

BELLA VISTA WATER DISTRICT

DROUGHT MITIGATION, WATER MANAGEMENT AND STORAGE IMPROVEMENTS

SHASTA COUNTY, CA



**Application Submitted to the United States Bureau of Reclamation for a
WaterSMART: Drought Contingency Response Program
Funding Opportunity No. R22AS00020**

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1 . TECHNICAL PROPOSAL

(A) EXECUTIVE SUMMARY

General Project Information

Proposal Name: Drought Mitigation, Water Management and Storage Improvements

Date: October 5, 2021

Applicant Name: Bella Vista Water District

City, County, and State: Redding, Shasta County, California

Project Summary

The Bella Vista Water District (BVWD) provides urban and agricultural water to a 34,360-acre area in Shasta County, California. The District proposes to construct a new 3-million-gallon water tank and add supervisory control and data acquisition (SCADA) functionality to three existing wells in order to improve operational management , provide emergency water supplies, facilitate transfers, increase groundwater capacity by providing night-time storage, and provide several mechanisms to improve water reliability and drought mitigation. New water yield from the project is estimated to be up to 2,600 AF in drought years.

A recent multi-year drought has resulted in unprecedented surface water cutbacks requiring extreme water conservation measures. These conditions have mobilized District staff to seek drought mitigation projects. The proposed water tank was one of the highest ranked projects in a 2021 Drought Contingency Plan developed by BVWD with the assistance of USBR funding.

Part of the project will include pipelines connecting to Federal facilities. A preliminary environmental evaluation did not identify significant issues or hurdles to project development. The project is a Category A project and will be implemented by a California Water District. There are no project partners, and the project is not a phase in a larger overall project.

The total project cost is estimated at \$5.65 million with a requested grant of \$2 million. The project is estimated to be completed in 30 months, by the end of 2025, which is also six months ahead of the anticipated contract deadline.

(B) PROJECT LOCATION

The Bella Vista Water District is located in western Shasta County (County). Approximately one-fifth of the District is located within the northeastern portion of the City of Redding and over half of the District's customer accounts are within the city limits of the City of Redding. Refer to **Figure 1** for a vicinity map of the District. The proposed water tank project layout is shown in **Appendix A**. The project is located in the northeast part of the District, and just northeast of the intersection of Hidden Acres Rd and Roberta Way. The project latitude is 40°37'49.09"N and the longitude is 122°14'33.42"W.

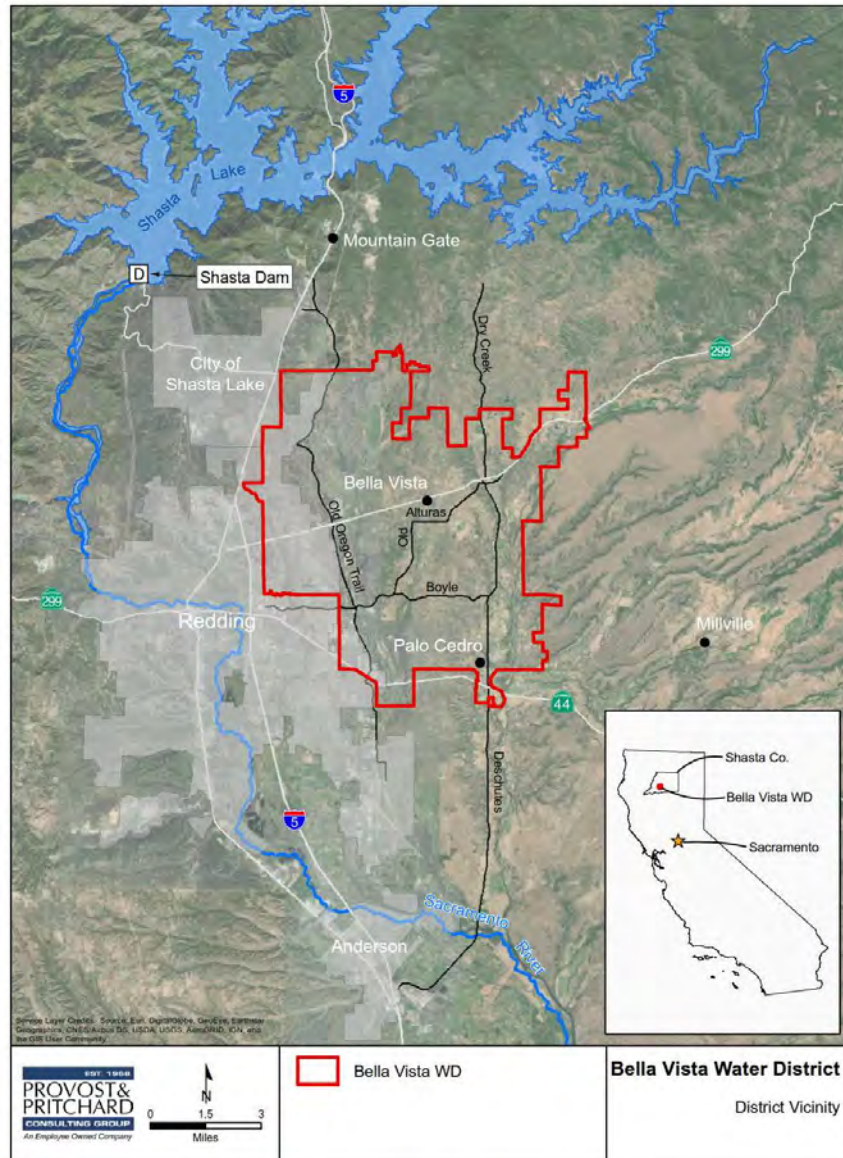


Figure 1 – District Vicinity Map

(C) TECHNICAL PROJECT DESCRIPTION

Overview. The proposed project includes the construction a 3-million-gallon (MG) above-ground water storage tank (and appurtenances) on District owned property and the installation of supervisory control and data acquisition (SCADA) systems for the water storage tank and at all three of the District’s existing groundwater wells that currently don’t have SCADA. See **Appendix A** for a map showing the location of the new tank and the three wells that will be connected to the District’s existing SCADA system. **Appendix A** also includes a conceptual design memorandum with more details on the project layout, design, and operations.

Water Tank. The new 3-million-gallon tank will be an above ground welded-steel tank. The tank will be located adjacent to the existing, Reclamation owned, Flow Control Station and Regulating

Tank (aka the Regulating Station). The new tank will be 31 feet tall and 140 feet in diameter with a maximum water depth of 26.25 feet allowing 4.75 feet for sloshing in the event of an earthquake. The bottom of the new tank will be at the same elevation as the existing Regulating Tank. The new tank will be a flow-through tank with the inlet and the outlet on opposite sides of the tank. Provisions will be made for the future addition of mechanical mixing as well as for the addition of chlorine (should they be determined necessary).

Site Work. Construction of the new tank will require clearing and grubbing of approximately two acres of land at and surrounding the tank site for access around the tank both during and after construction. Due to the topography of the site, there will be areas of cut and of fill within the overall project site. The tank will be located to minimize or eliminate the need for any significant fill directly under the tank. However, it is also anticipated that the ground underneath the tank will need to be over-excavated and backfilled with select materials to provide the suitable bedding for support of the tank and for corrosion protection of the steel-plate bottom of the tank.

Site improvements will also include paved access off of Hidden Acres Road and around the tank, six-foot tall chain link fencing with barbed wire atop the fencing for site security, site lighting, security cameras, and drainage control.

Water Tank Operations. The existing Flow Control Station and Regulating Tank will remain in service during construction of the new tank and will remain operational following construction of the new tank. However, due to the higher water level in the new tank the two tanks cannot be operated in parallel. Keeping the existing Regulating Station facilities operational will enable the District to take the new tank out of service for periodic maintenance and inspection. Similarly, with the new tank in service the existing Flow Control Station and Regulating Tank can be taken out of service for inspection and maintenance.

Piping and Connections. The inlet piping to the new tank will be approximately 300 feet of 24-inch pipe. The outlet from the tank will be approximately 550 feet of 30-inch pipe. The tank overflow will be approximately 200 feet of 30-inch pipe. The underground pipe will be either AWWA C900 (PVC) or 24-inch AWWA C151 (ductile iron) pipe. All above ground pipe will be constructed using either ductile iron or welded steel.

The 24-inch pipeline feeding the tank will be hot-tapped off an existing 36-inch near Station 381+00 of the Reclamation owned pipeline that feeds the existing Regulating Station. A magnetic flow meter (mag meter) will be installed on the 24-inch line to measure the flow going into the tank. Pressure reducing valves will be installed upstream of the new tank to prevent overfilling of the tank. The pressure reducing station will include electronic controls that will enable the District to close the inlet to the tank during periods of peak demand to reduce water demands on District's "Main" pressure zone.

The 30-inch pipeline out of the tank will connect back into an existing 42-inch pipeline near Station 388+50 after the existing vent. This connection will include an isolation valve that will prevent back feeding the existing Regulating Tank.

Monitoring and Controls. The project will also include the addition of SCADA for the three District wells that are not currently on the District's SCADA network. Two of the District's wells, Well Nos. 1 and 2, currently have SCADA. The District's Well Nos. 3, 4, and 6 do not have SCADA (Note: there is no Well No. 5, it was drilled, but due to low yield during pump testing it was never put into production). The new tank will tie into the existing SCADA system at the Regulating Station. The SCADA for the new tank will monitor flow into the tank; the water level in the tank; the high, low, overflow water level float switches; and tank entry sensors.

(D) PERFORMANCE MEASURES

The project performance measures are compatible with the project benefits described later and include following:

- Total volume regulated through the water tank each year (measured by new mag-meter with an accuracy of +/- 0.5%)
- Number of days each year the water tank is used
- Volume of 'new' water supply stored in the water tank (new water deliveries possible by the extra storage capacity, including transfers with the City of Redding and additional District groundwater pumping)
- Number of incidents the water tank is used to provide emergency water supply (firefighting, power outage, infrastructure malfunction, etc.)

(E) EVALUATION CRITERIA

EVALUATION CRITERION A—PROJECT BENEFITS

The proposed project will provide a combination of water supply reliability, water management, and drought resiliency benefits. More details on these benefits are provided below:

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

Increased Groundwater Utilization in Droughts. Construction of the new 3-million-gallon water storage tank will enable the District to take full advantage of its existing and future groundwater supplies during a drought. As described in its Drought Contingency Plan (pages 5-19 through 5-22 of **Appendix C**):

"In order to maximize the output from the District's groundwater wells and avoid turning wells off, additional treated water storage will be required. Water demands vary considerably over the course of a typical day. Without adequate water storage, well pumps need to be turned off and on or throttled back in order to meet the fluctuating demands. This cycling and throttling of the wells could be avoided if the District had sufficient treated water storage to accommodate the varying demands."

The District's groundwater is underutilized and can accommodate more pumping without causing overdraft. In winter months, the wells are not fully utilized due to high daytime demands requiring supplementing with surface water supplies and low demand at night. With the new water tank, the wells could be pumped continuously, and nighttime pumping stored in the new water tank. This will allow the District to conserve their surface supply in winter months so more can be available in summer months to meet demands, especially in droughts.

Facilitate Water Transfers during Droughts. To meet customer demands, BVWD must rely heavily on water transfers during droughts. The District has an agreement to purchase water from the City of Redding through an existing intertie (see **Appendix B**). The water tank can help facilitate these transfers by allowing Redding, or other agencies, to deliver the water at night, so that pumping and deliveries to BVWD do not interfere with their daytime peak demand periods. (The City of Redding provided a letter of support for the project (See Section 6)). The District would keep the water stored until the following day to meet demands. Using the full capacity of the water tank, up to 9 AF/day, or 270 AF/month, of new transfers would be facilitated with the project.

Project Life Expectancy. Welded steel water tanks are typically assigned a service life of 50 years for accounting purposes; however, there are many steel tanks that are over 100 years old and still in service. According to the AWWA D100 Standard for Welded Carbon Steel Tanks for Water Storage, *“Properly operated and maintained welded steel water tanks can have an almost unlimited service life.”* The Reclamation owned 4-Million-Gallon tank at the Bella Vista Water District’s Office site (constructed in 1965) is an example of the long service life that can be expected from welded steel tanks. It is over 50 years old and is in very good shape after being recoated in 2014. With proper maintenance it should be in service for another 50 years.

- *Will the project make additional water supplies available?*
 - *If so, what is the estimated quantity of additional supply the project will provide and how was this estimate calculated? Provide this quantity in acre-feet per year as the average annual benefit over ten years*

Project Benefits During Winter. The District’s wells are capable of producing approximately 12 AF per day or approximately 360 AF per month. However, due to the limited amount of treated water storage in the District’s water distribution system, the District often needs to supplement the well production with surface water to meet peak demands. In March of 2021, the total amount of water pumped into the distribution system was 359 AF (this is considered typical of winter demands from December through March). This is within the capability of the District’s wells; however, the wells only produced 312 AF, and in order to meet peak demands, the well production was supplemented with 47 AF of treated surface water.

With the additional 3 million gallons of storage, the District could have avoided the need to supplement its well production with 47 AF of surface water production. The surface water treatment plant would only need to be run when water demands exceeded 12 AF/day for a period of more than one day. It is estimated that this would occur less than four times a month (four events with a duration of two days each) and require approximately 3 AF of surface water production per event for a total of 12 AF per month. This demand could in fact be met with additional water transfers, made possible with the storage that would allow the City of Redding and other agencies to transfer water without interfering with their diurnal demands. In other words, in certain months all the water supplies could be met without resorting to surface water treatment, therefore preserving surface water for the dry summer months, and also allowing for maintenance, repairs or upgrades to the treatment plant.

Hence, the new water supply benefit from the water tank would be 12 AF from transfers and 35 AF from groundwater pumping, or 47 AF/month. During the winter, the benefit would be 4

months x 47 AF = 188 AF.

Project Benefits from Spring to Fall. The 3-MG water tank could hold slightly over 9 AF. If water was transferred each day at nighttime, then the new tank would help facilitate about 270 AF/month, or 2,430 AF during the spring, summer and fall. The District demands are high enough to accommodate this volume even with maximum groundwater pumping.

Annual Project Benefit. In a drought year, the total water supply benefit would be 188 AF + 2,430 AF = 2,618 AF based on the discussions above. Over the past ten years, there were three drought years, so, the average annual benefit over ten years would be 785 AF/year.

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

In a moderate drought year (with a CVP allocation of 0% for irrigation and 50% for M&I) 2,618 AF represents approximately 58% of its contracted water supplies. This is based on approximately 3,400 AF of CVP water and 1,152 AF of ACID Long-term transfer water (total = 4,552 AF). [2,618 AF/4,552 AF = 58%]

In a severe drought year (with a CVP allocation of 0% for irrigation and 25% for M&I) this represents approximately 92% of its contracted water supplies. This is based on approximately 1,700 AF of CVP water and 1,152 AF of ACID Long-term transfer water (total = 2,852 AF). [2,618 AF/2,852 AF = 92%]

In a worst-case drought year (with a CVP allocation of 0% for irrigation and potentially 0% for M&I) this represents approximately 227% of its contracted water supplies. This is based zero AF of CVP water and 1,152 AF of ACID Long-term transfer water (total = 1,152 AF). [2,618 AF/1,152 AF = 227%]

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

Water is essential for daily life and for businesses to be able to operate. In a drought every acre-foot of additional supply matters. 2,618 acre-feet of additional supplies would reduce the amount of water that the District needs to secure through short-term water transfers, provide for increased water allocations for District customers, and reduce the amount that the District's customers would pay in penalties for exceeding their reduced (drought) water allocations.

- *Will the project improve the management of water supplies?*

The new water storage tank along with the addition of SCADA systems to three of its wells will greatly improve the District's ability to manage its water supplies as described below.

- *How will the project increase efficiency or operational flexibility?*

Increased Water Storage. The District has very limited operational storage in its three distribution system water tanks. The current operational storage is approximately 1.35 million gallons which represents less than 1.5 hours of storage on a peak day when the flow is 22 MGD. During the months of December and January when water demands average approximately 3

million gallons per day (3 MGD) it represents a half a day of storage and during the periods of late October through November and February through early March when demands average approximately 4 MGD the existing operational storage represents nearly eight hours of storage.

Emergency Water Supply. The addition of 3 MG of additional treated water storage would enable the District to avoid running its WTP to meet peak daily flows during November through April, and weather short-term outages due to power failures, equipment failures, and scheduled outages for maintenance without having to activate its surface water source. The construction of the 3 MG tank will increase the District's operational storage to 4.35 MG providing 4.75 hours of storage at a peak daily flow of 22 MGD, 1.45 days of storage at a daily flow of 3 MGD, and 26.1 hours of storage at a daily flow of 4 MGD (more than tripling the hours of storage in the system).

Improved Water Management and Operations. The addition of SCADA systems to the three wells would allow remote operational control of the three wells. The output of these wells could automatically be ramped up and down to meet system demands. They could also be remotely turned off or on by an operator without having to be physically present at the well. In an emergency, this could save valuable time (the wells are a 15-minute drive from the District's Water Treatment Plant where the operators are normally stationed).

- *What is the estimated quantity of water that will be better managed as a result of this project? How was this estimate calculated? Provide this quantity in acre-feet per year as the average annual benefit over ten years.*

In a normal water supply year, the District typically operates its wells for less than 30 days during the winter months to allow for preventative maintenance on its surface water diversion facilities, the Wintu Pump Station, and on its Water Treatment Plant. Based on a normal year water production of approximately 10,000 AF, the wells produce approximately 200 acre-feet or three percent of the District's total annual water supply. However, during a drought, the wells become a major source of its water supplies. In the current water year (2021-22), the District anticipates that the wells will produce approximately 3,000 acre-feet, which represents 51% of the District's 5,900 AF of total supplies before short-term transfers.

Over the past 10 years, the District's CVP water allocation has been reduced to 0% for irrigation water three times (in 2014, 2015, and in 2021). The District's M&I allocations were reduced to 50% of historical use in 2014 and 25% of historical use in 2015 and 2021. Therefore, it is reasonable to expect that over the course of 10 years the District should anticipate a reduction to 0% irrigation and 50% M&I at least once and a reduction to 0% irrigation and 25% M&I at least twice (possibly more due to climate change and increasing amounts of water being allocated for environmental benefits).

Based on seven "normal" years and three drought years over a 10-year period, it is anticipated that 8,900 AF of well water production (an average of 890 AF/year) will be better managed, calculated as follows:

Well production of 3,000 AF/yr for the two 0%/25% allocation years =	6,000 AF
Well production of 1,500 AF during the one 0%/50% allocation year =	1,500 AF
Increased well production/transfers of 200 AF/yr during the seven "normal" years =	1,400 AF

Total = 8,900 AF

[Note: The above total does not include any increases in groundwater production for the additional wells the District is planning to construct in the next two to three years. It is anticipated that the new wells could produce an additional 1,500 to 3,000 AF per year during future droughts.]

- *What percentage of the total water supply does the water better managed represent? How was this estimate calculated?*

The percentage of the District's total water supply that is better managed by having SCADA on all of the wells will vary depending on the type of water year and the amount of water that it is allocated under its CVP water service contract. The percentage of water supply better managed increases with the severity of the drought.

In years when the District receives an allocation of 0% for irrigation and 25% of historical M&I usage, the amount of water that will be better managed with the SCADA improvements is 3,000 AF out of a total of 5,900 AF. The 5,900 AF total is based on approximately 1,750 AF from the CVP water service contract plus 1,152 AF from a long-term transfer with the Anderson-Cottonwood Irrigation District plus 3,000 AF from the District's wells. The percentage better managed during these years is $3,000 / 5,900 =$ approximately 51%.

In years when the District receives an allocation of 0% for irrigation and 50% of historical M&I usage, the amount of water that will be better managed with the SCADA improvements is 3,000 AF out of a total of 7,650 AF. The 7,650 AF total is based on approximately 3,500 AF from the CVP water service contract plus 1,152 AF from a long-term transfer with the Anderson-Cottonwood Irrigation District (ACID) plus 3,000 AF from the District's wells. The percentage better managed during these years is $3,000 / 7,650 =$ approximately 39%.

[Note: The above calculations for years that the District receives a 0% allocation for irrigation do not include any water that the District may be able to obtain through short-term water transfers because they are not guaranteed.]

In years when the District receives a CVP allocation that when combined with the ACID long-term transfer provides more than 10,000 AF of surface water supplies, the amount of water that will be better managed is 188 AF out of a total of approximately 10,000 AF. The 10,000 AF total is based on recent historical usage and includes 188 AF from the District's wells. The percentage better managed during these years is $188 / 10,000 =$ approximately 2%.

In addition to better managing its groundwater supplies during shortage years through the SCADA improvements, the new water tank will enable the District to better manage all water that flows into the new tank and serves the eastern portions of the District. In 2020, the flow through the Flow Control Station and Regulating Tank averaged approximately 2.9 MGD (9 AF/day) compared with District-wide water usage of 10 MGD (31 AF/day). With the 3-million-gallons of storage that the tank provides and the District's ability to control flow into and out of the tank with the District's SCADA system, approximately 29% (9 AF/day out of 31 AF/day) of the District's annual water production will be able to be better managed.

- *Provide a brief qualitative description of the degree/significance of anticipated water management benefits.*

Increased Water Storage. The new tank will provide important system-wide benefits to the District. The new tank will more than triple the District's operational storage from 1.35 MG, currently, to 4.35 MG.

Emergency Water Supply. The area downstream of the facility will benefit by having 3 million gallons of additional operational and emergency storage. This will help ensure that there are adequate water supplies for the area in the event of emergencies such as power outages, earthquakes, or water treatment plant outages, and provide much needed storage to ensure adequate supplies for fighting fires. Currently, there is only one 200,000-gallon water storage tank that services just a small portion of the downstream service area.

Reduce Demands on Other District Facilities. In addition, the new tank will take demands off of the remainder of the District's water system during peak flow periods and during emergencies. Flow into the new tank will be able to be shut off in an emergency, thereby reducing demands on the District's 4MG Tank at its Main Office site. This will enable the District to keep more water in the 4MG Tank available for emergency supply and firefighting benefits for the remainder of the District's service area. [Note: Although the total storage volume of the 4MG Tank at the District's office is 4 million gallons, this tank is a standpipe that needs to be at least three-quarters full in order to maintain system operating pressures. Thus, only one million gallons is available for use while still maintaining minimum system operating pressures.]

- *Will the project make new information available to water managers? If so, what is that information and how will it improve water management?*

The project will add three of the existing wells to the District's SCADA system. It will enable the District to remotely monitor the operation of each of these wells including monitoring well production, water levels in the wells, power status, and chlorine residual levels in the water leaving the facility. In addition, it will enable the District to remotely turn on and turn off individual wells, as necessary, to meet system demands and to maximize the total well production by resting (turning off) individual wells based on well production and well drawdown.

Currently, the District only has real-time information on two wells. Having real-time information for the water tank and all five wells will provide more integrated and comprehensive management of the water system. In an emergency, having this critical information at their fingertips will greatly improve the decision-making process and ease the time demands on operators by alleviating the need for operators to drive to each facility. (Note: it would take over an hour for an operator to drive to the three wells, take the necessary readings, and report back to the Water Treatment Plant).

Other Project Components

The project will not include saltwater barriers, wells, new water marketing tools or metering/water measurement.

EVALUATION CRITERION B—SUSTAINABILITY AND SUPPLEMENTAL BENEFITS

1) Climate Change

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

The project will provide 3MG of new treated water storage that can be utilized to fight wildfires. In October 1999, the Jones fire burned through over 26,000 acres include major portions of the Deschutes and Cow Creek pressure zones that will be served by the new tank. At that time, the District was not able to maintain pressures within those zones due to the firefighting demands. The new tank will provide 3 MG of storage that will greatly improve the District's ability to maintain the water pressures needed to fight wildfires. During the summer of 2021 there have been more than 7,000 fire incidents in California with the wildfires having burned nearly two million acres of land as of September 23. On September 22nd the Fawn Fire started just north of the District service area. On September 23rd the fire spread into the District's service area, burning over 5,500 acres, and placed tremendous strain on the District's water system. The Shasta County Fire Department provided a letter of support for the project (see Section 6).

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

The pressure reducing station that is required upstream of the 3 MG tank will include provisions for the installation of an in-line hydropower turbine in the future. This would allow for the recovery of energy that is being dissipated in the pressure regulating valves that prevent the tank from overfilling. The District hopes to apply for a Water and Energy Efficiency grant in the future to fund the installation of the in-line turbine.

- *Will the proposed project establish and use a renewable energy source?*

The District will not be installing new renewable energy equipment as part of this project. However, the project will utilize energy generated from the District's existing 693-Kilowatt solar power facility (funded by a 2015 WaterSMART Water and Energy Efficiency grant) that is located on an adjacent parcel.

- *Does the proposed project seek to reduce or mitigate climate pollutions?*

The installation of SCADA systems at three of the District's wells will result in the District's water treatment operators having to make fewer trips to its wells. It is anticipated that it will eliminate two trips per week to the District's wells reducing the number of miles driven by approximately 50 miles per week or 1,300 miles per year. This would reduce the amount of CO₂ emitted by District vehicles by approximately 820 kilograms of CO₂ (based on an average fuel economy of 14.1 mpg and CO₂ emissions of 8,887 grams of CO₂ per gallon of gasoline*).

[*The fuel economy is based on the average mpg for the water treatment operators' vehicles and the CO₂ emissions are based on EPA data for greenhouse gas emissions from burning one gallon of gasoline.]

- *Will the proposed project reduce greenhouse gas emissions by sequestering carbon?*

No.

- *Does the proposed project have a conservation or management component that will promote*

healthy lands and soils or serve to protect water supplies and its associated uses?

No.

- Does the proposed project contribute to climate change resiliency in other ways not described above?*

No.

2) Disadvantaged or Underserved Communities:

- Will the proposed project serve or benefit a disadvantaged or underserved community?*

The project will provide benefits to a disadvantaged community (but not an underserved community) through increased drought protection, water reliability, emergency preparedness, firefighting ability, and the economic stability brought by a more secure water supply.

- Provide sufficient information to demonstrate that the community meets the applicable state criteria or meets the definition in Section 1015 of the Cooperative Watershed Act.*

Figure 2 shows US Census 'Places' that are considered disadvantaged based on a California Department of Water Resources Statewide dataset. These areas have a 2014-2018 Mean Household Income (MHI) of \$53,608 versus a State-wide MHI of \$71,228.

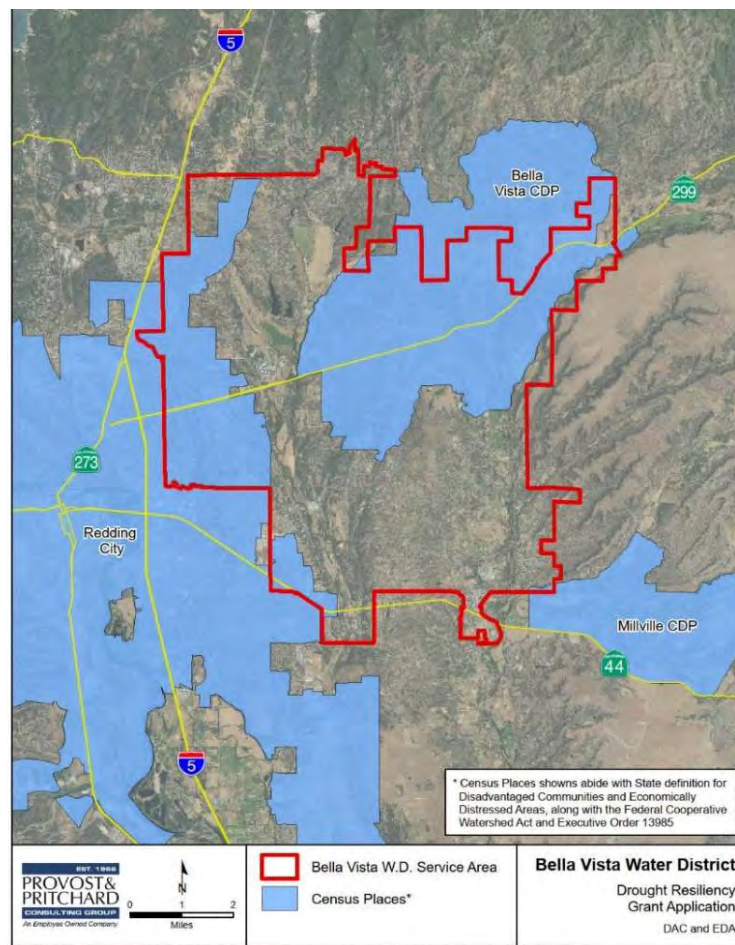


Figure 2 – Disadvantaged Communities Served by Project

Therefore, this area meets the criteria of Section 1015 of the Cooperative Watershed Act, which considers communities disadvantaged if they have less than 100% of the Statewide MHI. Using US Census Data, the population in these areas is about 14,000 (based on a ratio of areas for the Census Place inside the District to the entire Census Place), which represents about 78% of the District's total population estimate of 18,000 (2020).

3) Tribal Benefits

The project will not involve a tribe or tribal lands

4) Ecological Value:

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

The new water storage tank will enable the District to maximize the water production of its existing wells and the additional wells that the District anticipates constructing in future years. To the extent that the additional water production decreases the District's reliance on surface water supplies, particularly short-term surface water transfers, it will reduce the amount of water that the District diverts from the Sacramento River during future droughts.

The diversion of water from the Sacramento River reduces the amount of water flowing in the river and the amount of water that can be kept in storage behind Shasta Dam. By reducing the District's reliance on diversions from the Sacramento River the project will benefit federally-recognized candidate species, threatened species and endangered species in the Sacramento River and other local waterways.

- *What are the types and quantities of environmental benefits provided, such as the types of species and the numbers benefited, acreage of habitat improved, restored, or protected, or the amount of additional stream flow added? How were these benefits calculated?*

The Sacramento River system supports four separate runs of Chinook salmon: fall-, late fall-, winter-, and spring-run. The adult populations of the four runs of salmon and other important fish species that spawn in the upper Sacramento River have considerably declined over the last 40 years. Several fish species in the upper Sacramento River have been listed under the Federal Endangered Species Act: Sacramento River winter-run Chinook salmon (endangered), Central Valley spring-run Chinook salmon (threatened), Central Valley steelhead (threatened), and the Southern Distinct Population Segment of North American green sturgeon (threatened). Two of these species are also listed under the California Endangered Species Act: Sacramento River winter-run Chinook salmon (endangered) and Central Valley spring-run Chinook salmon (threatened). All of the species would benefit from lowered diversions by the District from the Sacramento River.

It is not feasible to quantify the project's environmental benefits due to the complexity of river operations and endangered species habits and life cycles. However, reducing reliance on river water could have a real and tangible benefit to numerous endangered and threatened species.

- *Will the proposed project reduce the likelihood of a species listing or otherwise improve the species status?*

No.

5. Other Benefits: Will the project address water sustainability in other ways not described above? For example:

- *Will the project assist States and water users in complying with interstate compacts?*

No.

- *Will the project benefit multiple sectors and/or users?*

The project will benefit multiple sectors since BVWD provides significant water to both urban and agricultural water users. Water provided to the municipal sector includes residential users, rural users (typically rural residences with small orchards, farm animals, horses, and large vegetable gardens), commercial users, and public/institutional users (which includes schools and public parks). The pressure zones downstream of the new tank include 32% of the District's irrigated agricultural acreage.

The additional storage provided by the project will also make it easier for the District to provide water to neighboring water agencies through its emergency interties. The District has emergency interties with the City of Shasta Lake, the City of Redding, Mountain Gate Community Services District and Shasta County Community Service Area No. 8. Three of these agencies provided a letter of support for the project (see Section 6).

- *Will the project benefit a larger initiative to address sustainability of water supplies?*

No.

EVALUATION CRITERION C - DROUGHT PLANNING AND PREPAREDNESS

- *Attach a copy of the applicable drought plan, or sections of the plan, as an appendix to your application. These pages will not be included in the total page count for the application.*

The District's complete Drought Contingency Plan is included as **Appendix C**. The plan was approved by the USBR in 2021 and formally submitted in March 2021.

- *Explain how the applicable plan addresses drought. Proposals that reference plans clearly intended to prepare for, and address drought will receive more points under this criterion.*

The Drought Contingency Plan follows the USBR outline for a drought plan and includes sections on Public Outreach, Drought Monitoring Plan, Vulnerability Assessment, Mitigation Actions, Response Actions, Operational and Administrative Framework, and Plan Update Process. In essence, the plan identifies and quantifies the severity of droughts and identified practical solutions to mitigate and respond to drought. The Drought Contingency Plan focuses specifically and solely on BVWD and not a larger regional area. When implemented the new project will also include a variety of outreach methods to the general public and District water users.

- *Explain whether the drought plan was developed with input from multiple stakeholders. Was the drought plan developed through a collaborative process?*

The Drought Contingency Plan was developed through a collaborate process and involved the

public in numerous ways. This commenced with a Communication and Outreach Plan (see Appendix A in **Appendix C**), a Drought Task Force of stakeholders that participated in the plan development, and other measures to engage the general public including Frequently Asked questions regarding Droughts and Water Restrictions (Appendix B in **Appendix C**), District newsletter articles, website postings and a press release. Refer to Chapter 2 in **Appendix C** for more details on the public outreach.

- *Does the drought plan include consideration of climate change impacts to water resources or drought?*

The Drought Contingency Plan considered climate change impacts in the Vulnerability Assessment (see Section 4.3 of **Appendix C**). Two Reclamation studies were referenced that quantified impacts to droughts due to higher temperatures and evapotranspiration, lower snowpack and changes to the timing of runoff.

- *Describe how your proposed drought resiliency project is supported by an existing drought plan.*

The Drought Contingency Plan identifies vulnerabilities to droughts and potential response actions and mitigation measures. The water tank project was listed as one of the highest ranked projects in Chapter 5 of the plan.

- *Does the drought plan identify the proposed project as a potential mitigation or response action?*

The DCP includes a discussion of nine different potential mitigation projects in (See section 5.4 of **Appendix C**). A treated water storage tank was identified as an alternative. A conceptual evaluation of a water tank was also performed since it was considered one of the highest ranked projects.

In the District's Drought Contingency Plan (DCP) potential drought mitigation projects were evaluated and ranked. The results of the evaluation are contained in Table 5-2 (on page 5-26) of the DCP. The highest ranked project was the construction of both "additional treated water storage" and the construction of a new well (or wells). The District is currently pursuing both the additional treated water storage (the object of this grant) and the construction of a new groundwater supplies.

At this time the District is investigating the potential to enter into an agreement with a neighboring water agency to jointly participate in bringing a new groundwater source on-line that could provide both agencies with much needed additional water supplies. Once that investigation is completed, the District will either proceed with the joint project or pursue drilling of its own new groundwater well(s). The storage provided by the new tank is critical to that new water source being able to store water during off-peak demand periods of the neighboring water agency. It is hoped that the new water source would be available soon after the new 3 MG water tank is completed and placed into service. The proposed water tank is not dependent on the new wells, and any benefit from the new wells are ancillary and not considered in this application.

- *Does the proposed project implement a goal or need identified in the drought plan?*

BVWD identified a drought mitigation goal in Section 5.3 of their Drought Contingency Plan (**Appendix C**). To assist in future planning, the District has set a dry-year mitigation goal, or in other words, a goal for the yield (AF/year) of existing and future mitigation projects during droughts. The goal was set at 1,100 AF/year based on a detailed analysis of supplies and demands during drought scenarios. The proposed project will directly increase water supplies by up to 2,618 AF/year and help to meet this goal (as explained in on pages 5-6). The project also meets other District goals to improve water management, operational flexibility, and emergency preparedness that are not directly discussed in the Drought Contingency Plan.

- *Describe how the proposed project is prioritized in the referenced drought plan?*

The District's Drought Contingency Plan prioritized ten potential mitigation projects based on seven different scoring criteria (see Table 5-2 in **Appendix C**). The Water Tank had the third highest score (71.0) below a new well (71.5) and a water tank with a new well (78.5). The District is not pursuing a water tank with a new well at this time since they are currently investigating a groundwater substitution project with the City of Redding. Since the water tank project had a high score, it was one of three projects evaluated in more detail (see Section 5.6 of **Appendix C**).

EVALUATION CRITERION D—SEVERITY OF ACTUAL OR POTENTIAL DROUGHT IMPACTS TO BE ADDRESSED BY THE PROJECT

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

The potential drought impacts on specific sectors of the District were discussed in detail in the Vulnerability Assessment chapter of District's Drought Contingency Plan (DCP) which was completed in March of 2021 (**Appendix C**, Chapter 4, Pages 4-17 through 4-25). This project was identified as one of the top priority projects in the DCP. Examples of these impacts without this project include:

- Agricultural irrigation is impacted by the District's ability to deliver water to irrigators when they need it. At times, the District's water delivery capacity is stressed by high water demands resulting in reduced water delivery pressures. The proposed project will improve the District's ability to better meet its delivery demands by having an additional three million gallons of water in storage and available when it is needed.
- Businesses are affected by the scarcity, unreliability, and insecurity of their water supplies. Having more water storage along with the additional groundwater supplies that it will accommodate will help reduce the business community's water supply concerns. Higher water costs and mandatory reductions in water use during past droughts have caused businesses to leave the District including a craft brewery. They have also resulted in a reduction in the number of rounds played at golf courses within the District due to drier fairways and tees (compared to golf courses nearby that were served by water agencies with more reliable water supplies).
- Chapter 4 of the Drought Contingency Plan includes a detailed discussion of six vulnerable resources (water resources, infrastructure, District finances, private property, business and commerce, and environment) and twenty-eight different impacts to those resources from

droughts. In addition, the economic impacts of drought to the District and the community are also discussed. Due to space limitations these are not discussed here but they can be found on pages 4-10 to 4-25 in **Appendix C**.

- *Whether there are public health concerns or social concerns associated with current or potential drought conditions*

District Water Supplies. Currently, the District's only sources of water are its surface water diversion from the Sacramento River and its five groundwater wells. During drought years, the quantity of water available from District's CVP water service contract has been severely reduced including reductions to zero CVP water being available for its agricultural customers in 2014, 2015 and 2021. Fortunately, the District has been able to secure sufficient quantities of water for its customers through water transfers; however, it has been at a price of 4 to 5 times the normal price for irrigation water under its CVP contract.

Public Health and Safety. Due to the severity of the current drought and the further reduction in its CVP allocation in late May of 2021 (after most potential transfer water had been committed), it has been particularly difficult for the District to ensure that it has adequate water supplies to meet its customers' summer water demands while maintaining sufficient supplies to meet water demands through the end of the water-year on February 28, 2022. It is the District's obligation to ensure that it always has sufficient supplies to meet the public health and safety needs of its customers. The need for better drought protection is urgent given recent impacts due to recent droughts and the threat of future droughts.

Wildfires. Droughts only increase the potential for wildfires as is evidenced by the number and severity of the wildfires that have affected much of California (and particularly Northern California) this year. The summer of 2021 has seen an unprecedented number of wildfires that have burned nearly two million acres as of September 23. Multiple fires have occurred within the District's service area this summer. In September 2021, the Fawn Fire burned portions of the District's service area and threatened a major portion of the District. Having supplies and sufficient water storage are both critical to meeting the water demands for fighting fires both within the District and on nearby lands.

Future Impacts. If the current drought continues into the 2022-23 water-year, the District could see its CVP water allocation reduced to zero and see short-term water transfer opportunities dry up. If that occurs, it will be forced to impose significant water restrictions (a reduction of over 50%) that would have severe impacts on the local economy and require substantial lifestyle changes.

- *Whether there are ongoing or potential environmental impacts.*

The reduced flows in local streams and the reduced storage behind Shasta Dam are impacting, and will continue to impact, endangered and threatened species in the streams and Sacramento River until the current drought abates. Ongoing and potential environmental impacts include:

- Losses or destruction of fish and wildlife habitat – fires have destroyed nearly two million acres in California so far this summer
- Lack of food and drinking water for wild animals – many local streams have stopped

- flowing
- Increase in disease in wild animals, because of reduced food and water supplies
- Migration of wildlife
- Increased stress on endangered species or even extinction
- Lower water levels in reservoirs, lakes, and ponds – water levels in Lake Shasta and Trinity Lake are the lowest they have been since the 1976-77 drought
- Loss of wetlands
- Wind and water erosion of soils
- *Whether there are local or economic losses associated with current drought conditions that are ongoing, occurred in the past, or could occur in the future*

Local and economic impacts associated with past, current, and future droughts are discussed in detail in the District's DCP (see pages 4-17 through 4-25 of **Appendix C**). The impacts on private property include:

- Threat of Wildfire - Wildfires can damage private property, including crops, soils, domestic wells, buildings, and equipment, and can cause livestock mortality.
- Deferred Maintenance - Maintenance of facilities could be deferred due to drought induced economic hardships. This could increase the chances of equipment or facility failures.
- Changes in Property Value - Higher water costs, landscaping restrictions, limited grazing potential, and recurring drought can impact the attractiveness of real estate resulting in lower property values. Damage from fire or increased fire risk can also reduce property values.
- Lifestyle Changes - These changes can be both subtle and substantial and may include adapting daily household practices to potentially affecting recreational choices and private property landscape opportunities.
- Increased Water Costs to Customers - Higher water costs are normally passed directly on to customers. In addition, fines and penalties for overuse are often enforced during droughts.
- The current drought and the zero allocation for irrigation has severely impacted local farmers. This year the District was able to secure short-term water transfers in the amount of 1,634 AF to supply approximately 48% of its agricultural customers' normal water demands, at a substantially higher cost per acre-foot (\$300/AF versus \$87.69/AF before the drought).
- *Whether there are other drought-related impacts not identified above.*

If the current drought continues, the District's Supplemental Water Program (that provides agricultural water for farming) could find it difficult to purchase transfer water at a price that the agricultural water users could afford and/or in a sufficient quantity to meet their irrigation needs. If that were to happen, irrigation would need to be curtailed resulting in land fallowing and severe damage to permanent crops. This could result in conflict between the District's municipal water users (who have a higher priority for water supplies) and the District's agricultural water users.

Describe existing or potential drought conditions in the project area.

- *Is the project in an area that is currently suffering from drought, or which has recently suffered from drought? Please describe existing or recent drought conditions, including*

when and the period of time that the area has experienced drought conditions.

According to the September 7, 2021, update of the U.S. Drought Monitor for California (see **Figure 3**) 88% of California is currently experiencing “Extreme” to “Exceptional” drought with approximately 46% of the state being in the “Exceptional” classification. Most of Shasta County including all of the Bella Vista Water District service area is within the “Exceptional” drought classification.

The District’s vulnerability to drought was documented in their recently completed (March 2021) Drought Contingency Plan (see Section 4, Vulnerability Assessment in **Appendix C**). The District has experienced severe cutbacks in its CVP Water Service Contract allocations in three of the past ten years (2014, 2015 and 2021) and may be facing even more severe cutbacks again in 2022 unless rainfall in the coming winter refills CVP reservoirs.

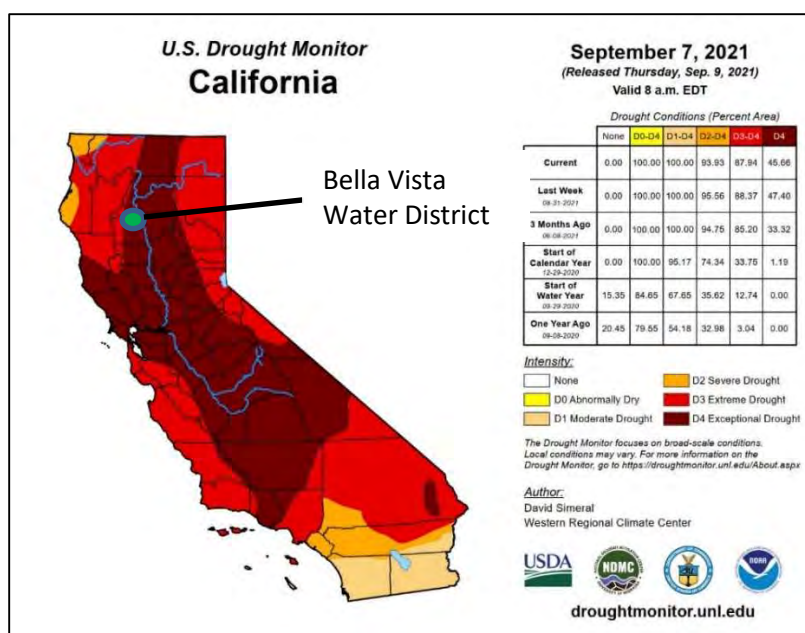


Figure 3 – U.S Drought Monitor Report (September 7, 2021)

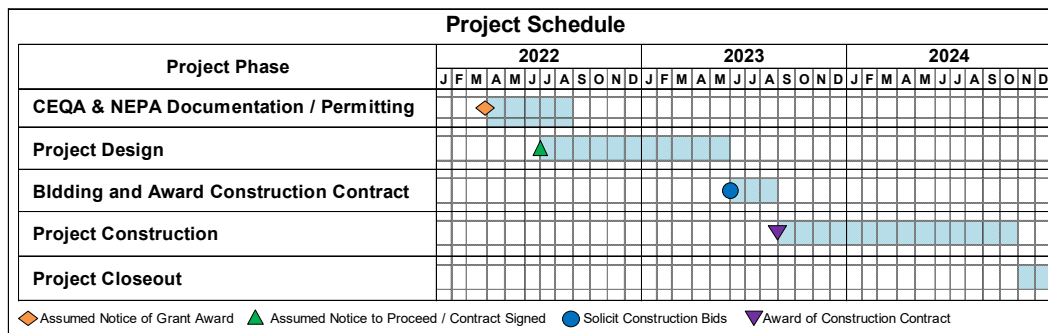
- Describe any projected increases to the severity or duration of drought in the project area resulting from changes to water supply availability and climate change.

The Drought Contingency Plan considered climate change impacts in the Vulnerability Assessment (see Section 4.3 of **Appendix C**). Two Reclamation studies were referenced that quantified impacts that would exacerbate droughts due to higher temperatures and evapotranspiration, lower snowpack and changes to the timing of runoff. Due to space limitations the results are not presented here but are documented in **Appendix C (Section 4.3)**.

EVALUATION CRITERION E—PROJECT IMPLEMENTATION

- Describe the implementation plan of the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work.

Work on the project is expected to begin immediately after the Notice of Awards, assumed to occur by April 1, 2022. It is also assumed that contracts will be signed by July 15, 2022. It is estimated that all work will be completed by the end of December 2024, six months prior to the anticipated contractual deadline of July 2025. This provides a comfortable buffer in case unforeseen circumstances delay the project. Below is a basic project schedule.



A detailed schedule is included in Appendix D. The schedule is largely controlled by the requirements from the tank manufacturer. In the cost estimate provided by Superior Tank Company, Inc. (see **Appendix E**), they outline the following requirements:

1. Engineering and Design: 8-10 weeks
2. Tank material and shop fabrication: 10 weeks
3. Tank erection: 16-18 weeks
4. Tank coating: 12-14 weeks
5. Cathodic protection system: 4-5 days

Hence the overall period for tank design, fabrication and erection is about 11 to 13 months. The tasks in the schedule match those in the workplan and project budget. A detailed workplan will be provided once the grant is awarded. The schedule and budget both include a detailed list of the project tasks and subtasks. District staff have already reserved time to work on the project and identified potential consultants to assist with the work.

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

The permits required are described in Section 4, Required Permits or Approvals. Below is a discussion on their impact on the schedule and implementation.

1. CEQA/NEPA Compliance. ENPLAN has already performed a site visit and preliminary CEQA/NEPA evaluation to identify potential issues and required studies (see **Appendix F**). This provides an important head start and was also valuable in determining the required schedule for CEQA/NEPA compliance. To help further expedite the project, CEQA and NEPA studies will continue as soon as the Notice of Award is issued.
2. Stormwater Pollution Prevention Plan. The Stormwater Pollution Prevention Plan will be prepared coincident with the project design and specifications.
3. Application for Domestic Water Supply Permit Amendment. The District will need to file an Application for Domestic Water Supply Permit Amendment for the new water tank and appurtenant facilities with the State Division of Drinking Water. The District will submit the plans and specifications to the Division of Drinking Water prior to project bidding.

4. A Request for Review and Acceptance of Design Drawings and Specifications (Reclamation Form MP-620). The District will need to submit a completed MP-620 to Reclamation for their approval of the modifications to the 36-inch line upstream of the Regulating Station and to the 42-inch line downstream of the Regulating Station.

- *Identify and describe any engineering or design work performed in support of the project.*

The water tank was evaluated as part of the Drought Contingency Plan (see pages 5-19 to 5-22 and 5-38 to 5-41 in **Appendix C**). This work included sizing the water tank based on diurnal demands, a project layout, project description, and preliminary cost estimate.

Since completion of the Drought Contingency Plan, a conceptual design of the water tank was performed. This effort included the following:

1. Site visits to the proposed project site
2. Preliminary CEQA/NEPA evaluation (**Appendix F**)
3. Conceptual design memorandum and conceptual design drawings (**Appendix A**)
4. Direct discussions with geotechnical consultants (KC Engineering of Redding, CA)
5. Direct discussions with environmental consultants (ENPLAN of Redding, CA)
6. Direct discussions with tank manufacturers (Spiess Construction of Orcutt, CA, Crosno Construction Co. Arroyo Grande CA, and Superior Construction Co. of Bakersfield, CA).

This work has helped to validate the feasibility of the project, provided more detail on project features, operations, and project benefits, and provided sufficient detail for a more detailed engineering and construction cost estimate.

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

No new policies will be required to implement the project.

EVALUATION CRITERION F—NEXUS TO RECLAMATION (10 POINTS)

- *Does the applicant have a water service, repayment, or O&M contract with Reclamation?*

BVWD has a contract with Reclamation for water from the Cow Creek Unit of the Trinity Division of the Central Valley Project (CVP). The District's primary water supply comes from their CVP contract (Contract No. 14-06-200-851 A-P).

- *Will the proposed work benefit a Reclamation project area or activity?*

The United States Bureau of Reclamation (USBR) owns the Wintu Pump Station, Surge Tank, four (4) MG Main Tank, Regulating Station, and main aqueduct and laterals which were constructed as the Cow Creek Unit of the Trinity River Division of the CVP. These facilities serve as the backbone of the BVWD water system.

- *Is the applicant a Tribe?*

The applicant is not a tribe.

2 . PROJECT BUDGET

(A) Funding Plan and Letters of Commitment

Identify the sources of the non-Federal cost share contribution for the project, including:

- i. *Any monetary contributions by the applicant towards the cost-share requirement and source of funds (e.g., reserve account, tax revenue, and/or assessments).*

Bella Vista Water District believes this project is foundational to drought planning and water supply operations and have therefore committed to solely providing all of the non-federal funding required. The District will pay all costs not covered by the grant using existing District reserves. **Appendix G** is an Investment Portfolio for BVWD dated June 30, 2021. The funding for this project would come from some combination of the following funds:

Table 1 – BVWD Cost Share Funding

Investment	Value
C.I. Fund	\$2,984,155
Contingency Funds	\$2,272,011
EOMR Facilities Placement	\$1,389,243
Palo Cedro Storage C.D.	\$183,807
Total	\$6,829,216

The total reserve funds exceed the proposed cost share of \$3.6 million, and ensure that BVWD will have sufficient assets to enter the grant agreement and complete the project.

- ii. *Any costs that will be contributed by the applicant.*

See above

- iii. *Any third-party in-kind costs (i.e., goods and services provided by a third party).*

There will be no third-party in-kind costs.

- iv. *Any cash requested or received from other non-Federal entities.*

No funds were requested or will be received from other non-Federal entities.

- v. *Any pending funding requests (i.e., grants or loans) that have not yet been approved and explain how the project will be affected if such funding is denied.*

There are no pending funding requests for the project.

- vi. *Identify whether the budget proposal includes any project costs that have been or may be incurred prior to award.*

The District plans to begin environmental compliance work as soon as the Notice of Award is given. This will help to keep the project progressing and allow detailed design to begin when the

grant contract is signed. It is estimated that up to \$40,000 will be spent on environmental compliance studies and documentation prior to the contract signing.

(B) Budget Proposal

Table 2 – Total Project Cost by Funding Source

Funding Sources	Amount	Percentage
Costs to be paid by the applicant	\$3,646,250	65%
Costs to be reimbursed with the requested Federal funding	\$2,000,000	35%
Value of third-party contributions	\$0	None
Totals	\$5,646,250	100%

Table 3 - Funding Sources

Funding Sources	Amount
Bella Vista Water District – Cash Contributions	\$3,481,280
Bella Vista Water District – Wages and Benefits	\$164,970
Subtotal: Non-Federal Funding	\$3,646,250
Requested Reclamation Funding	\$2,000,000
Other Federal Funding	\$0
Project Funding Total	\$5,646,250

Table 4 - Budget Proposal

Budget Item Description	Computation		Quantity Type	Total Cost
	Unit Cost	Quantity		
Salaries & Wages (BVWD)			-	
District Engineer	\$54.00	500	/hr	\$27,000
Treatment Superintendent	\$56.00	400	/hr	\$22,400
Electrical & Instrumentation Tech.	\$36.00	200	/hr	\$7,200
Water Distribution Inspector	\$28.00	1,000	/hr	\$28,000
Subtotal				\$84,600
Fringe Benefits (BVWD)				
Full-Time Employees @ 95%	95%	\$84,600	of S&W	\$80,370
Travel (none)	\$0			\$0
Equipment				
SCADA Equipment Modules	\$1,000	2	Each	\$2,000
Radios	\$2,500	3	Each	\$7,500
Radio Towers	\$5,000	3	Each	\$15,000
Supplies/Materials	\$0			\$0
Contractual				
Professional Services			-	
Engineering – Civil/Mechanical	\$473,580	1	-	\$473,580
Environmental	\$59,800	1	-	\$59,800
Geotechnical	\$25,000	1	-	\$25,000
Electrical/SCADA	\$20,000	1	-	\$20,000
Legal	\$20,000	1	-	\$20,000
Construction Contractor			-	
Water Tank	\$3,190,000	1	-	\$3,190,000
Site work, piping, electrical & misc.	\$1,658,400	1	-	\$1,658,400
Other				
Reclamation Environmental Review	\$10,000	1	L.S.	\$10,000
Total Direct Costs				\$5,646,250
Indirect Costs – 0.0%				\$0
Total Project Costs				\$5,646,250

Note: See **Appendix E** for a more detailed breakdown of the above costs

(C) Budget Narrative

Salaries and Wages

District staff will participate in the project and document their hours and costs. Their hours and hourly rates are shown in **Appendix E**. The rates for BVWD staff were prepared based upon the guidelines for preparing indirect cost rate proposals in the U.S. Department of Labor publication titled “*A Guide for Indirect Cost Rate Determination*.” The rates include both salaries and fringe benefits. District time will be spent on project administration and design review (primarily District Engineer), and all of the staff listed will assist with bidding, submittal review, construction monitoring, and project startup and testing.

The project manager will be Wayne Ohlin, who is also the BVWD District Engineer. His hours and hourly rates are included in the Professional Services Estimate (**Appendix E**).

Fringe Benefits

Fringe benefits for BVWD staff include vacation, holiday, sick leave and other paid absences, plus FICA, state unemployment insurance, worker’s compensation, health insurance and retirement benefits. The fringe benefits are 95% of the salaries (i.e., salaries and fringes = 1.95 x salaries).

Travel

Travel expenses will include limited mileage costs for consultants to attend project meetings, visit the site, perform surveying, and monitor construction. These will be billed at the standard IRS mileage rate in effect at the time of the project. Since these costs are for consultants, they are placed in the Contractual category.

Equipment

The District will purchase and install the SCADA equipment modules on the three wells, SCADA radios, and the radio towers. Equipment needed for the project other than the SCADA equipment modules, SCADA radios, and the radio towers will be provided by consultants and contractors, with their costs falling under the Contractual category below.

Materials and Supplies

Materials and supplies needed for the project will be provided by consultants and contractors, with their costs falling under the Contractual category below.

Contractual

Contractual costs will be incurred for consultants to provide professional services for legal support, surveying, environmental compliance, design, and construction monitoring. **Appendix E** includes an estimate of consultant costs with a detailed breakdown of tasks, subtasks, person-hours, billing rates and direct costs. This estimate was prepared by an engineering consulting firm that also assisted in developing the scope of work, is familiar with the District’s water system, and has designed similar projects.

The geotechnical engineering fee was based on a verbal estimate provided by KC Engineering Company in Redding, California. The CEQA/NEPA compliance fee estimate was provided by ENPLAN (see **Appendix E**).

Contractual costs will also include costs for a contractor to build the water tank and other facilities. **Appendix E** includes a detailed construction cost. The cost for the water tank is based on a price quotation for a Superior Tank Company also found in **Appendix E**. The other costs were estimated based on the conceptual design and unit prices for similar water tank and piping projects constructed in California in 2020. It should be noted that construction and material prices are volatile, and the project cost may be different when the project is bid. The estimate provided is the best available with the current design and existing information on current construction costs.

The District will select project consultants and contractors based on the appropriate Code of Federal Regulations guidelines. A consultant will be selected based on qualifications, and a contractor will be selected using a competitive bidding process.

Third-Party In-Kind Contributions

There will be no third-party contributions.

Environmental and Regulatory Compliance Costs

Environmental and regulatory compliance will incur costs for permitting, CEQA compliance and NEPA Compliance. ENPLAN performed a preliminary CEQA/NEPA review for the project (see **Appendix E**), which also included development of a budget for CEQA/NEPA compliance. The environmental and regulatory compliance costs are summarized in the Estimate of Professional Fees (see **Appendix E**). The costs also include an estimated \$10,000 for USBR's effort with NEPA, which is based on discussions with USBR staff in September 2021.

Indirect Costs

The project will not have indirect costs.

Other Expenses

The project will be constructed on District-owned land, however the land value was not considered in the project budget. The District also performed a conceptual project design in 2021, but these costs will not be claimed.

3 . ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

ENPLAN of Redding, California, prepared a ‘*Preliminary Environmental Constraints Analysis and Work Scope for Future CEQA/NEPA Documentation*’ for the project site in September 2021 (see **Appendix F**). The report provides a preliminary assessment of environmental issues and a scope of work for future efforts to comply with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). Overall, the preliminary assessment did not see evidence of any major environmental hurdles to project implementation. More details are provided below based on the evaluation in **Appendix F**.

- Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)?

The project will impact the local environment including changes to the soil (due to site clearing and grubbing, excavation and grading). There will be some generation of dust associated with work activities on the site. With proper stormwater control measures there should be no impacts on water (quality and quantity). Some limited animal habitats will be eliminated by the construction of water tank and access roads, and the excavation and backfill of pipelines.

The project will not result in significant impacts on agricultural and forestry resources, air quality, greenhouse gas emissions, biological resources, wetlands and jurisdictional waters, cultural resources, hazards/hazardous materials, floodplains, geology and soils, hydrology and water quality, mineral resources, noise, visual resources and wildfire. (Refer to **Appendix F** for a preliminary evaluation of project impacts.)

- Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

Earth disturbing work will include clearing and grubbing of the site, excavation and fill for the tank pad and access roads, and excavation and backfill of water line and utility trenches. Appropriate Storm Water Pollution Prevention Plan (SWPPP) measures will be implemented to control water runoff from the site. Dust control measures will be implemented to minimize the generation of dust from construction activities on the site. Appropriate mitigation measures as determined under CEQA and NEPA review will be implemented to minimize impacts on animal habitat within the project area.

- Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area?

The District is not aware of any threatened or endangered species or designated critical habitat in the project area. **Appendix F** also includes a preliminary assessment of biological issues in the area. On page 5 of **Appendix F**, it states ‘*We do not anticipate that any federally listed species will be present in the project site.*’ However, biological studies will still be performed to confirm this.

- Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “Waters of the United States?”

Based on a review of the USFWS National Wetlands Inventory, there are no wetlands or

jurisdictional features within the project area. A biologist from ENPLAN also visited the project site on August 31, 2021 and saw no evidence of wetlands or jurisdictional features. See page 3 of **Appendix F** for more details.

- **When was the water delivery system constructed?**

The existing Regulation Station facilities were constructed in 1965. Extensive modifications to the existing Flow Control Structure were made in 2000. At that time a pump station building was constructed on top of the existing flow control vault.

The proposed project will not result in any changes to above ground features of the existing facilities. However, the project will include modifications to some underground features including connections to existing buried pipelines and a subsurface connection to an existing overflow vault.

- **Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places?**

The District is not aware of any buildings, structures, or features in the District that are listed on the National Register of Historic Places. This will be confirmed as part of the CEQA/NEPA documentation. However, due to the age of the Regulating Station facilities (more than 50 years old) they may be eligible for listing.

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

There are no known archaeological sites within the proposed project area. On page 3 of **Appendix F**, it states that a high-intensity archeological inventory survey of the site was conducted for the District by Jensen & Associates in November 1991. No cultural resources were found in or adjacent to the project site.

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

The proposed project will not have a disproportionately high and adverse effect on low income or minority populations. The project is on undeveloped land in a sparsely populated rural area with only two homes within 500 feet of the project site.

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

The proposed project will not limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands. Based on previous environmental studies for nearby projects there are no known sacred Indian sites in the vicinity of the project.

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

The proposed project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area. Revegetation of disturbed areas will utilize native plants and grasses.

4 . REQUIRED PERMITS OR APPROVALS

Required permits and approvals include the following:

1. CEQA/NEPA Compliance. The project will require compliance with both CEQA and NEPA. ENPLAN of Redding, California performed a preliminary assessment of CEQA/NEPA issues and documented them in a letter found in **Appendix F**. The letter outlines the major issues, proposed approach, and estimated costs for complying with CEQA and NEPA.
2. Stormwater Pollution Prevention Plan. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared according to State requirements for the project site. Compliance with the SWPP will enforced during construction.
3. Application for Domestic Water Supply Permit Amendment. The District will need to file an Application for Domestic Water Supply Permit Amendment for the new water tank and appurtenant facilities with the State Division of Drinking Water.
4. Request for Review and Acceptance of Design Drawings and Specifications (Reclamation form MP-620). The District will need to submit a completed MP-620 to Reclamation for their review and acceptance of the design drawings and specifications for the modifications to the 36-inch line upstream of the Regulating Station and the 42-inch line downstream of the Regulating Station.

No building permits, grading permits or other approvals will be required from Shasta County or other local agencies. According to California Government Code Section 53091, the District will not need to obtain any building or zoning permits for the storage tank project. These regulations state that, for a local agency such as BVWD, *“Building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water.....Zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water.”*

5 . EXISTING DROUGHT CONTINGENCY PLAN

The Bella Vista Water District Drought Contingency Plan is included in **Appendix C**. The plan was prepared with a Drought Contingency Planning Grant from USBR. The plan was approved by USBR and adopted by the BVWD Board of Directors in 2021.

6 . LETTERS OF SUPPORT AND PARTNERSHIP

The project benefits are described above, but the qualitative significance of the project benefits is best demonstrated by the numerous letters of support from stakeholders, which can be found in **Appendix H**. Several stakeholder groups provided letters including state and federal politicians that represent the area, local water agencies, local municipalities, the local fire department and a local college. Letters were received from the following:

- City of Redding
- California State Senator Brian Dahle
- Mountain Gate Community Services District

- City of Shasta Lake
- Shasta County Department of Public Works
- Shasta County Fire Department
- Shasta College
- US Representative Doug LaMalfa

7 . OFFICIAL RESOLUTION

Appendix I includes a draft resolution authorizing the preparation of this application and funding for the District's cost share. The resolution was scheduled to be adopted on September 27, 2021, but the Board meeting had to be postponed due to the Fawn Fire, which had damaged several thousand acres in BVWD. A signed resolution will be sent within 30 days of the application submittal. The Board of Directors is comprised of local landowners, so the resolution will represent support for the project from local citizens.

8 . UNIQUE ENTITY IDENTIFIER AND SYSTEM FOR AWARD MANAGEMENT

BVWD has previously received grants from USBR and is already registered with the System for Award Management and meets other requirements for award and implementation of a grant contract.

The District uses the following identifiers:

Unique Entity Identifier: JLAJRT9ENWR5

DUNS Number: 0459934900000

BELLA VISTA WATER DISTRICT
USBR DROUGHT RESILIENCY GRANT APPLICATION

APPENDIX A – PROJECT DESIGN

Memorandum

To: David Coxey; Wayne Ohlin (Bella Vista Water District)

From: David Lollis; Don Groundwater

Subject: Preliminary Design of 3 MG Water Tank

Date: September 10, 2021

Background

Bella Vista Water District (District) operates a public water system that serves a population of approximately 19,000 within a 34,500-acre service area. The District provides water service to both agricultural and municipal & industrial (M&I) customers. Peak day water demands in recent, non-drought, water years have been in the 20 to 22 million gallons per day (MGD) range. From late fall through early spring the District's daily demands are in the three to four million gallons per day.

The District currently has three water storage tanks in its distribution system. These include the 4-Million-Gallon Tank (4MG Tank) at the District's office site that serves the "Main" pressure zone, a 1-million-tank in the Old Oregon Trail pressure zone, and a 200,000-gallon-tank in the Cow Creek No. 1 pressure zone. The 4MG Tank is 80-feet in diameter and 100-feet high and is classified as a standpipe. It is designed to be operated at a water depths between 82 feet and 108 feet in order to maintain acceptable pressures within the Main zone. So, although it has a capacity of 4 million gallons, it only provides approximately one million gallons of usable storage.

The total operational storage of the three tanks is less than 1.5 million gallons. This represents approximately 1.6 hours of storage on the District's summer peak day and nine to twelve hours of storage during the winter months.

Proposed Project

The proposed project includes the construction of a three-million-gallon welded steel water tank on District-owned property adjacent to the Reclamation-owned Flow Control Station and Regulating Tank (Reg Station). The three-million-gallon water storage tank shall conform to AWWA D100 for "Welded Carbon Steel Tanks for Water Storage", latest edition, and be located as shown on the enclosed "Site Plan" and associated tank plan and profile sheet (see Attachments 1 and 2).

Water Tank Dimensions

The preliminary design calls for the tank to be 140 feet in diameter with a tank shell height of 31 feet. The tank will have a separate inlet and outlet on opposite sides of the tank.

The bottom elevation of the new tank will be at the same level as the existing Regulating Tank (elev. 675.0); however, the maximum water surface elevation of the new tank will be approximately thirteen higher than maximum water surface elevation of the existing Regulating Tank (elev. 701.25 versus elev. 688.0). The tank design allows for 4.75 feet of freeboard above the maximum water surface elevation for water sloshing in the event of an earthquake.

Due to the tank geometry anchor bolts will not be required to secure the tank. The design of the inlet and outlet for the tank will include FLEX-TEND™ style flexible expansion joints to accommodate differential movement in the event of an earthquake. This design will be similar to improvements made to other District piping to accommodate seismic loads. The tank will be designed with provisions for the installation of mechanical tank mixing and for the addition of chlorine at a future date, should either be determined to be necessary once the District has operational experience with the tank .

Piping and Connections

The project will require the construction of a 24-inch new pipeline to supply water to the new tank as well as a new pipeline out of the new tank. The new inlet pipeline will be hot-tapped on the existing 36-inch Reinforced Concrete Pressure Pipe, Steel-Cylinder Type (AWWA C300) pipe upstream of the Reg Station. The 30-inch tank outlet pipeline will connect into the existing 42-inch AWWA C300 steel pipeline downstream of the existing vent pipe that's located approximately 600 feet east of the Regulating Tank.

The tank inlet piping will include a 24-inch hot-tap with a 24-inch isolation (gate) valve. Because of the new tank will be fed off of the District's "Main" zone (A-Zone) with a maximum higher hydraulic gradient level (HGL) of 761, and the new tank will have a maximum water surface elevation of 701.255, a pressure reducing valve style altitude valve will be required to reduce the pressure of the water entering the tank to keep the tank from overflowing. The inlet configuration will be designed to induce horizontal mixing and reduce short-circuiting (duckbill or 90-degree elbow). A magnetic flow meter will be installed on the inlet piping to the tank.

Due to the maximum water surface elevation of the new tank being above the top of both the overflow on the existing Regulating Tank (elev. 688.5) and the top of the existing "vent" (elev. 689) the connection of the 30-inch outlet pipe to the existing 42-inch pipeline will require the installation of either a check-valve or a butterfly-style isolation valve on the 42-inch pipeline to prevent water flowing back up the pipeline and overtopping the vent and the tank overflow.

As a consequence of this difference in maximum water surface elevations between the two tanks, the tanks cannot be operated in parallel without sacrificing at least 13.25 feet of storage (equals just over 1.5 million gallons) in the new tank. The design will maintain the functionality of the existing Regulating Station and allow either the Regulating Station facility or the new 3 MG tank to be taken out of service for maintenance and repairs.

Monitoring

The new tank will be equipped with a water level sensor, high and low water level alarms, and a tank entry alarm. A caged access ladder with a single landing platform will be provided. The access ladder will have a lockable security panel to block access to the ladder from the ground. The tank design also includes two access manways into the tank on opposite sides of the tank. One to provide for entry into the tank and the second to facilitate confined space ventilation of the tank.

Power Source

Power for the flow meter and site lighting will be supplied from the existing Regulating Station Pump Station. Spare conduits will be installed for equipment that may be added in the future (e.g., mechanical tank mixer and chlorine injection equipment). Telemetry (including SCADA) for the new tank will utilize the existing PLC panel in the Regulating Station Pump Station.

Tank Roof

The roof will be supported by a number of columns and will have a main vent at the center. There will also be a number of smaller vents spaced around the roof of the tank (similar to those on the District's 4MG Tank) to provide added ventilation of the headspace inside the tank. Multiple tank roof handholes to accommodate the installation of a "passive" cathodic protection system in the future.

A single roof access hatch will be provided. Guard railing will be provided on the roof only in the vicinity of the access ladder and access hatch. The tank will have an interior tank ladder located at the roof access hatch. The tank will have an overflow weir box inside the tank which will be connected to an exterior drain line. The overflow line will tie into the existing concrete overflow structure for the Regulating Tank and will utilize the existing "wasteway" for any potential overflows from either tank.

Overflow

An 8-inch tank drain will be provided. The tank drain will tie into the 24-inch overflow line allowing the existing overflow structure to be utilized for draining of the tank. The tank drainage piping will include a manifold for pumping down the final foot of water in the new tank due to the elevation of the discharge weir in the existing overflow structure (elev. 676) being one foot higher than the bottom of the new tank (elev. 675.).

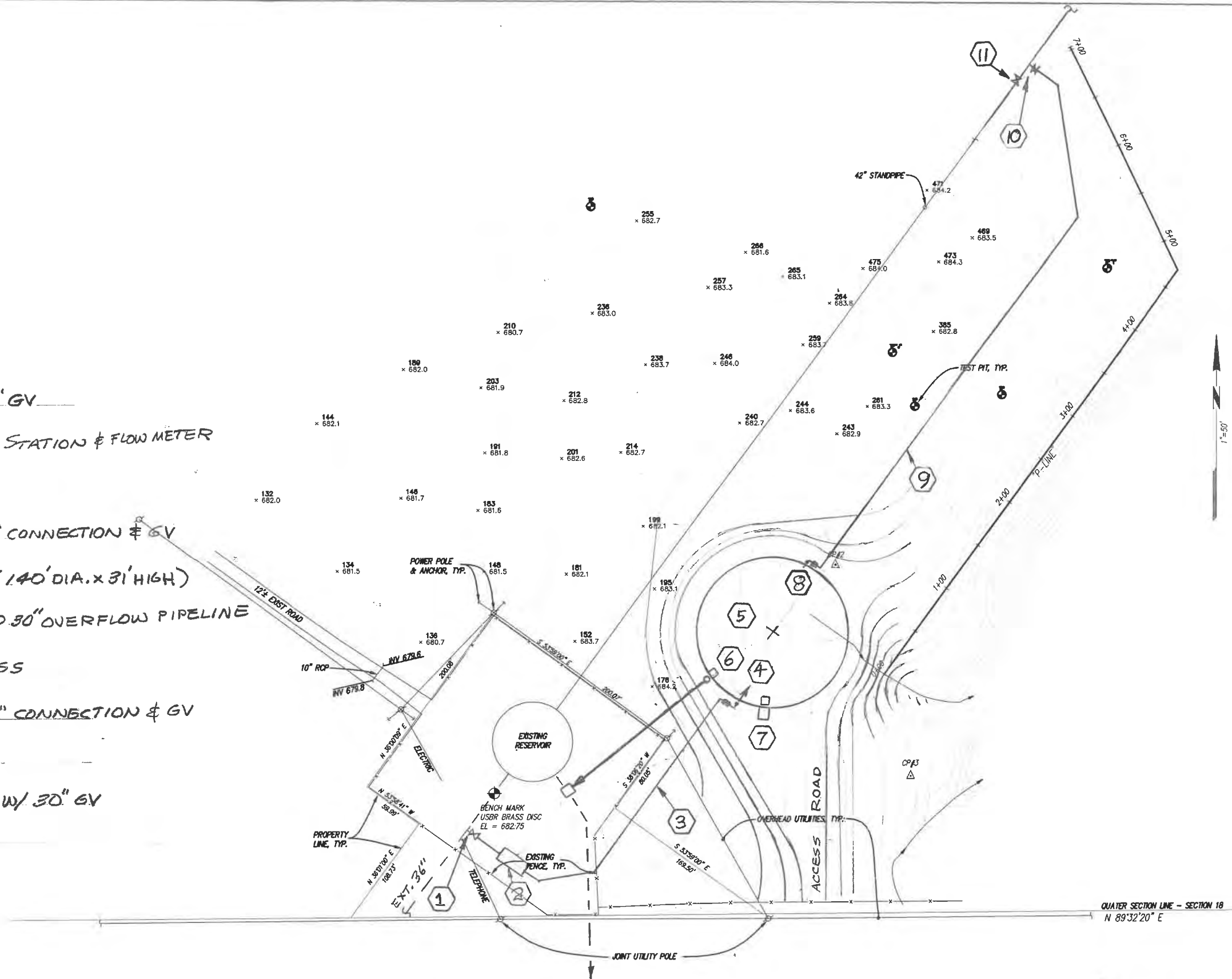
Summary of Tank Features

A summary of pertinent tank features and proposed items for construction are as follows:

- 3-million-gallon water storage capacity.
- 140' diameter and 31' high with multiple interior tank roof support columns
- 24" inlet pipe connection with gate valve and flex connection.
- 24" outlet pipe connection with gate valve and flex connection
- 30" external screened overflow pipe and weir box
- Tank roof access hatch, outside ladder with platform, safety cage, and ladder
- Tank inside ladder
- Shell access manhole

- Second shell access for a blower and other equipment
- Multiple tank roof screened air vents
- Multiple tank perimeter screened “crook” air/snow vents
- Interior and exterior tank protective coating systems - color selected by the owner.
- Multiple tank roof handholes for future “passive” cathodic protection system
- 24’ hot-tap on the existing 36’ USBR pipeline upstream of the Reg Station
- 24” inlet pipeline with pressure regulation station, altitude-value and flow meter
- 30” outlet pipeline with a connection to the existing 42’ USBR pipeline east of the existing vent
- 42” (or possibly smaller) check-valve or butterfly-valve upstream of the 30’ connection to the 42” USBR pipeline
- Provisions for the future addition of mechanical tank mixer(s)
- Tank water level staff gage
- Tank level floats with a belt and suspender approach in addition to a level transducer.
- Tank water level transmitter nozzle with isolation ball valve
- Water sample tank taps with isolation ball valves
- Multiple tank nozzles with isolation ball valves for future water chlorination
- Electrical and SCADA service to tank site from the Regulating Station Pump Station
- All weather access (paving and/or gravel) around the tank connecting to Hidden Acres Road
- Six-foot tall chain-link fencing topped with barbed wire around the perimeter of the tank site

- LEGEND
- ① 36" x 24" WET TAP W/ 24" GV
 - ② PRESSURE REGULATION STATION & FLOW METER
 - ③ 24" PIPELINE
 - ④ TANK INLET W/ "FLEX" CONNECTION & GV
 - ⑤ 3M GALLON TANK (140' DIA. x 31' HIGH)
 - ⑥ 30" OVERFLOW PIPE AND 30" OVERFLOW PIPELINE
 - ⑦ TANK ROOF ACCESS
 - ⑧ TANK OUTLET W/ "FLEX" CONNECTION & GV
 - ⑨ 30" PIPELINE
 - ⑩ 42" x 30" WET TAP W/ 30" GV
 - ⑪ 4.2" GV



BELLA VISTA WD
3 M GALLON WATER STORAGE TANK
SITE PLAN
 BY: D. LALLIS
 DATE: 09/014/2021

SHEET 1 OF 2

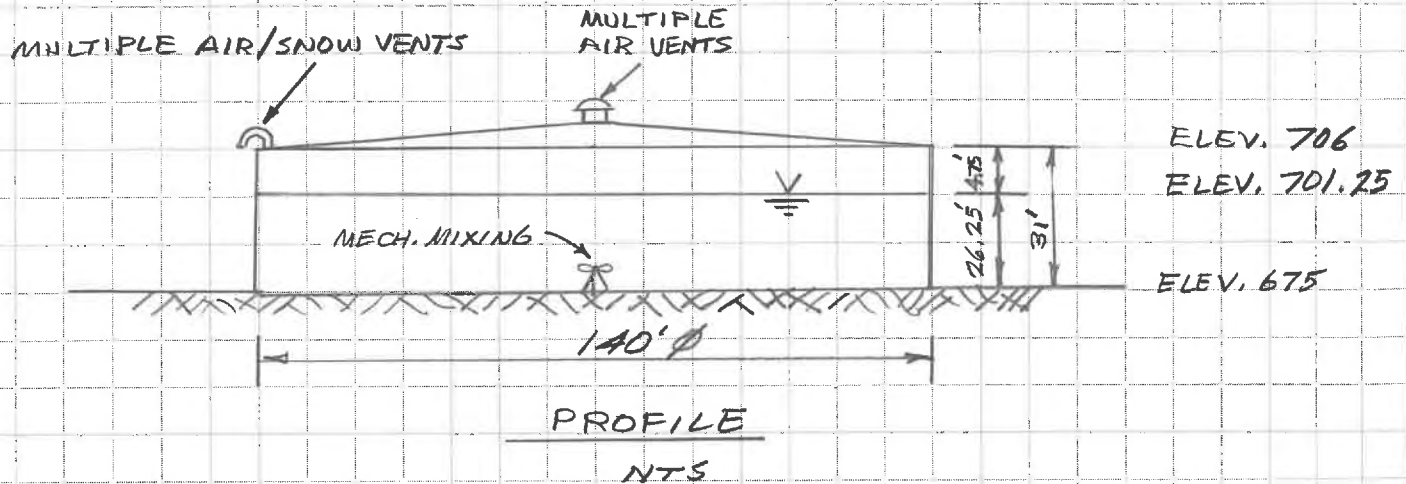
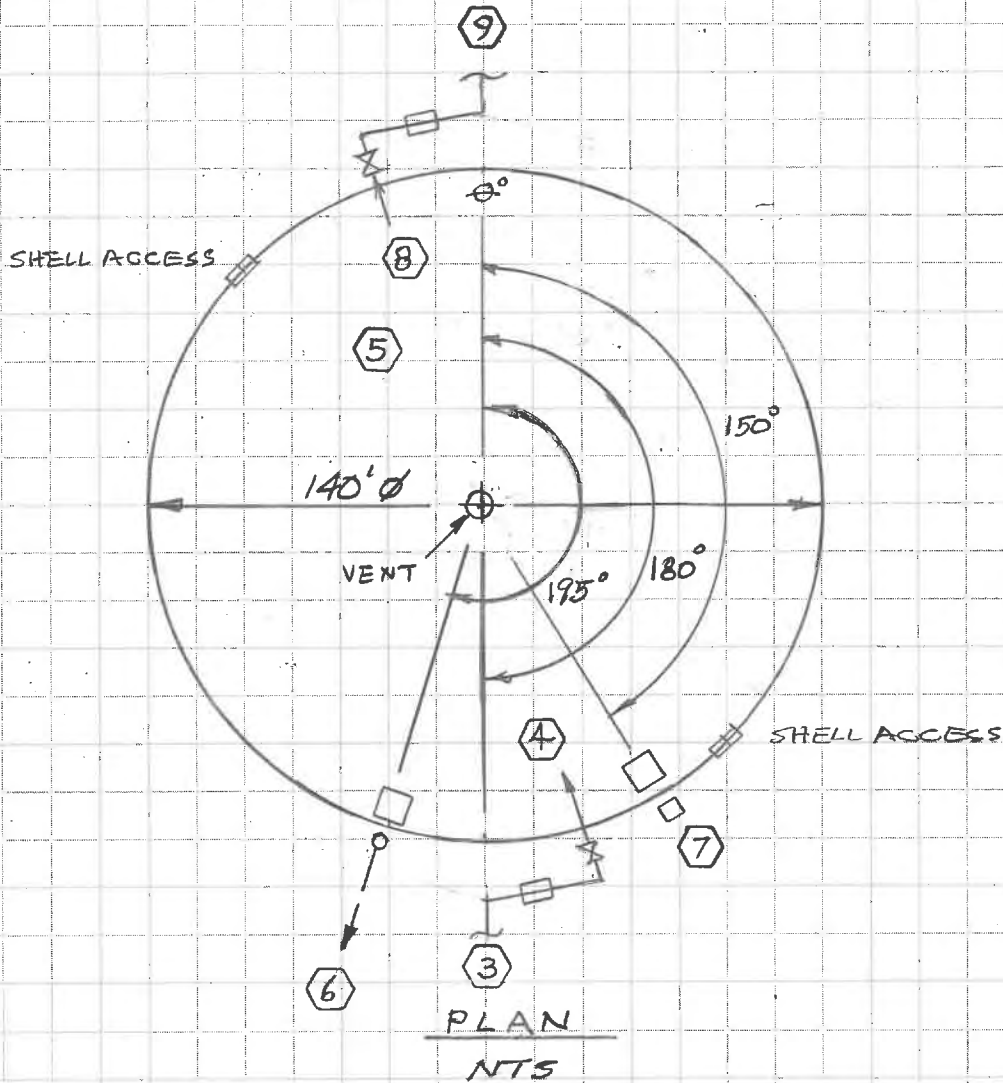
BASE
 TOPOGRAPHIC SURVEY
 OF
ZONE "C" RESERVOIR
 FOR
 BELLA VISTA WATER DISTRICT
 BY
 PACE ENGINEERING
 (SURVEYED 5-15-97)



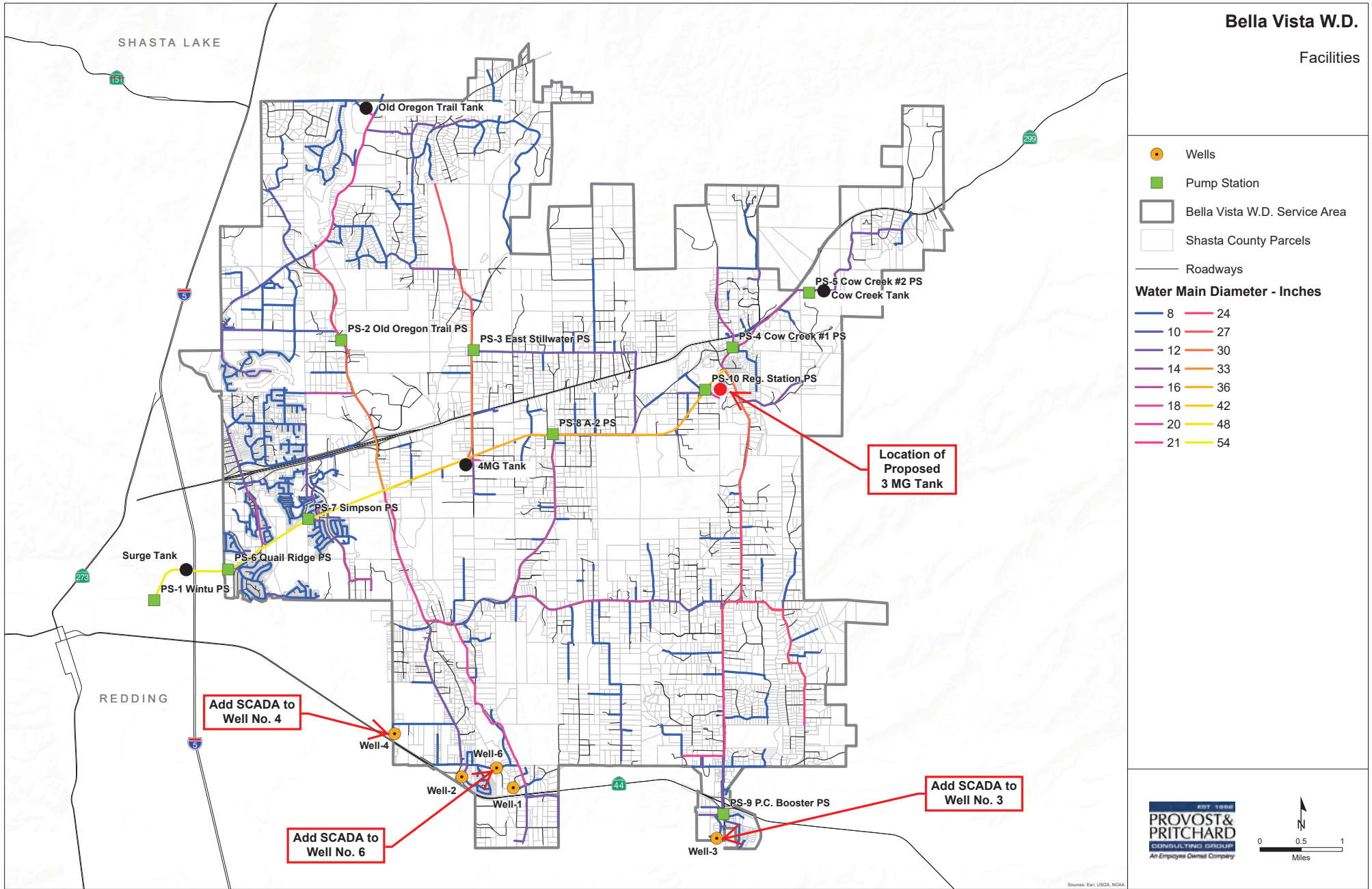
PROJECT BELLA VISTA WD
3 M GALLON WATER STORAGE TANK
PLAN AND PROFILE

DATE: 09/14/2021
 JOB NO: 6201021001/02
 COMP. BY: D. LOLLIS
 CHKD. BY: _____
 SHEET 2 OF 2

BELLA VISTA WD / 3 M GALLON WATER STORAGE TANK



REVISED 09/07/2021



4/21/2020 : G:\Bella Vista WD-2010\201019001-Drought Contingency Plan\GIS\Map\Bella Vista WD_Facilities_24x36.mxd

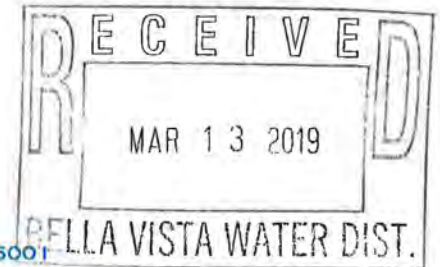
BELLA VISTA WATER DISTRICT
USBR DROUGHT RESILIENCY GRANT APPLICATION

**APPENDIX B – SHORTAGE YEAR WATER
SUPPLY AGREEMENT WITH CITY OF
REDDING**



CITY OF REDDING

777 CYPRESS AVENUE, REDDING, CA 96001
P.O. Box 496071, REDDING, CA 96049-6071



OFFICE OF THE CITY CLERK

PAMELA MIZE, CITY CLERK
SHARLENE TIPTON, ASSISTANT CITY CLERK
530.225.4447
530.225.4463 FAX

March 11, 2019

Bella Vista Water District
Attn: Ted Bambino
11368 East Stillwater Way
Redding, CA 96003

SUBJECT: Shortage Year Water Supply Augmentation Agreement, Contract No. C-7970

Dear Mr. Bambino,

Enclosed is a fully executed original of the above referenced Shortage Year Water Supply Augmentation Agreement by and between the City of Redding and Bella Vista Water District to augment the Bella Vista District's water supply in shortage years in order to mitigate water supply impacts associated with new developments occurring within the CITY and served by the DISTRICT.

If you have any questions regarding this matter, or if we can be of assistance, please contact the Office of the City Clerk at (530) 225-4044.

Sincerely,

A handwritten signature in blue ink, appearing to read "Joan Twomey".

Joan Twomey
Executive Assistant

Enclosure

cc: Chuck Aukland
Stephanie McCollum
Becky Kraft
Ellen Grannis

SCANNED

G-1 Agencies | COR | Agreements

190311 F-COR re Fully Executed Shortage
Year Water Supply Augmentation Agmt

SHORTAGE YEAR WATER SUPPLY AUGMENTATION AGREEMENT

BETWEEN

THE CITY OF REDDING

AND

BELLA VISTA WATER DISTRICT

THIS AGREEMENT is made at Redding, California, by and between THE CITY OF REDDING, a Municipal Corporation ("CITY"), whose address is 777 Cypress Avenue, Redding, Ca. 96001 and BELLA VISTA WATER DISTRICT, ("DISTRICT"), a California Water District, whose address is 11368 East Stillwater Way, Redding, CA 96003, for Shortage Year Water Supply Augmentation Agreement ("Agreement").

PURPOSE: To augment the Bella Vista Water District's water supply in shortage years in order to mitigate water supply impacts associated with new developments occurring within the CITY and served by the DISTRICT as a result of the implementation of the U.S. Bureau of Reclamation's Central Valley Project Municipal and Industrial Water Shortage Policy (WSP), Guidelines and Procedures.

BACKGROUND: The DISTRICT was created as the Cow Creek Unit of the Trinity Division of the Central Valley Project (CVP) and is highly reliant upon water supply from the CVP to meet the water needs of its customers within the District's boundary. The U.S. Bureau of Reclamation (USBR) announced its final CVP Municipal and Industrial (M&I) Water Shortage Policy (WSP) with a signed Record of Decision on November 25, 2015 and issued WSP Guidelines and Procedures effective February 1, 2017, hereby incorporated by reference. New growth and development within both the CITY and DISTRICT service area results in newly created demands for water. With the implementation of the WSP, new water demands are not reflected in the District's Historical Use that results in supply shortage impacts to the District's existing customers until the new demands are fully reflected into the DISTRICT's Historical Use following three years unconstrained by supply shortage from the date of connection to DISTRICT's public water system. The CITY has sufficient groundwater resources in the short term to augment the DISTRICT supply for growth within the CITY until Historical Use is established for each development.

RECITALS

C-7970

A. The DISTRICT's Will Serve Policy requires certain residential and commercial development to augment DISTRICT water supply for their development prior to meter placement as mitigation for California Environmental Quality Act identified impacts until the new demands are fully reflected into the DISTRICT's Historical Use.

B. To meet this requirement, an alternative supply of water must be secured by the development entity.

C. Water supply rights are very limited, complex and can be excessively expensive.

D. The CITY has developed groundwater wells to provide for current and future CITY demands. A limited amount of groundwater supply may be available to augment new development within the CITY and served by the DISTRICT during water shortage years.

E. The CITY maintains distribution system interties with the DISTRICT that allows the transfer of groundwater between CITY and DISTRICT infrastructure.

F. It is in the best interest of the CITY to encourage new development that provides a benefit to and meets the needs of the community.

G. The parties hereto have determined that it would be in their best interests to allow the DISTRICT to purchase groundwater from the CITY and receive metered delivery through an existing intertie during CVP shortage allocation years as defined in the WSP until the new connection is fully reflected in the DISTRICT's Historical Use as defined in the WSP. This agreement will allow the DISTRICT to purchase groundwater in CVP shortage allocation years to offset impacts to the DISTRICT's existing customers.

H. The parties hereto further determine that it would be in their mutual best interests to set forth their respective rights, duties, costs and obligations concerning shortage water year purchases from the CITY in a written agreement.

NOW, THEREFORE, IT IS AGREED AS FOLLOWS:

1. Definitions: For purposes of the Agreement the following definitions apply:,

"Historical Use" is the average quantity of CVP municipal and industrial water put to beneficial use pursuant to the U.S. Bureau of Reclamation's CVP M&I WSP and WSP Guidelines and Procedures.

"Supply shortage" is limited to CVP supply allocation shortage years and shall have the same meaning as Condition of Shortage pursuant to the U.S. Bureau of Reclamation's CVP M&I WSP and WSP Guidelines and Procedures.

"New Development" is any development in which entitlements are granted by the City after the effective date of this Agreement or any development that received entitlements prior to this

Agreement but has not yet made a request for connection to the District System. This includes residential developments of four units or more and any commercial development

2. Development: The DISTRICT will issue Will Serve letters for new development within CITY limits and served by the DISTRICT pursuant to this Agreement. The letters will reference that the development is contingent upon the provisions in this Agreement. The DISTRICT will maintain an accounting of the developments subject to this Agreement noting the location, property owner, developer, date of development, number of unconstrained years and dates since development, and the allocation of augmented water supply in Acre-Ft per year. The DISTRICT will provide this accounting to the CITY annually prior to each new water year as defined by USBR. Through separate agreement, the DISTRICT will secure a deposit from each development sufficient to secure payment for the quantity of water supply as defined in Section 4 of this Agreement.
3. Notice: Prior to delivery of any groundwater pursuant to this Agreement, the District shall notify the CITY that a supply shortage exists and that groundwater delivery is desired; the projected duration and delivery rate of water and the anticipated quantity of water to be delivered. Upon receipt of the request, the CITY's Director of Public Works or designee, shall make a determination as to whether such delivery can be accommodated as requested or revised to better accommodate their system constraints and shall inform the DISTRICT within 14 business days of its decision. The DISTRICT will confirm with the CITY, in writing, the specific conditions concerning the water delivery schedule at least 24-hours in advance.
4. Quantity: The supply mitigation quantity in any given water year shall be calculated as the average historical annual water use (Historical Use) multiplied by the CVP allocation (e.g. average historical use x percent USBR water year allocation).

For a single family detached dwelling on less than two acres (residential unit), the average annual unconstrained Historical Use of 0.5 acre-feet/year will be assumed. For developments other than residential units, empirical data for similar commercial, residential or public institutional service will be utilized to determine average annual unconstrained Historical Use.

The maximum amount of water provided to any new development during a supply shortage year is 75% of their historical use. For example, to prevent impacting existing customers during CVP shortage years, DISTRICT will need to supply up to 0.375 Acre-Ft of water per supply shortage year for each single family detached dwelling on less than two acres (0.5 Acre-Ft*75% CVP Allocation). Conservatively it is assumed that each new development will become part of DISTRICT's Historical Use within 10 years. Under a worst case, it is assumed that seven (7) of these years would be constrained water years and the remaining three (3) would be unconstrained. Using the example above, this results in a total water volume per residential unit of up to 2.625 Acre-Ft.

(0.375 Acre-Ft x 7 years constrained years) over the 10-year period. An example calculation is provided as Exhibit A.

The DISTRICT will enter into a separate agreement with each new development to secure a deposit in an amount equal to the estimated 10-year water supply at the cost of water to be purchased from the CITY noted in Section 7 of this Agreement. The CITY will supply a maximum of 500 Acre-Ft per year under this Agreement. Only parcels located within the CITY limits are eligible for water supply allocations.

5. Duration of Delivery: Water deliveries pursuant to this Agreement are limited to the quantity required to offset supply shortage impacts from new development during the supply shortage and delivered at a mutually agreeable delivery rate and duration until the new development demands are met for the supply shortage year and shall be continued annually until such time as the new connection is reflected in the DISTRICT's Historical Use following three years unconstrained by supply shortage.
6. Intertie Point: Existing Intertie points between the parties to this Agreement already exist at 700 Canby Road, 1431 Edgewood Drive, and at the intersection of Old Alturas Road and Abernathy Lane as shown on Exhibit B. The intertie location utilized for this agreement will be at the Canby Road location due to the pressure differential and existing pressure reducing valve unless system conditions require the use of an alternative intertie. This Agreement in no way modifies, alters or otherwise has any bearing on the Intertie Agreement between the CITY and the DISTRICT.
7. Costs: The CITY, pursuant to the delivery of water under this Agreement shall be entitled to compensation for actual water supplied pursuant to this Agreement, which shall be billed at the then current applicable retail volumetric rate (e.g. commercial, residential).
8. Indemnification: The DISTRICT receiving water pursuant to this Agreement hereby agrees to indemnify, defend and hold harmless the CITY, its directors, officials, officers, employees, agents and volunteers, and each and every one of them, from any and all claims of any nature whatsoever arising from or relating to, directly or indirectly, negligent performance of this Agreement by the CITY, or relating to the quality of water delivered pursuant to this Agreement.
9. Termination: This Agreement shall commence on the date of signing hereto and shall continue until such time as either party determines in its sole and absolute discretion that the delivery of water contemplated herein would not be in its best interests. Either party can, at any time, provide written notice to the other party that this Agreement is to be terminated on the date and time provided in the written notice. Once terminated, no additional service connections will be added to this agreement prospectively from the date of termination. However, the CITY will continue to provide mitigation supply water for connections previously agreed to, until such time as they are considered part of the

DISTRICTs Historical Use following three years unconstrained by supply shortage. This Agreement shall terminate on the date and time provided in the written notice; however, that any unpaid financial obligations owing to either party shall survive termination of this Agreement and be payable in accordance with their terms. In consideration of the water supply shortages experienced by the DISTRICT, it is the intent of both parties that this Agreement is a short term solution and the DISTRICT will pursue alternative reliable water supply sources to serve its customers through negotiated means or development of new supplies through Master Planning and Capital Improvement Plan efforts.

10. Disputes: If any action or arbitration is commenced to enforce any of the terms or conditions herein, or to enforce collection of monies due pursuant to this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees and costs.
11. Date of Agreement: The date of this agreement shall be the date it is signed by the second party to sign.

IN WITNESS WHEREOF, the City of Redding and the Bella Vista Water District have executed this Agreement on the days and year set forth below.

CITY OF REDDING
A Municipal Corporation

Date: 3/8/19, 2019

By: 
Julie Winter - Mayor

Attest:

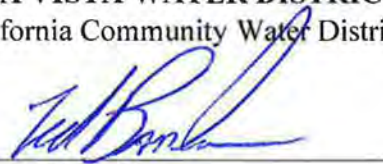
Approved as to Form:
Barry E. DeWalt, City Attorney


Pamela Mize-City Clerk

By: 
Assistant City Attorney

BELLA VISTA WATER DISTRICT
A California Community Water District

Date: March 4th, 2019

By: 
Ted Bambino
President, Board of Directors

Attest


David Coxey, General Manager/Secretary-Treasurer

Exhibit A

Sample Calculation

Shortage Year Supply Augmentation for New Development Within Redding Example (Based on 2008 Water Year Connection)

Estimated Unconstrained Water Use:	0.5 Acre-ft/Yr	Note 1
Deposit Amount:	\$995	Note 2
City of Redding Water Rate (Jan 2019)	\$1.42 per CCF	Note 3
BVWD Water Rate (Jan 2019)	\$0.55 per CCF	

Water Year	% USBR Allocation	Water Volume Required (Acre-Ft)	Water Cost	Deposit Remaining
2008	75	0.375	\$142	\$852.69
2009	75	0.375	\$142	\$710.57
2010	75	0.375	\$142	\$568.46
2011	100	0	\$0	\$568.46
2012	75	0.375	\$142	\$426.34
2013	100	0	\$0	\$426.34
2014	50	0.25	95	\$331.60
2015	25	0.125	47	\$284.23
2016	100	0	0	\$284.23

Amount Refunded= \$284.23

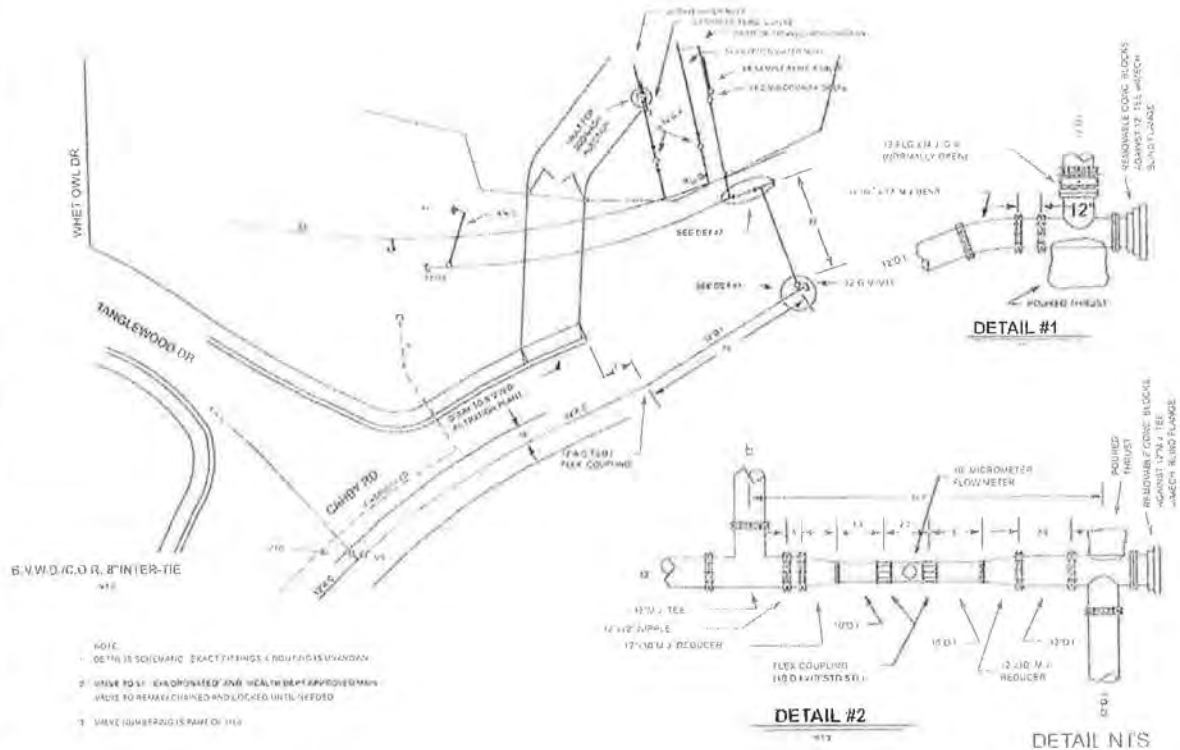
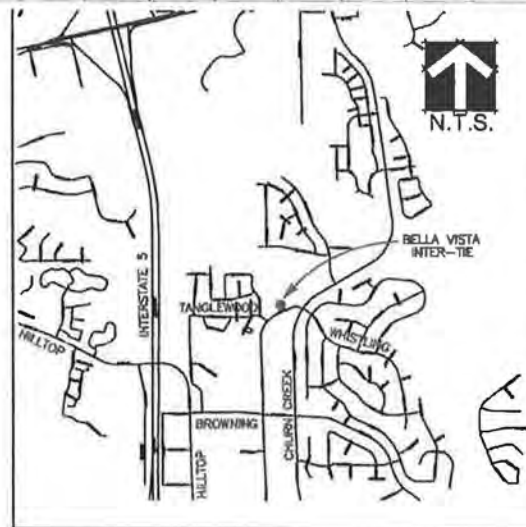
Notes:

1. Example for average annual residential water use based on historic BVWD average water use for residential lots less than 2 acres. Other uses will be estimated on best available available data.
2. Deposit is calculated as follows: Est Water Use * 75% * 7 Years * (COR Water Rates - BVWD Water Rates)
3. Example is using 2018 water rates for the City of Redding and BVWD, actual billing amounts will be based on current year water rates

Exhibit B

Intertie location

EXHIBIT B



SITE PLAN

DWG. BY: RALPH BENTRIM
 DATE: NOV. 2008
 SCALE: NONE
 MAP NO: .

REDDING MUNICIPAL UTILITIES
BELLA VISTA
 WATER SYSTEM INTER-TIE No.1



BELLA VISTA WATER DISTRICT
USBR DROUGHT RESILIENCY GRANT APPLICATION

**APPENDIX C – BELLA VISTA WATER
DISTRICT DROUGHT CONTINGENCY PLAN**

BELLA VISTA WATER DISTRICT
USBR DROUGHT RESILIENCY GRANT APPLICATION

APPENDIX D – PROJECT SCHEDULE

BELLA VISTA WATER DISTRICT
Drought Mitigation, Water Management and Storage Improvements
Project Schedule

[illegible]

 Assumed Notice of Grant Award
  Solicit Construction Bids

 Assumed Notice to Proceed / Contract Signed
  Notice of Construction Award

BELLA VISTA WATER DISTRICT
USBR DROUGHT RESILIENCY GRANT APPLICATION

APPENDIX E – PROJECT COST ESTIMATE

ESTIMATE OF PROFESSIONAL FEES
BELLA VISTA WATER DISTRICT
Drought Mitigation, Water Management and Storage Improvements

	STAFF HOURS	Salary Costs						Other Costs		Totals	
		Principal Engineer	Senior Engineer	Associate Engineer	Assistant Engineer	Two Man Survey Crew	Administrative Assistant	Subconsultant (Legal, Geotech., Environ. & Electrical)	Direct Costs (Mileage and Photocopies)	Total Hours	Total Cost
	Rate / Hour	\$190	\$160	\$140	\$110	\$245	\$90				
Task 1 Project Administration								Legal			
Task 1.1 Project Administration	20	20				20		\$20,000	\$100	60	\$28,900
Task 1.2 Quarterly Reporting	20								\$50	20	\$3,850
Task 1.3 Draft Project Report	8	8	8						\$50	24	\$3,970
Task 1.4 Final Project Report	4	4	4						\$50	12	\$2,010
										Task 1 Total =	\$38,730
Task 2 CEQA & NEPA Documentation/Permitting								Environmental			
Task 2.1 Environmental Compliance (CEQA)	4	16						\$31,100		20	\$34,420
Task 2.2 Environmental Compliance (NEPA)	4	16						\$10,300		20	\$13,620
Task 2.3 Biological Site Survey & Mitigation Measures								\$18,400		0	\$18,400
Task 2.4 Stormwater Pollution Prevention Plan	10	30	10			16			\$50	66	\$9,590
										Task 2 Total =	\$76,030
Task 3 Project Design								Geotechnical			
Task 3.1 Geotechnical Investigations	12		12					\$25,000	\$100	24	\$29,060
Task 3.2 Topographic Surveying		10				40			\$200	50	\$11,600
Task 3.3 Design Criteria Memorandum	10	10	10	0						30	\$4,900
Task 3.4 30% Design	40	120	120	120		10				410	\$57,700
Task 3.5 60% Design	20	120	120	120		10				390	\$53,900
Task 3.6 90% Design	20	120	120	120		10				390	\$53,900
Task 3.7 Review/Coordination of Tank Manufacturer Design	10	40	10			10		Electrical	\$100	70	\$10,700
Task 3.8 Electrical/SCADA Design	10	10						\$20,000		20	\$23,500
Task 3.9 Final Design Drawings	10	40	40	40					\$200	130	\$18,500
Task 3.10 Specifications	10	40	40	40		20				150	\$20,100
Task 3.11 Engineer's Cost Estimate	4	20	20	20		4				68	\$9,320
Task 3.12 Final Design Report	10	40	40	4		20			\$100	114	\$16,240
										Task 3 Total =	\$309,420
Task 4 Assistance During Construction											
Task 4.1 Bidding Documents		40	40			40			\$100	120	\$15,700
Task 4.2 Assistance During Bidding	10	20	10			20			\$100	60	\$8,400
Task 4.3 Submittal Reviews	10	20	20			20			\$100	70	\$9,800
Task 4.4 Construction Monitoring	40	300	300		60	80			\$2,000	780	\$121,500
Task 4.5 Record Drawings		40	10	60						110	\$14,400
Task 4.6 O&M Manual		20		10					\$100	30	\$4,400
										Task 4 Total =	\$174,200
Total Hours:		286	1104	934	534	100	280				
Total Cost:		\$54,340	\$176,640	\$130,760	\$58,740	\$24,500	\$25,200	\$124,800	\$3,400	3,208	\$598,380

TOTAL ESTIMATED PROJECT COST: **\$598,380**

ESTIMATE OF BELLA VISTA WATER DISTRICT SALARIES & WAGES

BELLA VISTA WATER DISTRICT Drought Mitigation, Water Management and Storage Improvements

	Rate / Hour	STAFF HOURS				Totals	
		BVWD - District Engineer	BVWD - Treatment Superintendent	BVWD - Elect. / Instr. Technician	BVWD - Water Distribution Inspector	Sub-Total Salaries & Wages	Fringe Benefits @ 95% of Salaries and Wages
		\$54	\$56	\$36	\$28		
Task 1 Project Administration							
Task 1.1 Project Administration		80				\$4,320	\$4,104
Task 1.2 Quarterly Reporting		40	16			\$3,056	\$2,903
Task 1.3 Draft Project Report		20				\$1,080	\$1,026
Task 1.4 Final Project Report		20				\$1,080	\$1,026
Subtotal						\$9,536	\$9,059
Task 2 CEQA & NEPA Documentation/Permitting							
Task 2.1 Environmental Compliance (CEQA)		10				\$540	\$513
Task 2.2 Environmental Compliance (NEPA)		10				\$540	\$513
Task 2.3 Biological Site Survey & Mitigation Measures						\$0	\$0
Task 2.4 Stormwater Pollution Prevention Plan						\$0	\$0
Subtotal						\$1,080	\$1,026
Task 3 Project Design							
Task 3.1 Geotechnical Investigations		4	4			\$440	\$418
Task 3.2 Topographic Surveying		4	4			\$440	\$418
Task 3.3 Design Criteria Memorandum		4	4			\$440	\$418
Task 3.4 30% Design		10	10			\$1,100	\$1,045
Task 3.5 60% Design		10	10			\$1,100	\$1,045
Task 3.6 90% Design		10	10			\$1,100	\$1,045
Task 3.7 Review/Coordination of Tank Manufacturer Design		10	4			\$764	\$726
Task 3.8 Electrical/SCADA Design		10	20	30		\$2,740	\$2,603
Task 3.9 Final Design Drawings		20	10			\$1,640	\$1,558
Task 3.10 Specifications		10	10	10		\$1,460	\$1,387
Task 3.11 Engineer's Cost Estimate		8	4			\$656	\$623
Task 3.12 Final Design Report		10	4			\$764	\$726
Subtotal						\$12,644	\$12,012
Task 4 Assistance During Construction							
Task 4.1 Bidding Documents		10	4			\$764	\$726
Task 4.2 Assistance During Bidding		20	20			\$2,200	\$2,090
Task 4.3 Submittal Reviews		10	6	20	20	\$2,156	\$2,048
Task 4.4 Construction Monitoring		150	260	130	930	\$53,380	\$50,711
Task 4.5 Record Drawings		10			40	\$1,660	\$1,577
Task 4.6 O&M Manual		10		10	10	\$1,180	\$1,121
Subtotal						\$61,340	\$58,273
Total Hours:		500	400	200	1000		
Total Cost:		\$27,000	\$22,400	\$7,200	\$28,000	\$84,600	\$80,370
							\$164,970

Bella Vista Water District Water Tank Project Cost Proposal

		ENPLAN										Subtotal	Direct Cost (\$)	TOTAL COSTS (\$)
TASK/UNIT	Employee -->	Env. Service Manager	Env. Planner I	Env. Planner II	Env. Planner IV	Env. Scientist III	Archaeologist I	Archaeologist II	GIS Technician	Arborist	Production Manager			
	Rate/ Hr. ---->	170	120	105	75	95	110	95	110	110	60			
Technical Studies														
Biological Resources Studies (Botanical and Wildlife)	(hr)	10	-	-	6	24	-	-	4					
	(\$)	1,700	-	-	450	2,280	-	-	440	-	-	4,870	50	4,920
Cultural Resources Assessment	(hr)	4	-	-	-	-	4	48	2		4			
	(\$)	680	-	-	-	-	440	4,560	220	-	240	6,140	600	6,740
Tree Survey	(hr)	2	-	-	-	18	-	-	6	12				
	(\$)	340	-	-	-	1,710	-	-	660	1,320	-	4,030	50	4,080
Air Quality Analysis	(hr)	-	8	-	-	-	-	-	-	-	-			
	(\$)	-	960	-	-	-	-	-	-	-	-	960		960
Subtotal Hours		16	8	-	6	42	4	48	12	12	4			
Subtotal Costs		2,720	960	-	450	3,990	440	4,560	1,320	1,320	240	16,000	700	16,700
CEQA Environmental Review														
Initial Study and Mitigated Negative Declaration (IS/MND)	(hr)	10	40	24	150	-	-	-	8	8				
	(\$)	1,700	4,800	2,520	11,250	-	-	-	880	880		22,030		22,030
Notice of Intent to Adopt an MND and Notice of Completion	(hr)		2	-	6	-	-	-	-	-				
	(\$)		240	-	450	-	-	-	-	-		690		690
Prepare Copies (if requested), Submit to State Clearinghouse (CEQASubmit)	(hr)	-	-	6	-	-	-	-	-	-	6			
	(\$)	-	-	630	-	-	-	-	-	-	360	990	300	1,290
Prepare Responses to Comments	(hr)	2	14	-	-	-	-	-	-	-	-			
	(\$)	340	1,680	-	-	-	-	-	-	-	-	2,020		2,020
Prepare Mitigation Monitoring and Reporting Program	(hr)	2	-	-	10	-	-	-	-	-	-			
	(\$)	340	-	-	750	-	-	-	-	-	-	1,090		1,090
Lead Agency Meeting Coordination, Preparation, and Attendance	(hr)	-	6	-	-	-	-	-	-	-	-			
	(\$)	-	720	-	-	-	-	-	-	-	-	720	25	745
Prepare Notice of Determination	(hr)	-	2	2	-	-	-	-	-	-	-			
	(\$)	-	240	210	-	-	-	-	-	-	-	450		450
Subtotal Hours		14	64	32	166	-	-	-	8	8	6	-		
Subtotal Costs		2,380	7,680	3,360	12,450	-	-	-	880	880	360	27,990	325	28,315
USBR Documentation														
Prepare USBR Environmental Assessment	(hr)	2	8	8	40	-	-	-	4	4	-			
	(\$)	340	960	840	3,000	-	-	-	440	440	-	6,020		6,020
Prepare USBR Notices	(hr)	-	2	8	-	-	-	-	-	-	-			
	(\$)	-	240	840	-	-	-	-	-	-	-	1,080		1,080
Provide Follow-Up Consultation	(hr)	8	8	-	-	-	-	-	-	-	-			
	(\$)	1,360	960	-	-	-	-	-	-	-	-	2,320		2,320
Subtotal Hours		10	18	16	40	-	-	-	4	4	-			
Subtotal Costs		1,700	2,160	1,680	3,000	-	-	-	440	440	-	9,420		9,420
TOTAL HOURS														
COST		6,800	10,800	5,040	15,900	3,990	440	4,560	2,640	2,640	600	53,410	1,025	54,435
CONTINGENCY (10%)														5,444
TOTAL COSTS														59,879
Reimbursables expenses incurred for dataset acquisition, field supplies, document reproduction, shipping, food and lodging are billed at direct cost . Vehicle costs are based on the current federal rate. Specialists contracted on behalf of client by ENPLAN to carry out specific project-related tasks are billed at direct cost. All other operational and incidental expenses are covered under the labor rates indicated.														

Reimbursables expenses incurred for dataset acquisition, field supplies, document reproduction, shipping, food and lodging are billed at direct cost . Vehicle costs are based on the current federal rate. Specialists contracted on behalf of client by ENPLAN to carry out specific project-related tasks are billed at direct cost. All other operational and incidental expenses are covered under the labor rates indicated.

Bella Vista WD Revised 3 M gallon Water Storage Tank
Engineer's Opinion of Probable Construction Cost

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Qty.					
General					
1	Mobilization, Demobilization, Bonds and Insur.	EA	1	\$ 90,000 / \$	90,000
2	SWPPP Implementation & Erosion Control	EA	1	\$ 30,000 / \$	30,000
3	Traffic Control	EA	1	\$ 10,000 / \$	10,000
4	Contractor Facilities & Operations	EA	1	\$ 22,000 / \$	22,000
Water Tank¹					
5	3 MG Water Storage Tank	EA	1	\$ 1,890,000 / \$	1,890,000
6	Internal / External Tank Coating	EA	1	\$ 1,250,000 / \$	1,250,000
	Cathodic Protection System	EA	1	\$ 50,000 / \$	50,000
Piping and Connections					
7	Wet Tap Exist. 36" Pipeline w/ 24" Gate Valve	EA	1	\$ 65,000 / \$	65,000
8	24" Tank Inlet Pipe	LF	300	\$ 330 / \$	99,000
9	24" Flow Meter, Pressure/Altitude Valve & Vault	EA	1	\$ 130,000 / \$	130,000
10	Tank 24" Inlet Flex Connection & Gate Valve	EA	1	\$ 110,000 / \$	110,000
11	Tank 30" Outlet Flex Connection & Gate Valve	EA	1	\$ 110,000 / \$	110,000
12	30" Tank Outlet Pipe	LF	550	\$ 420 / \$	231,000
13	Wet Tap Exist. 42" Pipeline w/ 30" Gate Valve	EA	1	\$ 80,000 / \$	80,000
14	Install 42" Gate Valve on Exist. 42" Pipeline	EA	1	\$ 84,000 / \$	84,000
15	30" Tank Overflow Pipe & Weir Box	LF	1	\$ 65,000 / \$	65,000
Site Work					
16	Tank Site Clearing & Grading	YD	9,000	\$ 30 / \$	270,000
17	Tank Yard & Access Road Surfacing	SY	2,700	\$ 22 / \$	59,400
Electrical and Monitoring					
18	Tank Site Electrical Service	EA	1	\$ 43,000 / \$	43,000
19	Tank & Well Site SCADA Installation	EA	1	\$ 31,500 / \$	31,500
20	Tank Site Security Camera	LS	1	\$ 27,000 / \$	27,000
Miscellaneous					
21	Potholing Existing Utilities	LS	1	\$ 16,000 / \$	16,000
22	Tank Site Fencing w/ 24' Swing Gate	LF	950	\$ 90 / \$	85,500
Construction Cost Total					\$ 4,848,400

Notes:

1 - Water Tank Estimate based on Budgetary Estimate from Superior Tank Company Inc. on September 15, 2021



Sept 15, 2021

Quotation# BAK-2814

DIR# 1000001847 / CA License# A-472119 / MBE VON: 3JS00005

David Lollis, PE
Provost & Pritchard Consulting Group
3 MG Budget Cost
dlollis@ppeng.com
Bakersfield, Ca.

BUDGETARY COST ONLY 3 MG POTABLE WATER STORAGE TANK

NEW 3 MG AWWA D100 140'-0" DIA X 31'-0" HIGH WATER STORAGE TANK WITH INTERNAL / EXTERNAL COATING AS PER AWWA D102 AND NSF 61 STANDARDS AND CATHODIC PROTECTION SYSTEM

Superior Tank Company, Inc. will provide engineering, design, labor, material, tools, equipment, safety, supervision, manage field coating and cathodic protection system

SCOPE OF WORK AND COST

NEW BUDGETARY TANK COST-----\$1,890,000.00
(COST INCLUDES)

- Tank and foundation drawings
- Tank and foundation calculations
- Stamped drawing package
- A36 AISI
- All steel to be squared, re-squared, rolled, beveled, and pre-cut
- SR1 ¾" x 120"
- SR2 ½" x 96"
- SR3 5/16" x 96"
- SR4 5/16" x 60"
- 5/16" floor plates
- ¼" roof plates
- Tank steel to be shop sandblasted and prime coated prior to delivery
- 3" x 3" x ¼" roof rim angle
- (7) 8" structure poles with base plates
- (1) 10" center pole with base plate
- (7) W16 x #67 girder beams (bolted connection on ends)
- (110) W10 x #15 internal beam rafters
- (1) 36" x 48" FCO door
- (2) 30" outward opening shell manway
- (1) 24" inlet
- (1) 24" outlet
- (1) 20" overflow with internal weir cone
- (1) roof vent with bug screen (center of tank roof)
- (4) gooseneck roof vents at roof chime area
- (1) roof 39" x 39" roof hatch
- (1) internal ladder with Saf-T-Climb
- (1) external ladder with OSHA cage, vandal guard and Saf-T- Climb
- Shell sample ports

19436 Colombo Street
Bakersfield, CA 93308

P. 661.392.0188 | F. 661.392.8770 | Toll Free. 800.221.TANK

superiortank.com

- (1) LLI (Liquid Level Indicator) full travel
- Roof handrails at roof hatch entrance only
- (4) roof #5000 tie off points
- Cathodic protection roof 5" holes (handholes by others)
- Tank and 3rd party scaffolding
- Rental equipment
- Cranes
- Prevailing wage

INTERNAL / EXTERNAL COATING BUDGETARY COST-----\$1,250,000.00

(COST INCLUDES)

- Labor
- Supervision
- Material
- Equipment
- Scaffolding
- Rental equipment
- DH and heaters (if required)
- Prevailing wage
- NACE 3 inspector
- Disinfecting as per AWWA C652 standards

COATING PRODUCTS AND BLAST PROFILES

EXTERNAL COATING SYSTEM

- Macropoxy 646 prime coat and HS Polyurethane RAL 1001
- Prime coat 5-10 DFT, Top coat 3-5 DFT

EXTERNAL BLAST PROFILE

- SSPC-SP6 commercial blast

INTERNAL COATING SYSTEM

- Macropoxy 646 PW 2 coats
- Prime coat 3 mils, top coat 5 mils total 8 mils

INTERNAL BLAST PROFILE

- SSPC-SP10 near white metal

CATHODIC PROTECTION SYSTEM BUDGET COST-----\$50,000.00

(COST INCLUDES)

- Engineering
- Drawings
- Labor
- Supervision
- Material
- Equipment
- Install

<u>TOTAL BUDGET COST</u>	<u>\$3,190,000.00</u>
---------------------------------	------------------------------

Clarifications:

- STCI will require complete access to tank site
- STCI will not start work without written approval
- STCI will submit welding pros and certs upon award
- STCI to send out weekly updates
- All changes in scope of work to be approved prior to executing any additional work
- Extended delays will be tracked and reported
- Scope of work has been based off information supplied by David Lollis
- 1- year warranty on tank and coating
- Prevailing wage

Schedule and Milestones

- Engineering and design, 8-10 weeks
- Tank material and shop fabrication, 10 weeks
- Tank erection, 16-18 weeks
- Tank coating, 12-14 weeks
- CP system, 4-5 days

EXCLUSIONS: Hydro test, hydro test water, blinding, de-blinding, 3rd party inspection services, lead paint survey, lead paint removal, anchor bolts, setting of anchor bolts, grouting, drain sump, external piping, valves, mixers, vac truck services, roll off bins, disposal of roll off bins, additional work not listed, shell or roof insulation remove or replace, exterior containment, internal roof seam welding, SWPPP or management thereof, fences, access roads, maintaining roads, repairing roads, site security, site facilities (blue rooms), sub-grade work, pumps, pump house, tank foundation placement, geo tech report, building permits, bonding, any type of electrical or purchase of, disinfecting external process piping, tank signs, murals, special tank stickers, antenna for roof or supporting pole, solar panels or solar panels roof supports, level instruments, lighting protection, knuckle roof design or sections, wind girder design

We appreciate the opportunity to be of service. Should you have any questions, please do not hesitate to call me directly at the office 661-392-0188 or my cell phone 661-205-9138.

Thank you,
SUPERIOR TANK COMPANY, INC.



Michael Anderson
Branch Manager
michael.anderson@superiortank.com

BELLA VISTA WATER DISTRICT
USBR DROUGHT RESILIENCY GRANT APPLICATION

**APPENDIX F – ENVIRONMENTAL
COMPLIANCE**

September 17, 2021

Don M. Groundwater, P.E.

Provost & Pritchard Consulting Group
3387 Boder Lane
Chico, CA 95973

SUBJECT: Bella Vista Water District Water Tank Project: Preliminary Environmental Constraints Analysis and Work Scope for Future CEQA/NEPA Documentation

In response to your request, ENPLAN is pleased to provide you with a preliminary analysis of potential environmental concerns related to the proposed Bella Vista Water District (District) Water Tank Project (project). In addition to the analysis, ENPLAN has also provided a cost estimate for future environmental documentation pursuant to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). The analysis and cost estimate will be included in the District's grant application to the U.S. Bureau of Reclamation (USBR) for funding under the WaterSMART Drought Response Program.

We understand that the District owns and operates a water system in south-central Shasta County and provides water to approximately 6,300 active residential, commercial, institutional/public, and agricultural customers. The District's primary sources of water have historically included surface water from the Sacramento River (Central Valley Project) and groundwater. Due to uncertain water supplies, the District also has contracts with the USBR and the Anderson-Cottonwood Irrigation District.

In March 2021, the District adopted a Drought Contingency Plan that identified several projects that the District could implement to increase water supplies available to the District in both normal and drought years. Projects identified included one or more new wells and the construction of additional treated water storage facilities. According to the Plan, it is estimated that approximately three million gallons of additional water storage is required to meet the District's water demands when either the Wintu Pump Station or the Water Treatment Plant is off-line.

The proposed project includes the construction of an above-ground welded steel three-million-gallon water tank and associated waterline improvements adjacent to the existing Regulating Station on Hidden Acres Road. The proposed water tank would be constructed on District-owned land (Assessor's Parcel Number [APN] 061-470-047). It is anticipated that the water tank would be 32 feet tall and 140 feet in diameter. Grading includes cut and fill in order for the tank to be at the proper elevation; cutting approximately eight feet into the existing ground on one side of the tank would be required. The tank would be about 25 feet above the nearby area. Access to the tank would be from a new driveway off Hidden Acres Road.

The proposed tank would be supplied by a new waterline that would tie into the existing 36-inch water main ahead of the Regulating Station. A separate discharge pipeline would be constructed and tie back into the existing 36-inch water main downstream of the Regulating Station Tank. There would be about 1,200 feet of new waterline, including about 600 feet of 30-inch, 400 feet of 24-inch, and 200 feet of 8-inch pipe. Several hundred feet of electrical conduit would be installed. Security fencing and lighting would be installed around the tank; however, lighting would be used only when needed.

In addition to the District-owned parcel, the pipelines would be installed on USBR-owned land (Regulating Station site; APN 061-470-014) and a portion of privately-owned land (APN 061-470-093). A utility easement may need to be obtained for improvements on private property. The parcels are zoned Rural Residential (R-R). A solar field is located west of the Regulating Station site. Parcels north of the water tank site are undeveloped. Parcels to the south are sparsely developed with single-family residences; the nearest residence is approximately 250 feet southeast of the proposed water tank.

A preliminary analysis of potential environmental concerns related to the proposed project is provided below:

Visual Impacts

Improvements that could result in permanent visual impacts include construction of the three-million-gallon water tank and associated tree removal, as well as installation of security lighting and fencing. The new tank would be approximately 32 feet tall and 140 feet in diameter. The project includes grading that would result in an eight-foot cut on one side of the tank. Even with excavation, the top of the new water tank would be taller than the existing Regulating Station tank. A few dozen trees would be removed to accommodate the proposed improvements. As noted above, security lighting would be used on an as-needed basis only.

As discussed above, properties south of the proposed water tank are sparsely developed with single-family residences; the nearest residence is approximately 250 feet southeast of the proposed water tank. The water tank would be partially visible to surrounding residences and motorists on private roads in the area; however, it does not appear that the tank would be visible from any publicly accessible vantage points (e.g., Deschutes Road, Old Alturas Road or Highway 299). The tank would be painted to blend into the natural landscape. It is not anticipated that the tank would significantly degrade the existing visual character of the surrounding area. Visual impacts would be further addressed in the CEQA/NEPA documents based on final project plans.

Agricultural and Forestry Resources

According to the *Important Farmland in California* map published by the California Farmland Mapping and Monitoring Program, areas in which improvements would occur are not designated as Prime Farmland, Unique Farmland, Farmland of Statewide or Local Importance, or Grazing Land. None of the parcels in the study area are subject to a Williamson Act contract. According to the County's Zoning Map, the affected parcels are zoned Rural Residential (R-R). The R-R zone allows agricultural uses outright, and there are small-scale agricultural uses in the general project area. The tank parcel has historically been available for seasonal grazing. Although project implementation would result in the loss of a small amount of seasonal grazing land, this loss is not significant. None of the other improvements (off-site pipelines) would impede agricultural uses in the area.

According to the Shasta County General Plan and County Zoning Map, there are no Timberland Production (TPZ) zones or Timberland (TLZ) zones in the project area. The project does not involve any work in or adjacent to timberlands; therefore, the project would have no impact on timberland. "Forest land" is defined in Public Resources Code §12220(g) as land that can support ten percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. The project site meets the definition of forest land, and further review of potential impacts on forest resources will be addressed in the CEQA document based on final project plans.

Air Quality/Greenhouse Gas (GHG) Emissions

The project does not include any components that would result in a permanent increase in air/GHG emissions. Construction activities would temporarily generate emissions of regulated pollutants and GHGs as a result of vehicle trips, construction equipment exhaust, site preparation, excavation, and the application of architectural coatings. Impacts associated with air quality and GHG emissions will be further addressed in the CEQA/NEPA documents based on final project plans.

Biological Resources

According to the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB), no special-status plant or wildlife species have been reported within the project site. The following three special-status plants have been reported within an approximate five-mile radius of the project site: silky cryptantha, Red Bluff dwarf rush, and Sanford's arrowhead. Two non-status plants, woolly meadowfoam and Henderson's bent grass, have been reported within an approximate five-mile radius of the project site.

The following four special-status animal species have been reported within an approximate five-mile radius: foothill yellow-legged frog, bald eagle, steelhead – Central Valley Distinct Population Segment, and valley

elderberry longhorn beetle. Two non-status animals, spotted bat and North American porcupine, have been reported within an approximate five-mile radius of the project site.

The U.S. Fish and Wildlife Service (USFWS) identifies the following federally listed wildlife species that have the potential to be present in the project area: northern spotted owl, California red-legged frog, delta smelt, monarch butterfly, conservancy fairy shrimp, Shasta crayfish, vernal pool fairy shrimp, and vernal pool tadpole shrimp. The USFWS does not identify any federally listed plants with the potential to be present in the project area. There is no designated critical habitat for federally listed species within the project area.

The project area is located in the U.S. Geological Survey Bella Vista Quadrangle. The National Marine Fisheries Service (NMFS) identifies Central Valley Spring-run evolutionary significant unit (ESU) (federally threatened) and Sacramento River Winter-Run Chinook Salmon ESU (federally endangered) in this quadrangle. Critical habitat is identified for California Central Valley Steelhead, and essential fish habitat is identified for Chinook salmon. However, the critical habitat does not extend to the project site, and there are no fish-bearing streams in proximity to the site.

To determine the presence/absence of special-status plant and animal species in the study area, an ENPLAN biologist conducted preliminary botanical and wildlife surveys on August 31, 2021. Some of the special-status plant and wildlife species would not have been evident at the time the fieldwork was conducted; however, determination of their potential presence could readily be made based on observed habitat characteristics. There appears to be minimal potential for special-status species to occur on the project site; however, we recommend that a botanical survey be completed in the spring when special-status plants that have a potential to occur in the area would be identifiable. Additionally, the on-site vegetation may support nesting birds and roosting bats; mitigation may be warranted to avoid/minimize effects on these species.

Project implementation would result in the removal of mature trees to facilitate construction of the water tank, pipeline, and driveway. The dominant habitat type within the project site is blue oak woodland; the loss of oak woodland habitat must be addressed in the Initial Study in accordance with the Oak Woodlands Conservation Act. Completion of a tree survey is warranted to quantify and evaluate the unavoidable loss of oak trees and oak woodland habitat.

Wetlands and other Jurisdictional Waters

Based on review of the USFWS National Wetlands Inventory, there are no wetlands or jurisdictional features within the project area. Additionally, an ENPLAN biologist conducted a field evaluation on August 31, 2021, and did not identify any wetlands or jurisdictional features on the project site. The proposed project would not affect wetlands or other jurisdictional waters.

Cultural Resources

A records search was conducted at the Northeast Center of the California Historical Resources Information System (NE/CHRIS) in 2016 to identify previously conducted cultural resources surveys and recorded sites in the Bella Vista Water District Solar Panel project site, which is about 500 feet east of the water tank site. The records search covered an approximate half-mile radius around the Solar Panel site and encompassed the water tank site. The records search did not identify previously recorded sites within the project area; however, two archaeological sites have been recorded within a half-mile radius of the project site.

The record search identified an archaeological inventory survey that was completed by Jensen & Associates in November 1991. The report covered the proposed project site and stated that a high-intensity survey was completed. The Jensen & Associates study did not identify any cultural resources in or adjacent to the project site.

The USBR's Regulating Tank and associated facilities were constructed in 1965. Because the facilities are over 50 years old, an evaluation is required to determine whether the facilities are eligible for listing in the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR), and to evaluate whether the proposed project would result in effects that change the criteria that make the facilities eligible for listing. Possible impacts would include a change in visual character that would adversely affect a significant historical resource.

According to the U.S. Department of Agriculture, Natural Resources Conservation Service, soils on the project site are mapped as Newtown stony loam, 8 to 50 percent slopes, and Red Bluff gravelly loam, moderately deep, 0 to 3 percent slopes. These soils date to the Older Pleistocene (1.9 million years ago to 25,000 years ago); Older Pleistocene-age soils have a very low potential for subsurface cultural deposits.

Hazards/ Hazardous Materials

According to Department of Toxic Substances Control (DTSC) records and the State Water Board Geotracker database, there are no active clean-up sites or hazardous waste sites within a one-mile radius of the project site.

Floodplains

According to the FEMA Flood Insurance Rate Map (Panel 06089C1265G, effective March 17, 2011), the project site is not located within a designated flood hazard zone.

Geology and Soils

According to the California Department of Conservation Fault Activity Map of California, there are no potentially active earthquake faults in the project area. The site is relatively flat with a low potential for landslides. The grading plan will be completed by a licensed engineer to ensure that any potential issues related to liquefaction, expansive soils, or unstable soils are addressed through proper engineering design and/or construction methods.

One aspect of the proposed project that has not yet been defined is the disposition of excavated soil. On-site disposal could result in an additional loss of oak woodland habitat, an increased potential for erosion, and other impacts, while off-site disposal could generate an increase in truck traffic, with associated noise and air quality impacts, as well as other possible impacts depending on the discharge location. Although we don't anticipate significant impacts, soil disposal plans will need to be addressed in the Initial Study.

Hydrology and Water Quality

The project has the potential to temporarily degrade water quality due to increased erosion during construction; however, the project is required to implement best management practices (BMPs) in accordance with existing State and local regulations to control construction-related erosion and runoff. Grading activities and installation of the water tank have a potential to change the existing drainage pattern of the site and area; however, the engineered plans would include any necessary drainage improvements to ensure that post-construction runoff does not result in flooding on- or off-site.

Mineral Resources

The California Geological Survey does not identify mineral deposits of statewide significance in the area, and there are no publicly known, economically viable deposits of precious metals in the vicinity. The project site and adjacent areas are not designated or zoned for mineral extraction activities. No impacts with respect to mineral resources are anticipated.

Noise

The project does not include any components that would result in a permanent increase in ambient noise levels in the area. Construction activities would generate noise in proximity to sensitive receptors (residences). The IS/MND will include an analysis of construction noise and identify mitigation measures to minimize noise impacts during construction.

Wildfire

According to CAL FIRE, the project site is located in a High Fire Hazard Severity Zone (HFHSZ) in a State Responsibility Area (SRA). However, the project does not include any development or improvements that would increase the long-term risk of wildland fires or expose people or structures to wildland fires.

Scope of Future Environmental Work

Funding for the proposed project will be through the USBR WaterSMART Drought Response Program. The USBR will be the federal lead agency for the project. Based on preliminary review, we anticipate that compliance with USBR environmental review requirements under NEPA will be satisfied with completion of an Environmental Assessment (EA) in accordance with 43 Code of Federal Regulations (CFR) Part 46 and the USBR's NEPA Handbook.

The District will be the CEQA lead agency for the project. We anticipate that CEQA compliance will be met through preparation of an Initial Study and adoption of a Mitigated Negative Declaration (IS/MND) by the District. Our scope of work includes the following tasks:

TECHNICAL STUDIES

Technical studies needed in support of the project are anticipated to include biological studies, a tree survey, a cultural resources study, and an air quality/greenhouse gas emissions analysis. Details of each technical study are provided below. For the site-specific studies, we will work closely with Provost and Pritchard Consulting Group (P&P) and District staff to determine appropriate study limits for our field evaluations. The study area for each technical study will include all areas in which improvements would occur, as well as sufficient area for construction. Temporary construction access roads and areas used for staging will also be analyzed to identify potential impacts. We will consult with state and federal regulatory agencies as necessary during preparation of the technical studies.

Information from the technical studies will be incorporated into the IS/MND and EA, along with recommended mitigation measures. Details of each technical study are provided below.

Biological Studies

In addition to pre-field research, ENPLAN will conduct biological field studies in accordance with current agency standards to document the presence, potential presence, or absence of special-status species, as outlined below. Potential impacts to special-status species, critical habitat, and essential fish habitat will be analyzed in the Biological Study Report. The results of the records search and field studies will be incorporated into the CEQA document.

Pre-field Research. ENPLAN will conduct a biological records search prior to initiating fieldwork in order to obtain information on special-status species, designated critical habitats, and birds of conservation concern with the potential to occur in the project area. Records reviewed will include those maintained by the USFWS, NMFS, and CDFW.

Botanical Field Survey. We will conduct a botanical field survey of the project area to document the plant communities present and determine their potential to support special-status species. Plant species observed in the field will be identified to the lowest taxonomic level possible, given seasonal constraints. If potentially suitable habitat for special-status plant species is identified during the field evaluation, we would recommend a follow-up survey during the blooming season, prior to the start of construction.

Wildlife Field Survey. A general wildlife survey will be undertaken by our wildlife biologist. A list of wildlife species observed in the field will be prepared. Any identified occurrences of special-status wildlife populations or important habitats for special-status wildlife will be documented and mapped. In the unlikely event that completion of species-specific surveys is required by reviewing agencies, such work would be completed under a separate authorization.

Report Preparation. Results of the biological study will be incorporated into the IS/MND and NEPA EA. Documentation will include a description of existing conditions, our study methodology, the results of our records search and field studies, an impact assessment, and recommended measures that address both direct and indirect potential impacts. Appropriate maps, photographs, data forms, species lists, and other supporting information will be included. We do not anticipate that any federally listed species will be present in the project site; therefore, our work scope does not include preparation of a Biological Assessment (BA).

Tree Survey

A tree survey will be conducted to meet the requirements of the Oak Woodland Conservation Act and CEQA Guidelines. Results of the study will be incorporated into the biological evaluation, forest land evaluation, visual impact analysis and possibly to the cultural resources evaluation.

Field Survey. We will conduct a field survey of the project study area and evaluate all native oaks within the study area. We will record the diameter, species, and condition (i.e., general health, form, etc.) of all oak trees ≥ 5 -inch diameter at breast height and document the locations of the trees using a GPS unit capable of sub-meter accuracy.

GIS Database Development. ENPLAN will develop a GIS database for the project, which will include our field data. Electronic files will be provided to you.

Report Preparation. ENPLAN will prepare a letter report and map. The report will document our study methodology and field results. We will also evaluate the potential impacts of oak removal based on the UC Integrated Hardwood Range Management Program Matrix or other appropriate standard. If necessary, we will formulate a mitigation approach, which could consist of avoidance of certain high-value trees (if feasible), on-site oak planting, purchase of a conservation easement or credits, or other measures; preparation of a detailed oak planting plan is not included in our scope. The report will be signed by a certified arborist or other qualified professional.

Wetland Assessment

As discussed above, field review and review of aerial photography and National Wetland Inventory mapping did not identify any wetlands or jurisdictional features on site. No wetlands or other jurisdictional waters would be affected by project implementation; therefore, no further evaluation is needed.

Cultural Resources Study

ENPLAN will prepare a cultural resources study that meets the requirements of both CEQA and Section 106 of the National Historic Preservation Act. Section 106 compliance will in turn ensure compliance with NEPA standards triggered by federal funding for the project. Prior to commencement of the Cultural Resources Study, ENPLAN will consult with the USBR and/or State Historic Preservation Officer (SHPO) to determine specific requirements for the study. We anticipate that the cultural resources study will be conducted in accordance with the following scope:

Records Search. ENPLAN will conduct a cultural resources records search at the Northeast Information Center of the California Historical Resources Information System at California State University, Chico (NE/CHRIS) and review Government Land Office (GLO) records as appropriate.

Agency and Tribal Contacts. We will contact the Native American Heritage Commission for information relating to any previously recorded Traditional Cultural Properties or sacred sites and to receive a listing of local Native Americans who may wish to express their concerns regarding the project. We will then contact local individuals, historical societies, and Native American groups/individuals in order that they may add light to the prehistoric/historic context of the area. It is our understanding that formal tribal cultural resources consultation in accordance with AB 52 (2014) is not required for the project.

Field Survey. We will conduct a general-level pedestrian field survey of the study area. All observed cultural resources will be noted and GPS coordinates taken. If cultural resources have been previously recorded within the study area, we will attempt to relocate the sites. Due to the age of the USBR Regulating Station and associated facilities, site recordation and an evaluation of the facilities will be conducted. The evaluation would be completed by an archaeologist; we anticipate that participation by an architectural historian will not be required.

Report Preparation. ENPLAN will prepare a cultural resources study report outlining the project description, context, methodology, results, and our recommendations. The report will be prepared to meet both CEQA and Section 106 standards. A draft report will be submitted to P&P, District staff, and USBR; after making any warranted revisions, we will then submit the final report to the funding agencies

and NE/CHRIS staff. Results of the cultural resource study will be summarized in the IS/MND and NEPA documentation.

SHPO Consultation. Pursuant to funding agency guidelines, the cultural resources study will be submitted to the State Historic Preservation Officer (SHPO) for review. If comments are provided by SHPO, we will revise our report as needed and re-submit it for final review.

Air Quality/Greenhouse Gas Emissions Analysis

Federal

Due to federal funding, the proposed project is subject to provisions of the federal Clean Air Act (CAA), including the federal General Conformity Rule. The CAA conformity regulations apply only to federal criteria pollutants or their precursors that are emitted in designated nonattainment or maintenance areas. According to the U.S. Environmental Protection Agency, the project area is in attainment or unclassified status for all federal criteria pollutants; thus, a federal general conformity analysis is not required.

State

Shasta County is in non-attainment status for the California Ambient Air Quality Standards for ozone. In accordance with Shasta County Air Quality Management District (SCAQMD) requirements, we will evaluate emissions resulting from project construction and operation. CalEEMod will be used for the quantitative analysis of air emissions. Emissions to be evaluated will include criteria air pollutants and greenhouse gas (GHG) emissions. Projected emission quantities will be compared with existing standards to determine significance. For GHG emissions, incorporation of best management practices to minimize emissions is generally accepted as adequate avoidance/mitigation. If additional mitigation is required, our team will work with District and SCAPCD staff to jointly identify appropriate control measures to mitigate impacts. Results of the CalEEMod analysis will be documented in the IS/MND and NEPA documents.

CEQA DOCUMENTATION

ENPLAN will prepare an IS/MND for the proposed project in accordance with CEQA and the CEQA Guidelines. The IS/MND will include the following components: introduction, project description, impact analyses, and supporting documentation. In addition to the technical studies noted above, the IS/MND will address aesthetics, agricultural and forestry resources, energy, geology/soils, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation/traffic, utilities/service systems, and wildfire. Direct, indirect, and cumulative impacts will be analyzed. The administrative draft IS/MND will be provided to P&P and District staff for review, and we will then revise the document as warranted.

Up to 10 bound copies of the IS/MND will be prepared for public and agency distribution, if requested. ENPLAN will prepare the Notice of Availability/Intent to Adopt the MND for publication by the District and assist District staff in uploading the CEQA document to the State Clearinghouse through CEQASubmit.

Upon close of the review period, we will prepare responses to public and agency comments; we have allocated up to 16 hours for responding to comments. A memorandum consisting of the responses to comments and a Mitigation Monitoring and Reporting Program will be submitted to the District. We will also prepare a resolution adopting the MND, MMRP, and required CEQA findings for approval by the Board. ENPLAN will attend one public meeting to present our findings and recommendations and respond to questions that may arise. Upon adoption of the MND, ENPLAN will prepare a Notice of Determination for submittal to the State Clearinghouse and Shasta County Clerk; posting of this notice starts the 30-day statute of limitations on court challenges to the approval under CEQA.

NEPA DOCUMENTATION

In accordance with program guidelines, the USBR will serve as the federal lead agency and assume responsibility for NEPA environmental review. We anticipate that federal environmental compliance will be achieved through preparation of an EA and supporting documentation and approval of a Finding of No Significant Impact (FONSI) in accordance with USBR's standards for NEPA review. Prior to preparing the

EA/FONSI, ENPLAN will consult with USBR staff to confirm the appropriate level of environmental review and required documentation.

ENPLAN will prepare an EA for review by P&P and District staff. The report will include discussions with respect to air quality, endangered species, hazardous materials, important farmlands, floodplains, wetlands, historic preservation, noise, environmental justice, and other issues. Following review, we will make changes as warranted and submit the final document for District approval and submittal to the USBR. We will work with USBR to ensure that public and agency notification and review requirements are met. We will respond to any comments provided during the public/agency review period. ENPLAN will then provide follow-up consultation with program staff through to their approval of the documentation and issuance of environmental clearance.

PERMIT DOCUMENTATION

We anticipate that the proposed project will trigger the need for a Shasta County Grading Permit and/or USBR approval for improvements to a federally owned facility. No resource agency permits are anticipated to be required.

COST ESTIMATE

We propose to complete the tasks described above on a time and materials basis for an estimated cost of \$60,000; our anticipated cost allocation is shown on the attached spreadsheet. Our cost estimate does not include permit fees or recordation of any cultural resources that may be identified in the study area. In addition, our cost estimate assumes that no species-specific wildlife surveys will be required. If additional studies and/or tasks are determined to be necessary, we will provide a separate cost estimate at that time.

Please contact me at **530.221.0440, extension 7102**, if you have any questions regarding our proposal.

Sincerely,



Donald Burk
Environmental Services Manager

Enclosures: Cost Proposal

Bella Vista Water District Water Tank Project Cost Proposal

		ENPLAN										Subtotal	Direct Cost (\$)	TOTAL COSTS (\$)
TASK/UNIT	Employee -->	Env. Service Manager	Env. Planner I	Env. Planner II	Env. Planner IV	Env. Scientist III	Archaeologist I	Archaeologist II	GIS Technician	Arborist	Production Manager			
	Rate/ Hr. ---->	170	120	105	75	95	110	95	110	110	60			
Technical Studies														
Biological Resources Studies (Botanical and Wildlife)	(hr)	10	-	-	6	24	-	-	4					
	(\$)	1,700	-	-	450	2,280	-	-	440	-	-	4,870	50	4,920
Cultural Resources Assessment	(hr)	4	-	-	-	-	4	48	2		4			
	(\$)	680	-	-	-	-	440	4,560	220	-	240	6,140	600	6,740
Tree Survey	(hr)	2	-	-		18	-	-	6	12				
	(\$)	340	-	-	-	1,710	-	-	660	1,320	-	4,030	50	4,080
Air Quality Analysis	(hr)	-	8	-	-	-	-	-	-	-	-			
	(\$)	-	960	-	-	-	-	-	-	-	-	960		960
Subtotal Hours		16	8	-	6	42	4	48	12	12	4			
Subtotal Costs		2,720	960	-	450	3,990	440	4,560	1,320	1,320	240	16,000	700	16,700
CEQA Environmental Review														
Initial Study and Mitigated Negative Declaration (IS/MND)	(hr)	10	40	24	150	-	-	-	8	8				
	(\$)	1,700	4,800	2,520	11,250	-	-	-	880	880		22,030		22,030
Notice of Intent to Adopt an MND and Notice of Completion	(hr)		2	-	6	-	-	-	-	-				
	(\$)		240	-	450	-	-	-	-	-		690		690
Prepare Copies (if requested), Submit to State Clearinghouse (CEQASubmit)	(hr)	-	-	6	-	-	-	-	-	-	6			
	(\$)	-	-	630	-	-	-	-	-	-	360	990	300	1,290
Prepare Responses to Comments	(hr)	2	14	-	-	-	-	-	-	-	-			
	(\$)	340	1,680	-	-	-	-	-	-	-	-	2,020		2,020
Prepare Mitigation Monitoring and Reporting Program	(hr)	2	-	-	10	-	-	-	-	-	-			
	(\$)	340	-	-	750	-	-	-	-	-	-	1,090		1,090
Lead Agency Meeting Coordination, Preparation, and Attendance	(hr)	-	6	-	-	-	-	-	-	-	-			
	(\$)	-	720	-	-	-	-	-	-	-	-	720	25	745
Prepare Notice of Determination	(hr)	-	2	2	-	-	-	-	-	-	-			
	(\$)	-	240	210	-	-	-	-	-	-	-	450		450
Subtotal Hours		14	64	32	166	-	-	-	8	8	6	-		
Subtotal Costs		2,380	7,680	3,360	12,450	-	-	-	880	880	360	27,990	325	28,315
USBR Documentation														
Prepare USBR Environmental Assessment	(hr)	2	8	8	40	-	-	-	4	4	-			
	(\$)	340	960	840	3,000	-	-	-	440	440	-	6,020		6,020
Prepare USBR Notices	(hr)	-	2	8	-	-	-	-	-	-	-			
	(\$)	-	240	840	-	-	-	-	-	-	-	1,080		1,080
Provide Follow-Up Consultation	(hr)	8	8	-	-	-	-	-	-	-	-			
	(\$)	1,360	960	-	-	-	-	-	-	-	-	2,320		2,320
Subtotal Hours		10	18	16	40	-	-	-	4	4	-			
Subtotal Costs		1,700	2,160	1,680	3,000	-	-	-	440	440	-	9,420		9,420
TOTAL HOURS														
		40	90	48	212	42	4	48	24	24	10			
COST		6,800	10,800	5,040	15,900	3,990	440	4,560	2,640	2,640	600	53,410	1,025	54,435
CONTINGENCY (10%)														5,444
TOTAL COSTS														59,879
Reimbursables expenses incurred for dataset acquisition, field supplies, document reproduction, shipping, food and lodging are billed at direct cost . Vehicle costs are based on the current federal rate. Specialists contracted on behalf of client by ENPLAN to carry out specific project-related tasks are billed at direct cost. All other operational and incidental expenses are covered under the labor rates indicated.														

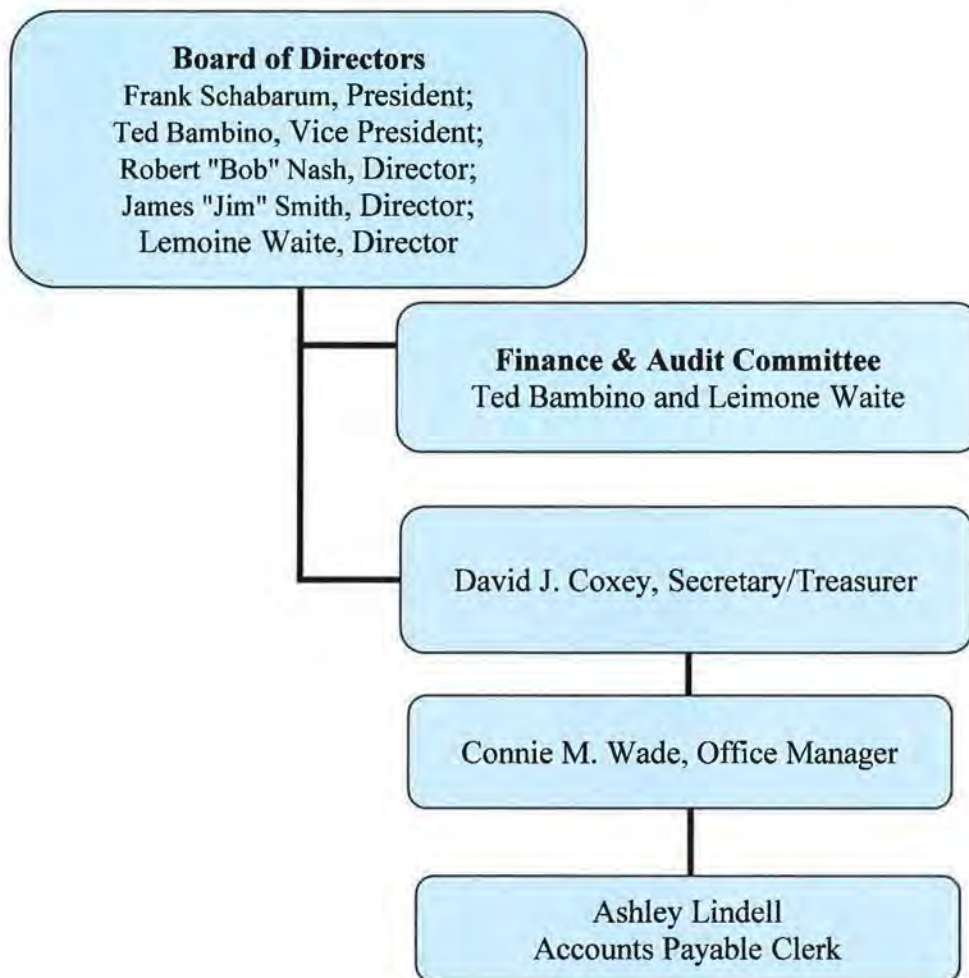
Reimbursables expenses incurred for dataset acquisition, field supplies, document reproduction, shipping, food and lodging are billed at direct cost . Vehicle costs are based on the current federal rate. Specialists contracted on behalf of client by ENPLAN to carry out specific project-related tasks are billed at direct cost. All other operational and incidental expenses are covered under the labor rates indicated.

BELLA VISTA WATER DISTRICT
USBR DROUGHT RESILIENCY GRANT APPLICATION

**APPENDIX G – COST SHARE
DOCUMENTATION**

**BELLA VISTA WATER DISTRICT
INVESTMENT PORTFOLIO
June 30, 2021**

ORGANIZATIONAL CHART & GOALS



GOALS

1. Safety
2. Liquidity
3. Return on Investment
4. Diversification
5. Deposits with Financial Institutions
6. Investment Guidelines
7. Compliance with Law

*This portfolio is in compliance with the Investment Policy adopted under resolution 96-02 dated January 9, 1996, amended January 12, 1999.

**Based upon a review by David J. Coxey, Secretary/Treasurer, of the Bella Vista Water District's current financial situation and projected revenues, the District has the ability to meet its expenditures for the next 6 months.

Name	Term	Prior Interest Rate	Current Interest Rate	Amount
C. I. Fund (MBOC) Acct. No. 3810395	N/A	0.43%	0.34%	\$2,984,154.79
Contingency Funds (MBOC) Acct. No. 3810377	N/A	0.43%	0.34%	\$2,272,011.04
M & I Reserve (MBOC) Acct. No. 3810386	N/A	0.43%	0.34%	\$675,291.81
EOMR Vehicle Placement (MBOC) Acct. No. 3810386	N/A	0.43%	0.34%	\$553,775.63
EOMR Facilities Placement (MBOC) Acct. No. 3810386	N/A	0.43%	0.34%	\$1,389,243.42
EOMR Pipeline Placement (MBOC) Acct. No. 3810386	N/A	0.43%	0.34%	\$660,671.00
Bureau Reserve (MBOC) Acct. No. 3810386	N/A	0.43%	0.34%	\$81,182.56
Palo Cedro Storage C.D. (MBOC) Acct. No. 24343	1 year	0.56%	0.56%	\$183,806.91
1996-1 Bond Redemption Fund (MBOC) Acct. No. 3211967	N/A	0.43%	0.34%	\$24,332.10
Water Treatment Improvement (MBOC) Acct. No. 3111032	N/A	0.43%	0.34%	\$680,261.29
Weighted Rate of Return			0.34%	

BELLA VISTA WATER DISTRICT

USBR DROUGHT RESILIENCY GRANT APPLICATION

APPENDIX H – LETTERS OF SUPPORT



CITY OF REDDING

777 CYPRESS AVENUE, REDDING, CA 96001

P.O. BOX 496071, REDDING, CA 96049-6071

**PUBLIC WORKS
ENGINEERING DIVISION**

530.225.4170

530.245.7024

September 20, 2021

Wayne Ohlin, District Engineer
Bella Vista Water District
11368 East Stillwater Way
Redding, CA 96003

Subject: Letter of Support for USBR Drought Resiliency Grant for Bella Vista Water District

Dear Wayne Ohlin:

The City of Redding strongly supports the Bella Vista Water District's plans to construct a new 3-million-gallon water storage tank. Numerous City of Redding residents receive their water supply from Bella Vista Water District. This project will improve water service in the area through greater reliability, improved operational flexibility, and provide increased backup supplies in the case of a power outage, maintenance, system failure or other natural disaster. The project will also provide additional supplies for firefighting in the area.

The project can also help to facilitate transfers to the Bella Vista Water District during droughts, including transfers with the City of Redding through an existing interconnection. We understand the need to be proactive in the fight against droughts. Recent droughts have resulted in very severe water shortages and emphasized the need for more comprehensive drought planning and mitigation projects.

We strongly encourage the United States Bureau of Reclamation to fund their application.

Sincerely,

A handwritten signature in blue ink, appearing to read "Chuck Aukland", is written over a faint, stylized blue oval background.

Chuck Aukland, P.E.
Director of Public Works

CAPITOL OFFICE
STATE CAPITOL
ROOM 2054
SACRAMENTO, CA 95814
TEL (916) 651-4001

DISTRICT OFFICES
11230 GOLD EXPRESS DRIVE
SUITE 304
GOLD RIVER, CA 95670
TEL (916) 464-4201
1320 YUBA STREET
SUITE 102
REDDING, CA 96002
TEL (530) 224-7001

California State Senate

SENATOR
BRIAN DAHLE
FIRST SENATE DISTRICT



VICE CHAIR
ENERGY, UTILITIES
AND COMMUNICATIONS

MEMBER
BANKING AND
FINANCIAL INSTITUTIONS
BUDGET AND FISCAL REVIEW
SUBCOMMITTEE #2 ON
RESOURCES, ENVIRONMENTAL
PROTECTION, ENERGY AND
TRANSPORTATION
ENVIRONMENTAL QUALITY
TRANSPORTATION

September 15th, 2021

Wayne Ohlin, P.E.
District Engineer
Bella Vista Water District
11368 East Stillwater Way
Redding, CA 96003

Subject: New Water Tank Project, Bella Vista Water District

Dear Mr. Ohlin:

I have been informed of Bella Vista Water District's intent to file a grant application with the United States Bureau of Reclamation to construct a new 3-million gallon water storage tank. I write to share my support for this vital project.

The Bella Vista Water District plays an important role in providing water for urban and agricultural uses. Recent droughts have left the district few options to mitigate the situation. The additional storage will ease transfers into the district and increase groundwater production, which would provide more water during droughts. The water tank will provide a backup water supply in case of power outages, system failures or other emergencies, and would provide additional water supplies for fighting municipal and wildland fires.

I strongly endorse this project and request that the Bureau of Reclamation fund the district's grant application.

Sincerely,

A handwritten signature in blue ink that reads "Brian Dahle".

BRIAN DAHLE
Senator, 1st District



14508 Wonderland Boulevard • Redding, California 96003
Phone: (530) 275-3002 • Fax: (530) 275-3043 • www.mountaingatecsd.com

September 14, 2021

Wayne Ohlin, District Engineer
Bella Vista Water District
11368 East Stillwater Way
Redding, CA 96003

**Subject: Letter of Support for USBR Drought Grant for
Bella Vista Water District's
Proposed Water Tank Project**

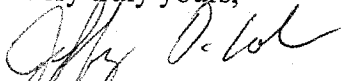
Dear Wayne Ohlin:

Mountain Gate Community Services District strongly supports the Bella Vista Water District's plans to construct a new 3-million-gallon water tank. The water tank will provide additional water storage to help improve operations and facilitate water transfers. Mountain Gate Community Services District has an interconnection with Bella Vista Water District, and the new water tank could provide the short-term storage and operational flexibility that would allow transfers to our agency in the case of a severe drought or emergency condition.

Recent droughts have resulted in very severe water shortages and emphasized the need for more comprehensive drought mitigation projects. The proposed water tank could help to improve water reliability and security in the region.

We support their efforts and encourage USBR to consider the District's application to help fund this project.

Very truly yours,


Jeff Cole
Manager

September 15, 2021

Wayne Ohlin, District Engineer
Bella Vista Water District
11368 East Stillwater Way
Redding, CA 96003

Subject: Letter of Support for USBR Drought Grant for Bella Vista Water District's
Proposed Water Tank Project

Dear Wayne Ohlin:

The City of Shasta Lake (City) strongly supports the Bella Vista Water District's plans to construct a new 3-million-gallon water tank. The water tank will provide additional water storage to help to improve operations and facilitate water transfers. The City has an interconnection with Bella Vista Water District, and the new water tank could provide the short-term storage and operational flexibility that would allow transfers to our agency in the case of a severe drought or emergency condition.

Recent droughts have resulted in very severe water shortages and emphasized the need for more comprehensive drought mitigation projects. The proposed water tank could help to improve water reliability and security in the region.

We support their efforts and encourage USBR to consider the District's application to help fund this project.

Sincerely,



Jessaca Lugo
City Manager
City of Shasta Lake



Shasta County

DEPARTMENT OF PUBLIC WORKS

1855 PLACER STREET
REDDING, CA 96001-1759
530.225.5661 530.225.5667 FAX
800.479.8022 California Relay Service at 700 or 800.735.2922

PATRICK J. MINTURN, DIRECTOR
C. TROY BARTOLOMEI, DEPUTY
ALFRED V. CATHEY, DEPUTY
KEN D. CRISTOBAL, DEPUTY

FPA 010801

September 15, 2021

Wayne Ohlin, P.E.
District Engineer
Bella Vista Water District
11368 East Stillwater Way
Redding, CA 96003

Subject: Letter of Support for New Water Tank Project
Bella Vista Water District

Dear Mr. Ohlin:

Shasta County has been informed of Bella Vista Water District's intent to file a grant application with the United States Bureau of Reclamation (USBR) to construct a new 3-million-gallon water storage tank. We are writing this letter to express our support for the project.

The Bella Vista Water District plays an important role in providing water for urban and agricultural uses. Recent droughts have had a negative impact on the area and the District had few options to mitigate the situation. The additional storage will help to facilitate transfers into the District and increase groundwater production, which would help to provide more water during droughts. The water tank will also provide a backup water supply in case of power outages, system failures or other emergencies and would provide additional water supplies for fighting municipal fires and wildfires, which are significant problems in the area.

We strongly endorse this project and request that USBR fund the District's grant application.

Sincerely,

Patrick J. Minturn, Director

PJM/ldr



SHASTA COUNTY

FIRE DEPARTMENT

Bret Gouvea, Fire Warden

875 Cypress Ave.
Redding, CA 96001
Voice - (530) 225-2418
Fax - (530) 225-2514

September 16, 2021

Wayne Ohlin, District Engineer
Bella Vista Water District
11368 East Stillwater Way
Redding, CA 96003

**Subject: Letter of Support for USBR Grant for
Bella Vista Water District's
New 3-Million Gallon Water Tank**

Dear Mr. Ohlin:

Shasta County Fire Department strongly supports the Bella Vista Water District's plans to construct a new 3-million-gallon water tank. The water tank will provide additional water storage to help meet fire flows and provide backup water supplies in case of a power outage or other emergency. The water supply can help to fight fires in the portions of the City of Redding that the District serves. The water supply can also help to fight fires in the rural residential areas of the District that could develop into larger wildfires throughout the region. Shasta County has experienced some significant wildfires in recent years, including the Mountain Fire (2019), Zogg Fire (2020) and Dixie Fire (2021). We fully support projects that will increase readiness to help prevent the spread of these fires into and within Bella Vista Water District and the City of Redding metropolitan area.

We endorse and support their efforts and encourage USBR to fund their application to help fund this project.

Sincerely,

Bret Gouvea
Shasta County Fire Warden

By: Jimmy Zanotelli
Shasta County Fire Marshal

September 16, 2021

Wayne Ohlin, P.E.
District Engineer
Bella Vista Water District
11368 East Stillwater Way
Redding, CA 96003

Subject: Letter of Support for New Water Tank Project, Bella Vista Water District

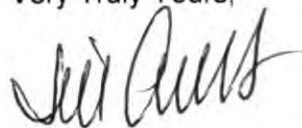
Dear Mr. Ohlin:

Shasta College has been informed of Bella Vista Water District's intent to file a grant application with the United States Bureau of Reclamation to construct a new 3-million gallon water storage tank. We are writing this letter to express our support for the project.

The Bella Vista Water District plays an important role in providing water for urban and agricultural uses. Recent droughts have had a negative impact on the area and the District had few options to mitigate the situation. The additional storage will help to facilitate transfers into the District and increase groundwater production, which would both help to provide more water during droughts. The water tank will also provide a backup water supply in case of power outages, system failures or other emergencies and would provide additional water supplies for fighting municipal fires and wildfires, which are significant problems in the area.

We strongly endorse this project and request that USBR fund the District's grant application.

Very Truly Yours,



Jill Ault
Assistant Superintendent/Vice President of
Administrative Services

Governing Board Members

Stephen Bell Patrick W. Carr Richard Lawrence Dr. Rob Lydon Rhonda E. Nehr Kendall S. Pierson Scott J. Swendiman

Superintendent/President

Joe Wyse, Ed.D.

Congress of the United States
House of Representatives
Washington, DC 20515-0501

WASHINGTON OFFICE:
322 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
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CHICO DISTRICT OFFICE:
120 INDEPENDENCE CIRCLE
SUITE B
CHICO, CA 95973
TEL: (530) 343-1000
FAX: (530) 343-0240

REDDING DISTRICT OFFICE:
2885 CHURN CREEK ROAD
SUITE C
REDDING, CA 96002
TEL: (530) 223-5898
FAX: (530) 223-5897

AUBURN DISTRICT OFFICE:
2399 RICKENBACKER WAY
AUBURN CA, 95602
TEL: (530) 878-5035
FAX: (530) 878-5037

<http://lamalfa.house.gov>

September 17, 2021

Wayne Ohlin, P.E.
District Engineer
Bella Vista Water District
11368 East Stillwater Way
Redding, CA 96003

Subject: Letter of Support for New Water Tank Project
Bella Vista Water District

Dear Mr. Ohlin:

I have been informed of Bella Vista Water District's intent to file a grant application with the United States Bureau of Reclamation to construct a new 3-million gallon water storage tank. We are writing this letter to express our support for the project.

The Bella Vista Water District plays an important role in providing water for urban and agricultural uses. Recent droughts have had a negative impact on the area and the District had few options to mitigate the situation. The additional storage will help to facilitate transfers into the District and increase groundwater production, which would both help to provide more water during droughts. The water tank will also provide a backup water supply in case of power outages, system failures or other emergencies and would provide additional water supplies for fighting municipal fires and wildfires, which are significant problems in the area.

I strongly endorse this project and request that USBR fund the District's grant application.

Thank you,



Member of Congress
1st District of California

BELLA VISTA WATER DISTRICT
USBR DROUGHT RESILIENCY GRANT APPLICATION

APPENDIX I – OFFICIAL RESOLUTION

**BELLA VISTA WATER DISTRICT
COUNTY OF SHASTA, CALIFORNIA**

Resolution No. 21-09

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE
BELLA VISTA WATER DISTRICT
FOR A GRANT FROM THE UNITED STATES BUREAU OF RECLAMATION
WATERSMART DROUGHT RESPONSE PROGRAM: DROUGHT RESILIENCY
PROJECTS FOR FISCAL YEAR 2022**

WHEREAS, the Bella Vista Water District is a public agency and is eligible to submit an application for funding from the WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2022;

WHEREAS, the Bella Vista Water District would like to develop a new 3-million gallon water tank that would: 1) provide additional water storage to improve the flexibility of operations; 2) provide emergency water during a power outage, equipment malfunction or maintenance operations; 3) provide additional water for firefighting purposes; 4) increase the amount of groundwater production by storing groundwater pumped at night; 5) facilitate transfers with other agencies by providing short-term storage of the transferred water; and 6) provide storage and flexibility to better accommodate drought conditions, and have the project partially funded with monies from this grant program;

WHEREAS, Bella Vista Water District will commit to the financial and legal obligations associated with receipt of financial assistance under the grant program;

WHEREAS, the Bella Vista Water District Board of Directors has reviewed and supports the proposed application;

WHEREAS, the Bella Vista Water District has the full capability to provide the amount of funding and/or in-kind contributions specified in the funding plan;

WHEREAS, if selected for a grant, the Bella Vista Water District will work with United States Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement.

RESOLVED by the Board of Directors of the Bella Vista Water District that pursuant and subject to all of the terms and provisions of the WaterSMART Drought Response Program: Drought Resiliency Grant Application, and amendments thereto, application by this District be made to the United States Bureau of Reclamation to obtain a grant to design and construct a new water tank facility.

The President of the Board of Directors and/or General Manager is hereby authorized and directed to prepare the necessary data, make investigations, sign, and file such application with the United States Bureau of Reclamation.

Passed and adopted this 27th day of September 2021 by the following vote:

Ayes:

Noes:

Absent:

Abstain:

BELLA VISTA WATER DISTRICT

Frank Schabarum, President of the Board of Directors
of Bella Vista Water District

ATTEST:

David J. Coxey, Secretary of the Board of
Directors of Bella Vista Water District

BELLA VISTA WATER DISTRICT

STATE OF CALIFORNIA)) ss
COUNTY OF SHASTA)

I, DAVID J. COXEY, Secretary of the Bella Vista Water District DO HEREBY CERTIFY that the foregoing resolution was duly adopted by the Board of Directors of said District at a Regular Meeting of said Board of Directors by the following vote:

AYES:	0
NOES:	0
ABSENT:	0
ABSTAINED:	0

David J. Coxey, Secretary of the
Board of Directors

STATE OF CALIFORNIA) ss
COUNTY OF SHASTA)

I, DAVID J. COXEY, Secretary of the Bella Vista Water District DO HEREBY CERTIFY that the foregoing is a full and correct copy of Resolution No. 21-09 of said Board of Directors, and that the same has not been amended or repealed.

David J. Coxey, Secretary of the
Board of Directors