

**Vandalia Water District
Wellfield SCADA System
Tulare County, CA**

**Application Submitted to
United States Bureau of Reclamation**

(Funding Opportunity Announcement No. BOR-DO-20-F006
Section C.3.1)

**Vandalia Water District
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March 3, 2020

Vandalia Water District

Technical Proposal and Evaluation Criteria

I. Executive Summary	1
II. Background Information	1
III. Existing Water Delivery System	3
IV. Working Relationship with Reclamation	3
V. Technical Proposal	4
VI. Evaluation Criteria.....	8
VII. Environmental and Cultural Resource Considerations.....	12
IX. Project Budget	14
X. Official Resolution	15

Tables

Table 1: Energy Cost Saving.....	6
Table 2: Project Schedule	6

Figures

Figure 1: Vandalia Water District Regional Location	2
Figure 2: Project Site.....	7

Vandalia Water District

Wellfield SCADA System

Technical Proposal and Evaluation Criteria

I. Executive Summary

A. General Project Information

Project Name	Wellfield SCADA System
Date:	March 3, 2020
Applicant Name:	Vandalia Water District
City, County, State:	Porterville, Tulare County, California

B. Project Description

The Vandalia Water District (VWD or District) has authored this grant application to seek funding assistance for the Wellfield SCADA System. The project is broken into two (2) Phases. Phase I will include the installation of two (2) Variable Frequency Drives (VFD) on wells, one (1) efficient pump and one (1) efficient pump motor. Phase II will include the installation of Supervisory Control and Data Acquisition (SCADA) system and transducers to 17 shallow and deep wells.

The objective of this project is to increase the efficiency of the distribution system, for managing the water in District. The proposed VFD and the new efficient pump motors will increase the efficiency of the District by reducing electricity cost. The SCADA system will increase the efficiency of the District by minimizing labor time required to field verify the diversions, eliminating manual adjustments of control valves and provides much quicker real time control. The combination of VFDs, new pumps and motors, and SCADA system will also achieve water efficiencies by maintaining consistent flows and pressure set points. The transducers will also give the District capability to monitor groundwater elevations at the wellfield in real time. This grant application is submitted pursuant to Funding Opportunity Announcement NO. BOR-DO-20-F006 Section C.3.1 Supervisory Control and Data Acquisition (SCADA).

II. Background Information

A. Background Information

Vandalia Water District (VWD), is located in Porterville, Tulare County, California and was formed in early 1900's, in order to provide a reliable and high-quality supplemental surface water supply to its landowners through an appropriate pre-1914 water right from the Tule River. The District serves 1,465 acres within the Tulare County and is located in the central San Joaquin Valley. The City of Porterville lies in the northwest and northeast of the irrigation District and is the largest community near the vicinity. Adjacent agricultural water agencies include Teapot Dome Water District, Saucelito Irrigation District, Pioneer Water Company,

Terra Bella Irrigation District and Porterville Irrigation District. **Figure 1: Regional Location** provides the project location and surrounding areas.

The proposed project is not located in a Federal Facility.

Figure 1: Vandalia Water District Regional Location



B. Water Supply Source

Surface Water Supply

The District's average annual surface water supply totals approximately 2,200 acre-feet per year (AFY). This supply is generated from the Tule River runoff diverted from Success Reservoir. The surface water supply for the District is drawn from a pre-1914 Tule River water right. The District currently owns two (2) percolation fields which are approximately 145 acres in total. Surface water is delivered from the Success Reservoir through the Tule River. The District takes their deliveries and percolates the surface water in the ground for later use when irrigation demand is available. The delivery is met by using recovery wells and booster pumps to deliver its' service water in the interconnected pipeline system to its users.

III. Existing Water Delivery System

A. Conveyance System

The existing District distribution system includes unlined earthen canals, which includes culverts at road crossings, and mostly pipeline distribution systems with manual control valves. Collectively, the District owns and controls approximately 10 miles of pipeline and approximately 1.5 miles of open channel canals. The District owns two (2) percolation fields which are approximately 145 acres in total. The District also owns and operates seventeen (17) deep and shallow recovery wells, which are interconnected into the pipeline distribution system. The open canal system has a maximum capacity of approximately 15 cfs and the pipeline distribution system has a capacity of 3,700 gallons per minute (gpm) or approximately 8 cfs. The open canal system originates from the Tule River and runs east to west to the wellfields. The pipeline distribution system runs from north to south with laterals that run east to west. The District percolates the yearly Tule River water rights in the wellfields and recovers the water through the 17 recovery wells. The District also owns three booster stations to help boost the water to individual's turnouts or outlets. The District has approximately 95 farm service outlets. Each individual landowner provides their own well(s) to sustain irrigation during periods when the District does not have enough allocation to deliver.

The on-farm irrigation efficiency is not regularly calculated by the District, but within the region, it has been estimated to range from 75 to 85%. Seepage losses in the earthen canal system are regularly measured through measuring stations. The calculated average percolation rate in the area is 0.33 acre-feet per acre per day (AF/A/D). An efficient distribution system is key to reducing electric consumption, reducing labor costs and increasing water management efficiency.

IV. Working Relationship with Reclamation

The Vandalia Water District, through an administration and management agreement, is operated and managed by the staff of Lower Tule River Irrigation District (LTRID) and Pixley Irrigation District (PIXID). Staff of LTRID and PIXID have maintained a good working relationship with the Bureau of Reclamation while implementing projects on schedule, which were funded by grants received from Reclamation.

Basin Metering Project

In 2019 LTRID was awarded a grant by the Bureau of Reclamation to acquire and install 25 Area Velocity Meters. The project includes the installation of doppler meters in the existing recharge facility of the District. The District was awarded \$75,000 and the project is currently ongoing.

Riparian Area Distribution System Phase II

In 2018, LTRID was awarded a grant by the Bureau of Reclamation to construct a five-mile pipeline. The project includes construction of new surface water delivery via pipeline to 7,000 acres that previously did not receive surface water. Construction of the project began early December of 2019 and estimated to be finished in late 2020 or early 2021.

Tule River Intertie

In 2009, LTRID was awarded a grant by the Bureau of Reclamation to construct the Tule River Intertie to improve an existing earthen canal and construct 2.5 miles of new open canal. This construction allowed the District to divert Tule River water into portions of the District's service area that could not previously receive surface water. This project improved flow measurement through the incorporation of new SCADA equipment along with a repleg flume that works in conjunction with an automated Lagemann gate and minimizes the amount of surface water lost to irrecoverable river seepage. This project was started in 2009 and was finished in January 2012.

Water, Energy and Efficiency Grant for Avenue 116 Lateral Project

In 2012 PIXID was awarded a \$1.5 million grant from the Bureau of Reclamation for the Avenue 116 lateral Project. The project included construction of a new surface water delivery system to an 8,000-acre area that previously did not receive surface water. Construction of this \$4.8 million project began in 2013 and was completed in March 2015.

V. Technical Proposal
Project Description

Vandalia Water District's delivery system requires a Water System Operator (WOS) to travel to a site to manually adjust control valves and turn-on and off wells. Currently, the District operator has to determine the demand each single day and, depending on the demand, the operator must turn on and/or off wells to match demand. This process can take 3-6 hours to obtain the optimum delivery set point. Sometimes, a well can shut-off due to various reasons, thus causing a decrease of available water to be delivered, the operator then determines which well to turn-on, to meet the demand. Delayed responses and manually controlling the valves present multiple delivery challenges during operation. The manual operation causes variations in pressure within the distribution pipeline thus reducing the efficiency. The proposed project is designed to reduce the instances of these variations in pressure and increase efficiency. The project is broken down into two phases. Phase I: purchase and install VFDs and new pumps and motors, Phase II: purchase and

install a SCADA System and transducers. The District plans on implementing Phase I of the project in 2020 and is requesting grant funds for the implementation of Phase II.

Phase I: Purchase and install VFDs, New Pumps and Motors

During this Phase, the District plans to acquire two variable frequency drives (VFD) and one new efficient pump and motor. During this phase, the District will contract with a third-party specialist to perform all the work necessary. The new pump and VFDs will eliminate the operation challenges mentioned above. The VFD installation will help with the variations in pressure in the delivery system. To maintain a constant pressure, the VFD will self-adjust its speed to maintain different set-points for optimum deliveries. The automatic adjustment of speed will result in electricity savings, as the VFD will only consume or use the energy required to deliver water **(Refer to Table 1: Energy Cost Saving)**.

Phase II: Purchase and install a SCADA system and Transducers

During this Phase, the District plans to acquire 17 transducers and a SCADA system. This will provide real time data with remote access, such as delivery rate, pressure, and velocity set points. This will give the District the ability to call on or off specific wells when needed. This phase will alleviate the extra Operator labor and drive time to and from the pumping stations. This phase also provides cost savings in operator hours and travel time.

Task 1: Project Design and Permitting

During this task, the District will contract with a third-party consultant to prepare engineering designs and purchase necessary materials to complete the project. If selected, the District will work with the Bureau of Reclamation to prepare necessary National Environmental Policy Act (NEPA) documents. The District staff will also prepare the necessary California Environmental Quality Act (CEQA) documents. The District will secure any required permits and approvals from regulatory agencies.

Task 2: Construction

Task 2 of the proposed project will include installation of two (2) VFDs at Booster Station 1 and Booster Station 2. This task will also include an installation of one new 100 horse power (hp) at booster station 2. During this task, a third-party contractor will install the SCADA system with a cellular based broadband connection to the wells and two booster stations.

The need for SCADA, efficient pumps and VFDs has been identified by the District staff, and studies from a university professor and professional engineer, to upgrade the system, increase efficiencies and develop cost savings. While this project is relatively small in scope, it will address an important concern in the Vandalia Water District. Both phases of this project will address many delivery challenges in the District and generate a large amount of energy savings for the District. This project also addresses and promotes uninterrupted, continuous, and accurate water deliveries to its growers and stakeholders.

Table 1: Energy Cost Saving

Cost Saving Analysis of Proposed Project									
FY 2019									
Months	Energy Use (kWh)	Energy Cost (\$)	Electricity Price	Average well Production (gpm)	Pump Input (HP)	Average Days Run	Pump Input HP (New Pumps)	Energy Savings (HP)	Estimated Savings
January	15,621.00	\$ 2,563.56	\$ 0.16	600	50	30	35	15	\$ 1,322.20
February	7,456.00	\$ 1,032.83	\$ 0.14	200	50	28	25	25	\$ 1,736.09
March	11,521.00	\$ 1,638.78	\$ 0.14	400	50	30	30	20	\$ 1,528.03
April	33,254.00	\$ 5,032.66	\$ 0.15	1400	125	30	50	75	\$ 6,096.58
May	110,565.00	\$ 11,269.85	\$ 0.10	1450	125	30	50	75	\$ 4,106.13
June	95,180.00	\$ 12,574.10	\$ 0.13	2300	125	30	65	60	\$ 4,257.49
July	198,065.00	\$ 25,193.82	\$ 0.13	3100	125	30	90	35	\$ 2,391.25
August	213,494.00	\$ 25,262.18	\$ 0.12	2800	125	30	85	40	\$ 2,542.24
September	222,246.00	\$ 25,855.88	\$ 0.12	2650	125	30	80	45	\$ 2,811.96
October	156,137.00	\$ 18,041.70	\$ 0.12	1830	125	30	50	75	\$ 4,654.83
November	115,556.00	\$ 11,954.15	\$ 0.10	1450	125	30	50	75	\$ 4,167.34
Total Savings									\$ 35,614.15

The cost analysis consists of comparing the current pumps to the proposed efficient pumps. The current operations require a 50 hp pump to deliver the minimum water in the system, while the new efficient pump can deliver the same quantity of water with much less horse power. For example, in February, the average well production is 200 gallons per minute, requiring 50 hp to deliver the required volume. The proposed project can deliver the same volume using only 25 hp, thus creating a saving of 25 hp. The 25 hp saving equates to \$1,736.09 in electricity cost, assuming the system is running for 30 days and producing 200 gallons per minute. The savings can be more or less depending on the average production in a given month. On average, the District can save \$35,614.15 per year.

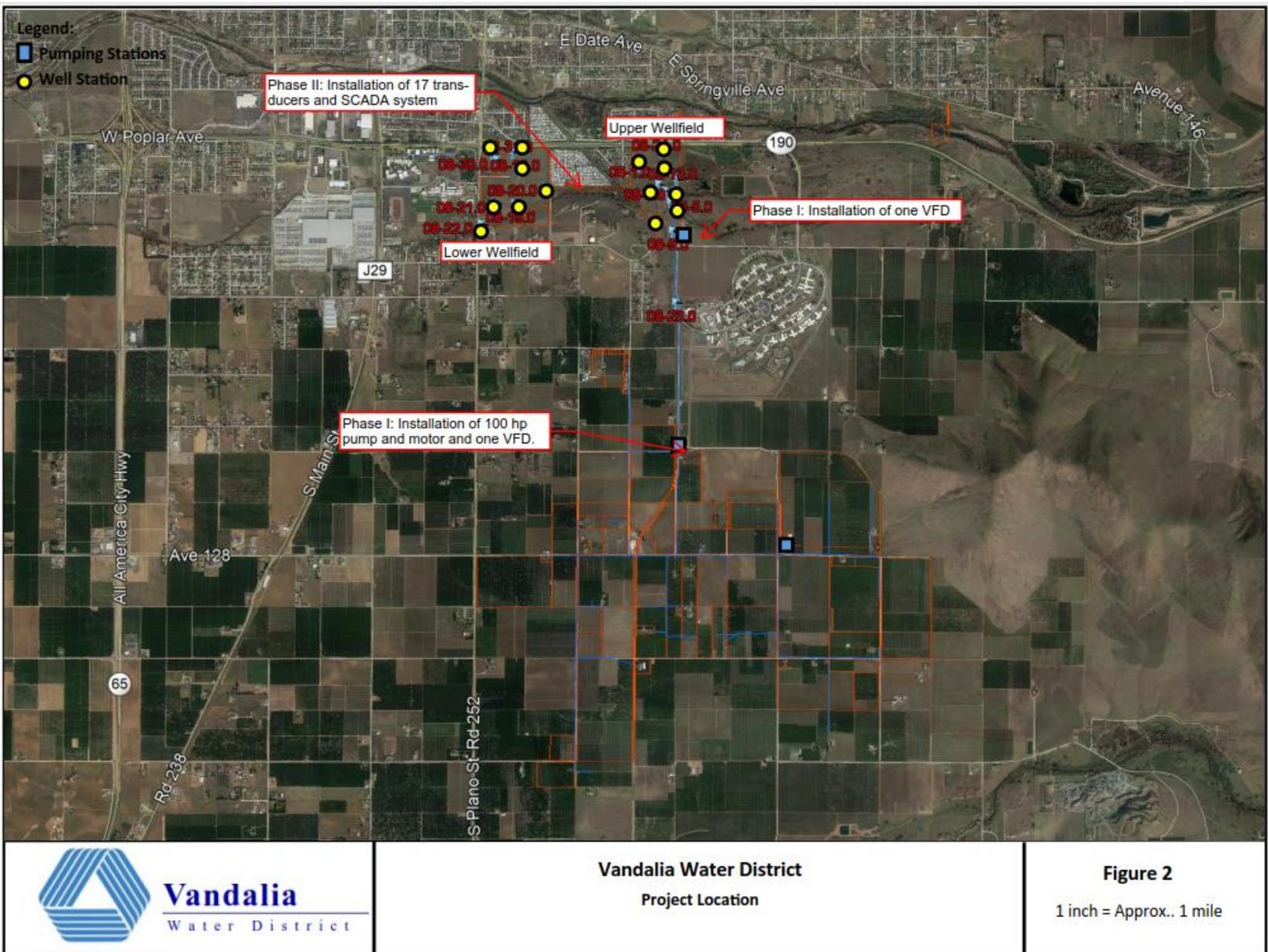
The proposed project can also save the District with personnel time, minimizing the hours spent operating the system. It can reduce the time spent setting the system by up to 50 percent. The savings can be up to 1440 hours per year which equals to \$21,600.

Total savings for both phases of the project is approximately \$57,200 per year.

Table 2: Project Schedule

Item	Estimated time to complete the project	Estimated Time Frame
Phase I: VFDs, Pump and Motor		
Task 1: Project Design/Permitting		
1.1 Engineering Design and Permitting	1-4 months	Sept. 2020 – Dec. 2020
1.2 Material Purchase	1 month	Dec. 2020
Task 2: Construction		
2.1 Installation	1-2 months	Jan. 2021-Feb. 2021
Phase II: SCADA and Transducers		
Task 3: Material Purchase		
3.1 Material Purchase	1-2 months	Dec. 2020- Jan. 2021
Task 4: Construction		
4.1 Installation	1-2 months	Jan. 2021- Feb 2021

Figure 2: Project Site



VI. Evaluation Criteria

A. Evaluation Criterion A – Project Benefits (35 Points)

Up to 35pts may be awarded upon evaluation of the benefits that are expected to result from implementing the proposed project. This criterion considers a variety of project benefits, including the significance of the anticipated water management benefits and public benefits of the project. This criterion prioritizes projects that modernize existing infrastructure in order to address water reliability concerns, including making water available for multiple beneficial uses and resolving water related conflict in the region

Describe the expected benefits and outcomes of implementing the proposed project.

- The project will result in better water management through an increase in operational flexibility. This is achieved in various ways; the proposed project will utilize the optimum set point for deliveries while consuming less energy. The proposed project will provide real time data, such as delivery totals, which gives the District the ability to monitor the total deliveries. The operational flexibility will also reduce the personnel and man hours to operate the system, total savings can be up to \$21,600. This proposed project will also save power consumption by up to 25 percent, or approximately \$35,000 per year. The proposed project will greatly modernize the system. The proposed motors and VFDs are more efficient compared to the current, 50-75-year-old pumps. The SCADA controls will also greatly modernize the system by installing a cellular base modem, which gives the District the ability to turn on or off wells without having to visit the site. The cost savings from this project can be used to purchase available water or can be used to reduce the total crop consumption and installing additional recharge facilities.

If other benefits are expected explain those as well. Consider the following:

Extent to which the proposed project improves overall water supply reliability.

- As an ancillary benefit of this proposed project, a more reliable water delivery to individual turnouts or valves will be achieved. An operator will not need to adjust the set flow in the distribution system to meet a specific demand that day and the system will self-adjust.

The expected geographic scope benefits from the proposed projects (e.g., local, sub-basin, basin)

- The proposed project will greatly benefit the local users in the District. The local users can expect a more reliable water delivery. The proposed project can also provide an ease of mind to the locals by upgrading the system with 21st century components. The SCADA system will ensure an uninterrupted and continuous delivery of water to its users.

Extent to which the proposed project will increase collaboration and information sharing among water managers in the region.

- With the implementation of the Sustainable Groundwater Management Act (SGMA), better water accounting of both the surface water and groundwater has become paramount. The installation of SCADA and transducers can digitize data, which is currently manually entered. By digitizing the delivery data, this can be

shared with a touch of a button. In the SGMA implementation and reporting processes, the data can be automatically sent to the Groundwater Sustainability Agency and managers. The proposed project will provide operational data which can be studied to increase efficiency and flexibility. This proposed project also allows the District to compare and contrast general operation procedures, with other districts, to determine the best operation practices.

Any anticipated positive impacts/benefits to local sectors and economics (e.g., agriculture, environment, recreation, tourism)

- The proposed project would greatly increase the operational flexibility in the agricultural and domestic water use. The District can provide more flexibility in the water delivery by letting water users turn on or off when emergency is occurs, which the system will self-adjust to. The proposed project will greatly impact the agricultural sector by providing a more reliable water source. Under SGMA, this project will benefit the local area by properly accounting for groundwater recharge efforts and benefiting the local groundwater elevations.

Extent to which the project will complement work done in coordination with NRCS in the area (e.g., with a direct connection to the district's water supply). Describe any on-farm efficiency work that is currently being completed or is anticipated to be completed in the future using NRCS assistance through EQIP or other programs.

- Once the proposed project is installed, digitize data can be directly transmitted to the District's SCADA server. The project does have the potential to increase collaboration and information sharing with landowners in this region. There will be a significant impact for the agriculture sector, since the stakeholders are agriculture based, installing the proposed project will provide more reliable deliveries to its users, which will help with landowner's on-farm water management and cropping decisions and improving implementation of NRCS programs on-farm.

B. Evaluation Criterion B – Planning Efforts Supporting the Project

Up to 35 pts may be awarded based on the extent to which the proposed on-the-ground is supported by an applicant's existing water management plan, water conservation plan, System Optimization Review, or identified as part of another planning effort led by the applicant. This criterion prioritizes projects that are identified through local planning efforts and meet local needs.

Describe how your project is supported by an existing planning effort.

Does the proposed project implement a goal or address a need or problem identified in the existing planning effort?

- The proposed project implements and addresses a problem identified in the goals of the District. The proposed project meets the goals of the of SGMA implementation purposes. In 2000, Vandalia Water Districts hired Cal Poly, San Luis Obispo, Irrigation Training and Research Center (ITRC) to perform a Rapid Appraisal Process (RAP) study of the District's delivery system; to identify efficiency improvements that could be made to the system where these improvements were identified.

Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measures.

- The District has identified this project as priority when the ITRC compiled their RAP. The proposed project is an optimization and modernization of the current existing water delivery system. This project describes the need for modernization, and the proposed project is a key component to achieve those goals. The proposed project will be responsible for automatically adjusting the pressure to meet the delivery point and also digitizing the delivery data. Recently, the need for better management of groundwater as defined by SGMA made optimization and modernization of delivery system a priority to meet crop need for each individual landowner and long-term sustainability goals.

C. Evaluation Criterion C – Project Implementation

Up to 10 pts may be awarded based upon the extent to which applicants is capable of proceeding with the proposed project upon entering into a financial assistance agreement. Applicants that describe a detail plan (e.g., estimated project schedule that shows that stages and duration of the proposed work, including major tasks, milestones, and dates) will receive the most point under this criterion.

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

- The District is capable and prepared to perform the tasks as described below. The project is broken up into two phases and four tasks: (Milestone 1) task 1- design and permitting, (milestone 2) task 2 – installation of VFDs, pumps and motors, (milestone 3) task 3 – material purchase and (milestone 4) task 4 – installation of SCADA and transducers. During task 1, the District will work with third-party consultant that specializes in pumps and VFDs, to confirm the engineering design. The District will secure all necessary permits as needed for this project. During this task, the District will also purchase the VFDs, pumps and motors, along with the other components to complete this phase. Task 2 composed of installing the VFDs, pumps and motors. The installation will be completed by a competent pump company and a VFD specialist. Task 3 will compose of purchasing materials needed for phase II, such as SCADA, cellular modem and transducers, along with other components. Task 4 will include installation of SCADA system in wells. A breakdown of the estimated project schedule is shown in **Table 2: Project Schedule**

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

- The District will secure all necessary permits needed to complete this project. If selected, the District will work with the Bureau of Reclamation to perform the NEPA documentation. District staff will perform and develop the CEQA documentation.

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

- Once funding and agreements are secured, the District will contract with a qualified vendor to develop the 100 percent technical drawing. The installation of the proposed project will not require any special engineering work. The technical blueprint for pump curves and VFDs has already been developed by the manufacturer.

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

- None. The District has Operating Rules and Regulation in place that will not change due to this proposed project.

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

- Vandalia Water District is managed by the same staff of the Lower Tule River Irrigation District (LTRID). LTRID was awarded a grant with similar aspects of the project. Under that project, the environmental compliance, such as NEPA is being performed by the Bureau of Reclamation, and it was determined that this cost will not exceed \$5,000. A similar process is to be assumed in this proposed project. LTRID staff has a long history in working with the Bureau of Reclamation on grants and environmental compliance.

D. Evaluation Criterion D – Nexus to Reclamation

Up to 10 pts may be awarded based on the extent that the proposal demonstrates a nexus between the proposed project and Reclamation project or activity. Describe the nexus between the proposed project and Reclamation project or activity, including:

Is this proposed project connected to a Reclamation of activity? If so, how? Please consider the following:

Does the applicant receive Reclamation project water?

- No, Vandalia Water District does not receive Reclamation Project water.

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

- No, the proposed project is not on Reclamation lands or facilities.

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

- Yes, the project is located in the Tulare Lake Basin, which contains the Friant Kern Canal. The Friant Kern Canal runs along the eastside of the Tule Subbasin and carries approximately 20 miles through the Subbasin. The water is used as supplemental and irrigation supplies in the Tule Subbasin. Several neighboring irrigation districts (Lower Tule River Irrigation District, Porterville Irrigation District, Saucelito Irrigation District, Terra Bella Irrigation District, Tea Pot Dome Water District, Delano-Earlimart Irrigation District, Kern-Tulare Water District) in the Tule Subbasin hold Friant CVP water contracts with the Bureau of Reclamation.

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

- Yes, the proposed project will contribute to better quantification of water in the Tule Subbasin.

Will the project benefit any tribe(s)?

- No, this project will not benefit any tribe in the area.

E. Evaluation Criterion E – Department of the Interior and Bureau of Reclamation Priorities (10 points)

Up to 10 pts may be awarded based on the extent that the proposal demonstrates that the project supports Department and Reclamation priorities. Please address those priorities that are applicable to your project. It is not necessary to address priorities that are not applicable to your project. A project will not necessarily receive more points simply because multiple priorities are addressed. Points will be allocated based on the degree to which the project supports one or more of the Priorities listed, and whether the connection to the priority(ies) is well supported in the proposal.

Utilizing our Natural Resources *(Ensure American Energy is available to meet our security and economic needs.)*

- The proposed project will greatly save energy, as the combination of VFDs and new efficient pumps and motors will consume less. The proposed project ensures that the District is utilizing and conserving energy. The project ensures that there will be a sustainability of resources that will be available in the future.

Restoring trust with local communities *(Be a better neighbor with those closest to our resources by improving dialogue and relationship with person and entities bordering our lands; expand lines of communication with Governors, state natural resources offices, Fish and Wildlife offices, water authorities, county commissioners, Tribes, and local communities.)*

- The proposed project will contribute to a better partnership and communication with other agencies and local agencies in the area. The digitized data that can be gathered from the SCADA system can be shared with others, to determine the best operational practices. This proposed project can also develop new avenues for SGMA purposes as additional components can be added to the SCADA to automatically measure groundwater levels.

VII. Environmental and Cultural Resource Considerations

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

- The proposed project will not require excavation and or soil disturbance. The proposed project consists of installation of variable frequency drive pumps and motors and SCADA equipment on existing facilities.

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

- No endangered species or critical habitat will be affected by the proposed project. The project will take place on existing facilities.

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

- No, there are no effects of this project to wetlands or Waters of the United States.

When was the delivery system constructed?

- Vandalia Water District has owned operated, and maintained the current water distribution system since the early 1900's

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

- Yes, the proposed project will modernize the existing system and promotes energy savings. This project does not change or affect individual landowner irrigation systems other than increased water supply reliability.

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

- No historical places will be affected.

Are there known archeological sites in the proposed project area.

- There are no known archeological sites in the proposed project area.

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

- No, the proposed project will not have an effect on low income or minority populations.

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

- No, the proposed project will not limit the access the ceremonial use of Indian sacred sites.

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

- No. There will be no excavation or disturbance of the soil.

IX. Project Budget

I. Funding and Letters of Commitment

Letter of Commitment

There will be no source of project funding other than the applicant. No letter of Commitments from third parties are required. The District's Basic Financial Statements and Supplementary Information year ended December 31, 2019 (Certified Financials) are available to the Bureau upon request. The District has a reserve account that is more than healthy enough to meet the need contributions for their portions of the project. There are no expected incurred costs prior to the project start date.

II. Budget Proposal

Table 3: 2020 Funding Request Summary

Funding Source	Percentage of Total Project Costs	Funding Amount
Vandalia Water District	60%	\$113,200.00
Reclamation Funding	40%	\$75,000.00
Other Federal Funding	0	0
Total Project Funding	100%	\$188,200.00

Budget Description	Computation		Quantity Type	Total Cost
	\$/Unit	Quantity		
Phase II: SCADA and Transducer				
SCADA and Transducers	\$ 9,600.00	17	Lump Sum	\$ 163,200.00
Installation	\$ 20,000.00	1	Lump Sum	\$ 20,000.00
NEPA	\$ 5,000.00	1	Lump Sum	\$ 5,000.00
Phase II Total				\$188,200.00

The District is seeking funding for Phase II of the project. The simple return of investment for this project is approximately 3 years.

X. Official Resolution**RESOLUTION No. 2020-2-1****APPLICANT'S NAME: VANDALIA WATER DISTRICT**

WHEREAS, the Board of Directors of the Vandalia Water District agrees that an application be made to the Department of the Interior, Bureau of Reclamation (Bureau) for Funding Opportunity Announcement. BOR-DO-20-F006, WaterSMART: Small-Scale Water Efficiency Grant for FY 2020, and enter into an agreement to receive a grant from this funding source if said application should be successful, the Bureau has available grant funds, and the District's contribution to the effort as described in the application be acceptable to the Bureau. The General Manager of the District is hereby authorized and directed to prepare the necessary date, conduct investigation, file such application and execute a grant agreement with the Bureau.

NOW THEREFORE, BE IT RESOLVED that the Board of Directors agreed and authorizes that:

- 1. The Board of Directors has reviewed and supports the proposal submitted;**
- 2. The District is capable of providing the amount of funding and in-kind contributions, specific in the funding plan; and**
- 3. If selected for the WaterSMART Grant, the applicant will work with Reclamation to meet established deadlines for entering into a cooperative agreement**

DATED: 2/12/2020
Eric Limas,
General Manager