

MINUTES OF A MEETING OF THE
ENGINEERING/EQUIPMENT COMMITTEE
OF THE VALLECITOS WATER DISTRICT
MONDAY, OCTOBER 11, 2021 AT 3:00P.M.
VIA TELECONFERENCE

Director Elitharp called the meeting to order at the hour of 3:00 p.m.

Present: Director Elitharp
Director Hernandez
Assistant General Manager Gumpel
Asset Management Supervisor Bowman
Capital Facilities Senior Engineer Morgan
Capital Facilities Engineer Santos
Development Services Senior Engineer Lopez
Engineering Services Assistant Fretwell

Others Present: Ari Elden, Hoch Consulting

ITEM(S) FOR DISCUSSION

DEVELOPMENT CONSTRUCTION AGREEMENT REVIEW

Assistant General Manager Gumpel began with an update on the Development Construction Agreement changes that were recommended by the District's legal counsel, Best, Best & Krieger.

Development Services Senior Engineer Lopez stated the following changes: 1) Formatting and numbering has been adjusted. For example, Section 24 is now Section 21; and 2) The length of time that a developer is responsible for liability after the District accepts the work has been clarified. Current language now includes, "to the fullest extent permitted by California law." This change provides clarification that the developer's liability timeframe is not in perpetuity.

Assistant General Manager Gumpel also mentioned that Section 16 (previously Section 19) regarding prevailing wages was changed. Since the agreement was originally created, labor codes and requirements have altered; therefore, the California Labor Codes and requirements were updated.

The Committee was supportive of changes to the Development Construction Agreement.

TESLA BATTERY STORAGE SYSTEM UPDATE

Asset Management Supervisor Bowman stated that the Tesla Battery Storage System is coming to completion after working with the California Public Utilities Commission (CPUC). The CPUC's Self Generation Incentive Program is funded by electric utility

ratepayers; therefore, the batteries, installation, and maintenance were no cost to the District or the ratepayers. The purpose is to provide self-generation and resiliency during Public Safety Power Shutoff events. The District applied for the grant in December 2020, and successfully reserved the funds from San Diego Gas & Electric based on eligibility.

Asset Management Supervisor Bowman further explained how the District will implement the battery energy storage systems (BESS) with the assistance of Tesla. Tesla evaluated eight locations and determined that six are viable locations to implement the battery systems. Five locations will receive the power pack, while one location, Meadowlark Reclamation Facility, will receive the mega pack. The BESS will work in conjunction with the photo-voltaic systems and the generators that are currently installed.

Selected sites for the Tesla battery energy storage systems are:

- Twin Oaks Reservoir/North Twin Oaks Pump Station
 - 2,784 kWh battery size
 - \$1,605,325 battery value
- Palos Vista Pump Station
 - 1,044 kWh battery size
 - \$689,394 battery value
- Vallecitos Water District Administration Building
 - 1,392 kWh battery size
 - \$866,796 battery value
- Meadowlark Reclamation Facility
 - 3,712 kWh battery size
 - \$2,085,796 battery value
- Double Peak Pump Station
 - 928 kWh battery size
 - \$629,334 battery value
- San Elijo Pump Station
 - 1,392 kWh battery size
 - \$866,796 battery value

The total value of the batteries being donated to the District is over \$6.7 million. These systems are estimated to save the District \$1,615,836 over the first 10 years. Tesla will perform the maintenance during the 10-year contract. After ten years, the District has several options which include recycling the batteries, selling them, contracting with Tesla for an extended maintenance agreement, or assuming maintenance responsibilities for the remainder of the 20 year useful life.

System designs are submitted by Tesla for District review, and the electrical plans are reviewed by electrical engineering firm, Moraes, Pham & Associates. Installations at the first sites will begin on October 18, 2021.

General discussion took place regarding operations of these battery packs.

LAND OUTFALL WEST CONDITION ASSESSMENT UPDATE

Asset Management Supervisor Bowman stated the existing 34,000-foot-long Land Outfall West sewer pipeline was installed in 1986 and connects the District's Lift Station No. 1 to the Encina Water Pollution Control Facility. The condition assessment project will evaluate approximately 3.3 miles of the Land Outfall West pipeline which is owned by Vallecitos Water District, the City of Carlsbad, and Buena Sanitation District. The pipeline is comprised mostly of vitrified clay pipe with some metallic pipe and HOBAS pipe. There are three inverted siphons. The results of the condition assessment will be evaluated to determine which segments require cleaning, rehabilitation, and/or replacement.

Following a competitive bidding process, the three pipeline owners selected Hoch Consulting. The preparation and planning for this project included four months of coordination with multiple agencies, public outreach, site visits and permit acquisition including environmental access and ROW permits. The project field work was performed June 7-24, with all work completed overnight due to low flow conditions.

Ari Elden from Hoch Consulting highlighted unique aspects of the project as well as some of the challenges that they faced. All the field work was conducted safely and completely at night minimizing interruptions to the public. Mr. Elden noted there was a tremendous amount of flow and velocity for an expected low flow period of the day. Gravity pipelines were assessed using CCTV, and the siphons were evaluated with profiling sonar. The inverted siphons were the most challenging part of the project to inspect and accurately assess since a submersible submarine had to be controlled to collect the high-quality data. Overall, pipelines and manholes were found to be in good condition given their age, materials of construction, and 35 years of service.

There were some notable findings from Hoch Consulting. First, the most downstream portion of the Land Outfall West pipeline has liner failure and surface damage on the reinforced concrete pipe. Second, numerous cracks and fractures were seen that require attention. A portion of the clay has longitudinal fractures spanning from pipe to pipe. Third, over 1,200 ft³ of debris rests in 455 linear feet of Siphon No. 3, which is located under the I-5 freeway.

Asset Management Supervisor Bowman reviewed the following recommendations of Hoch Consulting:

- Structural repair and renewal
- Pipeline and siphon cleaning
- Monitor cracks, structural spot repair/renewal fractures
- Monitor roots, spot repair infiltration

The District will assess and review the findings, then prioritize recommendations with the pipeline co-owners to determine the District's maintenance activities to be performed. Once agreed upon with the other owner, a bid package for advertisement for structural repair/renewal and siphon cleaning will be budgeted and prepared.

MEADOWLARK RECLAMATION FACILITY ODOR SCRUBBER NO. 1
REPLACEMENT UPDATE

Capital Facilities Engineer Santos provided an update on the replacement of Odor Scrubber No. 1 at Meadowlark Reclamation Facility. The 10-year-old odor scrubber was becoming more difficult to pass the current Air Pollution Control District standards. Therefore, the District is replacing the carbon-based media odor scrubber with a new biological selector odor scrubber which will require less maintenance. The project budget is \$250,000, and construction began September 27, 2021. The anticipated project acceptance is November 3, 2021, with a projected surplus of \$30,000.

SAGE CANYON TANK REFURBISHMENT UPDATE

Capital Facilities Engineer Santos stated the Sage Canyon Tank in San Elijo Hills is scheduled to be refurbished. The 3.7 MG tank was originally built in 2001. It requires a full sandblast, interior and exterior recoating, and structural rafters replacement due to corrosion. The design was completed in September. The project is anticipated to be advertised in October of this year. The project budget is \$1,155,000.

PALOS VISTA PUMP STATION SOFT STARTER REPLACEMENT PROJECT
UPDATE

Capital Facilities Engineer Santos stated the Palos Vista Pump Station will have a new soft starter installed to replace the 25-year-old motor starter. New soft starters will be installed to upgrade the pump station. This pump station provides water to the Emerald Heights area off El Norte Pkwy. The project is currently advertised for electrical contractors, and a pre-bid meeting is scheduled on October 19, 2021. The bid opening is scheduled for November 4, with the contract award to follow on November 17. The project is budgeted for \$517,000.

CORONADO HILLS PRESSURE RELIEF VALVE

Assistant General Manager Gumpel stated the Coronado Hills area has experienced significant main breaks over the last several years. He presented a map of the area indicating water pressure ranges and flags marking where main breaks have occurred in the past 15 years. The main breaks correlated with the high-pressure zones.

Assistant General Manager Gumpel further stated the District will need to install one or two pressure reducing valves (PRV) to address the danger of another main break caused by high pressure. These valves are not currently budgeted for, so the Board may see a special request this fiscal year or during the 2022-2023 fiscal year budget process. Each PRV is valued at over \$150,000 and requires regular maintenance; however, the project would pay for itself if it prevented two to three main breaks.

Assistant General Manager Gumpel further stated staff is also analyzing the soil corrosivity at main break sites and overlaying the data into GIS. This information will be used for decision making processes within the Asset Management Department.

Staff is not requesting any action currently but wanted to keep the Committee informed.

OTHER BUSINESS

Director Hernandez mentioned that Board of Directors meetings may duplicate what is determined at Engineering/Equipment Committee meetings and if a Committee of the Whole may be prudent. Director Elitharp mentioned that the Board would need to discuss the issue further before making any changes.

PUBLIC COMMENT

None.

ADJOURNMENT

There being no further business to discuss, the meeting was adjourned at the hour of 4:14 p.m.