subsidence has reduced capacity in a similar Reclamation-owned canal in California called the Friant-Kern Canal where it is expected to cost \$500 million to restore design capacity. These kinds of costs can be avoided for the TCC if land subsidence is corrected by bringing groundwater supply and demand in balance through projects like this one. Interstate 5 and the Union Pacific Railroad also run through the Project area and are threatened by land subsidence, as are the City of Orland's water supply and wastewater pipelines, which is one reason they provided a Project letter of support.

By ensuring groundwater supplies for domestic users, this Project helps households avoid negative health impacts. By helping maintain groundwater levels, this Project protects public health in the face of climate change with a direct benefit to hundreds of shallow domestic wells around Artois, Orland, and unincorporated areas of Glenn County and the small water system operated by the Artois Community Service District. Domestic wells are generally shallower than agricultural and municipal wells and thus more vulnerable to decreasing groundwater levels. A domestic well going dry has the potential to cause health and safety impacts resulting from a loss of water for consumption, cooking, and sanitary purposes, in addition to the financial burden associated with finding alternative water sources or deepening wells. By reducing groundwater demand, this Project will increase groundwater levels and groundwater storage in the Orland/Artois area where 14,000 people are solely dependent on groundwater. This will decrease the likelihood that other Glenn County residents will face the hardship that hundreds of their neighbors recently faced when their wells went dry. Dry wells lead to great challenges in the affordability and accessibility of water as homeowners fill tanks with hauled water for hygiene and sanitation and buy bottled water for drinking and cooking.

The 2020-2022 drought affected numerous species in California. Millions of migrating birds had more limited habitat because rice fields were not flooded in the Pacific Flyway. California's giant garter snakes were also harmed by the loss of flooded rice fields, since the fields simulate wetlands that have been lost as habitat. NOAA notes that drought poses significant danger to protected marine life, including two endangered species in the spotlight: Sacramento River winter-run Chinook salmon and Central California Coast coho salmon.

As noted above, the 2022 drought impacts on farm production caused a loss of about 14,300 jobs and about \$1.315 billion in economic value added in the Sacramento Valley. In June 2021, after tensions over household wells going dry reached fever pitch and fingers were repeatedly pointed at orchards and farmers, the Glenn County Board of Supervisors which governs the County, enacted a moratorium on new agricultural wells that lasted two years. During that time, farmers were unable to continue their plans for agricultural and economic development.

Evaluation Criterion D – Presidential and DOI Priorities **Disadvantaged and Underserved Communities:**

Support for Underserved Communities Through the Federal Government:

While the State of California categorizes this area as a disadvantaged community and in some areas severely disadvantaged, www.geoplatform.gov identified partial areas within the project as shown in the attached *A9-Economic map*. The proposed annexed lands surround the

city of Orland and the community of Artois in Glenn County, and all the project area is within a California Department of Water Resources (DWR) identified Disadvantaged Community (DAC) or Severely Disadvantaged Community (SDAC).

A fully funded grant Project will benefit an Underrepresented Community (URC) or SDAC. In addition, this Project is in an area that the DWR scored as a “High” priority in their analysis of URC. These communities will benefit from this Project as they are hydro-geologically connected to the Project through the Stony Creek Fan and Tehama groundwater formations. This area is a hotspot for dry well reports in the Sacramento Valley. Hundreds of well incidence reports have been submitted in this area since spring 2020. Domestic wells are generally shallower than agricultural and municipal wells and thus more vulnerable to lowering groundwater levels. Higher groundwater levels ensure a more reliable drinking water supply for these Disadvantaged and Severely Disadvantaged Communities.

Tackling the Climate Crisis at Home and Abroad:

This Project combats the effects of climate change by increasing use of surface water in normal to wet years, thereby ensuring groundwater supplies are available in dry years. As the climate warms, California’s notorious droughts are expected to become longer, more frequent, and more intense. At the same time, more precipitation in the Sacramento River watershed is expected to fall as rain rather than snow and wet years are expected to be wetter than historical averages. By expanding water distribution systems to serve additional farmland, this Project helps match water demand with variable water supplies. It increases demand for surface water in wet years when ample water supplies are available and reduces surface water demand in dry years through the use of groundwater. This Project adds flexibility to water demand by ensuring groundwater supplies are available in dry years in two ways—both by reducing groundwater use in normal to wet years and through direct groundwater recharge.

By reducing the amount of agricultural groundwater pumping in normal to wet years, this Project also reduces greenhouse gas emissions from pumping. The petroleum-based energy that is needed to lift water from 100 to 500 feet below ground surface is significantly greater than the energy needs of the Orland-Artois Water District distribution system, which is almost entirely gravity fed. At the same time, the 4,000 acres of trees including almonds, walnuts, and olives supported by this Project will store carbon, pulling climate-warming greenhouse gases from the atmosphere. Removal of CO₂ from the atmosphere over two to three decades while orchards are in production reduces radiative forcing (and thus cumulative radiative forcing [CRF]) during the period of storage. (source: <https://onlinelibrary.wiley.com/doi/full/10.1111/jiec.12333>). Assuming average soil carbon accumulation in orchards of 624 kg of carbon ha⁻¹ yr⁻¹ (source: <https://esajournals.onlinelibrary.wiley.com/doi/10.1890/1051-0761%282006%29016%5B1975%3ACSICA%5D2.0.CO%3B2>), the lands included in this Project will provide temporary storage of 2.2 million pounds of carbon.

Tribal Benefit:

There are native people living within the subbasin. This Project indirectly benefits them by improving the groundwater aquifer. For the native people who earn a living in the

agricultural of this region it would not necessarily grow the economy but helps to lessen the risk of loss.

Evaluation Criterion E – Readiness to Proceed and Project Implementation

As shown in the task table below, work has already begun on cultural and environmental reviews, which can often be the lengthiest approval process. Section 106 and Section 7 consultations for cultural and environmental reviews, respectively, have already been initiated by the Bureau of Reclamation for this Project. Reclamation staff has reviewed the draft cultural resources inventory survey and provided comments that are being addressed. Reclamation staff has also reviewed the biological evaluation and provided changes that are being incorporated. Revised documents are being prepared by consultants and will be sent back to Reclamation soon to continue the consultation processes. Federal cost share for these activities is not sought for this grant. As noted previously, 30% designs have been prepared for each component of new infrastructure for this Project. Phase 1 projects are continuing to 60%, 90%, and Final design now and Phase 2 projects will proceed once funding is available. *See Attachment A11-Engineer's Schedule and Milestone Table.*

In both cases, construction timelines are short enough to provide ample time for designs to be prepared within the grant period of performance.

Milestone / Task / Activity	Planned Start Date	Planned Completion Date
Task 1 Project Management (including USBR review)	October 2024	October 2027
Task 2 Environmental Compliance	July 2023	May 2024
Task 3 Bidding, Awards, and Contracting:		
Phase I	November 2024	February 2025
Phase II	August 2025	October 2025
Task 3 Contracting and Procurement activities		
Phase I	March 2025	June 2025
Phase II	December 2025	March 2026
Task 4 Construction		
Phase I	March 2025	May 2026
Phase II	December 2025	October 2027

All designs for improvements to Federal facilities will also undergo engineering design review by Reclamation through MP-620 forms (Request for Review and Acceptance of Design Drawings and Specifications) and a license request for the new pump on the Tehama-Colusa Canal. This review will be done at the District's expense through an existing \$15,000 deposit provided to Reclamation by the District in 2021. The Tehama-Colusa Canal Authority, which operates and maintains the TCC, will also review the designs.

No reviews or approvals are needed related to water rights or water quality. The Project is required by California law to prepare a Storm Water Pollution Prevention Plan to ensure construction activities do not adversely affect water quality, which will describe stormwater and non-stormwater control measures that will be used to minimize the discharge of pollutants to the maximum extent practicable. This will ensure less than significant impacts to water quality during construction. The project avoids impacts to local waterbodies, state- and federally protected species, and habitat so that no permits are needed from the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.

Planning for the OAWD Infrastructure Expansion Project began in February 2020 and all work to date has been entirely funded by private landowners whose lands would be served by the expanded infrastructure. Extensive infrastructure feasibility analysis has been completed including evaluating alternative alignments, locating existing electrical utilities to serve new pumps, determining the amount of flow each property needs, and consulting with Reclamation and the Tehama-Colusa Canal Authority on design requirements. Existing site-specific 30% engineering designs have been completed for all infrastructure expansion sites in the Project. These plans were developed to be consistent with USBR As-Built plans for the Reclamation-owned Tehama-Colusa Canal and the existing Reclamation-owned OAWD distribution system. An extensive hydraulic analysis was developed for the District's Lateral 35.2, which identified two locations for booster pumps to be installed to increase flow in the existing system and thereby increase the flow that can be delivered to serve additional acreage. This hydraulic analysis was even peer-reviewed by another local engineering consulting firm who concurred with the findings of the consulting engineers. Hydraulic analyses were also prepared by the consulting engineers for Lateral 33.6, which identified a pipeline extension to serve annexed lands, and for Lateral 41.2, which identified sufficient capacity to serve 2 new on-farm outlets.

Site topographical surveys have been completed and title reports have been reviewed to identify and address other easements or infrastructure that could impede plans for infrastructure expansion. This work generated the necessary inputs to develop 30% designs which were submitted to the Bureau for engineering review. Designs are now proceeding to 60% for Phase 1 projects.

Easements are needed on 3 parcels outside the lands owned by the District or Project proponents on a total area of 1.13 acres. Landowners have been approached at all three parcels and negotiations with private landowners have resulted in verbal agreements for all easements needed for infrastructure expansion. All easements will be granted to the District.

The Project coincides with an annexation proposal to bring 11,000 additional acres into the District boundary. The annexation process began in February 2020 and is scheduled to be formally adopted by the District board at its November 21, 2023, meeting. All votes on the annexation to date have been unanimously in support of the annexation. Once the District approves the annexation, California law requires that the Glenn Local Agency Formation Commission (LAFCo) must approve or deny the annexation request, which is expected in December 2023. Reclamation must also approve the annexation before it is finalized but will not take action to approve the annexation until the local agencies (District and Glenn LAFCo) have approved the annexation. The District has been in close communication with LAFCo and

Reclamation about the annexation and have received positive feedback. The District successfully completed two smaller annexations in the last three years.

Evaluation Criterion F – Nexus to Reclamation

This Project supports the Bureau's efforts by making full use of available surface water supplies developed by the Bureau and buttressing existing Bureau facilities and private investments in agricultural production in the region.

The Project will also increase the opportunity to serve lands that are currently being irrigated and are within the Bureau's CVP Place of Use. Upon successful implementation of the Project, the lands would be participating in an active conjunctive use program that will ensure compliance within SGMA. By delivering supplemental surface water to existing irrigated farmland, this Project ensures the sustainability of crop production on those lands, reduces groundwater overdraft in the area, and ultimately prevents economic and natural resource bankruptcy of farming in the area.

All the supplemental surface water that will be delivered from this Project will be either CVP voluntary transfer surface supplies, flood flows or non-project water. All flood flows or non-project water will need Bureau approval prior to such water being conveyed in Federal facilities and into the District boundary.

The District is a CVP contractor whose water originates and is stored behind Reclamation's Shasta Dam, is conveyed down the Sacramento River and throughout Glenn County via the Reclamation-owned TCC before entering the District's Reclamation-owned distribution system.

The District fulfilled its CVP capital cost of construction debt obligation to the Bureau through its WIIN Act contract conversion in 2021. At the same time, it also paid off the Bureau debt for its District-specific conveyance infrastructure facilities. It should be noted that the Bureau still retains ownership of the existing conveyance facilities within the District boundary.

The District is collecting annual assessments from its current landowners to pay off private financing that was used to fulfill its WIIN Act capital debt repayment. This repayment from the District landowners, through the District, and to its private financial partner, has a term of approximately fifteen years left. Through the construction of this Project, the District will have an additional 4,000 acres of rate payer base to supplement the repayment of the capital debt obligation.

The Bureau is succeeding in its decades-long effort to develop and support agricultural economies in California's Sacramento Valley. In 2017, agriculture contributed a total of \$1.352 billion to Glenn County's economy. The primary crops in Glenn County are Almonds with a value of \$230 million, Rice with a value of \$155 million, and Walnuts with a value of \$113 million.

This Project will not increase total irrigated acreage in the area or increase the consumptive use of lands currently within the District boundary.

Evaluation Criterion G – Stakeholder Support for Proposed Project

The Project has progressed to 30% design level at the time of this Project application by significant investment and support from the Landowners. In addition to the support of Landowners, this project has the support of municipalities and community organizations. The City of Orland, Artois Community Services District, Colusa Basin Drainage, Glenn Groundwater Authority, Glenn County, North Valley Community Foundation, and the TCCA all wholeheartedly support this project and provided letters of support.

The Project has broad support from stakeholders in Glenn County, California. They are interested in the ability for this project to offset groundwater pumping with surface water use. Over two hundred local households received tanks and had regular deliveries of trucked water when their wells went dry, since they were either unable to schedule a well driller to deepen their well or they could not afford to do so. These stakeholders have applauded this project when it has been discussed in public forums. Formal letters of support have been received from several organizations, including the North Valley Community Foundation who supported the trucked water program and the City of Orland and Artois Community Services District who are both extending their pipelines to serve households whose wells have gone dry.

Glenn County Drought Task Force meetings were well attended by water-minded community members from a range of backgrounds during the 2020-2022 drought, particularly homeowners whose wells were threatened by declining groundwater levels. Regular updates were provided on this Project and there was interest in, and support of, the Project at the Drought Task Force meetings. The District will continue to provide information on the need for the Project, and its benefits, to the local groups, civil organizations, and local governments as it proceeds forward. Project updates and construction timing will be provided in District landowner e-newsletters and the District website, which receives 6,000 site visits monthly.

Project Budget:

Budget information is provided below in several ways.

- Table 1: Summarizes federal and non-federal cost shares for the grant.
- Table 2: Provides budget object categories in accordance with Attachment B – Optional Budget Detail.
- Table 3: Provides construction costs by Infrastructure Component
- Att #12: Provides the Engineer’s Opinion of Probable Construction Costs (EOPCC) for each component of new infrastructure.

The EOPCC estimates correspond to Table 3 below. Small variations in costs may occur due to rounding.

Table 1. —Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. Orland-Artois Water District	\$3,883,190
2.	\$
3.	\$
Non-Federal Subtotal	\$3,883,190
REQUESTED RECLAMATION FUNDING	\$3,883,190

Table 2. Budget Costs by Object Category

Budget Object Category	Total Cost
a. Personnel	\$0
b. Fringe Benefits	\$0
c. Travel	\$0
d. Equipment	\$0
e. Supplies	\$0
f. Contractual	\$301,380
g. Construction	\$7,465,000
h. Other Direct Costs	\$0
i. Total Direct Costs	\$7,766,380
j. Indirect Charges	\$0
Total Costs	\$7,766,380
Federal Cost Share \$3,883,190 (50%)	

a. Personnel:	\$0
b. Fringe Benefits:	\$0
c. Travel:	\$0
d. Equipment:	\$0
e. Supplies:	\$0
f. Contractual	\$301,380

Budget Narrative

Project Management: The District has been working closely with the annexing landowners and the landowners' consultant, Water and Land Solutions, LLC (WLS), to coordinate efforts for the planning, engineering, and design of the Project. With limited staff and a retiring general manager, OAWD does not have the capacity to manage major construction projects and a grant award. The District has agreed to having WLS provide their Ag Water Specialist to support the

day-to-day project management for the Project over the last two and a half years. WLS has been adding invaluable continuity and institutional knowledge to the Project.

WLS will oversee all Project tasks including bidding and contractor selection, managing the construction contractors as an owner's rep, and coordinating with the contractor(s), engineers, District, Reclamation, Tehama-Colusa Canal Authority TCCA, and landowners. WLS will also provide grant administration overview to the District, including submitting reports to the Bureau and providing billing services. Project Management services will be procured through a qualifications-based procurement method. The cost for Project Management is estimated as \$1 per acre per month for 3,930 acres for 36 months.

Project Management = \$1 per acre per month x 3,930 acres x 36 months = \$141,480

Engineering Services: For 2.5 years, the professional engineers at Provost and Pritchard Consulting Group (P&P) have led design of the Project including engineering and land surveying and prepared the NEPA documents for the Project.

During pre-construction, P&P will lead the bid process, reviewing contractor submittals, and assist with contract awards. During construction, P&P staff will be available on call to respond to requests for information (RFIs) to ensure construction specifications are met and be available for sit visits as needed. Based on experience from similar projects, it is expected that engineers will be on-site 2-3 days per week.

Engineering services will be secured through a qualifications-based procurement method. The cost of Engineering Services is estimated as 3% of construction costs (\$5,329,000) before a 20% contingency and 5% inflation have been applied, which is the standard way Provost & Pritchard prepares their cost estimates for engineering services during bidding, contracting, and construction.

Engineering Services = 3% x \$5,329,000 = \$159, 900

g. Construction

Construction contract(s) will be awarded using competitive bid procedures and the award(s) will be made to the lowest qualified bidder(s). A summary of estimated Project construction costs by infrastructure component is provided in Table 3 below.

Table 3. Construction Costs by Infrastructure Component

IMPROVEMENT AREA	CONSTRUCTION ESTIMATE	ENGINEERING SERVICES DURING CONSTRUCTION	CONTINGENCY (20%)	SUBTOTAL	INFLATION TO MIDPOINT OF CONSTRUCTION (3 YEARS AT 5%)	TOTAL ESTIMATED CONSTRUCTION COST
33.6E Extension	\$ 660,000	\$ 19,800	\$ 136,000	\$ 815,800	\$ 128,600	\$ 944,400
0.6 Booster	\$ 750,000	\$ 22,500	\$ 154,500	\$ 927,000	\$ 146,100	\$ 1,073,100
Hart 342 Tie-in	\$ 68,000	\$ 2,000	\$ 14,000	\$ 84,000	\$ 13,200	\$ 97,200
Knight 27 Tie-in	\$ 87,000	\$ 2,600	\$ 17,900	\$ 107,500	\$ 16,900	\$ 124,400
Knight 33 Tie-in	\$ 75,000	\$ 2,300	\$ 15,500	\$ 92,800	\$ 14,600	\$ 107,400
33.6N Tie-in	\$ 49,000	\$ 1,500	\$ 10,100	\$ 60,600	\$ 9,600	\$ 70,200
99W Pipeline	\$ 3,020,000	\$ 90,600	\$ 622,100	\$ 3,732,700	\$ 588,400	\$ 4,321,100
2.6 Booster	\$ 620,000	\$ 18,600	\$ 127,700	\$ 766,300	\$ 120,800	\$ 887,100
	\$ 5,329,000	\$ 159,900	\$ 1,097,800	\$ 6,586,700	\$ 1,038,200	\$ 7,624,900

Table 3 notes:

1. The costs in the column labeled “Construction Estimate” correspond to the Construction Subtotals in Attachment 11 – Engineer's Opinion of Probably Construction Costs (EOPCC). It should be noted that the numbers are slightly off due to rounding.
2. The Engineering Services During Construction, totaling \$159,900, are recorded in Item F. of the Contractual portion of the Budget in Table 2. They are only included in Table 3 to show estimated costs by Improvement Area.

Within the EOPCC, pipe lengths and costs, pump costs, and turnout costs are shown for each component of the individual project, as applicable. Costs are estimated based on price quotes from pipe manufacturers, pump manufacturers, and a local irrigation materials supplier at the 30% design level.

Budget Information – Construction Programs

Below are explanations of costs presented in (*SF424-C Budget Information-Construction form*)

1. Administrative and legal expenses include \$141,480 for Project Management services. Two costs are excluded from the federal cost share and are thus included as “Costs not allowable for participation”. These include \$1,372,500 that will be paid by annexing landowners to the District to compensate existing landowners in the District for the investment they have made in infrastructure over the decades. This cost is referred to as a Connection Fee of \$450/acre for each acre connecting to existing District infrastructure, which includes 3,050 of the Project acres. A Certified Public Accountant analyzed historical landowner assessments paid toward the cost of existing infrastructure, infrastructure depreciation, and operations and maintenance costs to determine the \$450/acre fee. 880 of the Project acres will not be served in any way by existing District infrastructure since they will be served by a new pump and pipeline and are not subject to the \$450/acre fee. The other cost excluded from the request for federal funding is indirect costs of \$14,148. Indirect costs are for District staff costs of grant administration, reviews, on-site meetings, and mileage as needed throughout the

grant term. The estimate is based on the cost base of the Project Management activities at the 10% “de minimis” rate. The District does not have a current Federal negotiated indirect cost agreement. Federal funding will not be used to pay these costs.

2. Land, structures, rights-of-way, appraisals, etc. includes \$30,000, which is for 3 acres of easements estimated at \$10,000 per acre, which is approximately a third of the value of an acre of land in the area.

3. Relocation expenses and payments - None

4. Architectural and engineering fees include \$160,000 for Engineering Services During Construction. This estimate is based on 3% of the estimated construction cost before adding the contingency and inflation. The cost that is not allowable for participation is design fees to develop designs from the current 30% level of design to Final design.

5. Other architectural and engineering fees - None

6. Project inspection fees include \$25,000 for backfill compaction and concrete testing.

7. Site work is estimated at \$91,000 for grading, drainage, gravel, surfacing, and fencing for pump stations including the two booster pumps.

8. Demolition and removal is estimated at \$60,000 for removal of 2,600 feet of existing 15-inch asbestos-concrete pipe for the Lateral 33.6E pipeline upsizing and extension.

9. Construction is estimated at \$4,050,900 to furnish and install Project pipelines and pump stations. Costs are estimated based on price quotes from pipe manufacturers, pump manufacturers, a local irrigation materials supplier, and regional contractors.

10. Equipment includes \$1,042,000 for Pump Station pumps, motors, valves, and electrical equipment.

11. Miscellaneous includes \$641,000 for activities such as contractor mobilization/demobilization, bonds, insurance, permits, miscellaneous facilities and operations, storm water pollution prevention, etc.

Site work for the Project includes removal of personnel, equipment, supplies and incidentals from the project site and clean-up of the project site.

Miscellaneous Facilities and Operations includes provisions for traffic control, temporary access improvements including gravel used for the Contractor’s access purposes and construction and maintenance of access routes; Contractor’s office trailer; protection of existing facilities, general project clean up, temporary power, and site restoration.

Stormwater Pollution Prevention Plan (SWPPP) Implementation includes implementation of the SWPPP, and all revisions the Contractor, Owner, and/or regulating authority deem necessary to comply with all federal, state, and local water pollution laws and regulations.

13. Contingencies are estimated at \$1,525,000, which is 20% of construction costs. The contingency percentage will reduce as designs progress from 30% to Final design given additional level of detail that reduces uncertainty.

h. Other Direct Costs: \$0

j. Indirect Costs: \$0

Environmental and Cultural Resources

A Biological Evaluation and a Cultural Resources Inventory Survey Report have been submitted to the Bureau and are under review. These include access, ground disturbance, and other design and construction activities on Bureau and private lands. MP-620 forms will be completed for modifications to Bureau facilities and an MP-620 was submitted with the 30% design drawings for review. The District will implement the environmental protection measures below in Table 1. The entire environmental documents are available upon request.

Table 1 Environmental Protection Measures and Commitments

Resource	Protection Measure
Biological Resources	<p>The Biological Evaluation Report dated June 20, 2023, is currently under Bureau review. The objectives of this report are:</p> <ol style="list-style-type: none"> 1. Summarize area of potential effects (APE)-specific information related to existing biological resources. 2. Make reasonable inferences about the biological resources that could occur on each APE based on habitat suitability and the proximity of each APE to a species' known range. 3. Summarize all state and federal natural resource protection laws that may be relevant to each APE. 4. Identify and discuss Project impacts and effects to biological resources likely to occur on each APE within the context of the CEQA, NEPA, and /or state or federal laws. 5. Identify a set of avoidance and mitigation measures that would reduce impacts to a less-than-significant level (as identified by CEQA) or avoid and minimize effects (as identified by NEPA) and are generally consistent with recommendations of the resource agencies for sensitive biological resources.
Cultural Resources	<p>The Cultural Resources Inventory Survey dated July 27, 2023, is currently under Bureau review. The Survey states that "based on the absence of significant historical resources/unique archeological resources/historic properties within the APE, an archeological clearance is recommended for the project/undertaking as presently proposed."</p>

Geology and Soils	Should paleontological resources be encountered on the Project area, all ground disturbing activities in the area shall stop. A qualified paleontologist shall be contacted to assess the discovery. Mitigation may include monitoring, recording the fossil locality, data recovery and analysis, and a final report. Public educational outreach may also be appropriate. Upon completion of the assessment, a report documenting methods, findings, and recommendations shall be prepared and submitted to the Orland-Artois Water District for review, and (if paleontological materials are recovered) a paleontological repository, such as the University of California Museum of Paleontology.
Wildfire	WLD-1 (Defensible Space): Pre-wildfire mitigation measures focus on the maintenance of defensible space and fire-focused landscaping, and may include: <ul style="list-style-type: none"> a) Highly flammable vegetation near the Project will be maintained to reduce fire fuel, as appropriate. b) Dispose of debris, such as dry debris, leaves, and dead limbs near and within the Project. c) Design defensible spaces with fire breaks around the Project, as appropriate.
Wildfire	WLD-2 (Water Source): Adequate on-site water sources will be made available during high fire risk construction activities and will include, but not limited to, water truck, water backpacks, and/or fire extinguishers.

Environmental consequences for resource areas assume the measures specified will be fully implemented.

Additional Information for Environmental and Cultural Considerations

The District filed their draft CEQA Initial Study and Mitigation Negative Declaration (IS/MND) environmental document on October 13, 2023. It is now out for a 30-day public comment period. The link to the document is [2023-1014 OAWD Draft ISMND Annexation SOI Update Infrastructure Project Public Review Docs](#).

The Federal NEPA document is in the draft stage and is currently being reviewed by Bureau staff in Sacramento and Willows, California. The CEQA document has a full list of environmental and cultural resources that were studied as part of the Project; and how some of them are being mitigated. The document provides more detail than what is listed below. Most IS/MND findings rose to the level of No Impact or Less than Significant Impact related to items such as air quality, soil, dust, water quality, habitat, etc.

Air Quality: No impact.

Hydrology and Water Quality: Impacts would be less than significant.

Threatened or Endangered Species: The project has mitigation measures in place for various species including the Western Pond Turtle, Tri-Colored Black Bird, Burrowing Owl, and the Swainson Hawk. A certified biologist will be on-site for pre-construction habitat surveys, along

with educating all employees of contractors who will be on site. The biologist will also be available during construction if any of the species, and or their nesting habitat, are seen during the work. The District will also mandate a list of Best Management Practices to be followed as part of the construction activities.

Wetlands: There are no wetlands or other water bodies that could fall within the waters of the United States jurisdiction.

District Infrastructure: While not yet achieving the 50-year-old threshold necessary for recordation and evaluation, Reclamation indicated that the TCC would be eligible for inclusion in the National Register of Historic Places (NRHP) as a contributing element of the CVP, itself an NRHP eligible property. Reclamation further determined that project components interfacing with the TCC would not constitute an adverse effect to an historic property.

Archeological Sites: There are no known archeological sites in the proposed project area. However, it may be determined that a geologist will need to be on site during excavations.

Minority Populations: This Project will not adversely affect income or minority populations.

Tribal Resources: Consultation was undertaken with the Native American Heritage Commission (NAHC) concerning sacred land listings for the property. The NAHC responded on January 15, 2023, indicating that a search of their Sacred Lands File was negative.

Vegetation: No vegetation will be introduced as a part of this Project, nor will any Project construction activities introduce or spread non-native invasive species.

Worker Environmental Awareness Training: Prior to initiating construction activities (including staging and mobilization), all personnel associated with Project construction will attend mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in identifying special status resources.

Required Permits or Approvals

All designs for improvements to Federal facilities will undergo engineering design review by the Bureau through MP-620 forms (Request for Review and Acceptance of Design Drawings and Specifications) and a license request for the new pump on the TCC. This review will be done at the District's expense through an existing \$15,000 deposit provided to the Bureau by the District in 2021. The Tehama-Colusa Canal Authority, which operates and maintains the TCC, will also review the designs.

The Project will require Environmental compliance both at the State (CEQA) and Federal level (NEPA). The CEQA Initial Study and Mitigated Negative Declaration (SCH# 2023100352) was made public on October 14, 2023, and the draft NEPA document is still under review by the Bureau and the District. All other determined compliances will be adhered to.

The District will approve the annexation of the 4,000 acres at their November 21st, 2023, Board Meeting and Glenn County LAFCO will approve it on their end at their December 11th, 2023, Board Meeting.

Overlap or Duplication of Effort Statement

At the time of this grant application the Design is at 30% completion. The project design will be at 100% Final Design prior to commencement of this grant. The project manager will be the same person (Jenny Scheer) for the District's separate Planning Grant application and this Implementation Grant application.

Conflict of Interest Disclosure Statement

The District has agreed to work closely with the landowner group, Provost and Pritchard Engineering, and Water and Land Solutions, LLC, to design, engineer and receive environmental approval of the Project. The District's day-to-day consulting engineer is Davids Engineering out of Davis, California. Davids Engineering has been involved in this Project to date to make sure that the District's current infrastructure, and its ability to meet the real time irrigation demands of its current Class 1 water users, will not be affected by the newly built Project. It should be noted that Mrs. Jenny Scheer of Water and Land Solutions, LLC is married to Mr. Andy Scheer of Provost & Pritchard Engineering. This has not been a conflict to date and should not become an issue through construction and implementation because of the engineering oversight of the Project from the District's consulting engineering team of Davids Engineering. The District does not see any inherent conflict of interest issues between the Landowner group, Provost & Pritchard Engineering, Water and Land Solutions, LLC, and the Bureau.

Uniform Audit Reporting Statement

The District will perform an annual single financial audit under EIN 94-1594960.

Disclosure of Lobbying Activities

Not applicable

Letters of Support

See Attachment-A13-Letters of Support

D.2.2.12 Official Resolution

If awarded, an Official Resolution will be provided.

D2.2.13 Letters of Commitment

Non applicable.

List of Attachments:

Project Narrative

Project Abstract Summary
A1-Geographic location map

October 4, 2023

Artois Community Services District

**Subject: Letter of Support for the USBR WaterSMART Drought Resiliency Grant
Application for Orland-Artois Water District's Infrastructure Expansion Project:
Implementation / Construction Phase**

Dear USBR Drought Response Program Grant Administrators,

I am writing to express my strong support for the application to the United States Bureau of Reclamation (Bureau) WaterSMART Program for the Drought Resiliency Program grant to complete the Implementation/Construction phase of the Orland-Artois Water District's (OAWD or District) Infrastructure Expansion Project (Project).

Glenn Groundwater Authority acknowledges the District's Project would benefit many in our disadvantaged community both directly and indirectly. The Federal assistance for the District's Implementation and Construction phase will coincide with all the progress that has been made in the planning and design efforts of the Project and will enhance the construction start date which will benefit all groundwater users within the Glenn Groundwater Authority.

The Project will have a significant impact on a great number of residents. As groundwater levels have declined in Glenn County, California, the result has been over a hundred domestic wells having gone dry.

This effort to expand the OAWD distribution system allows the District to maximize their full Central Valley Project surface water contract with the Bureau as well as allowing for purchase of other supplemental supplies in Northern California. All surface water brought into the service area through infrastructure designed with the scope of this grant will help protect groundwater levels by offsetting groundwater pumping along with reducing the occurrence of land subsidence that threatens the Bureau's Tehama-Colusa Canal and the State of California's Interstate 5.

Glenn Groundwater Authority applauds OAWD's efforts and fully supports the Project. The benefits align with Bureau's goals along with several state and local climate resiliency action plans.

This Project was envisioned through multiple planning processes including the development of the Colusa Subbasin Groundwater Sustainability Plan, the District's Agricultural Water Management Plan, and the Northern Sacramento Valley Integrated Regional Water Management Plan.

We are looking forward to working collaboratively with OAWD and their partners over the next several years.

Sincerely,

Jack F. Camin Jr.
Board President



P.O. Box 390, Willows, CA 95988-0390

October 10, 2023

Chase Hurley
Water and Land Solutions, LLC
P.O. Box 2657
Los Banos, CA 93635

**Subject: Letter of Support for the USBR WaterSMART Drought Resiliency Grant
Application for Orland-Artois Water District's Infrastructure Expansion Project:
Implementation / Construction Phase**

Dear USBR Drought Response Program Grant Administrators,

I am writing to express my strong support for the application to the United States Bureau of Reclamation (Bureau) WaterSMART Program for the Drought Resiliency Program grant to complete the Implementation/Construction phase of the Orland-Artois Water District's (OAWD or District) Infrastructure Expansion Project (Project). Colusa Basin Drainage District acknowledges the District's Project would benefit many in our disadvantaged community both directly and indirectly. The Federal assistance for the District's Implementation and Construction phase will coincide with all the progress that has been made in the planning and design efforts of the Project and will enhance the construction start date which will benefit all groundwater users within the Colusa Basin Drainage District.

The Project will have a significant impact on a great number of residents. As groundwater levels have declined in Glenn County, California, the result has been over a hundred domestic wells having gone dry. This effort to expand the OAWD distribution system allows the District to maximize their full Central Valley Project surface water contract with the Bureau as well as allowing for purchase of other supplemental supplies in Northern California. All surface water brought into the service area through infrastructure designed with the scope of this grant will help protect groundwater levels by offsetting groundwater pumping along with reducing the occurrence of land subsidence that threatens the Bureau's Tehama-Colusa Canal and the State of California's Interstate 5.

Colusa Basin Drainage District applauds OAWD's efforts and fully supports the Project. The benefits align with Bureau's goals along with several state and local climate resiliency action plans. This Project was envisioned through multiple planning processes including the development of the Colusa Subbasin Groundwater Sustainability Plan, the District's Agricultural Water Management Plan, and the Northern Sacramento Valley Integrated Regional Water Management Plan.

We are looking forward to working collaboratively with OAWD and their partners over the next several years.

Sincerely,

George Tibbitts, Chairman

Colusa Basin Drainage District Board of Directors: District 1 – Tom Arnold, Donald Perez, Lance Boyd, District 2 – Gary Evans, Mary Fahey, Pete Knight, District 3 – George Tibbitts, Chairman, Lynnel Pollock--Vice Chair, Todd Miller.

Glenn Groundwater Authority

Groundwater Sustainability Agency

225 North Tehama Street, Willows, CA 95988 | 530.934.6540

October 9, 2023

Bureau of Reclamation
Upper Colorado Regional Office
Attn: Karen Shubert
125 South State, Room 8100
Salt Lake City, UT 84138-1147

**Subject: Letter of Support for the USBR WaterSMART Drought Resiliency Grant
Application for Orland-Artois Water District's Infrastructure Expansion Project:
Implementation / Construction Phase**

Dear USBR Drought Response Program Grant Administrators,

I am writing to express my strong support for the application to the United States Bureau of Reclamation (Bureau) WaterSMART Program for the Drought Resiliency Program grant to complete the Implementation/Construction phase of the Orland-Artois Water District's (OAWD or District) Infrastructure Expansion Project (Project).

Glenn Groundwater Authority acknowledges the District's Project would benefit many in our disadvantaged community both directly and indirectly. The Federal assistance for the District's Implementation and Construction phase will coincide with all the progress that has been made in the planning and design efforts of the Project and will enhance the construction start date which will benefit the groundwater users within the Glenn Groundwater Authority.

The Project will have a significant impact on a great number of residents. Groundwater levels have declined in Glenn County, California, resulting in hundreds of domestic wells going dry.

This effort to expand the OAWD distribution system allows the District to maximize their full Central Valley Project surface water contract with the Bureau as well as allowing for purchase of other supplemental supplies in Northern California. All surface water brought into the service area through infrastructure designed with the scope of this grant will help protect groundwater levels by offsetting groundwater pumping along with reducing the occurrence of land subsidence that threatens the Bureau's Tehama-Colusa Canal and the State of California's Interstate 5.

Glenn Groundwater Authority applauds OAWD's efforts and fully supports the Project. The benefits align with Bureau's goals along with several state and local climate resiliency action plans.

This Project was envisioned through multiple planning processes including the development of the Colusa Subbasin Groundwater Sustainability Plan, the District's Agricultural Water Management Plan, and the Northern Sacramento Valley Integrated Regional Water Management Plan.

We are looking forward to working collaboratively with OAWD and their partners over the next several years.

Sincerely,



Gary Hansen
Chairman



GLENN COUNTY COUNTY ADMINISTRATIVE OFFICE

Willows Memorial Hall, 2nd Floor
525 West Sycamore Street, Suite B1
Willows, CA 95988

Scott H. De Moss, County Administrative Officer

Date: October 10, 2023

Subject: Letter of Support for the USBR WaterSMART Drought Resiliency Grant Application for Orland-Artois Water District's Infrastructure Expansion Project: Implementation / Construction Phase

Dear USBR Drought Response Program Grant Administrators,

As the County Administrative Officer, I am writing to express my strong support for the application to the United States Bureau of Reclamation (Bureau) WaterSMART Program for the Drought Resiliency Program grant to complete the Implementation/Construction phase of the Orland-Artois Water District's (OAWD or District) Infrastructure Expansion Project (Project).

As the County Administrative Officer, I acknowledge that the District's Project would benefit many in our disadvantaged community both directly and indirectly. The Federal assistance for the District's Implementation and Construction phase will coincide with all the progress that has been made in the planning and design efforts of the Project and will enhance the construction start date which will benefit all groundwater users within the Glenn Groundwater Authority.

The Project will have a significant impact on a great number of residents. As groundwater levels have declined in Glenn County, California, the result has been over a hundred domestic wells having gone dry.

This effort to expand the OAWD distribution system allows the district to maximize their full Central Valley Project surface water contract with the Bureau as well as allowing for purchase of other supplemental supplies in Northern California. All surface water brought into the service area through infrastructure designed with the scope of this grant will help protect groundwater levels by offsetting groundwater pumping along with reducing the occurrence of land subsidence that threatens the Bureau's Tehama-Colusa Canal and the State of California's Interstate 5.

As the County Administrative Officer, I applaud the OAWD's efforts and fully supports the Project. The benefits align with Bureau's goals along with several state and local climate resiliency action plans.

This Project was envisioned through multiple planning processes including the development of the Colusa Subbasin Groundwater Sustainability Plan, the District's Agricultural Water Management Plan, and the Northern Sacramento Valley Integrated Regional Water Management Plan.

Sincerely,

A handwritten signature in blue ink, appearing to read "Scott H. De Moss", is written over a horizontal line.

Scott H. DeMoss, County Administrative Officer



October 16th, 2023

Subject: Letter of Support for the USBR WaterSMART Planning and Project Design Grant Application for Orland-Artois Water District's Infrastructure Expansion Project: Implementation / Construction Phase

Dear USBR Project Design Grant Administrators,

I am writing to express my strong support for the application to the United States Bureau of Reclamation (Bureau) WaterSMART Program for the Project Design Grant to complete the planning and design phase of the Orland-Artois Water District's (OAWD or District) Infrastructure Expansion Project (Project).

North Valley Community Foundation (NVCF) acknowledges the District's Project would benefit many in our disadvantaged community both directly and indirectly. The Federal assistance for the District's planning and design effort of the new infrastructure project will greatly enhance the construction start date.

The Project will have a significant impact on a great number of residents. As groundwater levels have declined in Glenn County, California, the result has been over 200 wells going dry at the peak of the drought in 2022.

North Valley Community Foundation (NVCF) is well aware of the challenges impacting the area as our Hauled & Bottled Water Delivery Program serves just under 200 drought impacted residents in Glenn county at the time of this letter. The program is funded by the California Department of Water Resources.

This effort to expand the OAWD distribution system allows the District to maximize their full Central Valley Project surface water contract with the Bureau as well as allowing for purchase of other supplemental supplies in Northern California. All surface water brought into the service area through infrastructure designed with the scope of this grant will help protect groundwater levels by offsetting groundwater pumping along with reducing the occurrence of land subsidence that threatens the Bureau's Tehama-Colusa Canal and the State of California's Interstate 5.

NVCF applauds OAWD's efforts and fully supports the Project. We understand the benefits align with the Bureau's goals along with several state and local climate resiliency action plans.

This Project was envisioned through multiple planning processes including the development of the Colusa Subbasin Groundwater Sustainability Plan, the District's Agricultural Water Management Plan, and the Northern Sacramento Valley Integrated Regional Water Management Plan.

We strongly support the project, and appreciate your consideration of their application.

Sincerely,

Chris Copeland

Program Officer

Tehama-Colusa Canal Authority

P.O. BOX 1025 • 5513 HWY 162, WILLOWS, CA 95988 • Phone: (530) 934-2125 • Fax: (530) 934-2355

October 11, 2023

**Subject: Letter of Support for the USBR WaterSMART Drought Resiliency Grant
Application for Orland-Artois Water District's Infrastructure Expansion Project:
Implementation / Construction Phase**

Dear USBR Drought Response Program Grant Administrators:

I write on behalf of the Tehama-Colusa Canal Authority (TCCA) to express our strong support for Orland-Artois Water District's (District) application to the United States Bureau of Reclamation (Bureau) WaterSMART Program for the Drought Resiliency Program grant to complete the Implementation/Construction phase of their Infrastructure Expansion Project (Project).

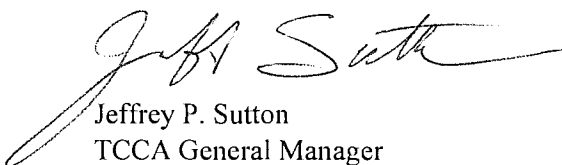
The Glenn Groundwater Authority acknowledges the District's Project would benefit many in our disadvantaged community, both directly and indirectly. The Federal assistance for the District's Implementation and Construction phase will coincide with the progress that has been made in the planning and design efforts of the Project, and will expedite the Project construction start date, to the benefit of all groundwater users within the Glenn Groundwater Authority. Further, the Project will have a significant impact on a great number of Glenn County residents by mitigating the currently dropping groundwater table, resulting in over a hundred domestic wells going dry during recent droughts.

This District effort to expand the distribution system will allow it to maximize its full CVP surface water contract, as well as allow for the purchase of supplemental surface water supplies within the region. This will in turn serve to reduce groundwater extractions, thereby protecting groundwater levels, while also reducing land subsidence that threatens the Bureau's Tehama-Colusa Canal and California's I-5.

This Project was envisioned through multiple planning processes, including the development of the Colusa Subbasin Groundwater Sustainability Plan, the District's Agricultural Water Management Plan, and the Northern Sacramento Valley Integrated Regional Water Management Plan. Moreover, the benefits of the Project not only align with the Bureau's goals, but is also consistent with several state and local climate resiliency action plans.

TCCA applauds Orland-Artois Water District's vision and efforts, fully supports this prudent Project, and respectfully requests that you give this application your strong consideration.

Sincerely,



Jeffrey P. Sutton
TCCA General Manager

CITY COUNCIL

Chris Dobbs, Mayor
Bruce T. Roundy, Vice-Mayor
Jeffrey A. Tolley
John McDermott
Mathew Romano

CITY OFFICIALS

Jennifer Schmitke
City Clerk

Leticia Espinosa
City Treasurer

CITY OF ORLAND

INCORPORATED 1909

815 Fourth Street
ORLAND, CALIFORNIA 95963
Telephone (530) 865-1600
Fax (530) 865-1632



CITY MANAGER

Peter R. Carr

U.S. Department of the Interior
Bureau of Reclamation
WaterSMART

November 3, 2023

Re: Letter of Support for the USBR WaterSMART Drought Resiliency Grant Application for
Orland-Artois Water District's Infrastructure Expansion Project: Implementation /
Construction Phase

Dear USBR Drought Response Program Grant Administrators,

I am writing to express my strong support for the application to the United States Bureau of Reclamation (Bureau) WaterSMART Program for the Drought Resiliency Program grant to complete the Implementation/Construction phase of the Orland-Artois Water District's (OAWD or District) Infrastructure Expansion Project (Project).

Glenn Groundwater Authority acknowledges the District's Project would benefit many in our disadvantaged community both directly and indirectly. The Federal assistance for the District's Implementation and Construction phase will coincide with all the progress that has been made in the planning and design efforts of the Project and will enhance the construction start date which will benefit all groundwater users within the Glenn Groundwater Authority.

The Project will have a significant impact on a great number of residents. As groundwater levels have declined in Glenn County, California, the result has been over a hundred domestic wells having gone dry.

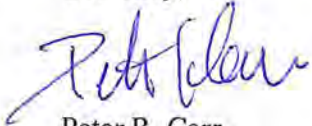
This effort to expand the OAWD distribution system allows the District to maximize their full Central Valley Project surface water contract with the Bureau as well as allowing for purchase of other supplemental supplies in Northern California. All surface water brought into the service area through infrastructure designed with the scope of this grant will help protect groundwater levels by offsetting groundwater pumping along with reducing the occurrence of land subsidence that threatens the Bureau's Tehama-Colusa Canal and the State of California's Interstate 5.

Glenn Groundwater Authority applauds OAWD's efforts and fully supports the Project. The benefits align with Bureau's goals along with several state and local climate resiliency action plans.

This Project was envisioned through multiple planning processes including the development of the Colusa Subbasin Groundwater Sustainability Plan, the District's Agricultural Water Management Plan, and the Northern Sacramento Valley Integrated Regional Water Management Plan.

We are looking forward to working collaboratively with OAWD and their partners over the next several years.

Sincerely,

A handwritten signature in blue ink, appearing to read "Peter R. Carr", with a stylized, cursive script.

Peter R. Carr
City Manager