



**ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA**  
**TRABUCO CANYON WATER DISTRICT**  
**32003 DOVE CANYON DRIVE, TRABUCO CANYON, CA**  
**ADMINISTRATION FACILITY, BOARDROOM**  
**AUGUST 4, 2021 AT 7:00 AM**

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**COMMITTEE MEMBERS**

Edward Mandich, Committee Chair  
Stephen Dopudja, Committee Member  
Michael Safranski, Committee Member Alternate

**DISTRICT STAFF**

Fernando Paludi, General Manager  
Michael Perea, District Secretary  
Lorrie Lausten, District Engineer  
Gary Kessler, Water System Superintendent  
Jason Stroud, Maintenance Superintendent

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**AGENDA NOTE:**

*Due to the spread of COVID-19 and as authorized by the Governor's Executive Order, Trabuco Canyon Water District will be holding this Engineering/Operational Committee Meeting by video broadcast (**Zoom**), and will be available by either video conference or telephone audio as follows:*

**Video Conferencing:** You can join the meeting from your computer, tablet, or smartphone by clicking on the following link: <https://zoom.us/j/97375627682>

**Telephone Audio:** 1 (669) 900-6833  
**Access Code:** 973-7562-7682

Persons desiring to monitor the Committee meeting agenda items may download the agenda and documents on the internet at [www.tcwd.ca.gov](http://www.tcwd.ca.gov).

You may submit public comments by email to the Committee at [mperea@tcwd.ca.gov](mailto:mperea@tcwd.ca.gov). In order to be part of the record, emailed comments on meeting agenda items must be received by the District, at the referenced e-mail address, not later than 7:00 a.m. (PDT) on the day of the meeting.

**CALL MEETING TO ORDER**

**VISITOR PARTICIPATION**

Members of the public wishing to address the Committee regarding a particular item on the agenda are requested to submit public comments by email to the Committee at [mperea@tcwd.ca.gov](mailto:mperea@tcwd.ca.gov). The Committee Chair will call on the visitor following the Committee's discussion about the matter. Committees do not constitute a quorum of the Board of Directors and Committee Members cannot make decisions on matters. The Committee makes recommendations only to the Board of Directors. Members of the public will be given the opportunity to speak to the Committee prior to making a recommendation on the matter. For persons desiring to make verbal comments and utilizing a translator to present their comments into English reasonable time accommodations, consistent with State law, shall be provided. Please limit comments to three minutes.

**ORAL COMMUNICATION**

Members of the public who wish to make comment on matters not appearing on the agenda are requested to submit oral communication by email to the Committee at [mperea@tcwd.ca.gov](mailto:mperea@tcwd.ca.gov). Under the requirements of State Law, Directors cannot take action on items not identified on the agenda and will not make decisions on such matters. The Board President may direct District Staff to follow up on issues as may be deemed appropriate. For

**TRABUCO CANYON WATER DISTRICT  
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*persons desiring to make verbal comments and utilizing a translator to present their comments into English reasonable time accommodations, consistent with State law, shall be provided. Please limit comments to three minutes.*

**COMMITTEE MEMBER COMMENTS**

**REPORT FROM THE GENERAL MANAGER**

**ADMINISTRATIVE MATTERS**

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**PRESENTER(S): FERNANDO PALUDI, GENERAL MANAGER  
MICHAEL PEREA, DISTRICT SECRETARY**

**ITEM 1: ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP**

**RECOMMENDED ACTION:**

*Approve the following Engineering/Operational Committee Meeting Recap(s) and recommend that the Board receive and file same (Consent Calendar).*

1. July 6, 2021
2. July 7, 2021

**ENGINEERING MATTERS**

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**PRESENTER(S): FERNANDO PALUDI, GENERAL MANAGER  
MICHAEL PEREA, ASSISTANT GENERAL MANAGER  
LORRIE LAUSTEN, DISTRICT ENGINEER**

**ITEM 2: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING BELL CANYON SEWER LIFT STATION REHABILITATION PROJECT**

**RECOMMENDED ACTION:**

*Committee to receive information at the time of the Committee Meeting.*

**ITEM 3: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING DIMENSION WATER TREATMENT PLANT BACKWASH TANK REPLACEMENT PROJECT**

**RECOMMENDED ACTION:**

*Committee to receive information at the time of the Committee Meeting.*

**ITEM 4: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING SURGE TANK REPLACEMENT AT EL TORO SEWER LIFT STATION**

**RECOMMENDED ACTION:**

*Committee to receive information at the time of the Committee Meeting.*



**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA | AUGUST 4, 2021**

**ITEM 5: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES**

1. Master Plan and Condition Assessment Update
2. Heritage Sewer Lift Station Improvements
3. Other Projects

**RECOMMENDED ACTION:**

*Committee to receive project status updates at time of the Committee Meeting.*

**OPERATIONAL MATTERS**

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**PRESENTER(S): GARY KESSLER, WATER SYSTEM SUPERINTENDENT  
MICHAEL PEREA, ASSISTANT GENERAL MANAGER  
JASON STROUD, MAINTENANCE DEPARTMENT SUPERINTENDENT**

**ITEM 6: WATER SYSTEM UPDATES**

**RECOMMENDED ACTION:**

*Committee to receive system status updates. No action required.*

**ITEM 7: WASTEWATER SYSTEM UPDATES**

**RECOMMENDED ACTION:**

*Committee to receive system status updates. No action required.*

**ITEM 8: MAINTENANCE DEPARTMENT UPDATES**

**RECOMMENDED ACTION:**

*Committee to receive system status updates. No action required.*

**REGULATORY AND OTHER MATTERS**

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**ITEM 9: OTHER MATTERS/REPORTS**

**RECOMMENDED ACTION:**

*Hear Other Matters/Reports that may have arisen after the posting of the agenda.*

**ADJOURNMENT**



**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA | AUGUST 4, 2021**

**AVAILABILITY OF AGENDA MATERIALS**

*Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the Trabuco Canyon Water District Board of Directors in connection with a matter subject to discussion or consideration at an open meeting of the Board of Directors are available for public inspection at the Trabuco Canyon Water District Administrative Facility, 32003 Dove Canyon Drive, Trabuco Canyon, California (District Administrative Facility) or will be posted online on the District's website located at [www.tcwd.ca.gov](http://www.tcwd.ca.gov). If such writings are distributed to members of the Board less than 72 hours prior to the meeting, they will be available online at [www.tcwd.ca.gov](http://www.tcwd.ca.gov) at the same time as they are distributed to the Board Members, except that, if such writings are distributed immediately prior to or during the meeting, they will be posted online on the District's website located at [www.tcwd.ca.gov](http://www.tcwd.ca.gov).*

**COMPLIANCE WITH THE REQUIREMENTS OF CALIFORNIA GOVERNMENT CODE SECTION 54954.2**

*In compliance with California law and the Americans with Disabilities Act, if you need special disability-related modifications or accommodations, including auxiliary aids or services in order to participate in the meeting, or if you need the agenda provided in an alternative format, please contact the District Secretary at (949) 858-0277, at least 48 hours in advance of the scheduled Board meeting. Notification at least 48 hours prior to the meeting will assist the District in making reasonable arrangements to accommodate your request. The Board Meeting Room is wheelchair accessible.*

*The District may conduct future meetings electronically (via teleconferencing) during the current ongoing emergency situation.*



**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING | AUGUST 4, 2021**

**ADMINISTRATIVE MATTERS**

**ITEM 1: ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP**

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**RECOMMENDED ACTION:**

*Approve the following Engineering/Operational Committee Meeting Recap(s) and recommend that the Board receive and file same (Consent Calendar):*

1. July 6, 2021
2. July 7, 2021

**CONTACTS (staff responsible): PALUDI/PEREA**



## TRABUCO CANYON WATER DISTRICT ENGINEERING/OPERATIONAL COMMITTEE SPECIAL MEETING RECAP | JULY 6, 2021

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### **DIRECTORS PRESENT**

Stephen Dopudja, Committee Member  
Mike Safranski, Alternate Committee Member

### **STAFF PRESENT**

Fernando Paludi, General Manager  
Michael Perea, Assistant General Manager  
Lorrie Lausten, District Engineer

### **PUBLIC PRESENT VIA CONFERNECE CALL**

None

### **CALL MEETING TO ORDER**

Director Dopudja called the July 6, 2021 Engineering/Operational Committee Meeting to order at 4:00 p.m. Public access to the meeting was made available by video broadcast.

### **VISITOR PARTICIPATION**

No comments were received.

### **ORAL COMMUNICATION**

No comments were received.

### **COMMITTEE MEMBER COMMENTS**

No comments were received.

### **REPORT FROM THE GENERAL MANAGER**

No comments were received.

### **ITEM 1: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING TRABUCO CANYON WATER DISTRICT'S DOMESTIC WATER EMERGENCY STORAGE GOAL AND RELATED MATTERS**

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Mr. Paludi introduced this matter for Committee consideration, and he presented a handout which provided an overview of the recent discussions with the developer concerning the potential joint storage. Discussion occurred concerning certain storage goals and associated construction costs. Ms. Lausten provided an update concerning the potential impacts of the proposed construction as it relates to the lease agreement with the US Department of Forestry. Mr. Paludi reviewed the developers concerns related to the construction costs of the proposed joint storage. Discussion occurred concerning proposed total project costs and the District's established determination methodology for joint storage costs.

### **RECOMMENDED ACTION:**

The Committee received the status update. No action was taken.

### **ADJOURNMENT**

Director Dopudja adjourned the July 6, 2021 Engineering/Operational Committee Special Meeting at 5:07 p.m.



## **TRABUCO CANYON WATER DISTRICT ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | JULY 7, 2021**

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### **DIRECTORS PRESENT**

Ed Mandich, Committee Chair  
Stephen Dopudja, Committee Member

### **STAFF PRESENT**

Fernando Paludi, General Manager  
Michael Perea, Assistant General Manager  
Lorrie Lausten, District Engineer  
Karen Warner, Principal Accountant  
Gary Kessler, Water Department Superintendent  
Jason Stroud, Maintenance Superintendent  
Lisa Marie Sangi, Executive Assistant

### **PUBLIC PRESENT**

Lewis Smith, Tesco Controls

### **PUBLIC PRESENT VIA CONFERENCE CALL**

Keith Webb, Tesco Controls

### **CALL MEETING TO ORDER**

Director Mandich called the July 7, 2021 Engineering/Operational Committee Meeting to order at 7:02 AM. Public access to the meeting was made available by video broadcast.

### **VISITOR PARTICIPATION**

No comments were received.

### **ORAL COMMUNICATION**

No comments were received.

### **COMMITTEE MEMBER COMMENTS**

Director Mandich asked to move Item 6, after Item 1.

### **REPORT FROM THE GENERAL MANAGER**

Mr. Paludi introduced Mr. Lewis Smith, Tesco Controls.  
Mr. Paludi also mentioned that Jason Stroud, Maintenance Superintendent was out of the office.

### **ITEM 1: ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP**

Mr. Paludi presented the Engineering/Operational Committee Meeting Recap for Committee review in accordance with the agenda.

### **RECOMMENDED ACTION**

The Committee recommended that the Engineering/Operational Committee Meeting Recap(s) be forwarded to the Board of Directors for approval (Consent Calendar).

**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | JULY 7, 2021**

**ITEM 6: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING SCADA UPGRADE PROJECT**

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Mr. Paludi introduced this action item for Committee consideration. Ms. Lausten reviewed the project for the current fiscal year which included the upgrade of all of the remote sites. Ms. Lausten discussed the recent issue at Dimension Water Treatment Plant (DWTP) prompted staff to revise the schedule to make the DWTP a priority and upgrade the remaining remote sites in Fiscal Year 22/23. Mr. Lewis Smith, Tesco Controls reviewed the PowerPoint presentation and mentioned the upcoming fiscal year project timelines. There was a brief discussion on the map, schedule and radio communication links. Ms. Lausten indicated that the scope of work changed for Fiscal Year 21/22 but the budget remained the same.

**RECOMMENDED ACTION:**

Committee to recommend that the Board of Directors authorize the General Manager to execute a Contract for the Fiscal Year 2021-2022 SCADA Upgrades to TESCO Controls, Inc. in the not to exceed amount of \$998,500.00 (Action Calendar).

**ITEM 2: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING BELL CANYON SEWER LIFT STATION REHABILITATION PROJECT**

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Ms. Lausten provided brief project status update to the Committee, she highlighted the project construction timeline, the generator and pump start-up schedules, removal of the bypass pump and temporary fence. Ms. Lausten mentioned that paving would be done by Dove Canyon Master Association in August 2021 and reviewed the change orders and credits. There was a brief discussion on the old generator being non-compliant and ability to repurpose the surge tank.

**RECOMMENDED ACTION:**

Committee to recommend that the Board of Directors authorize the General Manager to execute the Contract Change Order No. 1 to Ferreira Construction for the Bell Canyon Lift Station Rehabilitation Project in the amount of \$28,583.05 (Action Calendar).

**ITEM 3: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING GOLF CLUB SEWER LIFT STATION IMPROVEMENTS**

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Mr. Paludi introduced this matter to the Committee, he mentioned the critical upcoming work of installing the sewage bypass. Ms. Lausten reviewed the sewer bypass plan, which serves dual purpose to support the motor control center (MCC) installation and to provide an emergency bypass pumping system.

**RECOMMENDED ACTION:**

Committee to recommend that the Board of Directors authorize the General Manager award a Contract to Ferreira Construction for the Sewer Bypass Installation for Golf Club Sewer Lift Station for \$78,500 with a 10% contingency of \$7,850, for a total not-to-exceed fee of \$86,350 (Action Calendar).

**ITEM 4: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING DIMENSION WATER TREATMENT PLANT BACKWASH TANK REPLACEMENT PROJECT**

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Mr. Paludi introduced this matter to the Committee. Ms. Lausten reviewed the project photos. Mr. Kessler mentioned that due to the steel under the concrete base, the floor was leaking and there will be a change order for this repair.

**RECOMMENDED ACTION:**

Committee to receive information at the time of the Committee Meeting.

**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | JULY 7, 2021**

**ITEM 5: DISCUSSION AND POSSIBLE ACTION CONCERNING ASSET MANAGEMENT SOFTWARE PURCHASE**

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Mr. Paludi introduced this matter for Committee consideration, he reviewed the vendors and different CMMS packages. Ms. Lausten worked with MKN and Associates for selecting the CMMS companies, as well as collaboration with District Operations staff on the vendor selection process. Mr. Perea mentioned the challenges of multiple systems and reaching out to other agencies was helpful on making the decision to select Cartegraph.

**RECOMMENDED ACTION:**

Committee to recommend that the Board of Directors authorize the General Manager award a five -year contract to Cartegraph for the Computerized Maintenance - Management System Software for a not-to-exceed fee of \$100,367.

**ITEM 7: OTHER ENGINEERING AND OPERATIONS PROJECTS**

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**1. Master Plan and Condition Assessment Update**

Ms. Paludi provided a scope of work handout to the Committee, requesting their feedback prior to the request for proposal (RFP). Ms. Lausten highlighted various item on the scope of work, along with the condition assessment and update to the executive summary. There was a brief discussion on an RFP for GIS consultants. There was further discussion on the sewer invert survey data and the timeline for particular items.

**2. Heritage Sewer Lift Station Improvements**

Mr. Paludi introduced this matter to the Committee. Ms. Lausten mentioned the timeline of receiving the plans and the repairs that will be going out to bid. Mr. Perea commented on the sewer spill, manhole location and the repair of the wet well.

**3. Oaks at Trabuco Update**

Mr. Perea provided an update, he mentioned that one of the homes water softener had failed and filled the tank. District staff worked with OC Pumping to assist at the Crystal Canyon WWTP. There was a discussion on flows to the facility, and a flow meter that was previously discussed with the Developer which is still not installed.

**4. Other Projects**

Mr. Paludi mentioned that the District was working with OC Rescue Mission. District staff met with them onsite to discuss their upcoming property improvements, which the District will determine the service location to these areas. There was a brief discussion on the current service to this property and the need for future underground research.

**RECOMMENDED ACTION**

The Committee received the status update. There was no action taken.

**ITEM 8: WATER SYSTEM UPDATES**

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Mr. Kessler reviewed the projects and repairs for June 2021, and he provided the additional highlights:

1. Water Operations staff replaced the effluent valve on Filter Three (3), influent valves on Filters; One (1), Three (3) and Four (4), and check valves on Filters one (1) and three (3).
2. Water Operations staff replaced one (1) fire hydrant on the El Toro Bike Trail and converted one (1) dry barrel hydrant to wet barrel on Fall River Road in the Trabuco Highlands Community.

**TRABUCO CANYON WATER DISTRICT  
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3. Water Operations staff worked with the Maintenance Department to replace one (1) pump motor and service all flow control valves at the Field Office.
4. Water Operations staff worked with Superior Tank and their subcontractors to clean out and remove existing Backwash Recovery Tanks and removed the old abandon wet well.
5. The Dimension Water Treatment Plant was taken offline at 10:00 am on June 18, 2021.

Mr. Kessler mentioned the meter being replaced at The Oaks Development. The DWTP is operating at 5 CFS. There was a brief discussion on the operation of the Wells, seasonal timeline for the rehabilitation of the facility and procurement lead time.

**RECOMMENDED ACTION**

The Committee received the status update. There was no action taken.

**ITEM 9: WASTEWATER SYSTEM UPDATES**

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Mr. Perea reviewed the projects and repairs for June 2021, and he reported that Wastewater Operations staff had completed the following tasks:

1. Responded to a Category 3 Sanitary Sewer Overflow (SSO) [*<1,000 gallons*] at the intersection of Robinson Ranch and High Country on Saturday, June 26. The SSO was caused by a clog of solidified detergent and debris. Currently, Operations and Maintenance are working with DMC Engineering to perform a condition assessment (video) of the segment of pipeline to determine its condition.
2. Drained, cleaned, and performed aeration system repairs/improvements on the WWTP West Sequencing Batch Reactor (SBR) due to the failure of a significant amount of diffuser sheaths and performed minor aeration header repairs.
3. Responded to filled tanks at the Crystal Canyon WWTP in The Oaks private community due to a residential water softener system valve failure.
4. Worked with SS Mechanical to remove and install a temporary surge tank assembly at El Toro Sewer Lift Station due to the failure of the existing surge tank assembly.
5. Worked with Maintenance Department staff to install a new stainless-steel cabinet for secondary effluent turbidimeter and replaced a section of ductile iron pipe.,
6. Lead Wastewater System Operator Blake Smith successfully passed his CWEA Laboratory Analyst I certificate exam.

Mr. Perea reported that recycled water use has increased this year, and there has been no use of supplemental domestic water.

**RECOMMENDED ACTION**

The Committee received the status update. There was no action taken.

**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | JULY 7, 2021**

**ITEM 10: MAINTENANCE DEPARTMENT UPDATES**

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Mr. Perea reviewed the projects and repairs for June 2021, and he provided the additional highlights:

1. Maintenance Department staff scheduled work at the Field Office (booster one) with the following contractors: Flo-Services, CLA-VAL and Hydrotech Electric.
2. Maintenance Department staff performed ongoing Preventative Maintenance on the emergency generators with Duthie Electric Power Services.
3. Maintenance Department staff scheduled Hydrotech Electric to work on the SCADA upgrades at the Joplin site.
4. Maintenance Department staff procured one new Godwin mobile transfer pump from Zylem.
5. Maintenance Department staff procured one new Cummins powered mobile diesel generator.
6. Maintenance Department staff assisted Wastewater Operations with the repairs at the Robinson Ranch Wastewater Plat, West SBR (aeration header failed).
7. Maintenance Department staff continued work at the Robinson Ranch Wastewater Plant troubleshooting electrical issues and repairs.
8. Maintenance Department staff worked with consultant, JIG Engineering to start a Surge Analysis Report to replace the damaged surge tank at El Toro Sewer Lift Station (which is offline and bypassed until further notice).

Mr. Perea mentioned that the lead time for the generator is the twenty-four (24) to twenty-eight (2) weeks.

**RECOMMENDED ACTION**

The Committee received the status update. There was no action taken.

**ITEM 11: OTHER MATTERS/REPORTS**

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None.

**RECOMMENDED ACTION**

There was no action taken.

**ADJOURNMENT**

Director Mandich adjourned the July 7, 2021 Engineering/Operational Committee Meeting at 8:19 AM.

**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING | AUGUST 4, 2021**

**ENGINEERING MATTERS**

**ITEM 2: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING BELL CANYON SEWER LIFT STATION REHABILITATION PROJECT**

Trabuco Canyon Water District (District) owns and operates the Bell Canyon Lift Station (Station) in the Dove Canyon community. The station was built in the late 1980’s as part of the Dove Canyon Development and is located at the end of Bell Canyon Drive. The station lifts sewage from 130 homes via a 4” PVC force main, 4500 LF to a manhole at the intersection of Willowglade and Golf Ridge Dr., which then gravity flows to Golf Club Lift Station.

The station footprint is 30’x15’ and includes a wet well with two sets of submersible pumps working in series, a dry pit/valve vault, electrical/MCC panel, a chlorine tank and a backup diesel generator. On September 2, 2019, a complete failure of the station occurred and required Wastewater Operations and Maintenance Staff to install an emergency bypass system to prevent a Sanitary Sewer Overflow (SSO). Two days later, operations were able to restore service to one set of pumps, removed the bypass system and installed a temporary pumping system to back up the operational pumps.

District staff, along with JIG Consultants, identified areas that required rehabilitation and replacement, and completed a bid package for this work in April 2020. At the May 20, 2020 Regular Board Meeting, the Board of Directors authorized the General Manager to execute a contract with Ferreira Construction for the Bell Canyon Lift Station Rehabilitation in the amount of \$1,496,228, with a \$75,000 contingency, for a not to exceed amount of \$1,571,228. At the June 15, 2020 Regular Board Meeting, the Board of Directors authorized the General Manager to execute a contract with Butier Engineering, Inc. for Construction Management Services in the amount of \$180,830. The construction completion date is July 9, 2021.

The following is the budget for the project:

<b>BELL CANYON LIFT STATION REHABILITATION PROJECT COSTS-UPDATED</b>		
<b>ITEM</b>	<b>TASK DESCRIPTION</b>	<b>BUDGET</b>
1	Construction Contract – Ferreira Construction (Includes Contingency)	<b>\$1,571,228.00</b>
2	Geotechnical Site Investigation, Vibration Monitoring, Video Survey, Additional Boring - GMU Geotechnical	<b>*\$20,958.75</b>
3	Engineering Design/Services During Construction – JIG Consultants	<b>\$129,625.00</b>
4	Construction Management/Inspection-Butier	<b>\$180,830.00</b>
5	Design Site Survey/Construction Monitoring – DMc Engineering	<b>\$20,280.00</b>
6	Easement Procurement - DMc Engineering/CPSI Right-of-Way Services	<b>*\$7,000.00</b>
7	Service/Meter Plan/Arc Flash Study - SCE	<b>*\$3,000.00</b>
<b>Total:</b>		<b>\$1,932,921.75</b>

*\*Estimated*

**FUNDING SOURCE:**

Emergency Reserves

**FISCAL IMPACT:**

*\$1,933,000.00 (FY19-20 & FY20-21)*

**ENVIRONMENTAL COMPLIANCE:**

Notice of Exemption was filed with the County of Orange on June 16, 2020

**RECOMMENDED ACTION:**

*Committee to receive information at the time of the Committee Meeting.*

**EXHIBIT(S):**

Construction Report- July 2021

**CONTACTS (staff responsible): PALUDI/LAUSTEN**

# Bell Canyon Lift Station Rehabilitation Project TCWD Project No. 1920-022

Construction Report  
July 2021



**I. GENERAL PROJECT INFORMATION**

<i>Contract</i>	Bell Canyon Lift Station Rehabilitation Project
<i>Contractor</i>	FERREIRA Construction
<i>Contract Time</i>	
Original Calendar Days:	180 Calendar Days from Notice to Proceed
Notice of Award:	June 15, 2019
Notice to Proceed:	June 29, 2020
Original Contract Completion Date:	December 26, 2020
Allowed Calendar Days via Change Orders:	217 Days
Revised Completion Date via Change Orders:	July 31, 2021
Weather-Related Delay Days:	5 Days
<i>Contract Price</i>	
Original Contract Amount:	\$1,496,228.00
Approved Change Order Amount:	\$28,583.05
Revised Contract Amount:	\$1,524,811.05

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## II. CONSTRUCTION MANAGER SUMMARY

This report provides a summary of activities for the month of July 2021 for the Bell Canyon Lift Station Project.

Within July 2021, FERREIRA Construction (FERREIRA) continued and completed efforts to paint mechanical piping and other improvements; and prepared Lift Station components leading up to the 48-Hour Functional Test. The manufacturer, QUINN-Caterpillar, of the Generator started their field testing and start-up to validate telemetry and simulated a permanent power shut-down event. The FERREIRA and their electrical subcontractor, Halcyon-TESCO assisted QUINN-Caterpillar through the field testing efforts.

FERREIRA-Halcyon-TESCO conducted a 48-Hour Functional Test of the Lift Station. Trabuco Canyon Water District (TCWD) Operations staff attended the Functional Test. The Test allowed TCWD Operations to observe and monitor the performance of the new Lift Station. During this time, the Functional Test was extended to be performed and monitored up to the next seven (7) days. TESCO revised programming logic, and FERREIRA adjusted float switches and sensors to support TCWD Operations' expectations. FERREIRA proceeded to dismantle and remove the Temporary Sewer By-Pass System and Temporary Fencing as the Functional Test was extended.

After the seven (7) days of an extended Functional Test, Acceptance Testing was scheduled with FERREIRA's vendors and subcontractors – Halcyon, Xylem-Flygt, Blacoh – TCWD Engineering and Operations, Design Engineer – JIG Consultants, and BUTIER Engineering such that JIG Consultants validates the design and accepts the performance of the Lift Station.

FERREIRA continued with completing the improvements to the new Lift Station such as installed a new Plug Valve for the aboveground Bypass piping; install an additional Wrought Iron Fence separating the Lift Station and 95 Bell Canyon-resident; and restore asphalt pavement sections.

Through the end of July, FERREIRA will continue to restore landscaping and irrigation controls, clean-up, and demobilization.

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**III. CONSTRUCTION ACTIVITIES FOR THIS REPORTING PERIOD**

The following work activities were performed during this reporting period:

- Complete start-up and field testing of Generator
- Painting of aboveground mechanical piping
- Perform 48-Hour Functional Test, and extend (7) Days for Acceptance Testing
- Restore asphalt pavement section
- Install additional Wrought Iron Fence between Lift Station and 95 Bell Canyon-resident
- Remove Temporary By-Pass System and Temporary Fencing
- Preparation of Start-Up

**IV. ANTICIPATED CONSTRUCTION ACTIVITIES – NEXT REPORTING PERIOD**

The following work activities are anticipated to occur during the next reporting period:

- Restore Landscaping and Irrigation
- Final Clean-Up and Demobilization

**V. CONTRACTOR SUBMITTALS**

Through the end of the reporting period, the following submittals have been received:

	Lift Station
Prior Submittals	63
Submittals Received This Period	7
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TOTAL SUBMITTALS	70

**VI. CONTRACTOR REQUEST FOR INFORMATION (RFIs)**

Through the end of the reporting period, the following RFIs have been received:

	Lift Station
Prior RFIs	37
RFIs Received This Period	0
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TOTAL RFIs	37

**VII. CHANGE ORDERS**

TCWD approved Change Order #001, and issued to FERREIRA during this reporting period. Change Order Requests were mostly Owner-directed. Also, the Contract Time was extended due to procurement and fabrication delays of materials, and scheduling of Southern California Edison. The new Contract Completion Date is July 31, 2021

**VIII. SCHEDULE**

As currently scheduled the Completion Date for the Lift Station is July 31, 2021.

**IX. PHOTOS**

Construction photos documenting the FERREIRA's activities and progress during this reporting period are provided in Appendix B.

**X. BELL CANYON MONITORING**

Monitoring field surveys are being performed by DMC Engineering on a periodic basis through the duration of the Project. Monitoring surveys were performed on February 26<sup>th</sup>-, March 10<sup>th</sup>-, March 17<sup>th</sup>-, April 14<sup>th</sup>-, and April 23<sup>rd</sup>-2021. The results between these dated Surveys reflected between +0.03-foot and -0.02-foot on established points, and a Monitoring Survey Exhibit is provided in Appendix C.

## APPENDIX A

### Schedule



**BELL CANYON LIFT STATION REHABILITATION**

Holiday/Weekend  
 Work Day  
 Shut Down/No Work

**Trabuco Canyon Water District**

32003 Dove Canyon Dr., Trabuco Canyon, CA 92679

Item	Week of July 12							Week of July 19							Week of July 26						
	7/12	7/13	7/14	7/15	7/16	7/17	7/18	7/19	7/20	7/21	7/22	7/23	7/24	7/25	7/26	7/27	7/28	7/29	7/30	7/31	8/1
	M	T	W	Th	F	Sa	S	M	T	W	Th	F	Sa	S	M	T	W	Th	F	Sa	S
PAINT PIPE AND WALLS	Work Day	Work Day				Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend
QUINN POWER (CAT) STARTUP	Work Day	Work Day				Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend
FIRST DAY ON PUMP/48HRS PERIOD START			Work Day	Work Day	Work Day	Work Day	Work Day						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend
BACKFILL AND BASE PAVE (CONTINGENCY HOLE)			Work Day	Work Day		Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend
INSTALL BYPASS SPOOL			Work Day			Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend
FORM AND POUR CONCRETE PAD (BYPASS)							Work Day						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend
PICK UP BYPASS					Work Day	Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend
RE-START UP WITH DESIGN ENGINEER						Holiday/Weekend	Holiday/Weekend		Work Day				Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend
PICK UP TEMPORARY FENCE/CHEMICAL TANK						Holiday/Weekend	Holiday/Weekend		Work Day	Work Day			Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend
LANDSCAPE RESTORATIONS						Holiday/Weekend	Holiday/Weekend		Work Day	Work Day	Work Day	Work Day	Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend
						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend
						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend
						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend
						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend						Holiday/Weekend	Holiday/Weekend

## **APPENDIX B**

### **Construction Photos**



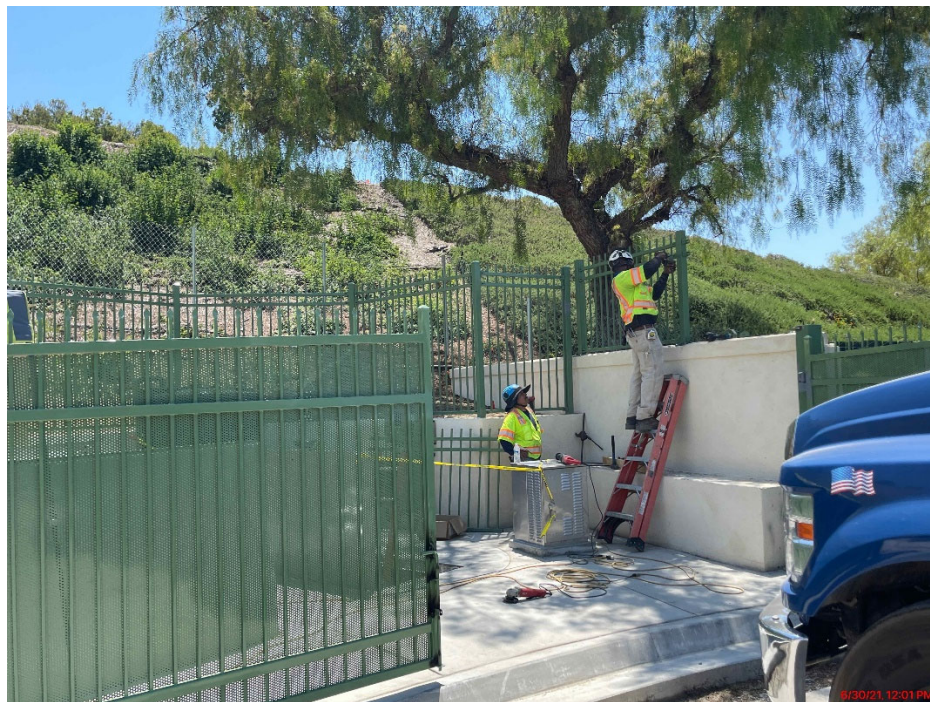
**Completing Surge Tank (BLACOH) Install and Testing**



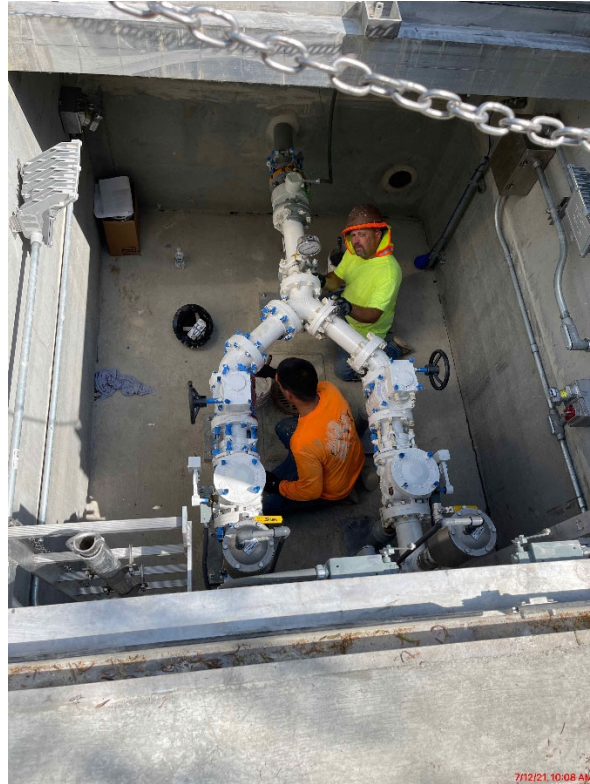
**Additional Wrought Iron Fencing Delivery**



**Install Additional Wrought Iron Fencing**



**Additional Wrought Iron Fencing between Lift Station and 95 Bell Canyon-resident**



Painting Aboveground Mechanical Piping



QUINN-Caterpillar Generator Field Testing



**QUINN-Caterpillar Generator Field Testing**



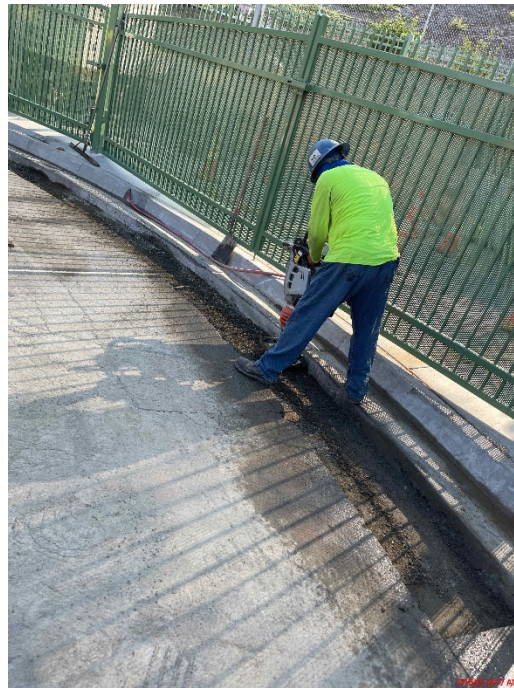
**Start-Up of 48-Hour Functional Test of Lift Station**



Start-Up of 48-Hour Functional Test of Lift Station



Start-Up of 48-Hour Functional Test of Lift Station



**Asphalt Paving Section**



**Asphalt Paving Section and Restoration**



Install Plug Valve for Aboveground Bypass Section



Removal of Temporary Sewer By-Pass System and Temporary Fencing



**Removal of Temporary Sewer By-Pass System and Temporary Fencing**



**Removal of Temporary Sewer By-Pass System and Temporary Fencing**



Status of 48-Hour Functional Testing up to (7) Day Acceptance Testing



Acceptance Testing



Acceptance Testing



Acceptance Testing

## APPENDIX C

### Monitoring Survey Exhibit

# EXHIBIT "A"

## BELL CANYON MONITORING POINTS

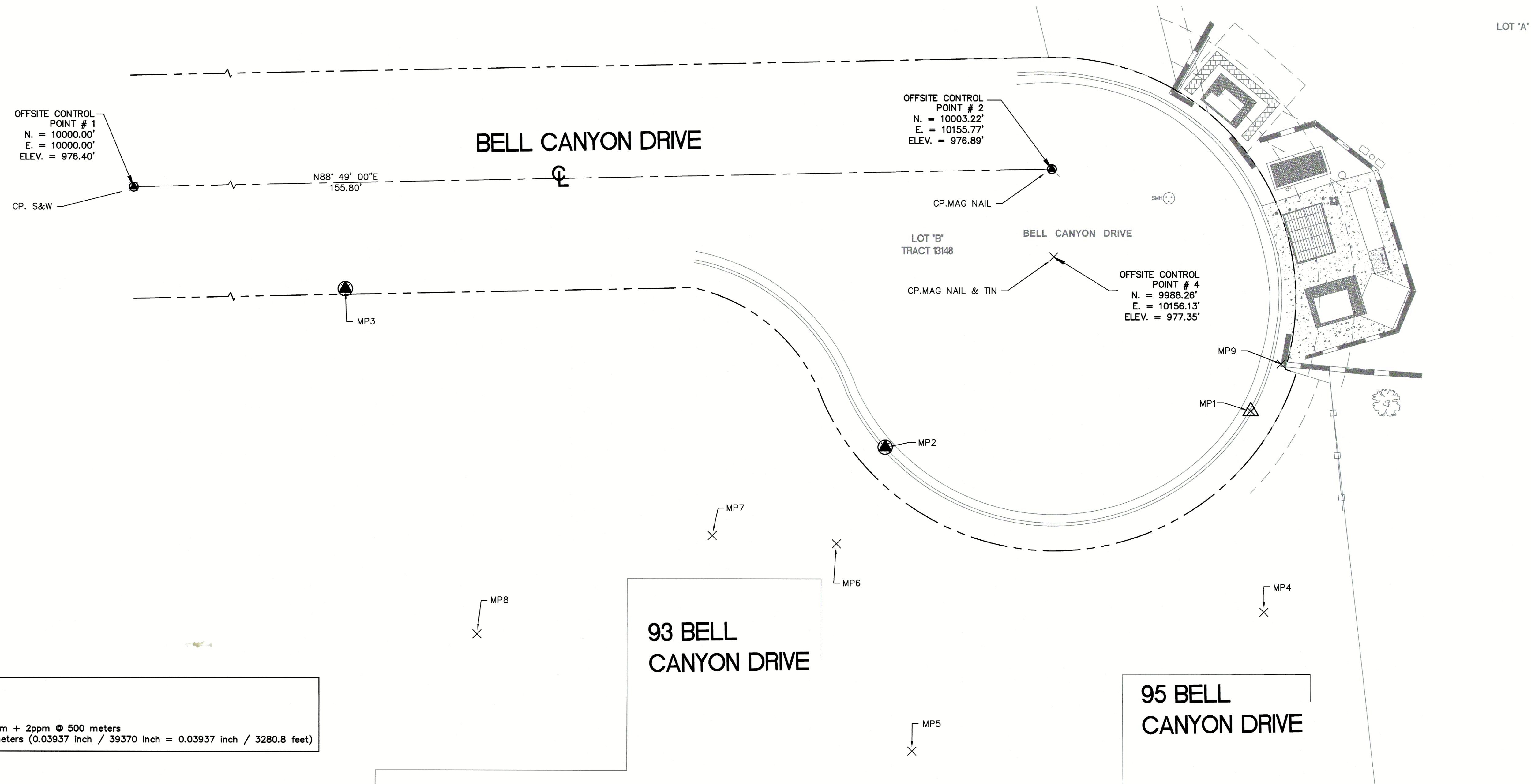
PREPARED FOR:

## TRABUCO CANYON WATER DISTRICT

32003 DOVE CANYON DRIVE  
TRABUCO CANYON, CA 92679

PHONE: (949) 858-0277

FAX: (949) 858-3025



**SURVEY INSTRUMENT USED:**  
LEICA TCIP 1203T R400  
SERIAL NO. 269046  
ACCURACY - std. dev. ISO 17123-4:2mm + 2ppm @ 500 meters  
ppm = parts per million = mm/1000 meters (0.03937 inch / 39370 inch = 0.03937 inch / 3280.8 feet)

MONITORING POINTS SUMMARY										
POINT #	DESCRIPTION	INITIAL SURVEY DATE: 02.26.2021	SECOND SURVEY DATE: 03.10.2021	DIFF. +/-	THIRD SURVEY DATE: 03.17.2021	DIFF. +/-	FORTH SURVEY DATE: 04.14.2021	DIFF. +/-	FIFTH SURVEY DATE: 04.23.2021	DIFF. +/-
MP1	SCRIBED "X" IN TC	N. = 9962.05' E. = 10189.60' ELEV. = 977.27'	N. = 9962.05' E. = 10189.60' ELEV. = 977.28'	0.00 0.00 +0.01	N. = 9962.05' E. = 10189.59' ELEV. = 977.28'	0.00 -0.01 +0.01	N. = 9962.05' E. = 10189.59' ELEV. = 977.28'	0.00 -0.01 +0.01	N. = 9962.05' E. = 10189.60' ELEV. = 977.27'	0.00 0.00 0.00
MP2	FD "X" IN TC	N. = 9955.84' E. = 10127.56' ELEV. = 976.82'	N. = 9955.84' E. = 10127.57' ELEV. = 976.82'	0.00 +0.01 0.00	N. = 9955.84' E. = 10127.57' ELEV. = 976.81'	0.00 +0.01 -0.01	N. = 9955.84' E. = 10127.56' ELEV. = 976.82'	0.00 0.00 0.00	N. = 9955.84' E. = 10127.57' ELEV. = 976.81'	0.00 +0.01 -0.01
MP3	FD "X" IN TC	N. = 9982.69' E. = 10035.89' ELEV. = 975.74'	N. = 9982.70' E. = 10035.89' ELEV. = 975.74'	+0.01 0.00 0.00	N. = 9982.69' E. = 10035.89' ELEV. = 975.74'	0.00 0.00 0.00	N. = 9982.72' E. = 10035.89' ELEV. = 975.74'	+0.03 0.00 0.00	N. = 9982.69' E. = 10035.89' ELEV. = 975.73'	0.00 0.00 -0.01
MP4	CORNER OF PILASTER AT NE CORNER OF THE RESIDENCE OF 95 BELL CANYON DR.	N. = 9927.81' E. = 10191.89' ELEV. = 985.19'	N. = 9927.81' E. = 10191.88' ELEV. = 985.19'	0.00 -0.01 0.00	N. = 9927.81' E. = 10191.89' ELEV. = 985.19'	0.00 0.00 0.00	N. = 9927.80' E. = 10191.87' ELEV. = 985.18'	-0.01 -0.02 -0.01	N. = 9927.81' E. = 10191.89' ELEV. = 985.18'	0.00 0.00 -0.01
MP5	CORNER OF PILASTER AT NW CORNER OF THE RESIDENCE OF 95 BELL CANYON DR.	N. = 9904.09' E. = 10132.17' ELEV. = 985.92'	N. = 9904.09' E. = 10132.18' ELEV. = 985.92'	0.00 +0.01 0.00	N. = 9904.09' E. = 10132.17' ELEV. = 985.92'	0.00 0.00 0.00	N. = 9904.10' E. = 10132.15' ELEV. = 985.92'	+0.01 -0.02 0.00	N. = 9904.09' E. = 10132.17' ELEV. = 985.92'	0.00 0.00 0.00
MP6	STICK ON SURVEY TARGET (BY OTHERS) ON NLY BRICK WORK 93 BELL CANYON DR.	N. = 9939.36' E. = 10119.31' ELEV. = 985.08'	N. = 9939.35' E. = 10119.31' ELEV. = 985.08'	-0.01 0.00 0.00	N. = 9939.35' E. = 10119.31' ELEV. = 985.07'	-0.01 0.00 -0.01	N. = 9939.37' E. = 10119.30' ELEV. = 985.08'	+0.01 -0.01 0.00	N. = 9939.35' E. = 10119.31' ELEV. = 985.07'	-0.01 0.00 -0.01
MP7	TOP RIGHT CORNER OF EXTERIOR DOOR FRAME 1 IN SIDE OF RESIDENCE	N. = 9940.75' E. = 10098.25' ELEV. = 985.06'	N. = 9940.74' E. = 10098.25' ELEV. = 985.06'	-0.01 0.00 0.00	N. = 9940.74' E. = 10098.25' ELEV. = 985.06'	-0.01 0.00 0.00	N. = 9940.76' E. = 10098.24' ELEV. = 985.06'	+0.01 -0.01 0.00	N. = 9940.74' E. = 10098.25' ELEV. = 985.06'	-0.01 0.00 0.00
MP8	TOP RIGHT CORNER OF EXTERIOR WINDOW FRAME 1 IN SIDE OF RESIDENCE	N. = 9923.98' E. = 10058.30' ELEV. = 983.31'	N. = XXXX' E. = XXXX' ELEV. = XXXX'	XXX XXX XXX	N. = 9923.96' E. = 10058.31' ELEV. = 983.31'	-0.02 +0.01 0.00	N. = 9923.99' E. = 10058.31' ELEV. = 983.31'	+0.01 +0.01 0.00	N. = 9923.96' E. = 10058.31' ELEV. = 983.30'	-0.02 +0.01 -0.01
MP9	SET MAG NAIL AT TOP WLY FACE OF PILASTER	N. = 9940.75' E. = 10194.72' ELEV. = 983.83'	N. = XXXX' E. = XXXX' ELEV. = XXXX'	XXX XXX XXX	N. = 9970.10' E. = 10194.72' ELEV. = 983.83'	0.00 0.00 0.00	SURVEY MONITORING POINT WAS COMPROMISED BY SITE CONSTRUCTION			



PREPARED BY:  
**DMC ENGINEERING**  
CIVIL • SURVEYING • PLANNING • CONSTRUCTION  
18 Technology Drive, Suite 100, Irvine, CA 92618  
E-Mail: dmc@dmcceng.com (949) 753-9393

05.25.21  
04.27.21  
04.16.21  
03.15.21  
03.01.21

**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING | AUGUST 4, 2021**

**ENGINEERING MATTERS**

**ITEM 3: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING DIMENSION WATER TREATMENT PLANT  
BACKWASH TANK REPLACEMENT PROJECT**

---

Trabuco Canyon Water District (District) owns, operates, and maintains the Dimension Water Treatment Plant (WTP) in the City of Lake Forest. This plant receives untreated imported water from Metropolitan Water District (MWD), via the Baker Pipeline, and produces the majority of the water distributed to District customers. Within the WTP is the backwash waste sump pump which houses two pumps (10hp and 40hp) that transfer the backwash filter wastewater to two bolted steel waste settling tanks. These tanks hold the backwash and flush water and release it to the sewer system at approximately 250 gpm .

The two waste tanks are 42,000 gallons and the newest tank was constructed in 1987. The tanks are in poor condition due to severe corrosion and need replacement. JIG Consultants was retained by the District to research the existing infrastructure and determine which facilities are in service, provide recommendations for the upgrade to the tanks and demolition of abandoned facilities.

The District considered three types of tanks for replacement, including bolted steel, polyethylene, and fiberglass reinforced plastic (FRP). Based on the analysis of these tank materials and their relative costs and design limitations, the recommended tank material was a bolted steel.

At the February 17, 2021 Regular Board Meeting, the Board of Directors authorized the General Manager to execute a contract with Superior Tank for the Dimension Water Treatment Plant Backwash Settling Tank Improvements in the amount of \$249,876, with a contingency of \$25,000, for a not to exceed amount of \$274,876.

**FUNDING SOURCE:**

General Fund

**FISCAL IMPACT (PROJECT BUDGET):**

\$274,876 total revised project budget, with \$150,000 included in the Capital Improvement Program budget for FY 2020-21.

**ENVIRONMENTAL COMPLIANCE:**

Notice of Exemption was filed with the County of Orange on February 2, 2021.

**RECOMMENDED ACTION:**

*Committee to receive information at the time of the Committee Meeting.*

**EXHIBIT(S):**

1. Project Photos
2. Schedule

**CONTACTS (staff responsible): PALUDI/LAUSTEN**

# DIMENSION WTP BACKWASH SETTLING TANK REPLACEMENT

Trabuco Canyon Water District  
August 4, 2021 E&O Committee



DRAFT

## TECHNICAL MEMORANDUM

To: Lorrie Lausten, PE  
District Engineer  
Trabuco Canyon Water District

From: Joseph Gutierrez, PE, PMP (JIG – Project Manager)  
Jason Tran, EIT (JIG – Civil Designer)

Date: January 28, 2021

Subject: Technical Memorandum  
Dimension Water Treatment Plant – Backwash Settling Tanks Improvements

### PROJECT BACKGROUND

Trabuco Canyon Water District (TCWD) owns and operates the Dimension Water Treatment Plant (DWTP) located at 20904 Dimension Drive, in the City of Lake Forest. The DWTP is a surface water treatment plant designed to primarily treat imported raw surface water from Metropolitan Water District of Southern California (MET) and purchased through the Municipal Water District of Orange County. The DWTP can also receive local water from Irvine Lake during emergencies. Water stored in Irvine Lake is a combination of MET water and water collected from its local watershed.

The DWTP produces high quality potable water exceeding California drinking water standards by using filtration, disinfection, and multi-barrier treatments. The DWTP has a nominal design capacity of 6 cfs and primarily consist of: pretreatment facilities, contact clarifiers, gravity tri-media filters, and post treatment facilities. Other facilities necessary for plant operation include a final effluent clear well and pump station, flushing and filter backwash system, process monitoring instrumentation and control centers.

The DWTP has been upgraded multiple times since its inception. The filtration and backwash equipment have been retrofitted and relocated on several occasions. As such, there are an abundance of abandoned underground pipelines and structures on site.

Within the last year, TCWD experienced leakage on one of the two existing 42,000-gallons backwash settling tanks. Because of age and condition, TCWD has committed to replacing the two existing bolted steel tanks. See **Photo 1** for a view of the northerly backwash settling tank.

This technical memorandum will review record drawings, identify existing and abandoned infrastructures at the DWTP, prepare a site exhibit, recommend removal of abandoned infrastructures, demolition of the existing backwash settling tanks, and improvements required for the tank replacements.

### SCOPE OF WORK

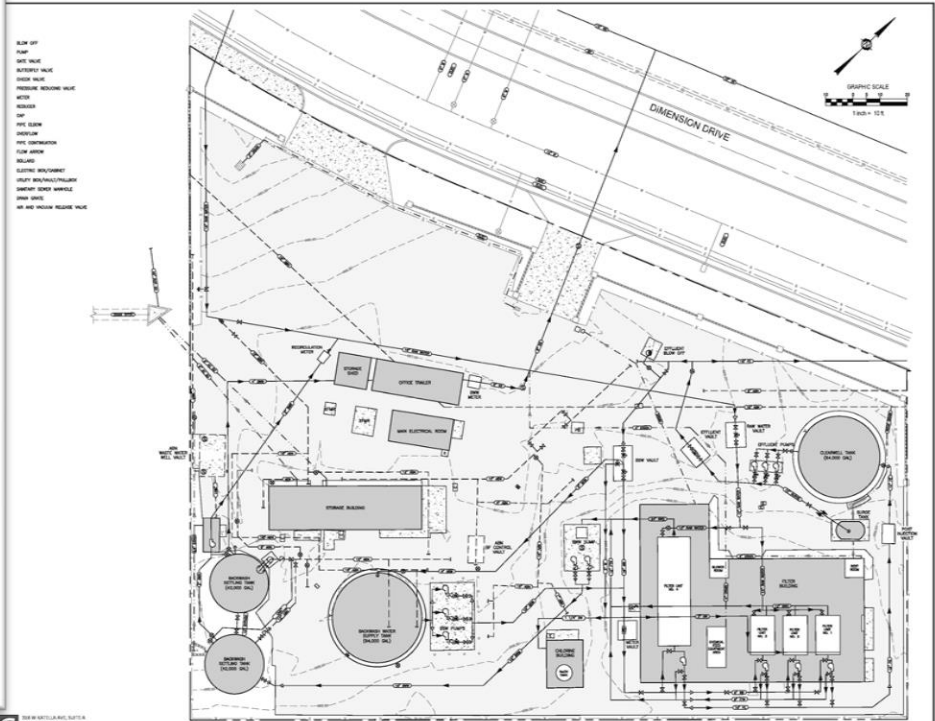
This technical memorandum was prepared under an On-Call Engineering contract between JIG Consultants (JIG) and TCWD. The scope of work for this study were as follows:



Photo 1 – Existing 42,000-Gallon Backwash Settling Tank

318 W. Katella Ave., Suite A  
Orange, CA 92667  
Office: (714) 978-4407  
Fax: (714) 908-4654  
www.jigconsultants.com

DATE: 01/28/21	DATE: 01/28/21	DATE: 01/28/21	DATE: 01/28/21
BY: JG	BY: JT	BY: LL	BY: JG
CHECKED: JG	CHECKED: JT	CHECKED: LL	CHECKED: JG



TRABUCO CANYON WATER DISTRICT  
DIMENSION WATER TREATMENT PLANT

FIGURE 4  
DIMENSION WATER TREATMENT PLANT  
EXISTING SITE PLAN



Existing Drain Pipe/Wye



Existing Front and Back Tank Drains



New 8" Drain Pipe with Gate Valve

# Excavation of Tank Ring Wall





ID	Task Mod	Task Name	Duration	Start	Finish	Gantt Chart																																			
						Jun 13, '21				Jun 27, '21				Jul 11, '21				Jul 25, '21				Aug 8, '21				Aug 22, '21				Sep 5, '21				Sep 19, '21				Oct 3, '21			
						F	T	S	W	S	T	M	F	T	S	W	S	T	M	F	T	S	W	S	T	M	F	T	S	W	S	T	M	F	T	S					
0		<b>TCWD Waste Tank Improvement Project   STCI Job#15769R</b>	<b>78 days</b>	<b>Mon 6/21/21</b>	<b>Fri 10/8/21</b>																																				
1		Project Schedule	0 days	Mon 6/21/21	Mon 6/21/21																																				
2		<b>Demo</b>	<b>14 days</b>	<b>Mon 6/21/21</b>	<b>Fri 7/9/21</b>																																				
3		Demo of Tanks & Building	5 days	Mon 6/21/21	Fri 6/25/21																																				
4		Breakdown concrete in tank	2 days	Wed 6/30/21	Thu 7/1/21																																				
5		Remove located underground pipe & concrete vault	5 days	Fri 7/2/21	Fri 7/9/21																																				
6		<b>Concrete Ringwall</b>	<b>16 days</b>	<b>Mon 7/12/21</b>	<b>Mon 8/2/21</b>																																				
7		Over-Ex and recompact of soils	8 days	Mon 7/12/21	Wed 7/21/21																																				
8		Forming	2 days	Thu 7/22/21	Fri 7/23/21																																				
9		Install Rebar	2 days	Mon 7/26/21	Tue 7/27/21																																				
10		Pour Concrete & Strip	2 days	Wed 7/28/21	Thu 7/29/21																																				
11		Gravel Backfill	2 days	Fri 7/30/21	Mon 8/2/21																																				
12		<b>New Tank</b>	<b>23 days</b>	<b>Tue 8/3/21</b>	<b>Thu 9/2/21</b>																																				
13		Furnish & Install New Bolted Tank	10 days	Tue 8/3/21	Mon 8/16/21																																				
14		Install Piping, Valves & Supports	13 days	Tue 8/17/21	Thu 9/2/21																																				
15		<b>Post Tank Work</b>	<b>24 days</b>	<b>Tue 9/7/21</b>	<b>Fri 10/8/21</b>																																				
16		AC Pavement	5 days	Tue 9/7/21	Mon 9/13/21																																				
17		Reinforced Concrete Ribbon	14 days	Tue 9/14/21	Fri 10/1/21																																				
18		Demobilize	5 days	Mon 10/4/21	Fri 10/8/21																																				

**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING | AUGUST 4, 2021**

**ENGINEERING MATTERS**

**ITEM 4: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING SURGE TANK REPLACEMENT AT EL TORO SEWER LIFT STATION**

Trabuco Canyon Water District (District) owns and operates the El Toro Lift Station (Station) near the intersection of El Toro Road and Santa Margarita Parkway (SMP) in the City of Lake Forest. The station is a three (3)-level lift station consisting of a control room, storage room, pump room (dry pit), surge tank and wet wells. The lift station has a dual wet well/dry pit configuration with two separate wet wells. The station pumps from a gravity pipeline flowing east to west along El Toro Road to a force main in SMP, which conveys the flows to the Chiquita Treatment Plant owned and operated by Santa Margarita Water District.

The surge protection system consists of a 1,500-gallon surge tank and associated components. ZZ Technologies was retained by the District to evaluate the needed surge system at the facility and it was determined that a 1,100-gallon surge tank would be appropriate. The existing surge tank is not operating and the Station is being bypassed with flows being sent to Irvine Ranch Water District awaiting these improvements.

District Staff is working with S.S. Mechanical to expedite the surge tank replacement and the following scope of work had been identified:

<b>Item</b>	<b>Description</b>
1	1,100-gallon Bladderless Surge Tank with external level indicator assembly - vertical vessel with an 8" inlet connection. Please provide options for tank build material.
2	8" Dezurik Plug Valve (full port plug valve with fusion bonded epoxy lining). Indicate procurement time.
2A	8" Kennedy Plug Valve (Full port plug valve with fusion bonded epoxy lining)- Alternate 2 Bid Item
3	Quincy scroll-type oil-free Compressor Unit (0-200 psi)
4	Approximately 10–20 feet of ductile iron pipe with ceramic epoxy lining & appurtenances
5	Stainless Steel Flex-line connection for compressor to surge tank inlet
6	Labor costs for installation, start up and training

**FUNDING SOURCE:**

Reserves (Unbudgeted)

**FISCAL IMPACT (PROJECT BUDGET):**

TBD (Staff will present the contractor's bid at the time of the Committee meeting)

**ENVIRONMENTAL COMPLIANCE:**

Notice of Exemption

**RECOMMENDED ACTION:**

*Committee to receive information at the time of the Committee Meeting.*

**EXHIBIT(S):**

Project Location Map

**CONTACTS (staff responsible): PALUDI/LAUSTEN**



**Project Location**



**LOCATION MAP**

 Area of Work

**El Toro Sewer Lift Station**

**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING | AUGUST 4, 2021**

**ENGINEERING MATTERS**

**ITEM 5: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES**

---

1. Master Plan and Condition Assessment Update
2. Heritage Sewer Lift Station Improvements
3. Other Projects

**RECOMMENDED ACTION:**

*Committee to receive project status updates at time of the Committee Meeting.*

**EXHIBIT(S):**

None

**CONTACTS (staff responsible): PALUDI/PEREA/LAUSTEN**

**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING | AUGUST 4, 2021**

**OPERATIONAL MATTERS**

**ITEM 6: WATER SYSTEM UPDATES**

---

The following is a brief report of the water system for **July 2021**.

**Projects and Repairs**

1. Water Operations staff installed a new flow totalizer on the Trabuco Pressure Regulator Valve (PRV) located at the Wells Facility.
2. Water Operations staff conducted Lead and Copper sampling (required every 3 years by EPA).
3. Water Operations staff worked with Meter Department to replace a broken curb stop on Morningstar in the Dove Canyon Community.
4. Water Operations staff installed two (2) cooling fans and two (2) exhaust vents in the filter building at the Dimension Water Treatment Plant.
5. Water Operations staff worked with the Orange County Rescue Mission to locate an existing water line and water valves.
6. Water Operations staff worked with Superior Tank on the construction of the new Backwash Recovery Tank.
7. Water Operations staff worked with the Maintenance Department to remove and rebuild Booster #3 at Dimension Water Treatment Plant.
8. Water Operations staff redesigned and rebuilt the chlorine room chemical feed manifold at the Dimension Water Treatment Plant.

**Monthly Water System Operations Summary**

The Monthly Water System Operations Summary is attached for the Committee's review. Any anomalies will be presented at the time of the Engineering/Operational Committee Meeting.

**RECOMMENDED ACTION:**

*Committee to receive system status updates. No action required.*

**EXHIBITS**

Monthly Water System Operations Summary

**CONTACTS (staff responsible): PALUDI/KESSLER**

**TRABUCO CANYON WATER DISTRICT  
MONTHLY WATER SYSTEM OPERATIONS SUMMARY**

2021													
<b>DIMENSION WTP</b>													
	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
SAC METER AC/FT	160	125	75	176	214								
BACKWASH AC/FT	4	4	2.0	6	5	3							
FLUSHWATER AC/FT	7	6	3.0	9	9	4							
WTP EFFLUENT AC/FT	175	124	83	176	213	132							
<b>Wells</b>													
TRABUCO CREEK GWTF	0	0	0	0	0	0							
US WELL AC/FT	0	0	0	0	0	0							
<b>AMP WATER</b>													
SMWD AC/FT	0.12	2	8	0	0	51							
IRWD AC/FT	0	12.4	53.4	10	0	51							
<b>TOTAL SUPPLY</b>													
AC/FT	175	138	145	186	213	234							
CFS DAILY AVERAGE	2.8	2.5	2.3	3.1	3.4	3.9							
AC/FT PER DAY	5.6	5.0	4.6	6.2	6.9	7.8							
<b>OPERATIONS in GAL.</b>													
WTP DOMESTIC	32,239	27,377	29,845	35,380	41,215	23,936							
WWTP DOM	17,354	18,176	8,751	7,629	10,322	7,232							
<b>OPERATIONS (AF)</b>													
SUPPLEMENT TO RW	0	0	0	0	0	0							
<b>LOSSES in GAL.</b>													
FLUSHING (gal.)	0	0	0	0	0	0							
SEWER CLEANING (gal.)	5,000	5,000	5,000	5,000	5,000	5,000							
LINE BREAKS (gal.)	100,000	24,000	200,000	50,000	0	0							
<b>SYSTEM DEMAND **</b>													
CFS DAILY AVERAGE	2.8	2.5	2.3	3.0	3.4	3.9							
AC/FT PER DAY	5.6	5.0	4.6	6.2	6.9	7.8							
<b>RESERVOIR STORAGE</b>													
MONTHLY AVG (MG)	9.0	8.8	8.4	8.1	8.0	8.6							
DAYS OF STORAGE	4	3	3	3	3	3							
<b>ZONES (AF)</b>													
RIDGELINE PS	127	107	73	127	199	124							
EL TORO P.S.	18	20	53	10	0	51							
TOPANGA	2	2	2	3	4	4							
FALCON	0.3	0.2	2.4	0.7	0.7	0.7							
ROSE PRV/ OAKS	1	1	1	Inop.	Inop.	Inop.							
CANYON CREEK	0.1	0.2	0.2	0.3	0.4	0.3							
ROSE P.S.	0.3	0.3	0.2	0.2	0.2	0.2							
ROBINSON RANCH	31	31	34	53	63	72							
DOVE CANYON	61	54	62	75	84	86							
PORTOLA HILLS	11	10	10	11	12	13							
* Usage estimated new meter installed													
** Excludes Operational use, losses, and supplement to Recycled Water Reservoir (RW)													

**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING | AUGUST 4, 2021**

**OPERATIONAL MATTERS  
ITEM 7: WASTEWATER SYSTEM UPDATES**

The following is a brief report of the wastewater system for **July 2021**.

**Projects and Repairs**

Wastewater Operations staff performed and/or completed the following tasks and projects:

1. Worked with SS Mechanical to install a safety handrail at the Robinson Ranch Wastewater Treatment Plant.
2. Cleaned and graded the drying bed at the Robinson Ranch Wastewater Treatment Plant with fresh sand.
3. Replaced a waste valve at the Robinson Ranch Wastewater Treatment Plant.
4. Worked with the Maintenance Department to repair a Waste Activated Sludge (WAS) pump #2 check valve and a deragged pump at the Robinson Ranch Wastewater Treatment Plant.
5. Wastewater staff was onsite for the Bell Canyon Lift Station start-up.
6. Worked with the Maintenance Department to set up a temporary pump at Dove Lake in the Dove Canyon community.

**Sewer System Management Plan (SSMP) Report**

*The purpose of the program is to communicate on a regular basis with the public on the development, implementation, and performance of TCWD’s SSMP. Status updates on the work and type of work performed on the sewer system will be provided, including sewer line and manhole cleaning, system repairs, lift station cleaning, and updates from satellite facilities:*

<b>Sewer System Management Plan (SSMP) Monthly Update</b>	
Total Sewer Line, Feet*	210,495
<b>Total Sewer Line Cleaned (Ft) – Month</b>	<b>15,194</b>
Total Sewer Line Cleaned (Ft) – Cleaning Cycle	180,065
Cleaning Cycle Period (Mos.)	16
<b>Total Sewer Line Cleaned, %</b>	<b>79%</b>
The Oaks at Trabuco – Pumping Frequency for the Month	9
O’Neill Park Sewer System Status	Ok
O’Neill Park Sewer System Repairs	None
SSMP Quarterly Report – <i>Next Quarterly Report</i>	3Q 2021
SSMP Program Audit – <i>Next Audit Report**</i>	January 2022

*\*This amount includes the OC Parks-owned O’Neill Park sewer system the District is contracted to clean.*

*\*\*Periodic internal audits shall be conducted, at a minimum every two years, with reports kept on file. The audit shall focus on evaluating the effectiveness of the SSMP and TCWD’s compliance with the mandatory elements of TCWD’s SSMP:*

**Monthly Recycled Water System Operations Summary**

The Monthly Recycled Water System Operations Summary is attached for the Committee’s review. Any anomalies will be presented at the time of the Engineering/Operational Committee Meeting.

**RECOMMENDED ACTION:**

*Committee to receive system status updates. No action required.*

**EXHIBITS**

Monthly Recycled Water System Operations Summary

**CONTACTS (staff responsible): PALUDI/PEREA**

**TRABUCO CANYON WATER DISTRICT | NON-DOMESTIC WATER SYSTEM SUMMARY - 2021**

RECYCLED WATER SUPPLY															
	MAX	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL	FIVE YEAR AVG
WWTP Reclaimed Water Production, AF	78.3	50.6	43.9	52.8	42.8	46.2	44.1							280.4	550.04
Reclaimed Reservoir Level, FT	1274.5	1,266.0	1,268.5	1,270.8	1,268.9	1,268.2	1,264.0							-	-
Reclaimed Reservoir Free Board, FT	25.5	8.5	6.0	3.7	5.6	6.3	10.5							-	-
Reclaimed Reservoir Storage, AF	145.5	96.4	112.5	125.2	115.4	110.4	87.5							-	-
Supplemental Domestic Water Added, AF	N/A	0.0	0.0	0.0	0.0	0.0	0.0							0.0	72.88

RECYCLED WATER SYSTEM DEMAND															
NON DOMESTIC WATER USER	ALLOC. AF	8% JAN	17% FEB	25% MAR	33% APR	42% MAY	50% JUN	58% JUL	67% AUG	75% SEP	83% OCT	92% NOV	100% DEC	TOTAL	ALLOC. %
Dahlia Court	8.2	0.2	0.2	0.2	0.3	0.3	0.3							1.5	18%
Dove Canyon Golf Course	106.7	6.6	7.1	10.6	25.6	37.2	42.2							129.2	121%
Dove Canyon Master Association	279.3	5.5	5.7	7.1	16.1	22.3	30.4							87.1	31%
Robinson Ranch	80.2	0.9	1.3	1.3	2.4	4.1	4.9							14.8	19%
Trabuco Highlands	159.7	3.7	3.0	2.1	6.6	8.8	10.0							34.2	21%
City of RSM	0.1	0.00	0.00	0.00	0.30	0.01	0.01							0.3	245%
Construction Water	N/A	0.0	0.0	0.0	0.0	0.0	0.0							0.0	N/A
Sakaida Nursery	1.1	0.0	0.0	0.0	0.0	0.0	0.0							0.0	0%
SMWD	N/A	0.0	0.0	0.0	6.6	2.8	2.2							11.7	N/A
TY Nursery	17.9	0.0	5.8	4.0	6.2	0.0	0.0							16.1	90%
<b>TOTAL, AF</b>	<b>653.2</b>	<b>16.8</b>	<b>23.1</b>	<b>25.3</b>	<b>64.1</b>	<b>75.6</b>	<b>90.0</b>							<b>294.8</b>	<b>45%</b>
<b>PERCENTAGE OF NDW ALLOCATION/YEAR</b>		<b>3%</b>	<b>6%</b>	<b>10%</b>	<b>20%</b>	<b>31%</b>	<b>45%</b>								
<b>TOTAL ANNUAL AVG. NDW AVAILABLE**</b>	<b>774.36</b>														

URBAN RUNOFF CAPTURE AND REUSE															
DISTRICT FACILITY		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	FIVE YEAR AVG
Shadow Rock Detention Basin Production		0.0	0.0	0.1	0.01	0.01	0.01							0.1	21.2
Dove   Tick Creek Production*	Dry Season	0.0	0.0	0.0	7.0	6.8	5.3							19.2	102.7
	TCWD Portion	0.0	0.0	0.0	3.5	3.4	2.7							9.6	-
	SMWD Portion	0.0	0.0	0.0	3.5	3.4	2.7							9.6	-
Dove Lake Water Pumped		0.0	0.0	0.0	11.3	28.5	20.0							59.8	201.7
Dove Lake Free Board, Ft		5.6	5.3	3.2	4.1	5.9	7.2							-	-
Dove Lake Storage		128.0	131.5	166.4	158.1	117.2	107.0							-	-
Total Rainfall, In.		1.7	0.0	1.2	0.0	0.0	0.0							2.9	14.5

\* SMWD share of Dove/Tick Pump Station Dry Season Water is 50% of production.

\*\* Based on 5-Year Average Reclaimed Water Reservoir Base Supply & Recycled Water Production

**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING | AUGUST 4, 2021**

**OPERATIONAL MATTERS**

**ITEM 8: MAINTENANCE DEPARTMENT UPDATES**

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The following is a brief report of the wastewater system for **July 2021**.

**Projects and Repairs**

1. Maintenance Department staff assist Wastewater Operations with the temporary Dove Lake pump.
2. Maintenance Department staff assist Water Operations with the 3CFS booster pump removal for repair.
3. Maintenance Department staff was onsite with the Bell Canyon Lift Station startup.
4. Maintenance Department staff assisted Hydrotech Electric with the SCADA upgrade work at Dove Tank in the Dove Canyon Community.
5. Maintenance Department staff assisted Duthie Power Services with the generator repairs at the Via Alegre Lift Station.
6. Maintenance Department staff assisted Water Operations with the emergency generator and ATS rental install at the Field Office/Booster One.

**RECOMMENDED ACTION:**

*Committee to receive system status updates. No action required.*

**EXHIBITS**

None

**CONTACTS (staff responsible): PALUDI/STROUD**

**TRABUCO CANYON WATER DISTRICT  
ENGINEERING/OPERATIONAL COMMITTEE MEETING | AUGUST 4, 2021**

**REGULATORY AND OTHER MATTERS**

**ITEM 9: OTHER MATTERS/REPORTS**

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Other Matters/Reports from the General Manager and/or District staff may be provided at the time of the Engineering/Operational Committee Meeting.

**RECOMMENDED ACTION:**

*Hear Other Matters/Reports that may have arisen after the posting of the agenda.*

**EXHIBITS**

None

**CONTACTS (staff responsible): PALUDI**