



**ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA
TRABUCO CANYON WATER DISTRICT
ADMINISTRATION FACILITY
32003 DOVE CANYON DRIVE, TRABUCO CANYON, CA
OCTOBER 4, 2023 AT 7:00 AM**

COMMITTEE MEMBERS

Michael Safranski, Committee Chair
Stephen Dopudja, Committee Member
Don Chadd, Committee Member Alternate

DISTRICT STAFF

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

AGENDA NOTE:

Trabuco Canyon Water District (District) will make this Engineering/Operational Committee Meeting available by telephone audio as follows:

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. You may submit public comments by email to the Committee at 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. 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. 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 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

TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA | OCTOBER 4, 2023

ENGINEERING MATTERS

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

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. September 6, 2023

ITEM 2: ARC FLASH STUDY REQUEST FOR PROPOSAL (RFP)

RECOMMENDED ACTION:

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

ITEM 3: GOLF CLUB SEWER LIFT STATION IMPROVEMENTS

RECOMMENDED ACTION:

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

ITEM 4: MANUAL TRANSFER SWITCH UPGRADE FOR EMERGENCY OPERATIONS

RECOMMENDED ACTION:

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

ITEM 5: RESOLUTION AUTHORIZING SUBMITTAL OF AN APPLICATION FOR THE USBR WATERSMART DROUGHT RESPONSE PROGRAM: DROUGHT RESILIENCY PROJECTS FOR FY 2024

RECOMMENDED ACTION:

Recommend the Board of Directors adopt Resolution 2023-1325 Authorizing the Submittal of an Application for the USBR WaterSMART Drought Response Grant Program (Action Calendar).

ITEM 6: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Saddleback Meadows Development
2. Oaks at Trabuco Development
3. Other Projects

RECOMMENDED ACTION:

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



**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA | OCTOBER 4, 2023**

OPERATIONAL MATTERS

**PRESENTER(S): GARY KESSLER, WATER SYSTEM SUPERINTENDENT
OSCAR ULLOA, WASTEWATER OPERATIONS SUPERINTENDENT
JASON STROUD, MAINTENANCE DEPARTMENT SUPERINTENDENT**

ITEM 7: WATER SYSTEM UPDATES

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

ITEM 8: WASTEWATER SYSTEM UPDATES

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

ITEM 9: MAINTENANCE DEPARTMENT UPDATES

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

REGULATORY AND OTHER MATTERS

ITEM 10: OTHER MATTERS/REPORTS

RECOMMENDED ACTION:

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

ADJOURNMENT

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. 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 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.

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.



**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | OCTOBER 4, 2023**

ADMINISTRATIVE MATTERS

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. *September 6, 2023 Committee Meeting*

CONTACTS (staff responsible): PALUDI/PEREA



TRABUCO CANYON WATER DISTRICT ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | SEPTEMBER 6, 2023

DIRECTORS PRESENT

Mike Safranski, Committee Chair
Stephen Dopudja, Committee Member

STAFF PRESENT

Fernando Paludi, General Manager
Michael Perea, Assistant General Manager
Lorrie Lausten, District Engineer
Gary Kessler, Water Superintendent
Jason Stroud, Maintenance Superintendent
Karen Warner, Principal Accountant
Phil Serpas, CMMS/SCADA Administrator
Roseann Lejsek, Administrative Assistant

PUBLIC PRESENT

None

CALL MEETING TO ORDER

Director Safranski called the September 6, 2023 Engineering/Operational Committee Meeting to order at 7:00 a.m.

VISITOR PARTICIPATION

No comments were received.

ORAL COMMUNICATION

No comments were received.

COMMITTEE MEMBER COMMENTS

Director Dopudja expressed his appreciation to the Water Operations team for their quick response to the potable water line break in the Dove Canyon community. Mr. Perea provided a brief report of the emergency pipeline repair.

Director Safranski reported on his attendance at the Urban Water Institute (UWI) Conference, and he provided a brief report on the conference.

REPORT FROM THE GENERAL MANAGER

Mr. Paludi reported on the following matters:

- District Water Operations staff responded to a potable water line break in the Dove Canyon community overnight.
- The District's Energy Efficiency Ad Hoc Committee will hold its first meeting the following morning at 10:30 a.m., and he reported that Mr. Perea will be the staff lead for the committee with Directors Safranski and Mandich.

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | SEPTEMBER 6, 2023**

ITEM 1: ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP

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

- MOTION:** Approve the Engineering/Operational Committee Meeting Recap and recommended that the Board receive and file the same (Consent Calendar) – Director Dopudja
- SECOND:** Director Safranski
- AYES:** Directors Dopudja & Safranski
- NOES:** None
- ABSTAIN:** None
- MOTION PASSED/FAILED:** Passed 2 – 0

ITEM 2: QUARTERLY CAPITAL IMPROVEMENT PROGRAM (CIP) UPDATE

Ms. Lausten presented this matter for Committee consideration and review, and she provided an overview of the FY 2023-24 CIP projects. Director Safranski inquired about the status of the AMR/AMI project; Ms. Lausten reported the project was completed in FY 2022-23 and there were no further financial obligations. Mr. Perea reported that he has been working with the online portal vendor and plans for a soft launch by September 30, 2023. Discussion occurred concerning the listing of projects completed and/or in progress.

- MOTION:** None – Informational item only.

ITEM 3: DOVE CANYON SLOPE REPAIR

Mr. Paludi presented this matter for Committee consideration, and he reported that Dove Canyon Master Association (DCMA) has awarded a contract to JES Construction for the upper portion of the project area only. Discussion occurred concerning the total project area and financial impacts. Mr. Paludi reported that communication with DCMA has been limited on this project and that the District does not have any financial obligation to the repair.

- MOTION:** None – Informational item only.

ITEM 4: DOVE CANYON EASEMENTS

Mr. Paludi presented this matter for Committee consideration, and he reported that this matter will go before the DCMA Board of Directors at their regular meeting on September 19th. Ms. Lausten highlighted that she learned that the District did not have easements for the sewer lift stations in the community during the rehabilitation of the District’s Bell Canyon Sewer Lift Station. Ms. Lausten added that the District has prescriptive easements due to the length of time in ownership and operation of the facilities, but that the District is pursuing easements from DCMA for these facility sites.

- MOTION:** None – Informational item only.

ITEM 5: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Lead and Copper Rule Revisions

Ms. Lausten provided an update on this matter, and she reported that Municipal Water District of Orange County (MWDOC) has implemented a program to assist member agencies to meet this updated regulatory requirement by the October 2024 deadline. Ms. Lausten added that after reviewing the proposed participation costs of \$150K that District staff proposes completing this task independent of MWDOC. Ms.

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | SEPTEMBER 6, 2023**

Lausten has requested a proposal from Hazen to complete this task and will provide more information at a later date.

2. Wastewater Blower Room Project

Ms. Lausten reported that this project is budgeted for FY 2023-24 for \$400K and the construction plans are completed and prepared for bid at this time. Ms. Lausten added that the design engineer, JIG Engineering, does not recommend proceeding with this project before upgrading the Motor Control Center (MCC) as identified in the condition assessment report prepared by Hazen which is scheduled for FYE 2026. Ms. Lausten recommended accelerating the project to FYE 2025 to meet the system needs.

3. Master Plan/Condition Assessment Final Report

Ms. Lausten reported that Hazen will provide a PDF version of this report by the end of the week and hardcopies by the end of the month.

4. Other Projects –

4.1. Saddle Crest Development

Ms. Lausten reported that the developer has completed the coating of the reservoir ladder consistent with the construction plans and the next step is to perform water quality testing prior to facility start up. Discussion occurred concerning site challenges and proposed preferred solutions.

4.2. District Standards & Specifications

Ms. Lausten reported that District staff has worked with DMC Engineering to update its Standards & Specifications and that the final draft document will be presented to the Committee for review in October or November.

4.3. Engineering Staffing Support Update

Ms. Lausten reported that engineering staffing support will be working on arc-flash study of District facility equipment later this week. Discussion occurred concerning the performance of an infra-red study of district facility equipment.

MOTION: None – Informational item only.

ITEM 8: WATER SYSTEM UPDATES

Mr. Kessler reviewed the projects and repairs for the prior month, and he reported that Water Operations staff has completed the following tasks:

1. Repaired an 8" water main break on Mayfair Drive in the Robinson Ranch community.
2. Replaced a water service curb stop valve on Mill Stream Road in lower Robinson Ranch.
3. Prepared for the Regional Water Board inspection. Unfortunately, the inspection was rescheduled for October.
4. Shut down the Trabuco Creek Groundwater Treatment Facility. The GWTF produced 531 acre-feet of water in 2023 – *seasonal record*.

Mr. Kessler presented the Water System Summary for Committee review, and he provided updates on the GWTF production.

MOTION: None – Informational item only.

ITEM 9: WASTEWATER SYSTEM UPDATES

Mr. Perea reported that Mr. Ulloa was on vacation. Mr. Perea reviewed the projects and repairs for the prior month, and he reported that Wastewater Operations staff had completed the following tasks:

1. Assisted Maintenance Department staff in the replacement of a 60hp blower.
2. Assisted TESCO Controls in the repair of VFD #3 at the Dove Recycled Water (NDW) Pump Station.
3. Replaced 40hp EQ basin pump at the Robinson Ranch Wastewater Treatment Plant (WWTP).
4. Replaced 40hp pump for Tick Creek Dry Season Recovery Station located in the Dove Canyon community.
5. Prepared and cleaned the Robinson Ranch WWTP in preparation for a facility tour.

Mr. Perea presented the Recycled Water System Summary for Committee review, and he provided the Sewer System Management Plan (SSMP) monthly update.

MOTION: None – Informational item only.

ITEM 10: MAINTENANCE DEPARTMENT UPDATES

Mr. Stroud reviewed the projects and repairs for the prior month, and he reported that Maintenance staff completed the following tasks:

Projects and Repairs

Maintenance staff performed and/or completed the following tasks and projects:

Water Operations

1. Worked with Duthie Power to inspect/troubleshoot diesel driven pump at Robinson Ranch Booster Pump Station for emergency use.
2. Worked with Water Operations to assess a leaking air compressor at the Dimension Water Treatment Plant (DWTP). An oil leak was identified and repaired.

Wastewater Operations

1. Worked with Vaughan Industrial to remove and replace the East SBR blower at the Robinson Ranch WWTP.
2. Worked with Wastewater Operations and Hydrotech Electric to remove and replace the EQ Basin pump. The old motor was sent to Evans Hydro for service and repair.
3. Worked with Wastewater Operations and Hydrotech Electric to remove and replace a pump and motor at Tick Creek Dry Season Recovery Station.

District Fleet Upgrades & Other Projects

1. Received and outfitted four new fleet vehicles in accordance with District fleet specifications.
2. Assisted Hartford Steam Boiler (JPIA 3rd Party Inspector) on the inspection of air compressor tanks at Heritage Sewer Lift Station and Canyon Creek Booster Pump Station.
3. Installed moisture filters and fuel additive to SULAIR towable air compressor, Godwin mobile diesel pump, and Cummings mobile diesel generator.
4. Replaced a damaged axle on the boat trailer with a new axle, hubs, and tires.

MOTION: None – Informational item only.

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ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | SEPTEMBER 6, 2023**

ITEM 11: OTHER MATTERS/REPORTS

There were no others matter reported.

MOTION: None – Informational item only.

ADJOURNMENT

Director Safranski adjourned the September 6, 2023 Engineering/Operational Committee Meeting at 8:08 a.m.

DRAFT

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | OCTOBER 4, 2023**

ENGINEERING MATTERS

ITEM 2: SYSTEM WIDE ARC FLASH AND COORDINATION STUDY - REQUEST FOR PROPOSAL

Regulations have advanced since the District’s facilities were originally constructed to better protect personnel from arc flash and other electrical hazards. Compliance with these regulations is not only a legal obligation but also integral to safeguarding the well-being of our personnel. In keeping with the District’s commitment to safety and regulatory compliance, District staff recommend conducting a System-Wide Arc Flash and Coordination Study (Study) to achieve the following objectives:

1. To confirm that each facility complies with the National Electric Code (NEC), National Fire Protection Association (NFPA) 70E, and Occupational Safety and Health Administration (OSHA) requirements;
2. To make recommendations to bring each facility into compliance if not;
3. To provide budgetary (AAE Class 3) cost estimates for implementing recommendations;
4. To implement all recommendations related to electrical protective device settings and arc flash labels;
and
5. To provide staff with training.

In September 2023, the District invited a shortlist of eight qualified firms to respond to a Request for Proposals (RFP) for the System-Wide Arc Flash and Coordination Study, with proposals due back on October 23, 2023.

Arc Flash Companies
P2S, Inc
Lee & Ro
Terra Power Solutions, Inc.
Southern Contracting Company
Delta Systems
Carollo
Hazen & Sawyer
Tesco Controls, Inc

FUNDING SOURCE:

Capital Improvement Program

FISCAL IMPACT (PROJECT BUDGET):

\$90,000

ENVIRONMENTAL COMPLIANCE:

Not Applicable

RECOMMENDED ACTION:

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

EXHIBIT(S):

1. System Wide ARC Flash and Coordination Study (RFP)

CONTACTS (staff responsible): PALUDI/LAUSTEN

REQUEST FOR PROPOSAL (RFP)

SYSTEM WIDE ARC FLASH

AND

COORDINATION STUDY

FOR THE

TRABUCO CANYON WATER DISTRICT

The Submittal Deadline is:
October 23, 2023



Trabuco Canyon Water District
32003 Dove Canyon Drive
Trabuco Canyon, CA 92679

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1. INTRODUCTION

Trabuco Canyon Water District (TCWD) invites the submittal of written proposals from qualified consulting firms (Consultant) interested in providing services for a System Wide Arc Flash and Coordination Study.

Interested firms shall submit three (3) hardcopies and one USB drive of the proposal, including one (1) separately sealed fee proposal envelope, addressed as follows:

Dave Rodriguez, MS, PE, CCM
Senior Project Manager
Trabuco Canyon Water District
32003 Dove Canyon Dr.
Trabuco Canyon, CA 92679

Excluding cover letter, table of contents, resumes, cost and financial data, the proposal shall be limited to 20 single sided pages. Sealed proposals must be received at the above address by **2:00 PM, October 23, 2023**.

2. PROJECT DESCRIPTION

The Consultant will conduct a site assessment of the existing electrical equipment in regard to a System Wide Arc Flash and Coordination Study in gathering the data required for arc flash calculations and a report. In order to complete arc flash calculations. After gathering the necessary data, The Consultant will utilize simulation/modeling software to perform an Arc Flash Risk Assessment (AFRA) in accordance with IEEE 1584, NFPA 70E 130.5 , CSA Z462-15, OSHA 1910.269 Standards, including the latest Editions and Code Requirements.

As part of the assessment, The Consultant shall provide an AFRA Report (both hard and electronic copies) for the 27 facilities/site(s) that were analyzed and affix appropriate arc flash and shock hazard signage/labels on the electrical equipment and power distribution panels involved.

The Trabuco Canyon Water District is seeking the services of a consultant to complete an Arc Flash Incident Energy Analysis at a total of 27 facilities/site(s) locations throughout TCWD, as shown in Tables 1, 2, 3, 4 & 5 – TCWD Facilities.

Table 1 – TCWD Facilities

Item	Treatment Plants/TCWD Office	Address	City
1	Dimension WFP	20904 Dimensional	Lake Forest
2	Trabuco Creek GWTF	20772 Rose Canyon	Trabuco Canyon
3	Robinson Ranch WWTP	23485 Barnburg	Trabuco Canyon
4	Main Office	32003 Dove Canyon Dr.	Trabuco Canyon

Table 2 – TCWD Facilities

Item	Pump Stations	Address	City
1	Canyon Creek PS	30001 Canyon Creek	Trabuco Canyon
2	Dove Creek Urban PS	23485 Barnburg	Trabuco Canyon
3	Dove Canyon/Roberson Ranch PS	32532 Dove Canyon Dr.	Trabuco Canyon
4	El Toro BPS	19188 El Toro Rd.	Trabuco Canyon
5	Falcon BPS	28124 Falcon St.	Silverado
6	Plano PS/LS	21014 Plano Trabuco Rd.	Trabuco Canyon
7	Rose Canyon PS	19888 Rose Canyon Rd.	Trabuco Canyon
8	Shadow Rock Urban PS	20607 ½ Shadow Rock Ln.	Trabuco Canyon
9	Tick Creek Urban PS	23485 Barnburg	Trabuco Canyon
10	Topanga BPS	18525 Topanga Canyon Rd.	Silverado
11	Robinson Ranch PS	21397 Heritage Dr.	Trabuco Canyon

Table 3 – TCWD Facilities

Item	Reservoirs/Wells	Address	City
1	Dove Canyon Reservoir	22354 Grey Rock	Trabuco Canyon
2	Harris Grade Reservoir	18972 Live Oak Canyon Rd.	Trabuco Canyon
3	Joplin Reservoir	19480 Rose Canyon Rd.	Trabuco Canyon
4	Reservoir 1	19188 El Toro Rd.	Trabuco Canyon
5	Trabuco Reservoir	21202 Meander Ln.	Trabuco Canyon

Table 4 – TCWD Facilities

Item	Lift Stations	Address	City
1	Barneburg LS	46 Barneburg	Trabuco Canyon
2	El Toro LS	20915 El Toro Rd.	Lake Forest
3	Golf Club LS	22881 Golf Club Dr.	Trabuco Canyon
4	Heritage LS	21494 Plano Trabuco Rd.	Trabuco Canyon
5	Santiago LS	28105 Falcon St.	Silverado
6	Via Allegre LS	31776 Via Allegre	Trabuco Canyon

Table 5 – Contract Facility – Consultant to Provide a Separate Cost for this Facility.

Item	Lift Stations	Address	City
1	O’Neil LS (Contract Facility)	30892-4.1 Live Oak Canyon Rd.	Trabuco Canyon

This will involve visiting all identified locations and collecting the appropriate data, specifying arc flash boundaries for each class of equipment, creating, and affixing safety signage/labeling for each class of equipment. The safety signage/labeling will include voltage level, arc flash boundary, available incident energy at corresponding working distance, limited approach boundary, restricted approach boundary, as recommended by the latest Electrical Standards, including the required Personal Protective Equipment (PPE).

3. SCOPE WORK

The Consultant in order to fulfill the general requirements of this RFP is described below. Is encouraged to comment on, add to, and/or expand on the tasks, if appropriate, to make the proposal more complete or more clearly define the Consultant’s approach to the Project. The scope and fee specific to this specific Scope of Work should be clearly defined in the Consultant’s proposal. Fee shall clearly delineate hours, rates, and cost by task and subtask.

All services shall be conducted under the direct supervision of a Professional Electrical Engineer Registered in the State of California. This Electrical Engineer shall be experienced with a minimum of 10 years in performing overall Electrical System Assessments, Short-Circuit and Protective Device Coordination Studies, and Arc Flash Hazard Analyses. The Professional Electrical Engineer will also be required to sign and stamp the Final Report and single-line drawings.

4. TASK 1: PROJECT MANAGEMENT AND MEETINGS

4.1 Project Kick-Off Meeting – Project Management

Consultant shall communicate and coordinate as needed with TCWD staff to provide updates, follow up on action items, and manage the project on budget and on schedule. The Consultant shall prepare and submit a concise biweekly status report with the monthly invoice statement that includes the following:

- TCWD’s standard forms include a summary of expenditures by task showing total budget, billing to date, current billing, and remaining amount.
- A summary of work progress/items complete for all work tasks.
- A summary of work progress/items to be complete for all work tasks.
- An estimate of actual percent complete based on progress compared to percent complete based on budget expended.
- An updated progress schedule using a Gantt-type format.

Deliverables:

1. *Monthly status report detailing completed work and work remaining to be completed for all tasks.*
2. *Monthly invoice*

4.2 Meetings

Consultant shall administer the following meetings at a minimum for this project:

- **Project Kick-Off Meeting:** The Consultant shall arrange and conduct a project kick-off meeting at the start of the project. The purpose will be to introduce project participants, establish lines of communication, review the accepted Scope of Work and the project approach, and discuss all other related information pertaining to TCWD's system.
- **Progress Meetings:** The Consultant shall conduct monthly coordination and consultation meetings with TCWD during the project. Assume half of these meetings will be conducted in person and the other half will be virtual.
- For all meetings, Consultant shall prepare and submit a meeting agenda to TCWD staff, two business day in advance of the meeting and shall document and submit meeting minutes, highlighting action items and decisions, to TCWD staff within three business days of the meeting. At each meeting, the Consultant shall present and discuss an updated project schedule, project milestones listing of completed and remaining tasks, and planned activities.

Deliverables:

1. *Meeting agenda*
2. *Meeting minutes and decision log*

5. TASK 2: DATA REQUEST EXISTING SYSTEMS AND DATA COLLECTION/REVIEW

The Consultant shall collect required data on switchgear, Motor Control Centers (MCC) panels, disconnects, transformers, switchboards, etc., as necessary. (Note: There is no guarantee the necessary as-built information or data is available or electrical components are properly signage /labeled. The Consultant shall recognize this and compensate as necessary to complete the Contract with no additional charges. TCWD staff shall provide operational knowledge and provide assistance, as necessary.)

On-site gathering of data will be conducted with proper PPE worn at all times. The Consultant shall wear flame-resistant (FR) coveralls rated to 8 cal/cm² at all times. The Consultant shall also wear steel-toed safety shoes, safety glasses and/or protective shield, and hearing protection. 40 cal/cm² flame resistance (FR) suits are used as needed for higher exposure areas. The Consultant will provide all necessary PPE.

Data anticipated to be collected shall include but not be limited to:

1. Fuses-manufacturer, type, amp rating, short circuit rating, etc.
2. Circuit Breakers-manufacturer, type, amp rating, short circuit rating, settings, etc.
3. Panels and Switchboards-manufacturer, type, amp rating, short circuit rating, ratings of circuit breakers/fuses in the panel/switchboard, etc.
4. Primary to 480/240/208-volt Transformers – size, impedance, fusing, short circuit available (obtain from the Utility with assistance from TCWD staff), etc.
5. Wire/Cable – size, type, length, etc. Assume all cables are insulated with THHN or THWN insulation.
6. Secondary Transformers (480/120/240 & 480/120/208, etc.) – size, impedance, fusing, etc.
7. SCR and/or isolation transformers – size, impedance, fusing, etc.
8. Disconnects/combination motor starters (e.g., on equipment, connected into duct/gutters, etc.) – size short circuit ratings, fusing, etc.
9. Bus Duct – size, short circuit rating, and buckets/disconnects on the duct, fusing, length, etc.
10. Equipment panels – all exposures that are on the "end" of the line fed by the above panels, wire, fusing/circuit breakers, etc. Include all short circuit ratings, fusing/circuit breakers in the panels, etc.
11. All motors and other equipment that will contribute to the short circuit available current value in the system(s).

12. The above information shall be assessed in accordance with IEEE 1584, NFPA 70E 130.5 , CSA Z462-15, OSHA 1910.269 Standards, including the latest Editions and Code Requirements.
13. Include all primary (12.4kV/13.8 kV volts, etc.) wire, fusing, switchgear, etc. in this assessment.

Task 2 Existing Systems and Data Review Deliverables

The Consultant shall summarize existing data findings in the draft and final Arc Flash Analysis Report and Drawings as described in Task 5.

6. TASK 3: SINGLE-LINE ELECTRICAL DIAGRAMS

The Consultant shall create accurate single-line electrical diagrams for each of the systems surveyed. Information on the single-line diagram shall include, but not be limited to:

1. Electrical structure
2. Voltage at each point (e.g., 480/277, 120/240, 120/208, etc.)
3. Bolted short circuits are available at each point in the system.
4. HP rating of major motors connected to the system.

Task 3 Single-Line Electrical Diagram Deliverables

The Consultant shall provide TCWD with electronic copies of the single-line electrical diagrams for each of the systems surveyed.

7. TASK 4: INCIDENT ENERGY ANALYSIS

The Consultant shall use analysis methods which conform to NFPA 70E 130.5 and/or current IEEE 1584. All calculations shall be performed using Power Tools Software provided by SKM Systems Analysis, Inc., ETAP-Electrical Power System Analysis & Operation Software, Inc. or approved equal. Analysis and calculations shall include:

1. Perform a system short circuit analysis.
2. Perform system overcurrent protection coordination.
3. Provide interrupt rating analysis.
4. Calculate the arc flash incident energy (I.E.) for each point in the system(s).
5. Calculate the arc flash boundary distances for each point in the system(s).
6. Determine the cal/cm² ratings for each piece of equipment.
7. Perform “modeling” with circuit breaker settings that have been changed, and/or fusing being replaced to lower the arc flash incident energy to its lowest value.
8. Re-calculate the arc flash I.E., boundary distances, and PPE requirements for points in the system in which “modeling” has identified can have reduced incident energy level releases.

The Consultant shall provide the results of each of these analyses and/or calculations for each system in the draft and final Arc Flash Analysis Report and Drawings described in Task 5.

8. TASK: 5 ARC FLASH ANALYSIS REPORT

The Consultant shall complete a draft and final Arc Flash Analysis Report. The plan shall at a minimum include the following:

1. The Consultant’s Name and Address; Consultant’s Point of Contact (POC) Title, Organization, and Address’ Facility Name and Address; and Date of Survey.
2. Executive Summary of the Analysis.
3. Single-line diagram – data sources.
4. I.E. Analysis – data sources.

5. Results of "modeling" to lower the I.E./PPE Class, with items identified, existing class, new class if work is performed, recommended fuse replacements to lower the class, recommended circuit breaker settings to lower the class.
6. Fault analysis input data.
7. Fault coordination input data.
8. Coordination curves for each major electrical equipment/circuit breaker/fuse/cable, etc.
9. Arc flash evaluation showing the bus names, protective device names, bus kV, bus bolted fault (KA), protective devices arcing fault (kA), trip/delay time (sec.), duration of arc (sec.) are type, arc flash boundary (in.), working distance (in.) incident energy (cal/cm²), and required protective flame resistant (FR) clothing class.
10. Arc flash warning signage/label produced for the equipment.
11. The Consultant shall provide a detailed mitigation list of electrical hazards discovered at all 27 facilities/site(s).

Task 5 Arc Flash Analysis Report and Drawings Deliverables

The Consultant shall submit the following documents:

1. Draft Arc Flash Analysis Report and Single-Line Drawings (1-complete electronic with in PDF format, 3 - bond copies)
2. Final Arc Flash Analysis Report, which incorporates recommendations and comments from District on draft report (1-complete electronic in PDF format, 3 bond copies)

9. TASK 6: GENERATE A DETAILED LIST OF EXISTING ELECTRICAL ISSUES

The Consultant shall generate a concise and detailed list of electrical issues as related to the most current and up to date and in accordance with IEEE 1584, NFPA 70E 130.5 , CSA Z462-15, OSHA 1910.269 Standards, including the latest Editions and Code Requirements to be addressed as a priority of criticality.

10. TASK 7: ARC FLASH SIGNAGE/LABELS

The Consultant shall create, print, and apply arc flash signage/labels for each piece of equipment surveyed.

Arch flash signal/labels shall include voltage level, arc flash boundary, available incident energy at corresponding working distance, limited approach boundary, and restricted approach boundary.

The Consultant shall coordinate with TCWD prior to applying the signage/labels.

Task 7 Arc Flash Signage/Labels Deliverables

The Consultant shall create and print one (1) signage/label per piece of equipment surveyed in compliance with NFPA 70E, 2021 edition and apply signage/labels to each piece of equipment.

11. TASK 8: SCHEDULE

Issue RFP	September 27, 2023
Receive Proposals	October 23, 2023 @ 2:00 PM
Consultant Selection (Board Meeting)	November 16, 2023
Notice of Award	November 17, 2023
Project Kick-off Meeting	December 4, 2023
Project Period	January 2, 2024 – April 30, 2024

11.1 Proposal Format

Proposing firms shall include the following information in their proposals:

1. Overview of the Company, prime and sub consultants.
2. Project Team, Organization and Team Experience in specifically perform Arc Flash Studies.
3. Understanding of the Project.
4. Project Management and Quality Control.
5. Any proposed modifications to the project scope; and
6. Fee Proposal:
 - Include the tasks in the above format.
 - Break tasks into sub-tasks to better manage Project. Include an excel file with the electronic submittal.
 - Personnel hourly rates shall reflect all costs for office overhead, including direct and indirect costs.
 - The fee proposal shall reflect all anticipated fee increases during the contract duration work by others.
 - The fee proposal shall be submitted in a separate envelope labeled “Fee Proposal.”

11.2 Proposal Evaluation

The proposals will be evaluated based upon the following criteria. Evaluations will be completed on the information submitted in the proposal only.

Evaluation Criteria		
Item	Description	Percentage Possible
1	Company Qualification	15%
2	Proposed Team Qualifications in Arc Flash Studies	20%
3	Understanding of the Project and Level of Efforts	50%
4	Project Management and QA/QC	15%
	Total Points	100%

The primary evaluation criteria used by TCWD will be as outlined above. This is not a competitive bid process based on price alone. TCWD may review the cost estimate prior to ranking the proposal submissions. After the selection of the prospective Consultant deemed most qualified, TCWD will initiate negotiations. If an acceptable contract cannot be reached with the prospective Consultant deemed most qualified, TCWD may then negotiate with the next most qualified prospective Consultant.

The Consultant shall note any comments to the Agreement or Contract inside of their Proposal.

TCWD reserves the right, after opening the proposals, to reject any or all proposals, or to accept proposal(s) that in its sole judgment are in the best interest of TCWD. Proposal costs are not reimbursable by the District.

Note: All existing Electrical As-built Drawings information as provided by TCWD is susceptible to errors and cannot be relied upon as accurate documentation of existing electrical systems at 27 facilities/site(s) locations. The Consultant shall verify all Electrical As-built Drawings information prior to generating new single-line drawings for System Wide Arc Flash and Coordination Study.

Contact Person

Please direct all communication regarding the RFP Process to:
 Dave Rodriguez, MS, PE, CCM
 Senior Project Manager
 (949) 550-4194
drodriguez@tcwd.ca.gov

Attachments:

Exhibit A – List of Existing As-Built Single-Line Drawings.

Exhibit B – Trabuco Canyon Water District Contract

EXHIBIT A

(LIST OF EXISTING AS-BUILT SINGLE-LINE DRAWINGS)

Table 1 – TCWD Facilities

Item	Treatment Pmts./TCWD Office	As-Built Single Line Dwgs.	Address	City
1	Dimension WFP	Yes	20904 Dimensional	Lake Forest
2	Trabuco Creek GWTF	No	20772 Rose Canyon	Trabuco Canyon
3	Robinson Ranch WWTP	No	23485 Barnburg	Trabuco Canyon
4	Main Office	No	32003 Dove Canyon Dr.	Trabuco Canyon

Table 2 – TCWD Facilities

Item	Pump Stations	As-Built Single Line Dwgs.	Address	City
1	Canyon Creek PS	Yes	30001 Canyon Creek	Trabuco Canyon
2	Dove Creek Urban PS	Yes	32314 Robinson Ranch Rd.	Trabuco Canyon
3	Dove Canyon/Robinson Ranch PS	No	23485 Barnburg	Trabuco Canyon
4	El Toro BPS	Yes	19188 El Toro Rd.	Trabuco Canyon
5	Falcon BPS	No	28124 Falcon St.	Silverado
6	Plano PS/LS	Yes	21014 Plano Trabuco Rd.	Trabuco Canyon
7	Rose Canyon PS	Yes	19888 Rose Canyon Rd.	Trabuco Canyon
8	Shadow Rock Urban PS	Yes	20607 ½ Shadow Rock Ln.	Trabuco Canyon
9	Tick Creek Urban PS	Yes	23485 Barnburg	Trabuco Canyon
10	Topanga BPS	Yes	18525 Topanga Canyon Rd.	Silverado
11	Robinson Ranch PS	Yes	21397 Heritage Dr.	Trabuco Canyon

Table 3 – TCWD Facilities

Item	Reservoirs/Wells	As-Built Single Line Dwgs.	Address	City
1	Dove Canyon Reservoir	No	22354 Grey Rock	Trabuco Canyon
2	Harris Grade Reservoir	No	18972 Live Oak Canyon Rd.	Trabuco Canyon
3	Joplin Reservoir	No	19480 Rose Canyon Rd.	Trabuco Canyon
4	Reservoir 1	No	19188 El Toro Rd.	Trabuco Canyon
5	Trabuco Reservoir	No	21202 Meander Ln.	Trabuco Canyon

Table 4 – TCWD Facilities

Item	Lift Stations	As-Built Single Line Dwgs.	Address	City
1	Barneburg LS	Yes	46 Barneburg	Trabuco Canyon
2	El Toro LS	Yes	20915 El Toro Rd.	Lake Forest
3	Golf Club LS	Yes	22881 Golf Club Dr.	Trabuco Canyon
4	Heritage LS	No	21494 Plano Trabuco Rd.	Trabuco Canyon
5	Santiago LS	Yes	28105 Falcon St.	Silverado
6	Via Allegre LS	No	31776 Via Allegre	Trabuco Canyon

Table 5 – Contract Facility – Consultant to Provide a Separate Cost for this Facility.

Item	Lift Stations	As-Built Single Line Dwgs.	Address	City
1	O'Neil LS (Contract Facility)	Yes	30892-4.1 Live Oak Canyon Rd.	Trabuco Canyon

EXHIBIT B
(TRABUCO CANYON WATER DISTRICT CONTRACT)

**PROFESSIONAL SERVICES CONTRACT
SYSTEM WIDE ARC FLASH AND COORDINATION STUDY**

THIS CONTRACT ("Contract") is entered into on Date by and between **Trabuco Canyon Water District**, hereinafter called "TCWD," and Consultant hereinafter called "Consultant."

WHEREAS, TCWD desires certain services hereinafter described and Consultant is capable of providing and desires to provide such service.

NOW, THEREFORE, TCWD and Consultant, for the consideration and upon the terms and conditions hereinafter specified, agree as follows:

SECTION I

SCOPE OF SERVICE

- 1.1 The services to be performed under this Contract are as described in Appendix One hereunto attached and by this reference made a part hereof ("Scope of Services"). In the event that a conflict or contradiction is discovered between the proposal language and TCWD's standard Contract terms, TCWD's standard Contract terms shall prevail. Such a service shall be performed by employees of the Consultant, operating as an independent contractor, and not by or as employees of TCWD.

SECTION II

DUTIES OF CONSULTANT

- 2.1 Standards. All work performed by the Consultant or under his/her direction shall be rendered in accordance with the accepted practices and to the standards of the Consultant's business or industry.

Employees or agents of Consultant who are experienced and skilled in their business and in accordance with the standards of work in their respective professions hereunder shall perform all services. Consultant's findings, recommendations, and professional advice shall be based on practices and procedures customary in its profession. Consultant shall provide additional services needed to correct any deficiency in its work at no additional cost or expense to TCWD.

- 2.2 Additional Work. Consultant shall not undertake any work beyond the scope of this Contract unless such additional work is approved in advance and in writing by TCWD's General Manager. The cost of such additional work shall be reimbursed to the Consultant by TCWD on the same basis as provided in Section IV. TCWD shall not incur any liability related to any work performed

beyond the scope of this Contract until such change has been approved in writing by the General Manager.

- 2.3 Security and Safety. If, in the prosecution of the work, it is necessary to conduct field operations, security and safety of the job site will be the responsibility of Consultant, excluding therefrom the security and safety of any TCWD facility within the job site not under the control of Consultant.

In providing its services hereunder, unless otherwise specifically called for in the Scope of Services, Consultant shall not be responsible for identification, handling, containment, abatement, or in any other respect, for any asbestos or hazardous material present on the project site either prior to Consultant's commencement of work or by reason other than due to the actions of the Consultant. In the event that TCWD becomes aware of the presence of asbestos or hazardous material at the job site, TCWD shall be responsible for complying with all applicable federal and state rules and regulations and shall immediately notify Consultant, which shall then be entitled to cease any of its services that may be affected by such presence, without any liability to Consultant arising therefrom.

- 2.4 Consultations. Consultant shall meet with TCWD personnel, or third parties as necessary, on all matters related to the carrying out of Consultant's services described in Appendix One. Such meetings shall be held at the request of either party. Consultant shall obtain TCWD's review and approval of completed work monthly, or at such intervals as may be mutually agreed upon, during the course of this work.

- 2.5 Data. Consultant agrees that all data and information, including without limitation specifications, designs, drawings, reports, and blueprints, generated in the performance of this Contract and data and information that are specified to be delivered or which are, in fact, delivered pursuant to this Contract shall be and remain the sole property of TCWD, with the exception of any intellectual property rights expressly contained therein, owned or created by Consultant prior to the effective date of this Contract; and/or created wholly outside the scope of this Contract. Consultant understands and agrees that all copyright and patent rights arising under this Contract belong to and shall constitute the property of TCWD, unless otherwise stated herein. Consultant hereby assigns any and all rights under copyright and patent law to TCWD and agrees to assist TCWD in perfecting the same. Consultant shall deliver all data and information to TCWD upon TCWD's request and in any event upon the completion of all work hereunder or the termination or expiration hereof, whichever shall first occur, and shall be fully responsible for the care and protection of all data and information until such delivery to TCWD. Except as otherwise provided in this Contract, said documents shall be delivered to TCWD without additional cost to TCWD. Any reuse or modification of Consultant's work product without Consultant's permission shall be at TCWD's sole risk.

- 2.6 Subcontracting. Any work to be performed by subcontractors shall be performed by the subcontractors identified in Consultant's proposal, and no substitutions shall be made without TCWD's prior written authorization (Appendix Two).

- 2.7 Prevailing Wages. Consultant acknowledges that the work to be performed pursuant to this Contract is related to a Public Works Project, as defined in Labor Code Section 1720 *et. seq.* To the extent applicable to the Scope of Services to be performed under this Contract, pursuant to Labor Code Section 1771, for public works project greater than \$1,000, Consultant shall pay the general prevailing rate of per diem wages to all workers employed on contracted projects as established by the California Department of Industrial Relations ("DIR"). Consultant and any subcontractor performing work under this CONTRACT shall be registered with DIR and qualified to perform work pursuant to Labor Code Sections 1725.5 and 1771.1. Consultant shall be responsible for providing proof of current registration for both Consultant and any subcontractor prior to performing any work, and contracts with unregistered contractors shall be subject to cancellation by the District. Consultant acknowledges that this Contract is subject to compliance monitoring and enforcement by DIR. Labor Code Sections 1735, 1775, 1776, 1777.5-1777.7, and 1810-1815 are incorporated into and are a fully operative part of this Agreement, and Consultant shall be responsible for compliance therewith.

SECTION III

DUTIES OF TCWD

- 3.1 Provision of Information. TCWD shall make available to Consultant all data and information in the possession of TCWD that TCWD deems necessary to the preparation of the work, and TCWD shall actively aid and assist Consultant in obtaining such information from other agencies and individuals. Except as specifically provided in the scope of services, Consultant shall be entitled to rely upon the accuracy of data and information provided by TCWD or others without independent review or evaluation.
- 3.2 Review of Progress of Work. TCWD Management may authorize a staff person as a representative to confer with the Consultant relative to Consultant's services hereunder. The work in progress hereunder shall be reviewed from time to time by TCWD at the discretion of TCWD or upon the request of Consultant. If the work is satisfactory, it will be approved. If the work is not satisfactory, TCWD will inform the Consultant of the changes or revisions necessary to secure approval.

SECTION IV

FEES AND PAYMENTS

- 4.1 Payment Schedule. Payment for the services hereinabove described shall be made upon a schedule and within the limit or limits shown upon Appendix Two hereunto attached and made a part hereof, and such payment shall be considered as full compensation for all personnel, materials, supplies, and equipment used in carrying out the work. In the event that a conflict or contradiction is discovered between the proposal language and TCWD's standard Contract terms, TCWD's standard Contract terms shall prevail.
- 4.2 Statements. Unless otherwise specified in said Appendix Two, Consultant's fees shall be payable on monthly statements. Such statements shall give a detail of time worked by each class of employee, services (or tasks) performed, and the expenses incurred for which billing is made and shall contain the following affidavit signed by a principal of the firm of Consultant:

"I hereby certify as principal of the firm of Consultant that the charge of \$_____ as summarized above and shown in detail on the attachments is fair and reasonable, is in accordance with the terms of the Contract dated, Date and has not been previously paid."

SECTION V

CHANGES IN WORK

- 5.1 Extra/Changed Work. TCWD may order major changes in scope or character of the work, either decreasing or increasing the amount of Consultant's services. Increased compensation for major changes shall be determined in accordance with Appendix Two hereof, or as otherwise agreed to, in writing, between the parties.
- 5.2 Change of Schedule. In the event that major changes are ordered, the schedule for completion as stated in Appendix Two hereto will be adjusted by negotiation between Consultant and TCWD.
- 5.3 Change Authorization. No representative of TCWD, other than the General Manager, is authorized to obligate TCWD to pay the cost or value of services beyond the scope thereof as herein described. Except in the event of an emergency, all changes authorized by the General Manager shall be in writing. TCWD shall not incur any liability related to any change until such change has been approved in writing by the General Manager.

SECTION VI

TIME OF BEGINNING AND SCHEDULE FOR COMPLETION

- 6.1 Commencement of Work. Consultant shall begin work upon receipt by it of written Notice to Proceed from TCWD Management. Said Notice shall not be issued until after this Contract has been approved and authorized by TCWD.
- 6.2 Completion Schedule. The schedule for completion of the work shall be as shown upon Appendix Two hereunto attached and made a part hereof. Consultant shall complete the work set forth in Appendix One in accordance with the schedule for completion shown in Appendix Two.
- 6.3 Suspension of Services. TCWD may, at any time and without cause, suspend all or a portion of the services of Consultant for a period of not more than ninety (90) days by notice in writing to Consultant. Consultant shall resume the service on receipt from TCWD of a notice of resumption of services. Any change to the Contract, price, or time of completion sought by Consultant as a result of suspension hereunder, shall be processed as a change order under the provisions of Section V hereof.

SECTION VII

DELAYS AND EXTENSIONS

- 7.1 Delays. In the event Consultant is delayed in performance of its services by circumstances beyond its control, it will be granted a reasonable adjustment in the Schedule for Completion as described in Appendix Two. Consultant must submit to TCWD all claims for adjustments to the Schedule for Completion within thirty (30) calendar days of the time of occurrence of circumstances necessitating the adjustment.

SECTION VIII

TERMINATION

- 8.1 Termination by TCWD. TCWD may terminate this Contract at any time by giving Consultant written notice thereof. Upon termination, the Consultant will be paid for that portion of the work completed prior to termination.
- 8.2 Termination by Consultant. Consultant may terminate this Contract upon written notice to TCWD should TCWD fail to fulfill duties as set forth in Section III or IV.
- 8.3 Effect Upon Records. Upon termination, Consultant shall turn over to TCWD all of the documents, records, and papers related to this Contract, which shall, at the option of TCWD,

become TCWD property. TCWD shall not be liable for any costs other than as specified in this Contract.

8.4 Examination of Records. TCWD shall, until the expiration of three (3) years after final payment under this Contract, have access to and the right to examine any directly pertinent books, documents, papers, and records of Consultant involving transactions related to this Contract.

8.5 Change in Consultant's Status. The financial capability and status of Consultant were substantial inducements for TCWD to enter into this Contract. Therefore, Consultant shall, and hereby specifically acknowledges its duty to do so, notify TCWD of any significant financial change, or significant change in status of Consultant within seven (7) days of significant financial change or significant change in status. "Significant financial change" or "significant change in status" shall mean the following:

- Any action(s) by which Consultant shall consolidate with, merge, or convert the Consultant into another partnership or corporation,
- Any filing of bankruptcy by the Consultant (or any of its partners),
- Loss of Consultant's professional qualifications, and
- The fact that Consultant is no longer in compliance with federal or state equal opportunity laws.

SECTION IX

ATTORNEY'S FEES

9.1 If either party brings an action or proceeding against the other party by reason of default of any term or condition of this Contract, or otherwise arising out of this Contract, the prevailing party in such action or proceeding shall be entitled to recover, as an element of its cost of suit, and not as damages, reasonable attorneys' fees, which shall be payable whether or not such action is prosecuted to judgment. The "prevailing party" as the term is used herein, shall be the party who is entitled to recover costs of suit, whether or not such suit proceeds to final judgment, and shall include, without limitation, a party who dismisses an action for recovery hereunder in exchange for payment of the sums allegedly due, performance of covenants allegedly breached, or considerations substantially equal to the relief sought in such action.

SECTION X

INDEMNIFICATION-HOLD HARMLESS

10.1 To the maximum extent permitted by law, Consultant shall hold harmless, defend at its own expense, and indemnify TCWD, as well as TCWD's directors, officers, officials, employees, and authorized volunteers, from and against any and all liabilities, claims, demands, causes of action, costs (including reasonable attorney fees and litigation costs), losses, damages, or expenses (collectively, "Liabilities"), of every nature that:

- (i) for design professionals, arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant and its employees or agents connected directly or indirectly with or to the performance of services under this Contract; or
- (ii) for all other professionals, arise out of or in direct, or indirect, connection with Consultant's performance of services under this Contract.

The obligations under this Section shall exclude Liabilities that (i) arise from TCWD's sole negligence and willful acts, or (ii) with respect to design professionals, arise from either the active negligence of TCWD, or any passive negligence of TCWD not caused at least in part by Consultant. For purposes of this section, "design professional" shall include only those professionals identified in California Civil Code section 2782.8(c), when Consultant is contracting to provide such services. The prevailing party shall be entitled to recover any and all legal expenses and costs (including attorney's fees) incurred in any action to enforce the indemnity, hold harmless, or defense provisions set forth in this Section. Consultant's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by TCWD or its directors, officers, officials, employees, and authorized volunteers.

SECTION XI

INSURANCE

- 11.1 Consultant shall comply with all of the insurance requirements set forth in Appendix Three attached hereto.

SECTION XII

MISCELLANEOUS PROVISIONS

- 12.1 Gratuities. Consultant warrants that neither it nor any of its employees, agents, or representatives has offered or given any gratuities to TCWD's employees, agents, or representatives with a view toward securing this Contract or securing favorable treatment with respect thereto.
- 12.2 Interpretation. The parties hereto acknowledge and agree that each has been given the opportunity to independently review this Contract with legal counsel, and/or has the requisite experience and sophistication to understand, interpret, and agree to the particular language of the provisions of this Contract.
- 12.3 Project Manager. Consultant shall designate within its proposal its project manager or project representative, who shall have the authority to act on behalf of Consultant for all purposes

under this Contract. TCWD Management reserves the right to approve the project manager assigned by the Consultant to said work. In the event TCWD disapproves of the project manager assigned to perform work under this Contract, TCWD shall notify Consultant in writing. Consultant shall meet and confer with TCWD Management within ten (10) days of such written notice, and, absent an agreement to the contrary, assign a new project manager within five (5) days of such meeting. Any substitution of Consultant's project manager shall first be approved in writing by TCWD, which shall not unreasonably hold such approval.

12.4 Limitation on Assignment. All services to be furnished under this Contract shall be deemed professional services. As such, the Consultant shall have neither the right nor the power to assign, sublet, transfer or otherwise substitute its interest in or obligations under this Contract without the prior written consent of TCWD.

12.5 Status of Consultant. Consultant is employed to render a contract service only, and any payments made to Consultant are compensation solely for such services as Consultant may render. The consultant shall at all times retain the status of an independent contractor with TCWD. Nothing within this Contract shall be construed so as to make Consultant, or any of its agents or employees, the employee(s), partner(s), or joint venturer(s) of or with TCWD.

In order to confirm its status as an independent contractor to TCWD under current law, Consultant represents to TCWD as follows:

[Check as applicable]

(a) Consultant will be providing one or more of the following professional services: (1) attorney services, (2) engineering services, (3) private investigatory services, (4) accountancy services, (5) stockbroker or municipal advisory services, and/or (6) direct-sales services.

(b) Consultant will be providing professional services of

and (i) maintains a separate business location, (ii) maintains a business license/professional service licenses or certification, (iii) establishes its own hours for work, and (iv) is regularly engaged in such professional services.

(c) Consultant is providing "business to business" services where Consultant is (i) a separate business entity (ii) holds and maintains all required business licenses, certificates and similar, and (iii) does not require a California contractor's license in order to provide the services set out in this Agreement.

- 12.6 Licensing. Consultant warrants that they have complied, and shall comply, with any and all applicable state licensing requirements.
- 12.7 Entire Contract. This Contract supersedes any and all other Contracts, either oral or in writing, between the parties hereto with respect to the subject matter hereof, and no other Contract, statement, or promise related to the subject matter of this Contract which is not contained in this Contract shall be valid or binding.
- 12.8 Ownership of Work. All work performed pursuant hereto shall, upon completion, become the property of TCWD. In the event the work is not completed, the completed portions thereof shall become the property of TCWD.
- 12.9 Waiver. Either party to this Contract may specifically and expressly waive, in writing, compliance by the other party hereto with any term, condition, or requirements set forth in this Contract. Either party to this Contract may specifically and expressly waive, in writing, any breach of any term, condition, or requirement of this Contract by the other party hereto. However, in the event that either party makes or gives such a waiver, such action shall not constitute a further or continuing waiver of any preceding or succeeding breach, or requirement of compliance with, the same or any other provision or contractual requirement, unless a specific statement to the contrary is contained within such waiver. The waiving party may, at any time, thereafter, require further compliance by the other party hereto with the requirements or provisions of this Contract that have been so waived. The consent of one party to any act by the other party for which such written consent was required shall not be deemed to imply consent or waiver of the necessity of obtaining such written consent for the same or similar acts in the future. No waiver or consent shall be implied from the silence or from the failure of any party to an act, except as otherwise specified in this Contract.
- 12.10 Job Costing. Any opinion of the Construction Cost prepared by the Consultant represents its judgment as a design professional and is supplied for the general guidance of TCWD. Since Consultant has no control over the cost of labor and material, or over competitive bidding or market conditions, Consultant does not guarantee the accuracy of such opinions as compared to contractor bids or actual cost to TCWD.
- 12.11 Notices. Any notice, request, demand, consent or approval, or other communication required or permitted hereunder by law, shall be validly given and made only if in writing and delivered in person to an officer or duly authorized representative of the party, or deposited in the United States mail, first class postage prepaid, and addressed to the party for whom intended as follows:

To TCWD:

Trabuco Canyon Water District
Attention: General Manager
32003 Dove Canyon Dr
Trabuco Canyon, CA 92679

To Consultant: Name

Attention: Consultant's Information

- 12.12 Jurisdiction. The parties hereby understand and agree that this Contract, and the attachments hereto, have been negotiated and executed in the State of California and shall be governed by, and construed under, the laws of the State of California. The parties hereto do expressly agree that in the event of a dispute concerning the terms hereof, venue for any legal action shall be with the appropriate court of the County of Orange, State of California.
- 12.13 Amendments. No addition to, or modification of, any provision contained in this Contract shall be effective unless fully set forth in writing signed by the authorized representative of both of the parties hereto.

12.14 Signatories The signatories hereto do warrant that they are appropriately authorized to execute this Contract on behalf of the party for which they signed.

IN WITNESS WHEREOF, the parties have executed this Contract the day first hereinabove written.

CONSULTANT

TRABUCO CANYON WATER DISTRICT

By: _____
Consultant's Name & Title

By: _____
Fernando Paludi, General Manager

Print
Name
:

Approved as to Form:

ATKINSON, ANDELSON, LOYA, RUDD & ROMO

General Legal Counsel:

By: _____

APPENDIX ONE

SCOPE OF SERVICES

Scope of Services shall consist of providing Professional Engineering Services for System Wide Arc Flash and Coordination Study per **Consultant's** proposal dated **Date**.

In the event that a conflict or contradiction is discovered between the proposal language and TCWD's standard contract terms, TCWD's standard Contract terms shall prevail.

APPENDIX TWO

FEE SCHEDULE

Fee shall be per Consultant's proposal dated Date with a total not to exceed amount of \$_____ as stated in proposal (attached) and as summarized below:

<u>PROFESSIONAL SERVICE</u>	<u>COST</u>
1 Project Management, Administration and Meetings	\$
2 Site Visits and Collection of Data/Information	\$
3 Creation of Single-Line Drawings	\$
4 Incident Energy Analysis and Arc Flash Analysis Report	\$
5 Generate a Detailed List of Existing Electrical Issues	\$
6 Field Installation of Arc Signage/Labels	\$
7 <u>Preparation of Bid Documents</u>	\$
Total:	\$

Additional work shall be provided on a time and materials basis, in accordance with 2021 Standard Billing Rates (attached).

The schedule for completion shall commence upon the execution date of this contract for services and shall follow the schedule provided by the Engineer.

In the event that a conflict or contradiction is discovered between the proposal language and TCWD's standard contract terms set forth in the Contract, TCWD's standard Contract terms shall prevail.

APPENDIX THREE

INSURANCE REQUIREMENTS

Consultant shall procure and maintain for the duration of the contract insurance against claims for injuries or death to persons or damages to property which may arise from or in connection with the performance of the work hereunder and the results of that work by the Consultant, his agents, representatives, employees, sub-contractors, or sub-consultants. Such insurance shall comply with the requirements set forth in Appendix Three.

A. Coverage - Coverage shall be at least as broad as the following:

1. **Commercial General Liability (CGL)** - Insurance Services Office (ISO) Commercial General Liability Coverage (Occurrence Form CG 00 01) including products and completed operations, property damage, bodily injury, personal and advertising injury with limit of at least two million dollars (\$2,000,000) per occurrence or the full per occurrence limits of the policies available, whichever is greater. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (coverage as broad as the ISO CG 25 03, or ISO CG 25 04 endorsement provided to TCWD) or the general aggregate limit shall be twice the required occurrence limit.
2. **Automobile Liability** – (if necessary) Insurance Services Office (ISO) Business Auto Coverage (Form CA 00 01), covering Symbol 1 (any auto) or if Consultant has no owned autos, Symbol 8 (hired) and 9 (non-owned) with limit of one million dollars (\$1,000,000) for bodily injury and property damage each accident.
3. **Workers' Compensation Insurance** - as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than \$1,000,000 per accident for bodily injury or disease. **Waiver of Subrogation:** Consultant hereby agrees, and the insurer providing such coverage shall agree, to waive all rights of subrogation against TCWD, its elected or appointed officers, officials, agents, authorized volunteers and employees for losses paid under the terms of this policy which arise from work performed by the Named Insured for the Agency; but this provision applies regardless of whether or not TCWD has received a waiver of subrogation from the insurer.
4. **Professional Liability** - Insurance appropriate to the Consultant profession, with limits of no less than \$1,000,000 per occurrence or claim, and \$2,000,000 policy aggregate.

OR

Cyber Liability Insurance (Technology Professional Liability – Errors and Omissions) – To the extent Consultant will be providing technology related services, Cyber Liability Insurance (Technology Professional Liability), with limits not less than \$2,000,000 per occurrence or claim,

and \$2,000,000 aggregate or the full per occurrence limits of the policies available, whichever is greater. Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken by Consultant in this Agreement and shall include, but not be limited to, claims involving infringement of intellectual property, including but not limited to infringement of copyright, trademark, trade dress, invasion of privacy violations, information theft, damage to or destruction of electronic information, release of private information, alteration of electronic information, extortion and network security. The policy shall provide coverage for breach response costs as well as regulatory fines and penalties as well as credit monitoring expenses with limits sufficient to respond to these obligations.

If Claims Made Policies:

1. The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work.
2. Insurance must be maintained, and evidence of insurance must be provided **for at least five (5) years after completion of the contract of work.**
3. If coverage is canceled or non-renewed, and not **replaced with another claims-made policy form with a Retroactive Date** prior to the contract effective date, the Consultant must purchase "extended reporting" coverage for a minimum of **five (5) years** after completion of contract work.

If the Consultant maintains broader coverage and/or higher limits than the minimums shown above, TCWD requires and shall be entitled to the broader coverage and/or higher limits maintained by the Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to TCWD.

B. Other Required Provisions:

1. The general liability policy must contain, or be endorsed to contain, the following provisions:
 - a. **Additional Insured Status:** TCWD, its directors, officers, employees, and authorized volunteers are to be given insured status (at least as broad as ISO Form CG 20 10 10 01), with respect to liability arising out of work or operations performed by or on behalf of the Consultant including materials, parts, or equipment furnished in connection with such work or operations.
 - b. **Primary Coverage:** For any claims related to this project, the Consultant's insurance coverage shall be primary at least as broad as ISO CG 20 01 04 13 as respects to TCWD, its directors, officers, employees and authorized volunteers. Any insurance or self-insurance maintained by TCWD its directors, officers, employees and authorized volunteers shall be in excess of the Consultant's insurance and shall not contribute to it.

2. **Notice of Cancellation:** Each insurance policy required above shall provide that coverage shall not be canceled, except with notice to TCWD.
3. **Self-Insured Retentions -** Self-insured retentions must be declared to and approved by TCWD. TCWD may require the Consultant to provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or TCWD. .
4. **Acceptability of Insurers -** Insurance is to be placed with insurers having a current A.M. Best rating of no less than A: VII or as otherwise approved by TCWD.
5. **Verification of Coverage –** Consultant shall furnish TCWD with certificates and amendatory endorsements or copies of the applicable policy language effecting coverage required by this clause. All certificates and endorsements are to be received and approved by TCWD before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the Consultant’s obligation to provide them. TCWD reserves the right to require complete, certified copies of all required insurance policies, including policy Declaration pages and Endorsement pages.
6. **Renewal of Coverage -** Consultant shall provide proof that policies of insurance required herein expiring during the term of this Contract have been renewed or replaced with other policies providing at least the same coverage. Proof that such coverage has been ordered shall be submitted prior to expiration. A coverage binder or letter from Consultant’s insurance agent to this effect is acceptable. A certificate of insurance and/or additional insured endorsement as required in these specifications applicable to the renewing or new coverage must be provided to TCWD within five (5) days of the expiration of the coverage.
7. **Sub-contractors/Sub-consultants -** Consultant shall require and verify that all sub-contractors maintain insurance meeting all the requirements stated herein, and Consultant shall ensure that TCWD its directors, officers, employees, and authorized volunteers are an additional insured are an additional insured on Commercial General Liability Coverage.

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | OCTOBER 4, 2023**

ENGINEERING MATTERS

ITEM 3: GOLF CLUB SEWER LIFT STATION IMPROVEMENTS

Trabuco Canyon Water District (District) owns and operates the Golf Club Sewer Lift Station (SLS) in the Dove Canyon community adjacent to the golf club driving range. This station receives wastewater flows from majority of the community by way of Bell Canyon and Barneburg Sewer Lift Stations and gravity sewer flows, and then conveys the wastewater to the Robinson Ranch Wastewater Treatment Plant via a sewer force main on Hillrise. The station was constructed in the early 1990s and had undergone only minor improvements until Fiscal Year (FY) 2021-22, when a bypass was installed, along with a short section of the force main, the surge tank repaired, and the motor control center replaced. Staff identified a series of critical repairs and improvements for the station that have been budgeted for completion in the F Y 2023-24 CIP.

Due to the long procurement time of equipment, Staff pre-purchased the three Cornell pumps (one spare), two guide rail systems/discharge elbows and the surge tank.

One of the biggest challenges during construction is bypassing the wet well due to the elevation of the sewer lateral from the lower level of the golf course clubhouse. The project went out to bid in February 2023, but contractors would not take on the risk of the wet well sewer bypass during construction. Staff, along with JIG Consultants, have developed a plan for an alternative bypass which builds a secondary wet well to prevent sewage back-up at the golf course clubhouse, which is included in the final bid documents (Exhibit 1). In September 2023, the District solicited bids from five (5) pre-qualified contractors, with bids due back October 25, 2023.

Golf Club SLS Improvements
Ferreira Construction
Pacific Hydrotech
Shuler Constructors, Inc
Pascal & Ludwig
SS Mechanical

FUNDING SOURCE:

Capital Improvement Program

FISCAL IMPACT (PROJECT BUDGET)

YEAR	ORIGINAL	FINAL/ PROJECTED	STATUS
FY 21/22	\$420,000	\$579,291	MCC, By-Pass Tee, Emergency By-Pass
FY 22/23	\$870,000	\$330,000	Engineering/Pumps/Surge Tank/Survey
FY 23/24	\$1,780,000	\$2,200,000	Construction/Geotechnical/CSDC/CM/Easement
	\$3,070,000	\$3,109,291	TOTAL

ENVIRONMENTAL COMPLIANCE:

Notice of Exemption was filed with the County of Orange on November 1, 2021.

RECOMMENDED ACTION:

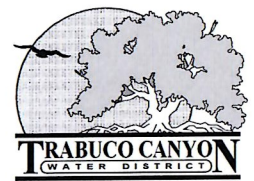
Committee to receive information at the time of the Committee meeting.

EXHIBIT(S):

1. Project Plans & Cost Estimate

CONTACTS (staff responsible): PALUDI/LAUSTEN

TRABUCO CANYON WATER DISTRICT
GOLF CLUB SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-010



SEPTEMBER 2023

APPROVED:
TRABUCO CANYON WATER DISTRICT
Lorraine S. Lausten
LORRAINE S. LAUSTEN R.C.E. 67027 DATE 9/25/23
DISTRICT ENGINEER



GENERAL NOTES

1. NOTIFY TRABUCO CANYON WATER DISTRICT (DISTRICT) 714-858-0277 AT LEAST 48 HOURS BUT NOT MORE THAN 72 HOURS BEFORE STARTING WORK, OR AFTER ANY DELAY, BEFORE RESUMING WORK.
2. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (U.S.A.) AT 811 AT LEAST 48 HOURS PRIOR TO STARTING WORK.
3. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (GREEN BOOK) LATEST EDITION, AND THE DISTRICT'S STANDARD SPECIFICATIONS AND DRAWINGS. THE CONTRACTOR SHALL HAVE A COPY OF THESE PLANS AND THE SPECIFICATIONS AND THE STANDARD SPECIFICATIONS ON THE JOB AT ALL TIMES.
4. CONCRETE WORK SHALL BE PER PLANS AND SPECIFICATIONS UNLESS OTHERWISE INDICATED.
5. PIPELINES SHALL BE PRESSURE TESTED TO 200 PSIG IN ACCORDANCE WITH SECTION 33 08 11.
6. CONTRACTOR SHALL MAINTAIN THE WORK AREA IN A NEAT, SAFE, CLEAN AND SANITARY CONDITION AT ALL TIMES. STREETS SHALL BE KEPT CLEAN OF DEBRIS, WITH DUST AND NUISANCE BEING CONTROLLED AT ALL TIMES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY CLEANUP OF ADJACENT STREETS AFFECTED BY HIS CONSTRUCTION. CONTRACTOR TO CLEAN STREET WITH SWEEPER OR EQUAL PRIOR TO END OF EACH WORK DAY AS A MINIMUM.
7. ALL SURPLUS MATERIAL REMOVED, INCLUDING EXCAVATED MATERIALS WHICH ARE NOT SUITABLE FOR USE IN THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF AWAY FROM THE JOB SITE IN A MANNER AND AT LOCATION ACCEPTABLE TO ALL AFFECTED AGENCIES.
8. THE CONTRACTOR SHALL FOTHOLOG AND LOCATE EXISTING CROSSING UNDERGROUND UTILITIES AND POINTS OF CONNECTION TWO WEEKS, IN ADVANCE OF THE PIPELINE CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY ADDITIONAL COST INCURRED IN THE EVENT THAT HE HAS NOT CORRECTLY LOCATED THE EXISTING UTILITIES.
9. THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES INCLUDING SHORING AND BE RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS, AND REGULATIONS. NEITHER THE DISTRICT NOR THE DISTRICT'S ENGINEER SHALL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR HIS OWN SAFETY.
10. ALL BOLTS AND NUTS SHALL BE 316 STAINLESS STEEL. AFTER INSTALLATION, ALL BURED BOLTS, NUTS, ETC., SHALL BE COATED WITH DEW WRAP OR AN APPROVED EQUAL.
11. THE SURROUNDING AREA SHALL BE RETURNED TO THE CONDITION ENCOUNTERED AT THE START OF CONSTRUCTION.
12. CONTRACTOR SHALL CONTACT THE DISTRICT A MINIMUM OF 48 HOURS IN ADVANCE FOR SCHEDULING OF ACCESS TO THE PROJECT SITE. CONTRACTOR SHALL ADHERE TO ALL DISTRICT REQUIREMENTS FOR SITE ACCESS AND MAINTAIN CONTINUAL COORDINATION WITH DISTRICT FOR THE DURATION OF CONSTRUCTION.
13. PRIOR TO COMMENCEMENT OF WORK, ALL SURVEY MONUMENTS IN THE PROJECT AREA SHALL BE ESTABLISHED AND TIED OUT BY THE CONTRACTOR. ALL CENTERLINE MONUMENTS OR TIES LOST OR DESTROYED BY THIS WORK SHALL BE REPLACED AND NEW TIES PROVIDED. METHOD OF ESTABLISHMENT SHALL BE STATED ON THE SHEET. THE SHEETS SHALL BE PREPARED AND STAMPED BY A LICENSED ENGINEER OR SURVEYOR AND SHALL BE DELIVERED TO THE COUNTY OF ORANGE PRIOR TO CONSTRUCTION.
14. THE CONTRACTOR SHALL PROTECT IN PLACE EXISTING SEWER, GAS, WATER LATERALS AND OTHER UTILITIES OR REPLACE IN KIND. LOCATIONS OF EXISTING UTILITIES AND SUBSTRUCTURES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS, ELEVATIONS AND DIMENSIONS IN THE FIELD PRIOR TO CONSTRUCTION IN THE AREA OF THE SPECIFIC SUB-STRUCTURE.
15. CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POINTS OF CONNECTION PRIOR TO COMMENCING CONSTRUCTION.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL EXISTING UTILITIES, PAVEMENT, CURB, STRUCTURE, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS AS A RESULT OF HIS OPERATIONS, AND WILL BE REQUIRED TO REPAIR OR REPLACE SAME TO THE SATISFACTORY OF, AND AS DIRECTED BY, THE DISTRICT REPRESENTATIVE OR IMPACTED UTILITY COMPANY.
17. CONSTRUCTION SURVEYS FOR THIS PROJECT SHALL BE PROVIDED BY THE DISTRICT. SURVEY POINTS DESTROYED AS A RESULT OF THE CONTRACTORS NEGLIGENCE OR FAILURE TO PROVIDE PROPER PROTECTION, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
18. THE CONTRACTOR SHALL MAINTAIN AND PROVIDE THE DISTRICT WITH A "RECORD" SET OF AS BUILT DRAWINGS AT THE COMPLETION OF ALL WORK PER THE PLANS AND SPECIFICATIONS.
19. TRENCH COMPACTION AND SUBGRADE COMPACTIONS TESTS SHALL BE PERFORMED BY A LABORATORY DESIGNATED BY THE DISTRICT, UTILIZING CALIFORNIA TEST METHOD NO. 216 AND 231. THE DISTRICT WILL FURNISH FIRST TESTS, WHEN REQUESTED, AT NO COST TO THE CONTRACTOR. ANY RE-TESTING REQUIRED DUE TO FIRST TEST FAILURES SHALL BE MADE AT LOCATIONS ORDERED BY THE ENGINEER, AND SHALL BE AT THE CONTRACTOR'S EXPENSE - COST OF WHICH WILL BE DEDUCTED FROM THE CONTRACTOR'S FINAL PAYMENT.
20. LOOSE EXCAVATED MATERIAL SHALL NOT BE PLACED OR STORED IN WATERWAYS OR STORM DRAIN CHANNELS. ALL EXCESS EXCAVATED SOIL AND MATERIALS SHALL BE REMOVED AND DISPOSED OF IN A PROPER AND LEGAL MANNER BY THE CONTRACTOR. ALL DISTURBED SURFACE AREAS SHALL BE SHARED TO FACILITATE DRAINAGE AND AVOID PONDING AND SHALL BE RESTORED TO NEAR NATURAL, OR PRE-CONSTRUCTION CONDITIONS.
21. THE CONTRACTOR SHALL CONDUCT HIS CONSTRUCTION OPERATIONS IN SUCH A MANNER THAT STORM OR OTHER WATERS MAY PROCEED UNINTERRUPTED ALONG THE STREET OR DRAINAGE COURSES.

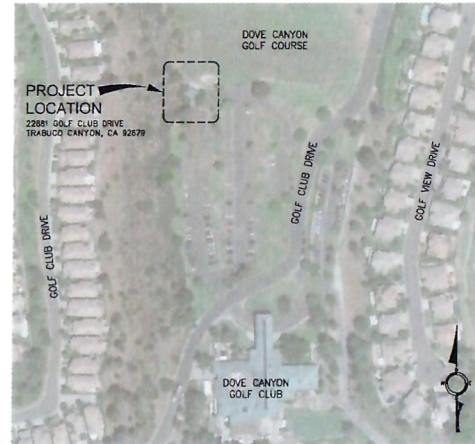
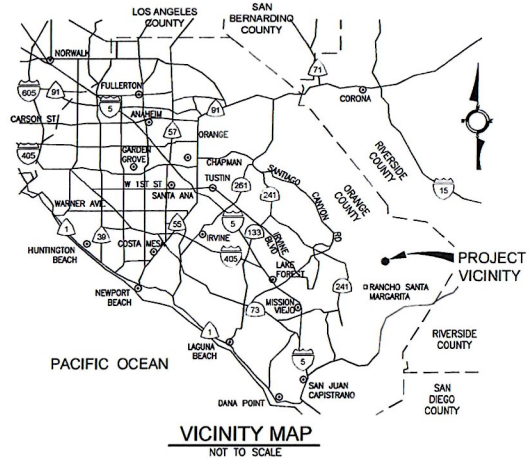
22. CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT AN UNANTICIPATED STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE.
SUCH "DISCHARGES" OF MATERIAL OTHER THAN STORM WATER ARE ALLOWED ONLY WHEN NECESSARY FOR PERFORMANCE AND COMPLETION OF CONSTRUCTION PRACTICES AND WHERE THEY DO NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY WATER QUALITY STANDARD; CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR NUISANCE; OR CONTAIN A HAZARDOUS SUBSTANCE IN A QUANTITY REPORTABLE UNDER FEDERAL REGULATIONS 40 CFR PARTS 117 AND 302.
MATERIALS WHICH MAY HAVE EFFECTS OF POLLUTION INCLUDE BUT ARE NOT LIMITED TO: SOIL OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, GLUES, LINES, PESTICIDES, HERBICIDES, WOOD PRESERVATIVES AND SOLVENTS; ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS; FERTILIZERS, VEHICLE/EQUIPMENT WASH WATER AND CONCRETE WASH WATER; CONCRETE DETERGENT OR FLOATABLE WASTES; WASTES FROM ANY ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGRASSING, AND SUPER CHLORINATED WATER LINE FLUSHINGS.
DURING CONSTRUCTION, DISPOSAL OF SUCH MATERIALS SHOULD OCCUR IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ON SITE PHYSICALLY SEPARATED FROM POTENTIAL STORM WATER RUN-OFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.
23. CONTRACTOR SHALL DEMONSTRATE EXTREME CAUTION WHEN TRENCHING IN CLOSE PROXIMITY TO OTHER UTILITIES. ANY SIGN OF DEGRADATION OF THE TRENCH WALL OR STRUCTURE INTEGRITY WILL NOT BE TOLERATED AND WILL FORCE THE STOPPAGE OF WORK UNTIL THE TRENCH OR STRUCTURE INTEGRITY IS ADEQUATELY RESTORED.
24. CONSTRUCTION WORK HOURS SHALL BE 8:00 AM TO 4:30 PM EXCLUSIVE OF SATURDAYS, SUNDAYS, OR HOLIDAYS, UNLESS OTHERWISE NOTED. CONTRACTOR CAN ARRIVE ON SITE AS EARLY AS 7:00 AM BUT CONSTRUCTION NOISE WILL NOT BE ALLOWED UNTIL 8:00 AM.
25. BY ACCEPTING THIS CONTRACT, CONTRACTOR HEREBY RELEASES AND AGREES TO INDEMNIFY, DEFEND, HOLD HARMLESS THE OWNER, TRABUCO CANYON WATER DISTRICT AND ITS REPRESENTATIVES, ENGINEER (HEREINAFTER JIG CONSULTANTS) THEIR PARENT AND SUBSIDIARY COMPANIES, AGENTS, EMPLOYEES, CONSULTANTS AND REPRESENTATIVES FOR ANY AND ALL DAMAGE TO PERSONS OR PROPERTY OR WRONGFUL DEATH REGARDLESS OF WHETHER OR NOT SUCH DAMAGE, DAMAGE TO PERSONS OR PROPERTY OR WRONGFUL DEATH IS CAUSED IN WHOLE OR IN PART BY THE NEGLIGENCE, ACTIVE OR PASSIVE, OF OWNER, ENGINEER, THEIR PARENT AND SUBSIDIARY COMPANIES, AS WELL AS THEIR AGENTS AND EMPLOYEES, EXCEPTING ONLY THE SOLE NEGLIGENCE OF OWNER, ENGINEER, THEIR PARENT OR SUBSIDIARY COMPANIES AND THEIR AGENTS AND EMPLOYEES TO THE FULLEST EXTENT PERMITTED BY LAW. SUCH INDEMNIFICATION SHALL EXTEND TO ALL CLAIMS, DEMANDS, ACTIONS, OR LIABILITY FOR INJURIES, DEATH OR DAMAGES OCCURRING AFTER COMPLETION OF THE PROJECT, AS WELL AS DURING THE WORK'S PROGRESS. CONTRACTOR FURTHER AGREES THAT IT SHALL ACCOMPLISH THE ABOVE AT ITS OWN COST, EXPENSE AND RISK EXCLUSIVE OF AND REGARDLESS OF ANY APPLICABLE INSURANCE COMPANY REGARDING COVERAGE.

SHEET INDEX

DWG. NO.	SHT. NO.	SHEET TITLE
G-01	1	TITLE SHEET
G-02	2	GENERAL NOTES, SHEET INDEX, VICINITY AND LOCATION MAPS
D-01	3	SURGE TANK DEMOLITION PLAN
D-02	4	WET WELL & DRY PIT DEMOLITION PLAN AND SECTION
C-01	5	SITE PLAN, ROLLING GATE DETAILS, AND ELEVATIONS
C-02	6	DIVERSION MANDOLE & BYPASS WET WELL SECTION AND DETAILS
C-03	7	CONCEPTUAL SEWER BYPASS PLAN
C-04	8	MISCELLANEOUS CIVIL DETAILS
M-01	9	SURGE TANK MECHANICAL PLAN, SECTION, AND DETAILS
M-02	10	WET WELL & DRY PIT MECHANICAL PLAN AND SECTION
M-03	11	FLOW METER MECHANICAL PLAN AND SECTION
M-04	12	MISCELLANEOUS MECHANICAL DETAILS
M-05	13	MISCELLANEOUS MECHANICAL DETAILS

BENCHMARK

SEE SHEET C-01 FOR LOCATION OF TEMPORARY CONTROL POINTS ON SITE
CONTROL POINT #1: ELEV. 1037.24
CONTROL POINT #2: ELEV. 1038.57



DIGALERT CALL TOLL FREE 811
CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (U.S.A.) A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. BEFORE YOU DIG, GET THE INFORMATION.
Underground Service Alert

JIG CONSULTANTS
318 W KATELLA AVE, SUITE A
ORANGE, CA 92667
(714) 978-4407
www.jigconsultants.com



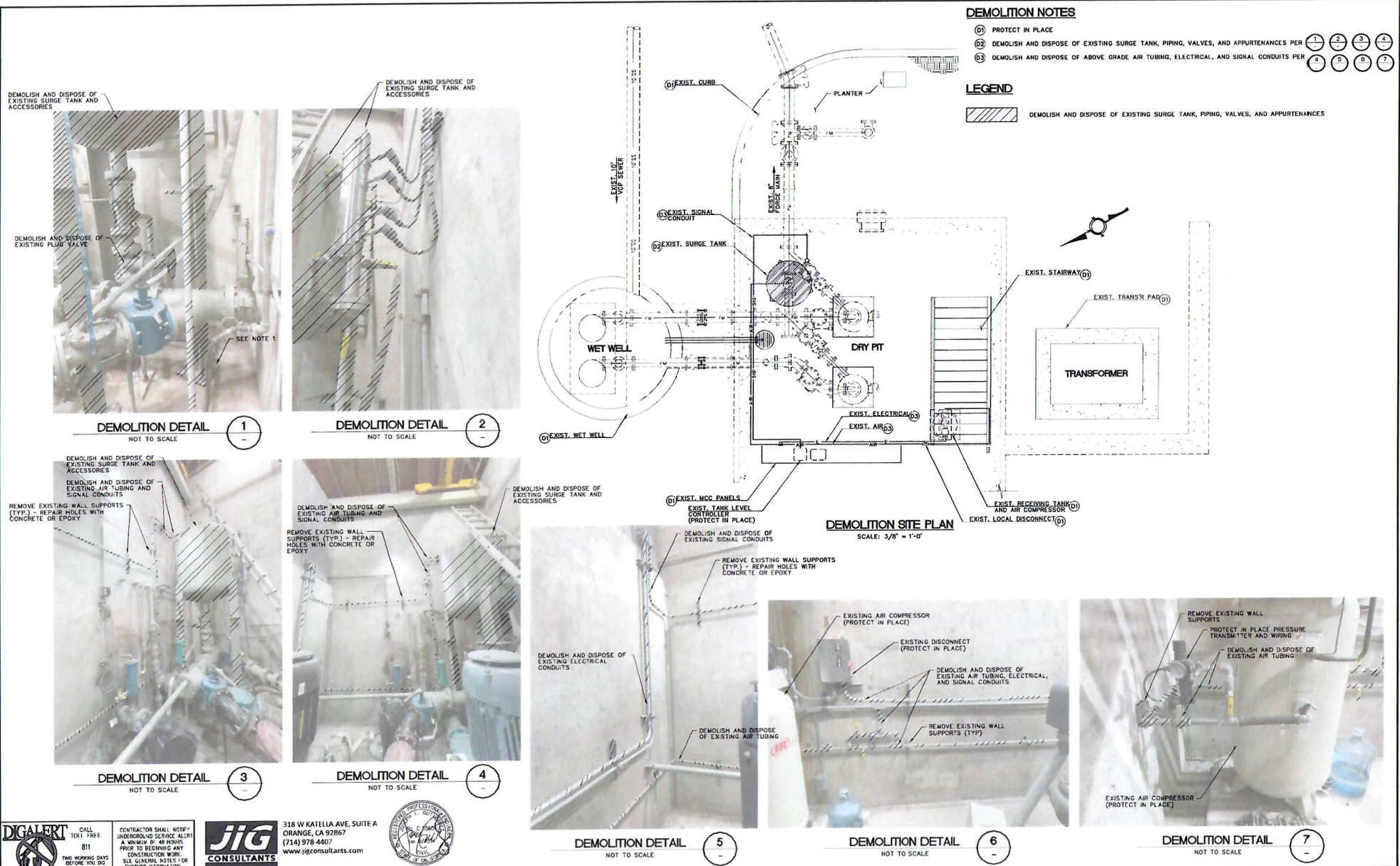
NO.	DATE	REVISIONS

DESIGN: MM	DATE: 01/24/23
DRAWN: MM	ENGINEER: [Signature]
CHECKED: JG	DISTRICT ENGINEER: [Signature]

TRABUCO CANYON WATER DISTRICT
GOLF CLUB SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-010

GENERAL NOTES, SHEET INDEX, VICINITY AND LOCATION MAPS

G-02
SHEET 2 OF 13



DIGALERT
CALL TOLL FREE 811
CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.
TWO WORKING DAYS BEFORE YOU DIG
Underground Service Alert

JIG CONSULTANTS
318 W KATELLA AVE, SUITE A
ORANGE, CA 92867
(714) 978-4407
www.jigconsultants.com



NO	DATE	REVISIONS

DESIGN: MM	DATE: 9/15/23
DRAWN: MM	ENGINEER: Travis J. Austin
CHECKED: JC	DISTRICT ENGINEER: Travis J. Austin

TRABUCO CANYON WATER DISTRICT
GOLF CLUB SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-010

SURGE TANK DEMOLITION PLAN

D-01
SHEET 3 OF 13

DEMOLITION NOTES

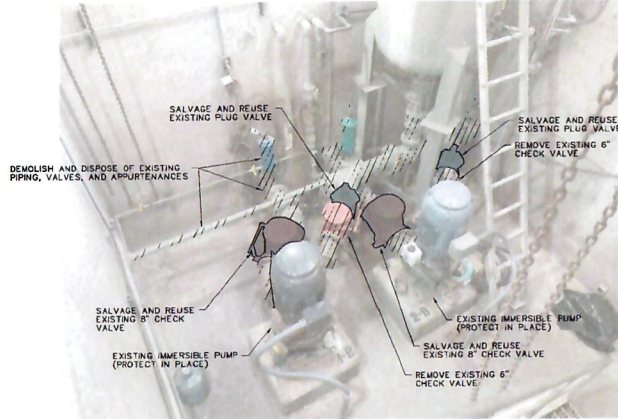
- 01 PROTECT IN PLACE
- 02 DEMOLISH AND DISPOSE OF EXISTING PIPING, VALVES, PUMPS, AND APPURTENANCES PER 1
- 03 SALVAGE AND REUSE EXISTING VALVES PER 1
- 04 DEMOLISH AND DISPOSE OF EXISTING EXHAUST FAN PER 2
- 05 SAWCUT, JACKHAMMER, AND REMOVE EXISTING CONCRETE
- 06 JACKHAMMER EXISTING CONCRETE ON PILASTER TO ALLOW REMOVAL OF 8" PIPE PER 4
- 07 DEMOLISH CONCRETE BEAM AND SAWCUT FLUSH WITH WET WELL INTERIOR

LEGEND

- LIMITS OF EXCAVATION
- [Hatched Box] DEMOLISH AND DISPOSE OF EXISTING PIPING, VALVES, AND APPURTENANCES
- [Solid Box] SALVAGE AND REUSE EXISTING VALVES
- [Hatched Box] SAWCUT AND REMOVE SECTION OF EXISTING CONCRETE

NOTES

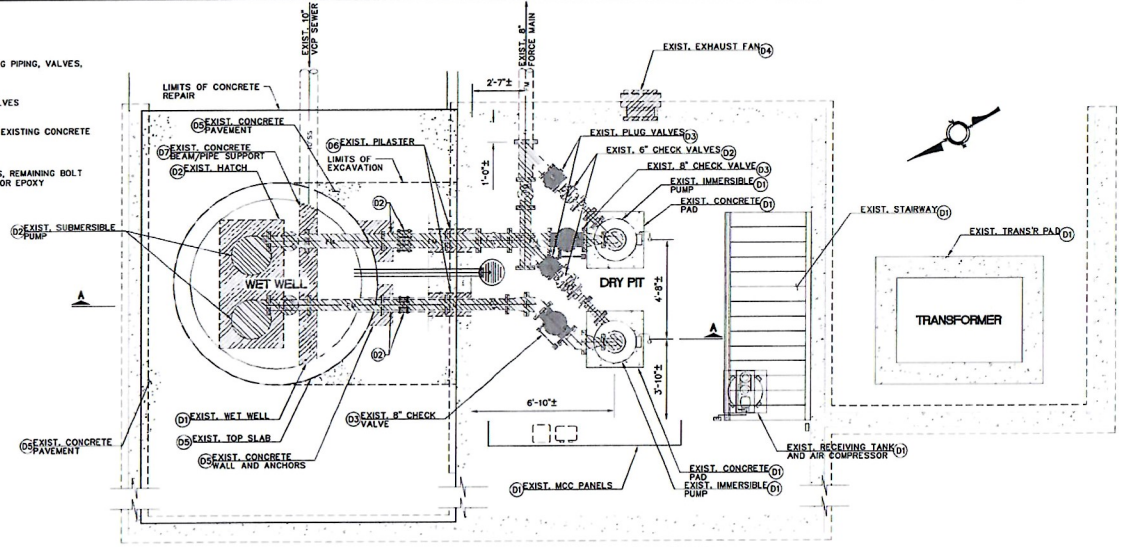
1. AFTER DEMOLITION OF EXISTING PIPE SUPPORTS, REMAINING BOLT HOLES SHALL BE FILLED WITH CONCRETE FILL OR EPOXY



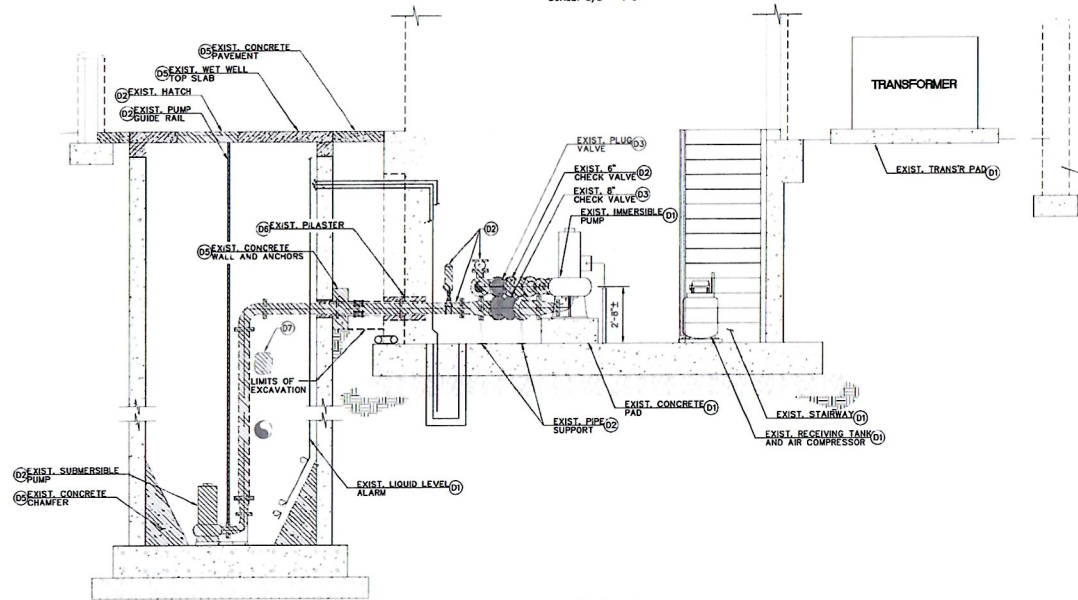
DEMOLITION DETAIL 1
NOT TO SCALE



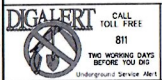
DEMOLITION DETAIL 2
NOT TO SCALE



DEMOLITION PLAN
SCALE: 3/8" = 1'-0"



SECTION A-A
SCALE: 3/8" = 1'-0"



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

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318 W KATELLA AVE, SUITE A
ORANGE, CA 92867
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www.jigconsultants.com



NO.	DATE	REVISIONS

DESIGN: MM
DRAWN: MM
CHECKED: JG

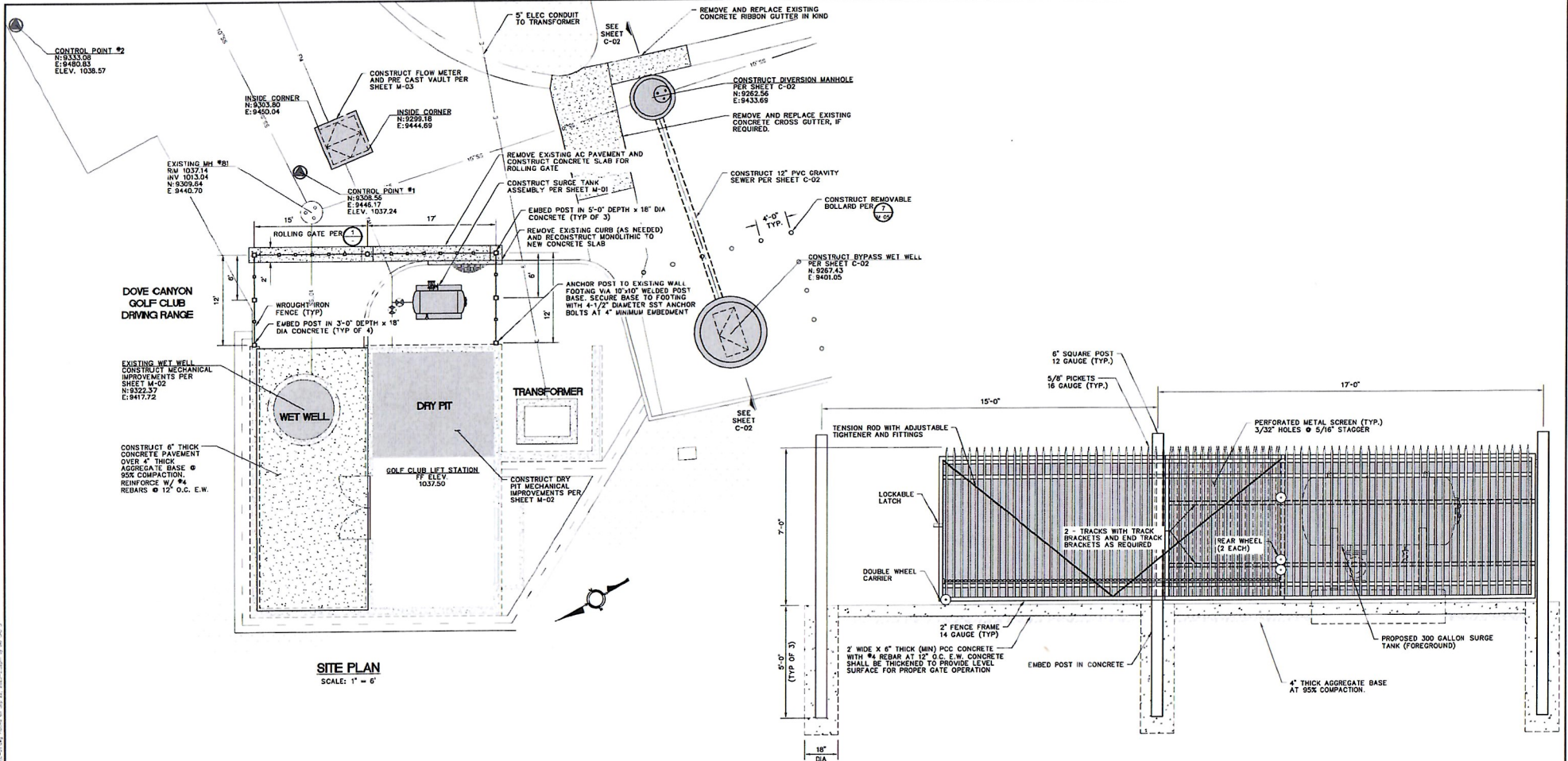


DATE: 9/25/23
ENGINEER: JAMES SWARTZ
DISTRICT ENGINEER: JAMES SWARTZ
RCE 50604
RCE 67027

TRABUCO CANYON WATER DISTRICT
GOLF CLUB SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-010

WET WELL & DRY PIT
DEMOLITION PLAN AND SECTION

D-02
SHEET
4
OF
13



DIGALERT CALL 811
TWO WORKING DAYS BEFORE YOU DIG
Underground Service Alert

CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE CHAINING NOTES FOR FURTHER INFORMATION.

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ORANGE, CA 92867
(714) 978-4407
www.jigconsultants.com



DESIGN: MM	DATE: 01/25/23
DRAWN: MM	ENGINEER: RICE 55004
CHECKED: JG	DISTRICT ENGINEER: 01/25/23

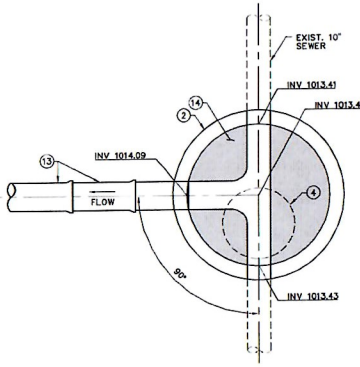
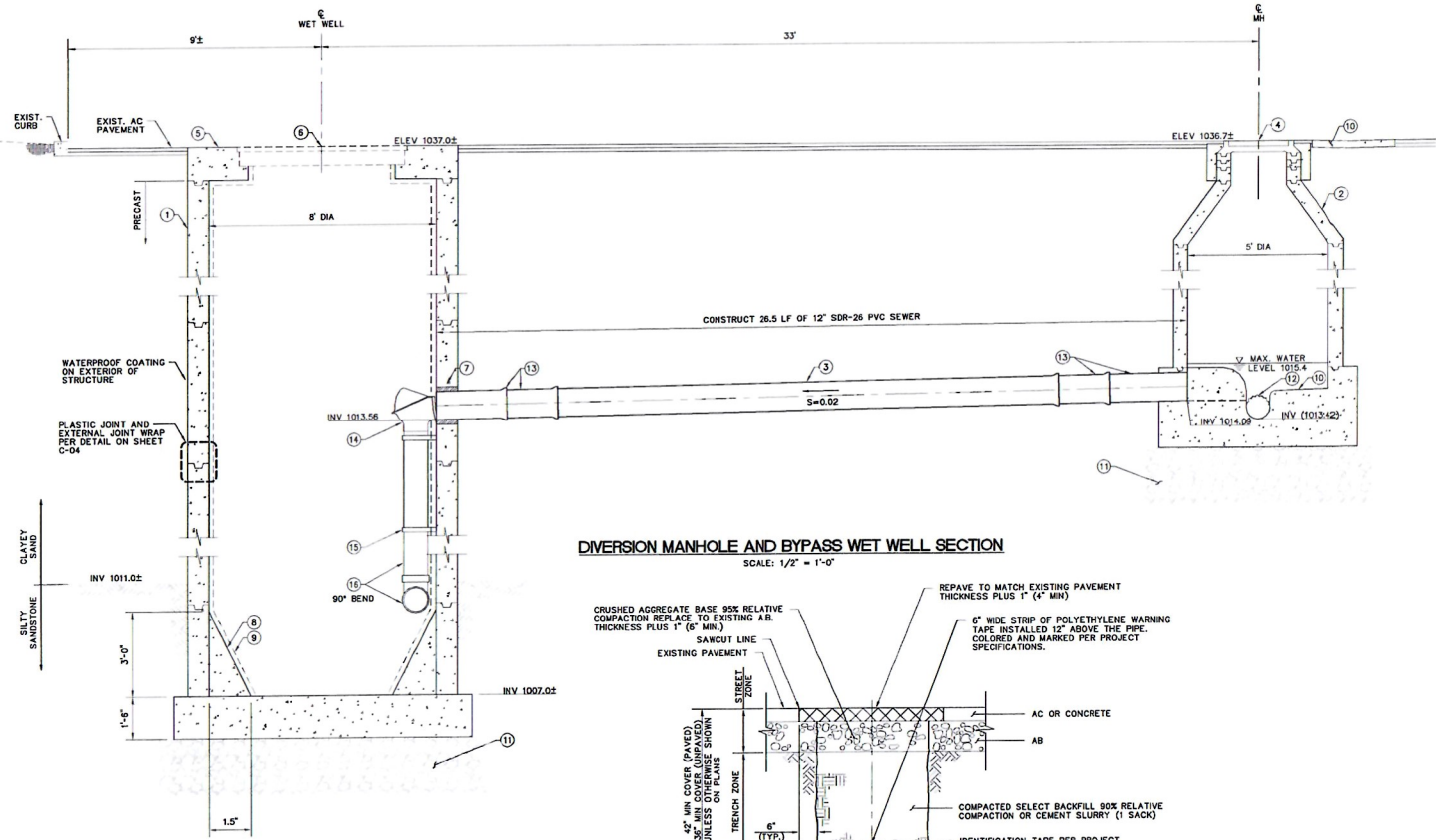
TRABUCO CANYON WATER DISTRICT
GOLF CLUB SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-010

SITE PLAN, ROLLING GATE DETAILS, AND ELEVATIONS

C-01
SHEET 5 OF 19

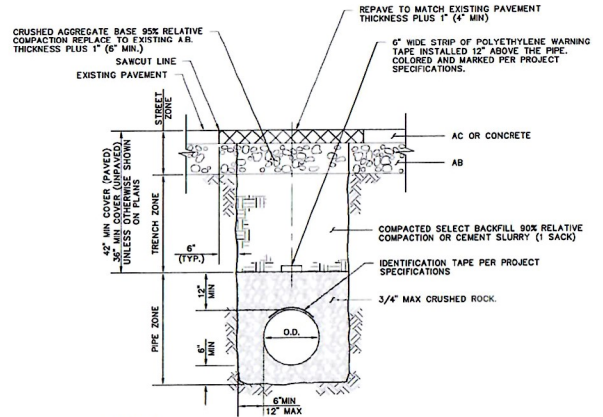
CONSTRUCTION NOTES

- ① CONSTRUCT 8' DIAMETER PRECAST REINFORCED CONCRETE WET WELL WITH BOTTOM SLAB
- ② CONSTRUCT 5' DIAMETER PRECAST MANHOLE PER (1)
- ③ CONSTRUCT 12" SDR-26 PVC GRAVITY SEWER PER (1)
- ④ CONSTRUCT 30" DIA. MANHOLE FRAME AND COVER PER (1)
- ⑤ CONSTRUCT WET WELL TOP SLAB PER (1)
- ⑥ CONSTRUCT 3 FT. x 6 FT. ALUMINUM SINGLE LEAF, SPRING ASSISTED H-20 TRAFFIC RATED ACCESS HATCH
- ⑦ CONSTRUCT WALL PENETRATION PER (7)
- ⑧ CONSTRUCT CONCRETE CHAMFER AT WET WELL BOTTOM PER (3)
- ⑨ LINE WET WELL INTERIOR WITH POLYURETHANE PER SPECIFICATION SECTION 33 01 38
- ⑩ CONSTRUCT CHANNEL AND MANHOLE SHELF
- ⑪ CONSTRUCT 24" THICK LAYER OF 3/4" CRUSHED ROCK BASE
- ⑫ DEMO TOP HALF OF EXISTING 10" SEWER PIPE INSIDE NEW MANHOLE CHANNEL
- ⑬ CONSTRUCT TWO 3' LONG 12" PVC PIPE STUBS
- ⑭ CONSTRUCT DROP BOWL INLET WITH FORCE LINE HOOD, RELINER MODEL #24/12R96, OR APPROVED EQUAL.
- ⑮ SECURE PVC PIPE TO WALL W/3/16 SST BRACKETS.
- ⑯ CONSTRUCT 10" SDR-26 PVC PIPE AND BEND (LENGTH AS REQUIRED)



DIVERSION MANHOLE PLAN
SCALE: 1/2" = 1'-0"

DIVERSION MANHOLE AND BYPASS WET WELL SECTION
SCALE: 1/2" = 1'-0"



- NOTES**
1. CONTRACTOR SHALL REPLACE AC OR PCC TO THE LIMITS SHOWN PER TYPICAL TRENCH SECTION ABOVE AND TO THE THICKNESS PLUS 1" OF THE EXISTING AC OR PCC UNLESS OTHERWISE DIRECTED ON THE PLANS.
 2. ALL PAVEMENT REMOVAL NECESSARY FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE SAWCUT PRIOR TO STARTING WORK. DISPOSAL OF REMOVED A.C. PAVEMENT AND CONCRETE SHALL BE AT AN APPROVED OFF-SITE DUMP SITE.

TYPICAL TRENCH SECTION
NOT TO SCALE

DIALERT
CALL TOLL FREE 811
TWO WORKING DAYS BEFORE YOU DIG
Underground Service Alert

CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

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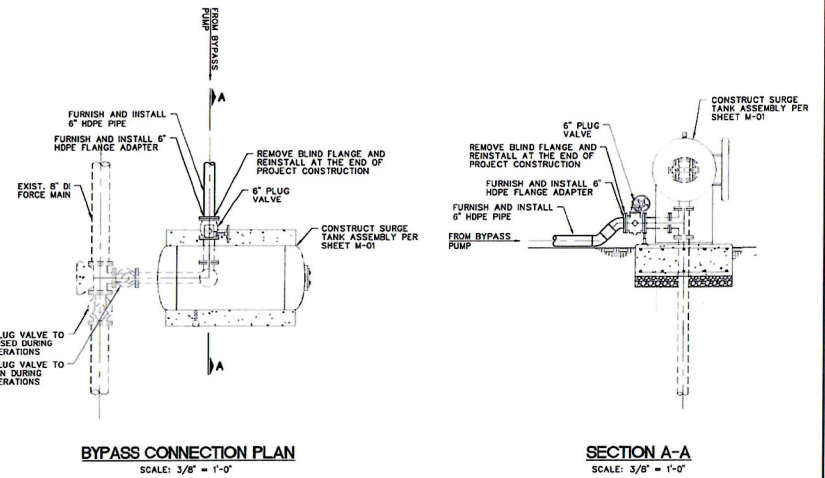
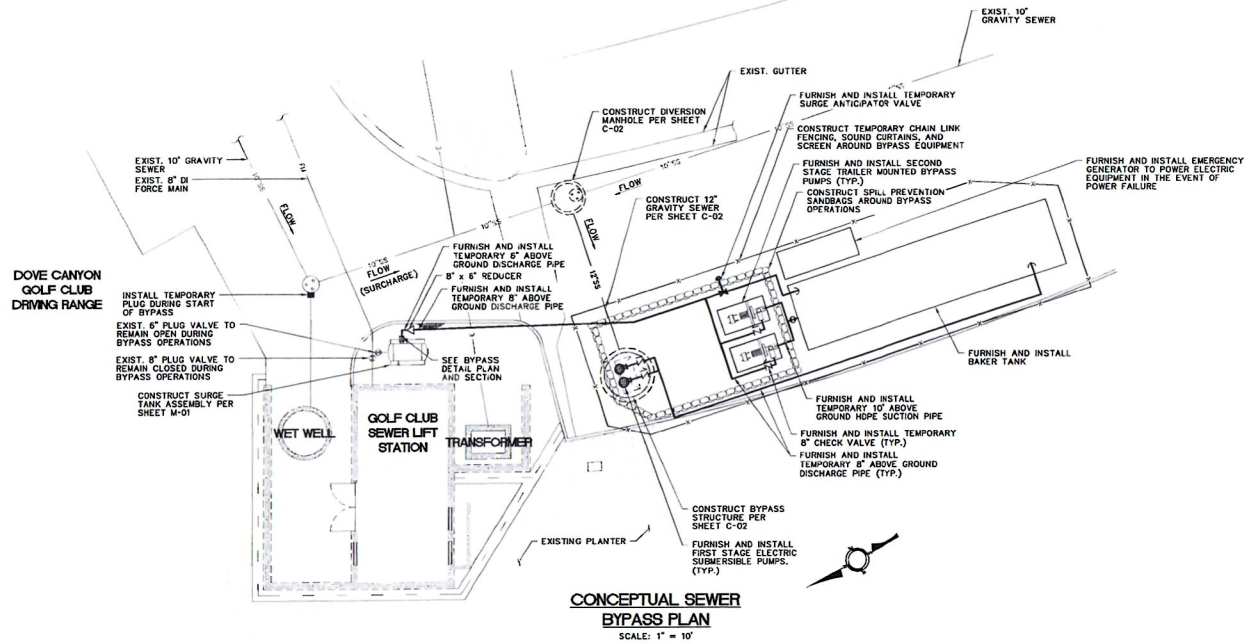
NO.	DATE	REVISIONS

DESIGN: MM	DATE: 9/25/23
DRAWN: MM	ENGINEER: Travis J. Smith
CHECKED: JC	DISTRICT ENGINEER: Travis J. Smith

TRABUCO CANYON WATER DISTRICT
GOLF CLUB SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-010

DIVERSION MANHOLE & BYPASS WET WELL SECTION AND DETAILS

C-02
SHEET 6 OF 13



DIGALERT CALL TOLL FREE 811
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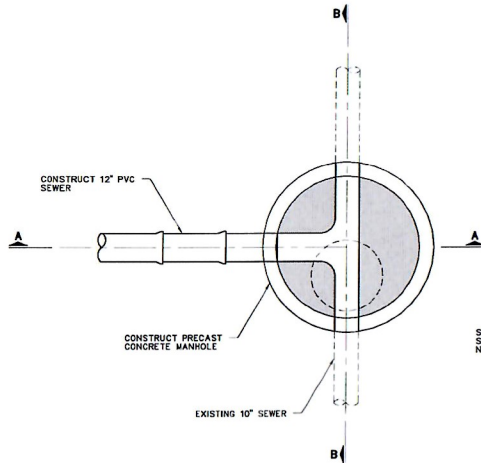
NO.	DATE	REVISIONS

DESIGN: MM	DATE: 9/25/23
DRAWN: MM	ENGINEER: RCE 25604
CHECKED: JG	DISTRICT ENGINEER: 9/25/23

TRABUCO CANYON WATER DISTRICT
GOLF CLUB SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-010

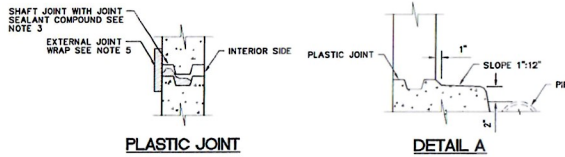
CONCEPTUAL SEWER BYPASS PLAN

C-03
SHEET 7 OF 13



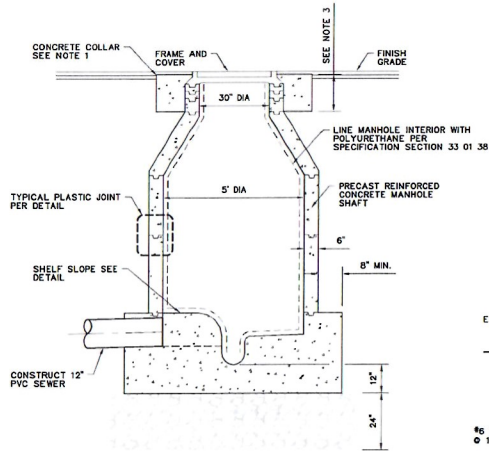
NOTES

1. THE PCC COLLAR SHALL BE 1 1/2 INCHES FROM FINISH GRADE AND 3 INCHES BELOW THE RING AND CONE JOINT. THE CONCRETE MIX DESIGN SHALL BE CLASS B CONCRETE.
2. JOINTS MAY BE KEY TYPE OR TONGUE AND GROOVE AND SHALL CONFORM WITH ASTM C-478, SECTION 14.
3. **PLASTIC JOINTS:** PERFORMED COLD APPLIED READY TO USE PLASTIC JOINT SEALING COMPOUND SHALL BE CON-SEAL SEALANT, OR APPROVED EQUAL.
4. **WATERPROOFING:** ALL EXTERIOR JOINTS OF THE MANHOLE STRUCTURE, INCLUDING BUT NOT LIMITED TO RING AND SHAFT JOINTS, PIPE PENETRATION JOINTS, AND ALL COMPONENT INTERFACE JOINTS, SHALL BE FILLED AND/OR APPLIED WITH A PASTE GRADE BITUMINOUS ASPHALT SEALANT. THE REMAINING EXTERIOR CONCRETE SURFACE OF THE MANHOLE STRUCTURE SHALL THEN BE COATED WITH A POURABLE GRADE OF BITUMINOUS ASPHALT SEALANT. FINISHED THICKNESS SHALL BE A MINIMUM OF 50 MILS.
5. **EXTERNAL JOINT WRAP:** INSTALL 9 INCH WIDE EXTERNAL JOINT SEAL PRIOR TO BACKFILLING. MATERIAL FOR EXTERNAL JOINT SEAL SHALL CONFORM TO ASTM C-990 TEST, AS MODIFIED, WITH A MIN. 0.1 INCH THICKNESS FOR DURABILITY AND RESISTANCE TO TEARING OR PUNCTURING.
6. THE CONCRETE BASE SHALL BE CLASS A CONCRETE. ALL PRECAST CONCRETE RISERS AND CONES SHALL BE CLASS A 4000 PSI CONCRETE.
7. EXCEPT AS NOTED HEREON, PRECAST UNIT SHALL BE MANUFACTURED AND TESTED IN ACCORDANCE WITH ASTM C-478.
8. RISER SECTIONS AND ECCENTRIC CONE SHALL BE REINFORCED. REINFORCED SECTIONS SHALL BE IN ACCORDANCE WITH ASTM C-478 AND SHALL HAVE A MINIMUM WALL THICKNESS OF 6 INCHES. REINFORCING SHALL BE IN ACCORDANCE WITH ASTM A-615.
9. SUBGRADE SHALL BE OVER EXCAVATED 2 FEET BELOW BOTTOM OF MANHOLE BASE AND REPLACED WITH CRUSHED ROCK.
10. ALL MANHOLES SHALL BE DESIGNED FOR AASHTO H-25 LOADING.

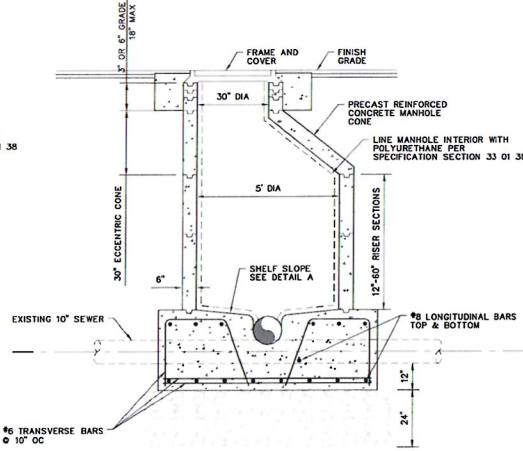


PLASTIC JOINT

DETAIL A



SECTION A-A

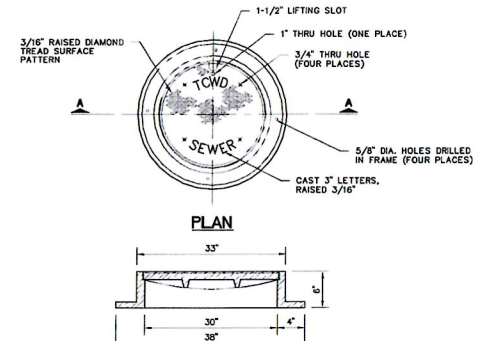


SECTION B-B

PRECAST MANHOLE

1

NOT TO SCALE



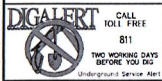
PLAN

SECTION A-A

MANHOLE FRAME AND COVER

2

NOT TO SCALE



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.



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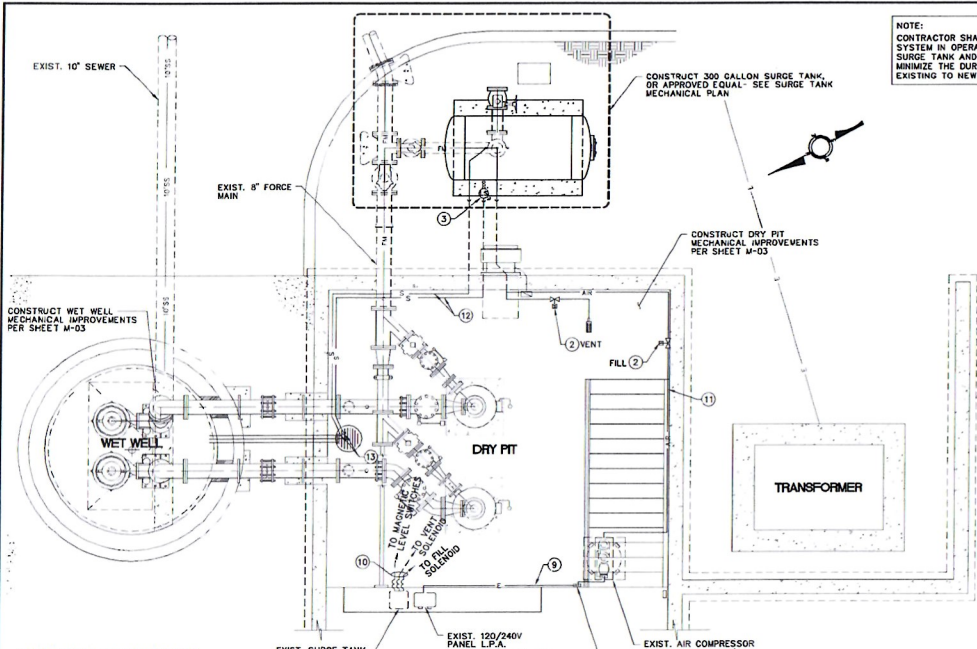
DESIGN: MM
DRAWN: MM
CHECKED: JG

DATE: 9/29/23
ENGINEER: RCE 55694
DISTRICT ENGINEER: 9/25/23
DCE 67627

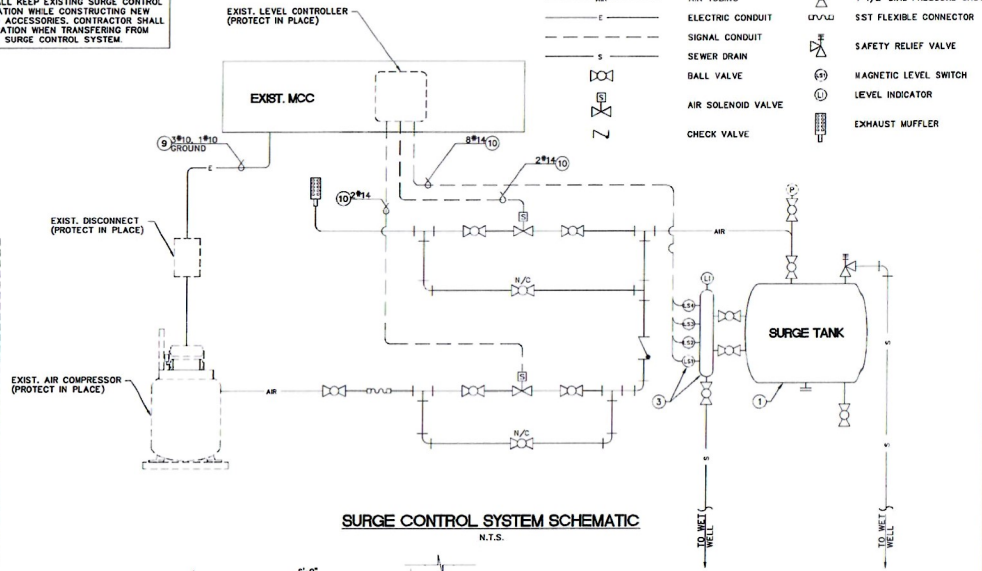
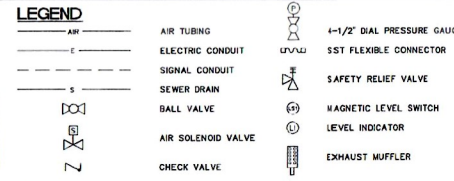
TRABUCO CANYON WATER DISTRICT
GOLF CLUB SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-010

MISCELLANEOUS CIVIL
DETAILS

C-04
SHEET
8
OF
13



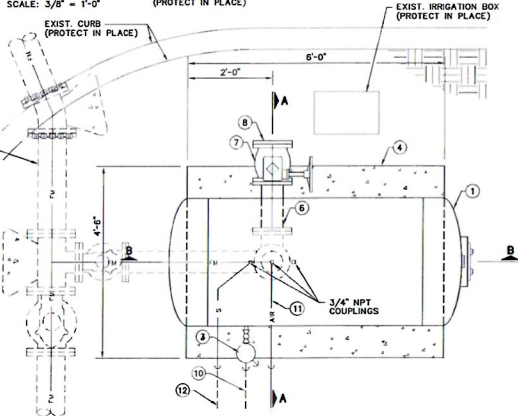
NOTE:
CONTRACTOR SHALL KEEP EXISTING SURGE CONTROL SYSTEM IN OPERATION WHILE CONSTRUCTING NEW SURGE TANK AND ACCESSORIES. CONTRACTOR SHALL MINIMIZE THE DURATION WHEN TRANSFERRING FROM EXISTING TO NEW SURGE CONTROL SYSTEM.



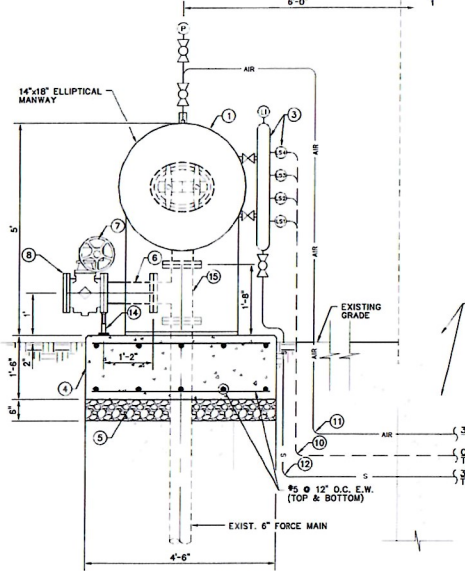
CONSTRUCTION NOTES

- 1 INSTALL OWNER PROVIDED 300 GALLON SURGE TANK
- 2 INSTALL OWNER PROVIDED SURGE CONTROL SOLENOID VALVES PER SCHEMATIC
- 3 INSTALL OWNER PROVIDED MAGNETIC LEVEL INDICATOR, AND SWITCHES PER SCHEMATIC.
- 4 CONSTRUCT REINFORCED CONCRETE PAD TO DIMENSIONS SHOWN. USE CLASS A CONCRETE
- 5 CONSTRUCT 6" THICK LAYER OF 3/4" CRUSHED ROCK BASE
- 6 CONSTRUCT 6" FLO'D DI SPOOL PIECE - LENGTH AS SHOWN
- 7 CONSTRUCT 6" FLO'D PLUG VALVE WITH HANDWHEEL
- 8 CONSTRUCT 6" BLIND FLANGE
- 9 CONSTRUCT 3/4" ELECTRICAL CONDUITS WITH AC POWER CONDUCTORS PER SURGE CONTROL SCHEMATIC - SUPPORT TO WALL WHERE APPLICABLE PER (1)
- 10 CONSTRUCT 3/4" SIGNAL CONDUITS WITH AC POWER CONDUCTORS PER SURGE CONTROL SCHEMATIC - SUPPORT TO WALL WHERE APPLICABLE PER (2)
- 11 CONSTRUCT 3/4" SST AIR TUBING - SUPPORT TO WALL WHERE APPLICABLE PER (3)
- 12 CONSTRUCT 3/4" SST SEWER DRAIN
- 13 CONNECT PROPOSED SEWER DRAINS TO EXISTING 2" PVC PIPE TO WET WELL
- 14 CONSTRUCT PIPE SUPPORT PER (4)
- 15 ROTATE EXISTING 6" TEE 90° COUNTER CLOCKWISE

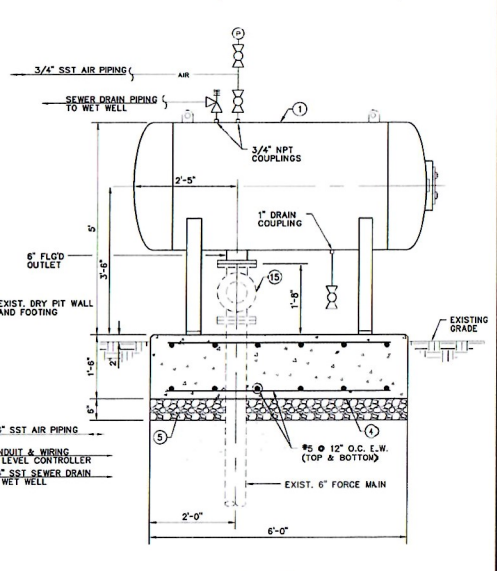
SITE PLAN
SCALE: 3/8" = 1'-0"



SURGE TANK MECHANICAL PLAN
SCALE: 3/4" = 1'-0"



SECTION A-A
SCALE: 3/4" = 1'-0"



SECTION B-B
SCALE: 3/4" = 1'-0"

DIGALERT CALL 1011 FREE 811
CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.
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N.O.	DATE	REVISIONS

DESIGN: MM
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CHECKED: JG

DATE: 01/25/23
ENGINEER: RICE 55634
DISTRICT ENGINEER: JAMES CAUSTON RICE 67027

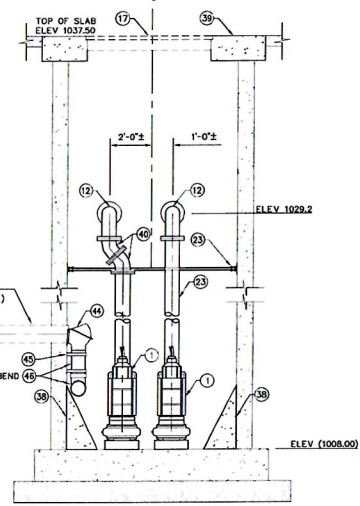
TRABUCO CANYON WATER DISTRICT
GOLF CLUB SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-010

SURGE TANK MECHANICAL PLAN, SECTION, AND DETAILS

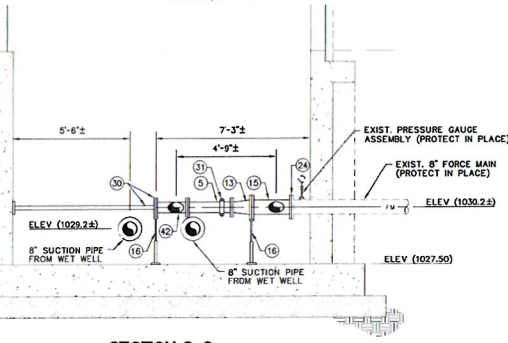
M-01
SHEET 9 OF 13

CONSTRUCTION NOTES

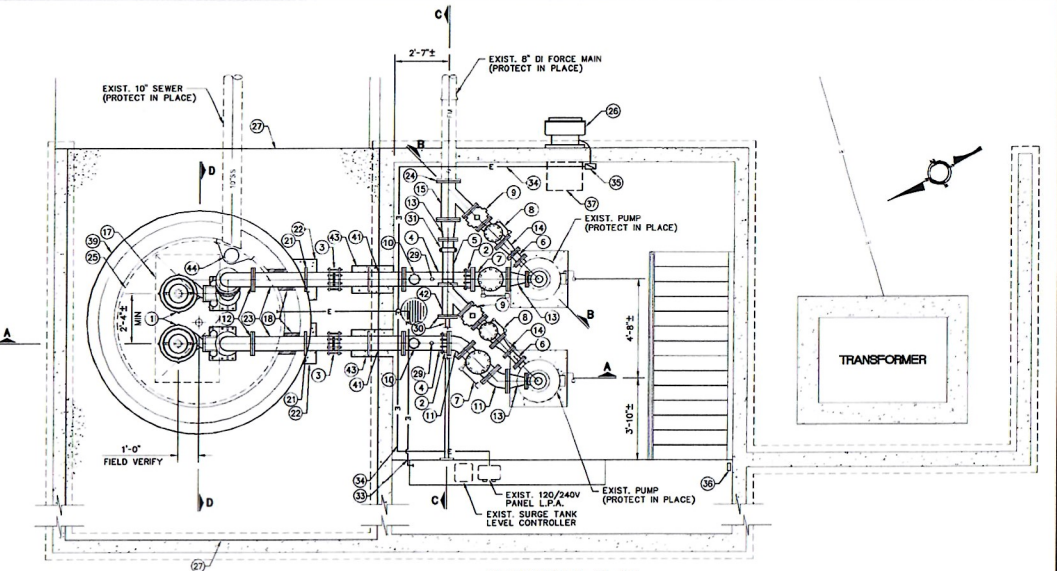
- 1 INSTALL OWNER SUPPLIED SUBMERSIBLE PUMP (CORNELL SUB 12 SCL A21539 300V)
- 2 CONSTRUCT 8" RESTRAINED FLANGE COUPLING ADAPTER (ROMAC RFCA, OR APPROVED EQUAL)
- 3 CONSTRUCT 8" INSULATING FLEX COUPLING (ROMAC IC501, OR APPROVED EQUAL)
- 4 CONSTRUCT 8" FEWPE DUCTILE IRON SPOOL PIECE (LENGTH AS REQ'D)
- 5 CONSTRUCT 8" FEWPE DUCTILE IRON SPOOL PIECE
- 6 CONSTRUCT 4" FE DUCTILE IRON SPOOL PIECE (LENGTH AS REQ'D)
- 7 INSTALL SALVAGED 8" CHECK VALVE
- 8 INSTALL OWNER FURNISHED 6" CHECK VALVE
- 9 INSTALL SALVAGED 6" PLUG VALVE
- 10 CONSTRUCT 2" AIR RELEASE VALVE ASSEMBLY PER (1)
- 11 CONSTRUCT 8" 45° FLD'D DUCTILE IRON BEND
- 12 CONSTRUCT 8" 90° FLD'D LONG RADIUS SST BEND
- 13 CONSTRUCT 8"x6" FLD'D DUCTILE IRON REDUCER
- 14 CONSTRUCT 8"x4" FLD'D DUCTILE IRON REDUCER
- 15 CONSTRUCT 8"x6"x6" FLD'D DUCTILE IRON WYE
- 16 CONSTRUCT PIPE SUPPORT PER (2)
- 17 CONSTRUCT 3 FT. x 6 FT. ALUMINUM SINGLE LEAF, SPRING ASSISTED H-20 TRAFFIC RATED ACCESS HATCH
- 18 CONSTRUCT WALL PENETRATION PER (1)
- 19 INSTALL OWNER SUPPLIED SLIDE RAIL ASSEMBLY AND PUMP OUTLET FITTING
- 20 BACKFILL WITH 1 SACK SLURRY
- 21 CONSTRUCT 8" SST WALL FLANGE ON SST DISCHARGE PIPE
- 22 CONSTRUCT WET WELL WALL REPAIR AND PIPE PENETRATION PER (3)
- 23 CONSTRUCT 8" TYPE 316 SST PUMP DISCHARGE PIPE & SUPPORTS - CONSTRUCT SUPPORTS WITH 316SST MATERIAL PER (6)
- 24 JOIN EXISTING 8" DI FLANGE
- 25 REMOVE EXISTING COATING, PREP CONCRETE SURFACES, AND LINE WET WELL INTERIOR WITH POLYURETHANE PER SPECIFICATION SECTION 33 01 38
- 26 CONSTRUCT GREENHECK CUE-140-VG EXHAUST FAN (OR APPROVED EQUAL) WITH WALL MOUNTING BRACKET
- 27 CONSTRUCT 6" THICK CONCRETE SLAB IN KIND (REINFORCE WITH #4@ 12" OC EW)
- 28 CONSTRUCT SST SLIDE RAIL SUPPORTS
- 29 CONSTRUCT PRESSURE GAUGE ASSEMBLY PER (6)
- 30 CONSTRUCT 6" BLIND FLANGE AND WALL SUPPORT PER (5)
- 31 CONSTRUCT 6" GROOVE COUPLING (VICTAULIC OR APPROVED EQUAL)
- 32 CONSTRUCT 8"x4" FLD'D SST REDUCER
- 33 CONSTRUCT 3/4" EMPTY ELECTRICAL CONDUIT WITH PULL CABLE FROM WET WELL TO PLC-SUPPORT TO WALL WHERE REQUIRED PER (4)
- 34 CONSTRUCT 3/4" ELECTRICAL CONDUIT WITH AC POWER CONDUCTORS AS REQUIRED - SUPPORT TO WALL WHERE REQUIRED PER (4) CONNECT TO DEDICATED CIRCUIT USING SPARE CIRCUIT BREAKER IN PANEL LPA (EXHAUST FAN TO OPERATE CONTINUOUSLY)
- 35 CONSTRUCT DISCONNECT SWITCH FOR EXHAUST FAN
- 36 DISCONNECT CONDUCTORS TO EXISTING EXHAUST FAN AT SWITCH LOCATION - PROTECT EXISTING CONDUCTORS TO LIGHT FIXTURE
- 37 CONSTRUCT EXHAUST FAN DUCTING TO DRY PIT PER (2)
- 38 CONSTRUCT CONCRETE CHAMFER AT WET WELL BOTTOM PER (1)
- 39 CONSTRUCT WET WELL TOP SLAB PER (1)
- 40 CONSTRUCT 8" 45° FLD'D SST BEND
- 41 CONSTRUCT 8" FLD'PE DUCTILE IRON PIPE WITH THRUST COLLAR (LENGTH AS REQUIRED)
- 42 CONSTRUCT 8"x6"x6" FLD'D DUCTILE IRON WYE
- 43 CONSTRUCT DRY PIT WALL/PLASTER REPAIR AND PIPE PENETRATION PER (4)
- 44 CONSTRUCT DROP BOWL INLET WITH FORCE LINE HOOD, RELINER MODEL #8080R4 OR APPROVED EQUAL (SECURE TO WALL PER MANUFACTURER'S RECOMMENDATIONS)
- 45 SECURE PVC PIPE TO WALL WITH 316 SST BRACKET
- 46 CONSTRUCT 8" SDR-26 PVC PIPE AND BEND (LENGTH AS REQUIRED)



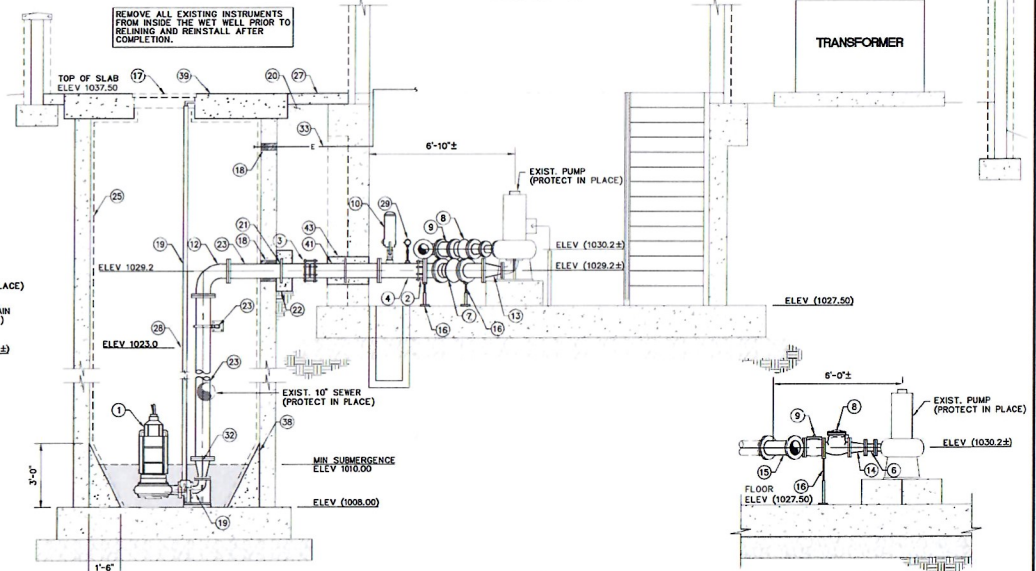
SECTION D-D
SCALE: 3/8" = 1'-0"



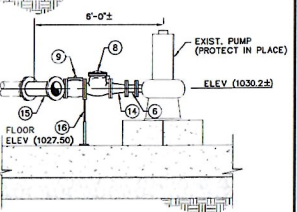
SECTION C-C
SCALE: 3/8" = 1'-0"



MECHANICAL PLAN
SCALE: 3/8" = 1'-0"



SECTION A-A
SCALE: 3/8" = 1'-0"



SECTION B-B
SCALE: 3/8" = 1'-0"



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.



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NO.	DATE	REVISIONS

DESIGN:	MM
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CHECKED:	JG

DATE:	01/27/23
ENGINEER:	JOSEPH L. GUTIERREZ RCE 55504
DATE:	4/25/23
DISTRICT ENGINEER:	LOBBE LAUSTER RCE 67027

TRABUCO CANYON WATER DISTRICT
GOLF CLUB SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-010

WET WELL & DRY PIT
MECHANICAL PLAN AND SECTION

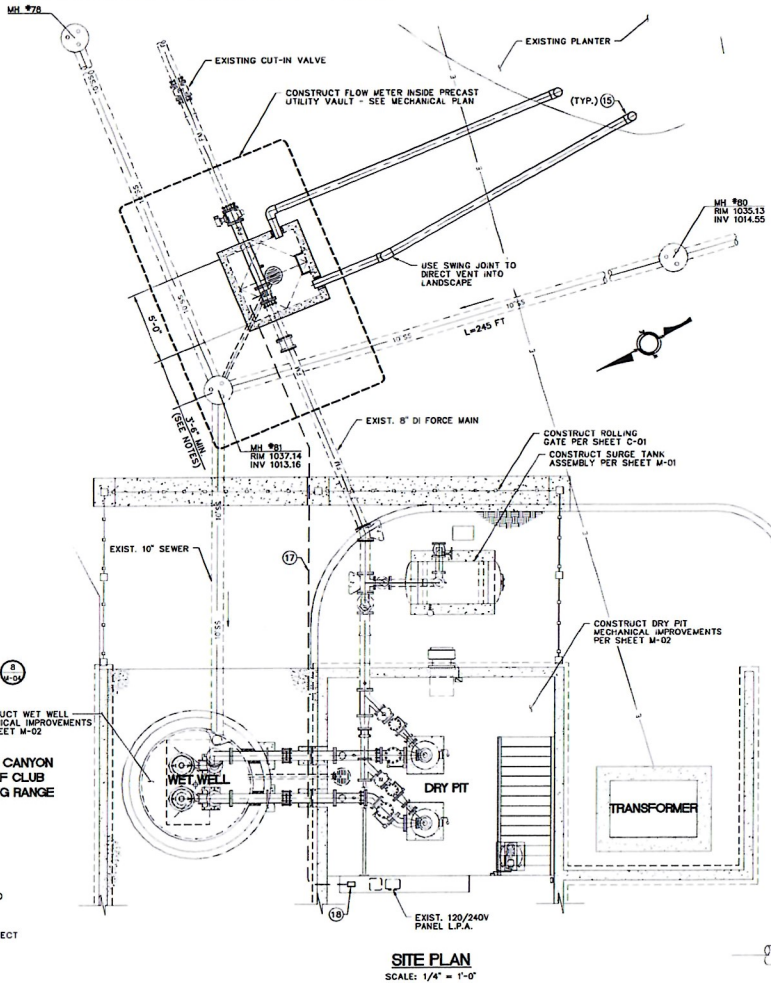
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FLOW METER WORK SEQUENCE SUMMARY

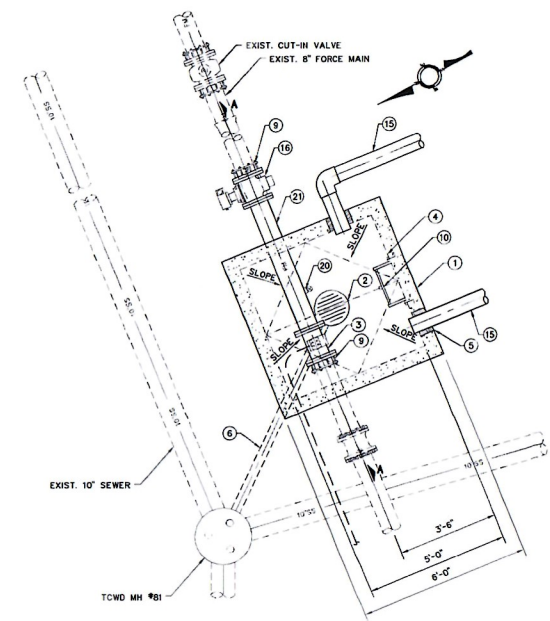
1. CONTRACTOR SHALL POTHOLE EXISTING 8" DI FORCE MAIN AT VAULT LOCATION TO VERIFY DEPTH AND LOCATION OF JOINTS.
2. CONTRACTOR SHALL EXCAVATE AND EXPOSE THE EXISTING FORCE MAIN AND PROVIDE TEMPORARY SUPPORTS.
3. CONTRACTOR SHALL CONSTRUCT CRUSHED ROCK BASE (NOTE 12) AND CAST-IN-PLACE REINFORCED CONCRETE BASE (NOTE 11).
4. CONTRACTOR SHALL SET LOWER SECTION OF UTILITY VAULT (NOTE 14) ON CONCRETE BASE. 20"x20" KNOCKOUTS SHALL BE REMOVED AS NEEDED TO SET LOWER SECTION OVER EXISTING PIPE WHILE 8" FORCE MAIN REMAINS ACTIVE. IT IS NOTED THAT EXISTING FORCE MAIN MAY HAVE A SLIGHT SLOPE WHICH MUST BE ACCOUNTED FOR. CONCRETE BASE AND PRECAST STRUCTURE MUST REMAIN PLUMB AND NOT NECESSARILY LEVEL WITH EXISTING FORCE MAIN.
5. CONTRACTOR SHALL CONSTRUCT VAULT EXTENSION AND TOP SECTIONS (NOTES 15 AND 16) AS NEEDED TO REACH EXISTING ASPHALT GRADE.
6. CONTRACTOR TO SCHEDULE ONE NIGHT SHIFT WITH TCWD TO ALLOW CONSTRUCTION OF FLOW METER, PIPE, AND PLUG VALVE ON EXISTING FORCE MAIN. THIS WORK SHALL BE SCHEDULED AFTER COMPLETE REMOVAL OF SEWER BYPASS OPERATIONS.
7. NIGHT SHIFT SHALL BE FROM 9:00 PM TO 4:00 AM.
8. DURING NIGHT SHIFT, CONTRACTOR SHALL:
 - A. MOBILIZE EMERGENCY VACUUM TRUCKS TO CONTINUOUSLY EMPTY WET WELL DURING WORK.
 - B. REMOVE GOLF CLUB SEWER LIFT STATION OUT OF SERVICE.
 - C. SCHEDULE WITH TCWD TO CLOSE EXISTING CUT-IN VALVE.
 - D. SAWCUT EXISTING FORCE MAIN INSIDE VAULT AND DRAIN ISOLATED SECTION OF FORCE MAIN.
 - E. CONSTRUCT 8" FLOW METER ON EXISTING FORCE MAIN AND SECURE WITH RESTRAINED FLANGED COUPLING ADAPTERS.
 - F. SCHEDULE WITH TCWD TO OPEN EXISTING CUT-IN VALVE.
 - G. PLACE GOLF CLUB SEWER LIFT STATION BACK IN SERVICE AND CHECK FOR LEAKS.

CONSTRUCTION NOTES

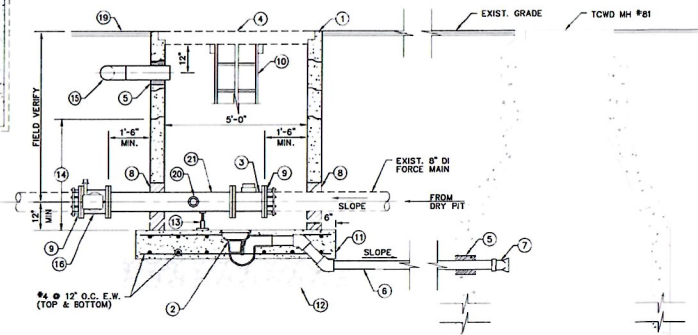
1. CONSTRUCT 5 FT. x 5 FT. OPEN BOTTOM PRECAST CONCRETE VAULT
2. CONSTRUCT 8" FLOOR DRAIN WITH STAINLESS STEEL GRATE AND P-TAP.
3. CONSTRUCT 8" FLDG MAGNETIC FLOW METER
4. CONSTRUCT 5 FT. x 5 FT. ALUMINUM DOUBLE LEAF, SPRING ASSISTED H-20 TRAFFIC RATED ACCESS HATCH
5. CONSTRUCT WALL PENETRATION PER (2) (U-5)
6. CONSTRUCT 4" SCH. 80 PVC DRAIN PIPE
7. CONSTRUCT 4" DRUCK BILL CHECK VALVE (1) (DEFLEX SERIES TF-2, OR APPROVED EQUAL)
8. REMOVE CONCRETE KNOCKOUTS FROM PRECAST VAULT TO SET STRUCTURE OVER EXISTING FORCE MAIN - REPAIR CONCRETE AROUND 8" PIPE AFTER COMPLETION PER (8) (U-5)
9. CONSTRUCT 8" RESTRAINED FLANGE COUPLING ADAPTER (ROMAC R/CA, OR APPROVED EQUAL)
10. CONSTRUCT ALUMINUM ACCESS LADDER WITH WALL BRACKETS ANCHORED INTO VAULT WALL AND SAF-T-CLIMB ACCESSORY PER (10) (U-5)
11. CONSTRUCT 12" THICK CAST-IN-PLACE REINFORCED CONCRETE BASE
12. CONSTRUCT 12" THICK LAYER OF 3/4" CRUSHED ROCK BASE
13. CONSTRUCT PIPE SUPPORT PER (2) (U-5)
14. CONSTRUCT UTILITY VAULT 48" LOWER SECTION WITH 20"x20" KNOCK OUTS
15. CONSTRUCT 6" SCH 80 PVC AIR VENT PIPE AND FITTINGS PER (1) (U-5)
16. CONSTRUCT 8" FLDG PLUG VALVE WITH VALVE CAN PER (1) (U-5)
17. CONSTRUCT 1" CONDUIT WITH FLOW METER SENSOR CABLE FROM FLOW METER TO REMOTE FLOW METER TRANSMITTER - EXACT ROUTING OF CONDUIT TO BE DETERMINED IN THE FIELD - METER VAULT IS A CLASS 1, DIVISION 2 HAZARDOUS LOCATION PROVIDE CONDUIT SEAL PER NEC
18. CONSTRUCT FLOW METER REMOTE TRANSMITTER IN EXISTING CONTROL PANEL - CONNECT TO SPARE 120V UPS CIRCUIT
19. REMOVE EXISTING AC PAVEMENT AND RESTORE IN KIND
20. CONSTRUCT 2-1/2" THREADED OUTLET ON DI PIPE, 2-1/2" x 2" INSULATING BUSHING, 2" SST NIPPLE, AND 2" SST BALL VALVE
21. CONSTRUCT 8" FE x FE DUCTILE IRON SPOOL (LENGTH AS REQUIRED)



SITE PLAN
SCALE: 1/4" = 1'-0"



FLOW METER UTILITY VAULT MECHANICAL PLAN
SCALE: 1/2" = 1'-0"



SECTION A-A
SCALE: 1/2" = 1'-0"

NOTES

1. LOCATE VAULT SO REMAINING SEGMENT OF EXISTING 8" FORCE MAIN PIPE WILL NOT HAVE A JOINT INSIDE THE STRUCTURE.
2. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORTS FOR 8" FORCE MAIN WHEN CONSTRUCTING CONCRETE SLAB AND VAULT.

DIGALERT
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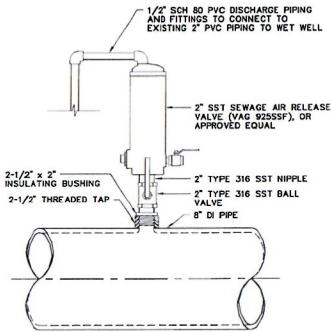
NO.	DATE	REVISIONS

DESIGN: MM	DATE: 01/24/23
DRAWN: MM	ENGINEER: RCE 55004
CHECKED: JG	DISTRICT ENGINEER: RCE 67027

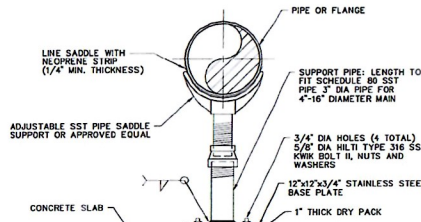
TRABUCO CANYON WATER DISTRICT
GOLF CLUB SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-010

FLOW METER MECHANICAL PLAN AND SECTION

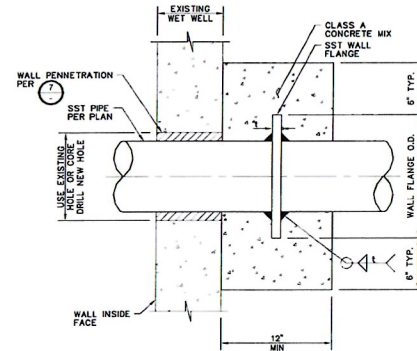
M-03
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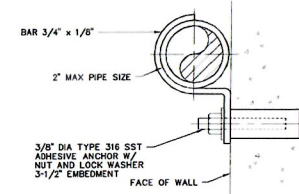
SEWAGE AIR RELEASE VALVE ASSEMBLY 1
NOT TO SCALE



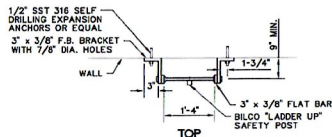
PIPE SUPPORT 2
NOT TO SCALE



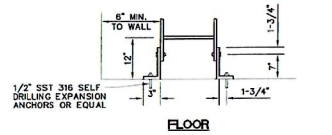
WALL REPAIR AND PIPE PENETRATION 3
NOT TO SCALE



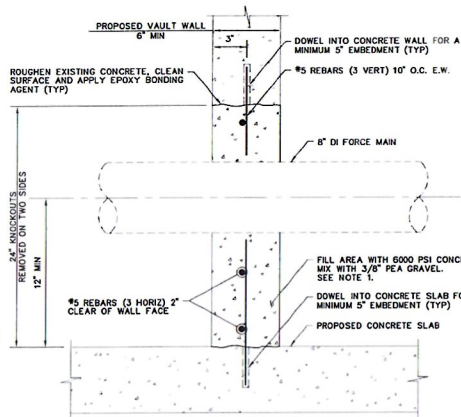
WALL SUPPORT FOR PIPING 4
NOT TO SCALE



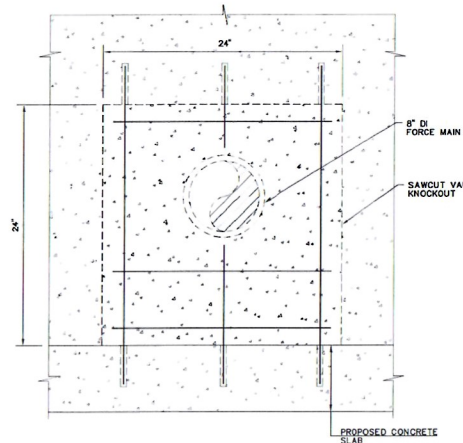
ACCESS LADDER 5
NOT TO SCALE



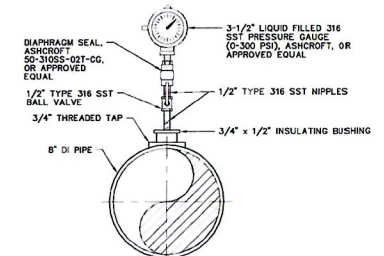
NOTE
LADDER AND BRACKETS SHALL BE ALUMINIUM



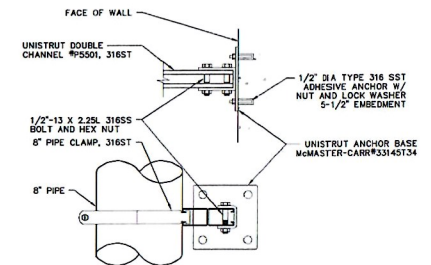
FLOW METER VAULT WALL REPAIR 8
NOT TO SCALE



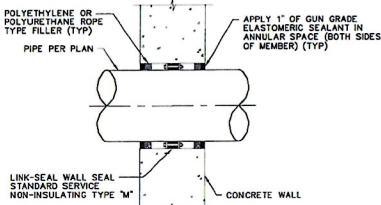
NOTES
1. CONTRACTOR TO USE ADMIXTURES TO REDUCE WATER CONTENT AND OBTAIN HIGH EARLY STRENGTH
2. CONTRACTOR TO APPLY SIKATOP 123 PLUS TO CONCRETE VERTICAL SURFACES WHERE VOIDS ARE NOTED AFTER REMOVAL OF FORMS



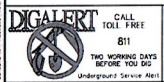
PRESSURE GAUGE ASSEMBLY 6
NOT TO SCALE



UNISTRUT PIPE SUPPORT DETAIL 9
NOT TO SCALE



WALL PENETRATION 7
NOT TO SCALE



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.



318 W KATELIA AVE, SUITE A
ORANGE, CA 92867
(714) 978-4407
www.jigconsultants.com



NO.	DATE	REVISIONS

DESIGN: MM
DRAWN: MM
CHECKED: JG

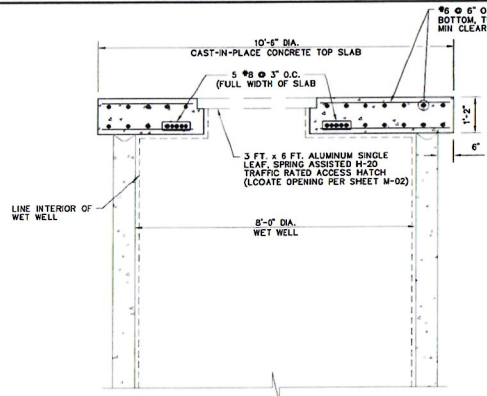


DATE: 9/25/23
ENGINEER: JOSEPH I. GUTIERREZ, RCE 53604
DISTRICT ENGINEER: LORRIS LAUSTEN, RCE 67027

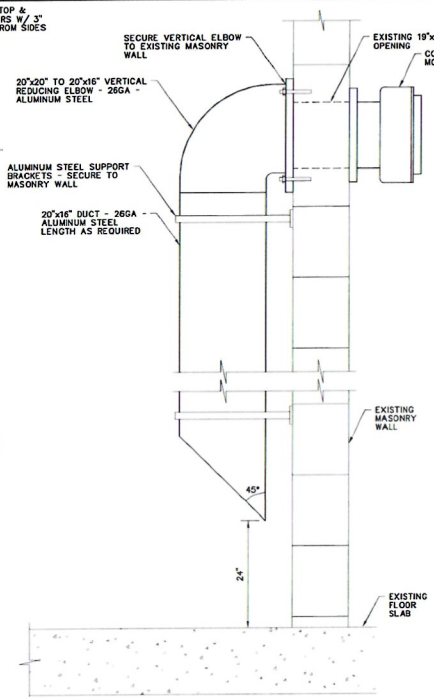
TRABUCO CANYON WATER DISTRICT
GOLF CLUB SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-010

MISCELLANEOUS MECHANICAL DETAILS

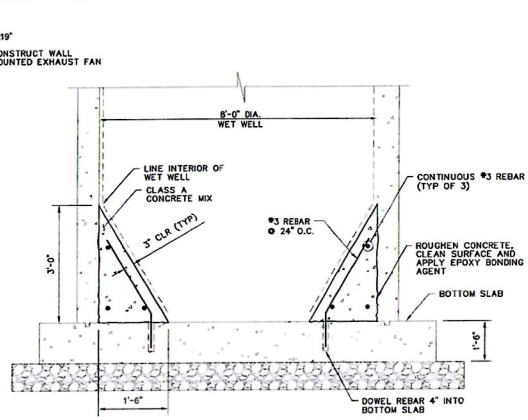
M-04
SHEET 12 OF 13



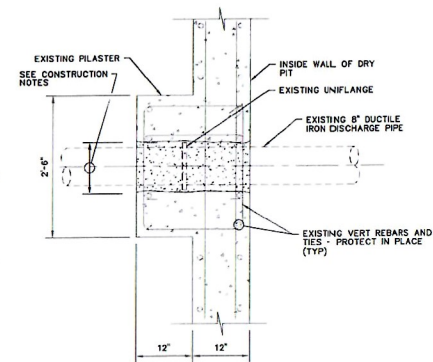
1
CONCRETE TOP SLAB FOR EXISTING WET WELL
NOT TO SCALE



2
FAN DUCTING TO DRY PIT
NOT TO SCALE



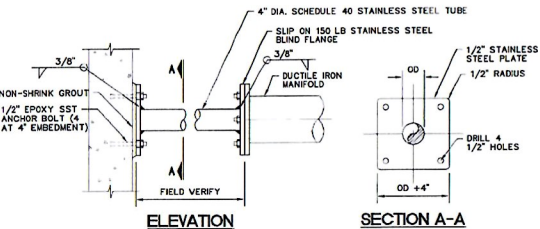
3
WET WELL CONCRETE CHAMFER
NOT TO SCALE



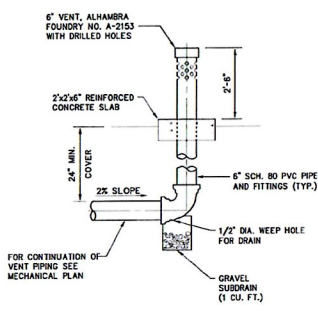
4
CONSTRUCTION NOTES

1. CONCRETE AROUND THE 8" DUCTILE IRON PIPE MAY BE REMOVED BY CORING AND/OR USING CHIPPING HAMMER, AS REQUIRED TO REMOVE THE PIPE STUD AND UNFLANGE. ENSURE THE EXISTING PLASTER REINFORCING BARS AND TIES ARE NOT DAMAGED.
2. ONCE THE EXISTING PIPE AND UNFLANGE HAVE BEEN REMOVED, THE INSIDE SURFACE OF THE HOLES SHALL HAVE ALL LOOSE CONCRETE REMOVED AND ROUGHENED TO OBTAIN AGGREGATE SURFACE WITH A MINIMUM PROFILE OF 1/16".
3. CONSTRUCT AND SECURE IN PLACE NEW DUCTILE IRON PIPE SPOOL AND THRUST COLLAR, WITH THE COLLAR CENTERED WITHIN THE THICKNESS OF THE PILASTER.
4. IMMEDIATELY BEFORE APPLYING THE CONCRETE PATCH AROUND THE PIPE, SATURATE AND SURFACE-DRY THE INSIDE SURFACE OF THE HOLE WITHOUT LEAVING ANY STANDING WATER.
5. PATCH PILASTER HOLE USING FORM AND POUR TECHNIQUES PER ACI RAP BULLETIN # (SEE APPENDIX I OF SPECIFICATIONS), WITH SIKAFLORE 211 SCC PLUS, OR APPROVED EQUAL.

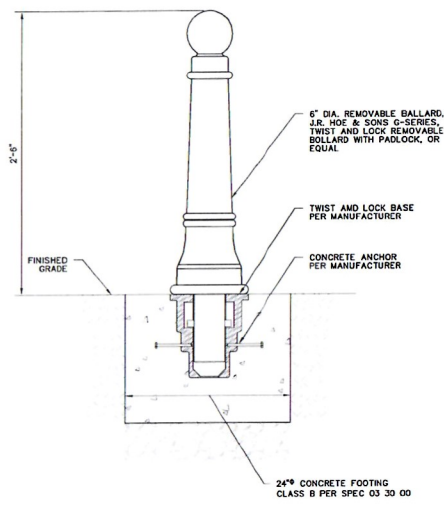
PILASTER REPAIR AND PIPE PENETRATION
NOT TO SCALE



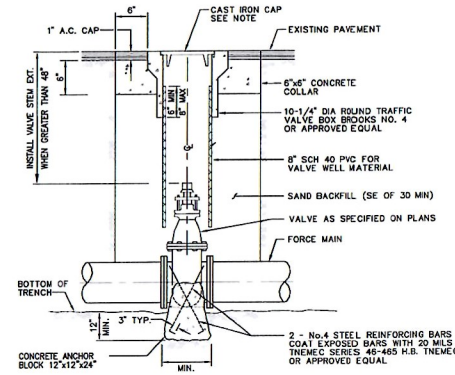
5
WALL THRUST SUPPORT
NOT TO SCALE



6
AIR VENT DETAIL
NOT TO SCALE



7
REMOVABLE BOLLARD DETAIL
NOT TO SCALE



8
VALVE & VALVE BOX
NOT TO SCALE

NOTE:
PROVIDE CAST IRON COVER WITH TOP MARK AS SHOWN TO THE RIGHT.

DIGALERT CALL 1011 FREE 811
CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.
TWO WORKING DAYS BEFORE YOU DIG
Underground Service Alert

JIG CONSULTANTS
318 W KATELLA AVE, SUITE A
ORANGE, CA 92867
(714) 978-4407
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NO.	DATE	REVISIONS

DESIGN: MM	DATE: 01/21/23
DRAWN: MM	ENGINEER: 01/21/23
CHECKED: JC	DISTRICT ENGINEER: 01/25/23

TRABUCO CANYON WATER DISTRICT
GOLF CLUB SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-010

MISCELLANEOUS MECHANICAL DETAILS
SHEET 13 OF 18

Final

Probable Cost Opinion
Golf Club Sewer Lift Station Improvements
 Trabuco Canyon Water District

ENR: 18668

Section	Size	Description	Los Angeles Unit Cost	Construction Cost Quantity	Dec-23 Amount
01 00 00		GENERAL REQUIREMENTS			
01 10 03		Coordination	0.50%	1 LS	\$9,400
01 29 73		Schedule of Values	0.40%	1 LS	\$7,500
01 31 19		Project Meetings	0.20%	1 LS	\$3,800
01 32 00		Construction Progress Documentation	0.20%	1 LS	\$3,800
01 32 23		Construction Survey Staking	0.25%	1 LS	\$4,700
01 32 33		Construction Photographic and Video Documentation	\$3,710	1 LS	\$3,710
01 33 00		Submittal Procedures	0.40%	1 LS	\$7,500
01 35 26		Governmental Safety Requirements	0.40%	1 LS	\$7,500
01 50 00		Temporary Facilities and Controls			
01 50 00		Sewage Spill Prevention Response Plan	\$2,600	1 ea	\$2,600
01 50 00		Construction Information Signs	\$1,500	1 ea	\$1,500
01 57 23		Temporary Storm Water Pollution Control	1.10%	1 LS	\$20,700
01 61 00		Common Product Requirements	0.10%	1 LS	\$1,900
01 65 00		Project Delivery Requirements	0.10%	1 LS	\$1,900
01 66 00		Project Storage and Handling Requirements	0.10%	1 LS	\$1,900
01 71 13		Mobilization and Demobilization	3.87%	1 LS	\$72,700
01 73 00		Execution	0.10%	1 LS	\$1,900
01 74 00		Cleaning and Waste Management	0.63%	1 LS	\$11,800
01 75 00		Starting and Adjusting	0.97%	1 LS	\$18,200
01 77 00		Closeout Procedures	1.19%	1 LS	\$22,400
01 78 23		Operation and Maintenance Data	0.12%	1 LS	\$2,300
01 78 36		Product Warranties	0.42%	1 LS	\$7,900
01 78 39		Project Record Documents	0.17%	1 LS	\$3,200
01 78 43		Spare Parts	0.17%	1 LS	\$3,200
01 79 00		Demonstration and Training	\$1,733.00	2 day	\$3,466
02 00 00		EXISTING CONDITIONS			
02 41 13		Selective Site Demolition	1.81%	1 LS	\$34,000
02 41 14		Paving Removal and Resurfacing			
02 41 14		Sawcut Existing AC and PCC Pavement	\$7.80	300 LF	\$2,340
02 41 14		Remove Bituminous Pavement	\$0.60	2000 SF	\$1,200
02 41 14	6 in	Concrete Pavement Removal	\$3.30	600 SF	\$1,980
02 41 14		Remove Curb & Gutter	\$50.00	20 LF	\$1,000
02 41 14		Remove Ribbon Gutter	\$50.00	10 LF	\$500
02 41 16	500 SF	Surge Tank Demolition Work	\$7,970	1 ea	\$7,970
02 41 16	2000 SF	Mechanical and Electrical Equipment Demolition	\$31,880	1 ea	\$31,880
03 30 00		CAST-IN-PLACE CONCRETE			
03 30 00		Reinforced Concrete Pad for Surge Tank	\$820	10 CY	\$8,200
03 30 00	9 in	Reinforced Concrete Floor Slab	\$18.14	600 SF	\$10,884
03 30 00	9 in	Concrete for Sliding Gate	\$18.14	100 SF	\$1,814
03 30 00		Reinforced Concrete Top Slab for Existing Wet Well	\$350.00	100 SF	\$35,000
03 30 00		Reinforced Concrete Top Slab for New Wet Well	\$350.00	100 SF	\$35,000
03 30 00		Reinforced Fillet at Existing Wet Well Bottom	\$8,000	1 LS	\$8,000
03 30 00		Reinforced Fillet at New Wet Well Bottom	\$8,000	1 LS	\$8,000
03 30 00	84 in	deep Cast in Place Concrete Vaults	\$70,300	1 ea	\$70,300
03 30 00		Sawcut and Fill Knockout	\$10,000	1 LS	\$10,000
03 30 00		Jackhammer Pilaster and Reconstruct	\$50,000	1 LS	\$50,000
07 70 00		ROOF AND WALL SPECIALTIES AND ACCESSORIES			
07 72 33	5 ft	Roof and Floor Hatches	\$15,500	1 ea	\$15,500
07 72 33	4 ft	Roof and Floor Hatches	\$10,800	2 ea	\$21,600
09 90 00		PAINTING AND COATING			
09 90 00		Painting and Coating in South Coast AQMD	1.01%	1 LS	\$19,000
23 30 00		HVAC AIR DISTRIBUTION			
23 31 00		HVAC Ducts and Casings	\$3,700	1 ea	\$3,700
23 34 00		Aluminum Sidewall Fans	\$12,750	1 ea	\$12,750
26 00 00		ELECTRICAL			
26 05 43		Miscellaneous Electrical Work	\$100,000	1 LS	\$100,000
31 00 00		EARTHWORK			
31 05 50		Protecting Existing Utilities	1.01%	1 LS	\$19,000
31 05 23		Cement and Concrete for Earthwork			
31 05 23		Cement Slurry Backfill	\$224	100 CY	\$22,400
31 20 00		EARTH MOVING			
31 23 00		Excavation and Fill			
31 23 00	35 ft dp	Sheet Piles for New Wet Well	\$460	50 LF	\$23,000

31 23 00	25 ft dp	Sheet Piles for New MH	\$390	50 LF	\$19,500
31 23 00		Unclassified Excavation	\$7.30	500 CY	\$3,650
31 23 00		Excavation Export	\$20.00	500 CY	\$10,000
31 23 00		Backfilling and Compacting for Structures	\$34.40	500 CY	\$17,200
31 23 33		Trenching and Backfilling			
31 23 33		Trench and Excavation Safety	1.91%	1 LS	\$35,900
31 23 33	25 ft	Trenching and Backfilling	\$52.20	30 LF	\$1,566
32 10 00		BASES, BALLASTS, AND PAVING			
32 11 00		Base Courses			
32 11 00	4 in	Class 2 Aggregate Base	\$2.56	1500 SF	\$3,840
32 12 00		FLEXIBLE PAVING			
32 12 16	3 in	Asphalt Concrete Paving	\$3.37	1500 SF	\$5,055
32 13 00		RIGID PAVING			
32 13 13		Concrete Paving			
32 13 13	6 in	Concrete Curb and Gutter	\$35.80	20 LF	\$716
32 13 13		Concrete Ribbon Curb	\$93.00	10 LF	\$930
32 30 00		SITE IMPROVEMENTS			
32 31 20		Ornamental Steel Fences			
32 31 20	7 ft	Tubular Rolling Gate	\$40,000	1 ea	\$40,000
32 31 20	7 ft	Tubular Steel Fence	\$500	50 LF	\$25,000
32 41 00		Marker Posts, Guardposts and Bollards			
32 41 00		Guardposts and Bollards	\$750	10 ea	\$7,500
33 00 00		UTILITIES			
33 01 38		Maintenance Hole and Wet Well Rehabilitation			
33 01 38		Coat Wet Well Interior	\$47,800	2 LS	\$95,600
33 01 38		Coat Manhole I Interior	\$47,800	1 LS	\$47,800
33 05 00		COMMON WORK RESULTS FOR UTILITIES			
33 05 33		Couplings, Tie-Rods, Flange Connectors, and Unions			
33 05 33	8 in	Flexible Coupling	\$460	2 ea	\$920
33 05 33	8 in	Flanged Coupling Adaptor (Restrained)	\$750	4 ea	\$3,000
33 05 34		Grooved-and-Shouldered (Victaulic Style) Couplings			
33 05 34	6 in	Victaulic Coupling	\$420	1 ea	\$420
33 05 37		Wall Pipes, Seep Rings, and Penetrations			
33 05 37		Wall Pipes, Seep Rings, and Penetrations	\$1,500	2 ea	\$3,000
33 05 38		Hangers and Supports			
33 05 38	8 in	Pipe Support	\$270	20 ea	\$5,400
33 05 38	1 in	Pipe Support	\$30	30 ea	\$900
33 05 38	8 in	Pipe Support with Thrust Restraint	\$4,930	1 ea	\$4,930
33 08 00		COMMISSIONING OF UTILITIES			
33 08 11		Pressure Testing and Flushing			
33 08 11		Pressure Testing of Pipelines	\$6,110	1 ea	\$6,110
33 08 31		Leakage and Infiltration Testing of Gravity Sewer Pipelines			
33 08 31		Leakage and Infiltration Testing of Gravity Pipelines	\$8,200	1 ea	\$8,200
33 11 00		WATER UTILITY PIPING			
33 11 11		Ductile Iron Pipe			
33 11 11	8 in	45 Degree Ell	\$710	4 ea	\$2,840
33 11 11	8 in	90 Degree Ell	\$940	4 ea	\$3,760
33 11 11	8 in	Wye	\$1,490	1 ea	\$1,490
33 11 11	6 in	Wye	\$890	1 ea	\$890
33 11 11	8 in	x 6 inch Reducer	\$690	3 ea	\$2,070
33 11 11	6 in	x 4 inch Reducer	\$420	2 ea	\$840
33 11 11	8 in	Spool	\$730	4 ea	\$2,920
33 11 11	6 in	Spool	\$440	3 ea	\$1,320
33 11 11	4 in	Spool	\$220	2 ea	\$440
33 11 15		Stainless Steel Pipe			
33 11 15	8 in	Stainless Steel Pipe	\$406	60 LF	\$24,360
33 11 15	1 in	Stainless Steel Tubing	\$34	300 LF	\$10,200
33 12 00		WATER UTILITY DISTRIBUTION VALVES AND EQUIPMENT			
33 12 16		Plug Valves			
33 12 16	6 in	Eccentric Plug Valve - Class 150	\$3,500	3 ea	\$10,500
33 12 18		Check Valves			
33 12 18	6 in	Swing Check Valve (Owner Furnished)	\$3,000	2 ea	\$6,000
33 12 18	8 in	Swing Check Valve (Owner Furnished)	\$4,000	2 ea	\$8,000
33 12 25		Air and Vacuum Valves for Wastewater Service			
33 12 25	2 in	Sewage Air Release Valve Assemblies	\$4,500	2 ea	\$9,000
33 30 00		SANITARY SEWERAGE UTILITIES			
33 30 00	12 in	Gravity Sewer Pipe	\$416	50 LF	\$20,800
33 30 00	12 in	Tie-in to Existing Manhole	\$4,180	1 ea	\$4,180
31 23 19		Sewer Bypass System (3 Months @ \$50,000/month)	\$150,000	1 LS	\$150,000
33 32 22		Submersible Centrifugal Wastewater Pumps			
33 32 22	60 HP	Submersible Sewage Pump & Motor - Owner Furnished	\$20,000	2 ea	\$40,000

33 39 13	Precast-Concrete Mainhenance Holes and Structures			
33 39 13	5-ft diameter Precast-Concrete Maintenance Hole 20 ft	\$80,000	1 ea	\$80,000
33 39 13	8-ft diameter Precast-Concrete Wet Well 30 ft	\$250,000	1 ea	\$250,000
40 70 00	INSTRUMENTATION FOR PROCESS SYSTEMS			
40 71 00	FLOW MEASUREMENT			
40 71 13	Magnetic Flow Meters			
40 71 13	8 in Magnetic Flow Meter	\$17,100	1 ea	\$17,100
40 73 00	PRESSURE, STRAIN, AND FORCE MEASUREMENT			
40 73 00	Pressure Instruments			
40 73 00	Pressure Gauges	\$2,080	2 ea	\$4,160
43 00 00	PROCESS GAS AND LIQUID HANDLING, PURIFICATION, AND STORAGE EQUIPMENT			
43 42 23	300 gal Surge Tank Assembly - Owner Furnished	\$100,000	1 ea	\$100,000
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST				\$1,878,501
	All Other Work		2%	\$37,570
	Field Order Allowance			\$75,000
ENGINEER'S OPINION OF PROBABLE TOTAL COST				\$1,991,071

These figures have been prepared, at the request of a client, before finalizing Contract Documents. Figures are only an opinion and are provided solely as a guide. Estimator is not responsible for fluctuation in cost of material, labor or components or unforeseen contingencies.

Job #: **TRA0170**

22-Sep-23

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | OCTOBER 4, 2023**

ENGINEERING MATTERS

ITEM 4: MANUAL TRANSFER SWITCH UPGRADE FOR EMERGENCY OPERATIONS

Transfer switches are a critical component of an emergency standby system. This project includes the installation of manual transfer switches, camlock generator receptables, conduits, wiring and as-built record drawings.

Trabuco Canyon Water District (District) owns and operates the following five (5) facilities in need of these upgrades:

1. Topanga Pump Station
2. Falcon Pump Station
3. Golf Club Sewer Lift Station
4. Heritage Lift Station
5. Robinson Ranch Pump Station

This equipment will allow District staff to plug in portable generators without the assistance of a licensed electrician during a power outage. Information on the project cost will be available at the time of the meeting.

FUNDING SOURCE:

Capital Improvement Program

FISCAL IMPACT (PROJECT BUDGET):

\$120,000

ENVIRONMENTAL COMPLIANCE:

Notice of Exemption

RECOMMENDED ACTION:

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

EXHIBIT(S):

None

CONTACTS (staff responsible): PALUDI/LAUSTEN

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | OCTOBER 4, 2023**

ENGINEERING MATTERS

ITEM 5: RESOLUTION AUTHORIZING SUBMITTAL OF AN APPLICATION FOR THE USBR WATERSMART DROUGHT RESPONSE PROGRAM FOR DOVE & TICK CREEK RUNOFF CAPTURE AND REUSE PROJECT

With the assistance of Soto Resources, Trabuco Canyon Water District staff regularly evaluates available external funding opportunities against the District's planned capital project needs. Currently, the United States Bureau of Reclamation's (USBR) "WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2024" presents an opportunity for the District to apply for a project that demonstrates drought benefits and that is "application-ready" considering the deadline for application submittal is October 31, 2023. The District is applying to this program for the Dove and Tick Creek Runoff Capture and Reuse Project (Project).

The Project will expand the existing Dove Outfall Pump Station and Tick Outfall Pump Stations to increase capture of dry weather runoff and stormwater to produce 200 AFY of new non-potable water and improve ecosystem benefits to downstream native habitat in the Starr Ranch through reduced impacts of dry weather flows. The Project has already been awarded approximately \$380,000 (50% of the estimated 2022 project cost) through the CA Department of Water Resources' Integrated Regional Water Management (IRWM) grant program but is not scheduled to begin project design until 2024. This USBR program will fund up to \$500,000 per project (Funding Group I) and requires a non-federal cost share of at least 50% of the total project costs, which can be met by local or state funds. The Project's current estimate cost is approximately \$760,000 but will likely increase due to construction cost inflation and, if awarded by USBR, requirements of the Infrastructure Investment and Jobs Act.

If awarded USBR grant funds of up to \$500,000, the Project would be almost entirely funded through external funding sources. Soto Resources will be preparing the grant application at an estimate cost of \$13,000 in consulting fees. USBR requires the District to support the submission of the grant application through the adoption of a resolution by the Board of Directors. The draft Resolution is included as Exhibit 1.

FUNDING SOURCE:

General Fund

FISCAL IMPACT

The budget for preparation of the subject grant application is approximately \$13,000.

ENVIRONMENTAL COMPLIANCE:

Not applicable

RECOMMENDED ACTION:

Recommend the Board of Directors adopt Resolution 2023-1325 Authorizing the Submittal of an Application for the USBR WaterSMART Drought Response Grant Program (Action Calendar).

EXHIBIT(S):

1. Draft Resolution 2023-1325

CONTACTS (staff responsible): PALUDI/LAUSTEN

TRABUCO CANYON WATER DISTRICT

RESOLUTION NO. 2023-XX

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE
TRABUCO CANYON WATER DISTRICT AUTHORIZING
THE SUBMITTAL OF AN APPLICATION FOR THE
WATERSMART DROUGHT RESPONSE PROGRAM:
DROUGHT RESILIENCY PROJECTS FOR FY 2024**

WHEREAS, the United States Bureau of Reclamation is currently offering grant opportunities through the WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year (“FY”) 2024;

WHEREAS, said WaterSMART Drought Response Program: Drought Resiliency Projects for FY 2024 is a cost-shared program emphasizing drought resiliency;

WHEREAS, the Board of Directors (“Board”) of the Trabuco Canyon Water District (“District” or “TCWD”) supports the submission by the TCWD of a grant application for the Runoff Capture and Reuse Upgrades at Dove and Tick Creek Outfall Pump Stations Project (“Project”) prepared and approved by the TCWD, to the WaterSMART Drought Response Program: Drought Resiliency Projects for FY 2024; and

WHEREAS, under the WaterSMART Drought Response Program: Drought Resiliency Projects for FY 2024 program, the United States Bureau of Reclamation may award up to 50% of the total allowable project costs and the TCWD is capable of providing cash, other contributed costs, or third-party in-kind contributions specified in the grant application's funding plan to pay for all remaining Project costs..

WHEREAS, if selected for a WaterSMART Drought Response Program: Drought Resiliency Projects for FY 2024, TCWD will work with the United States Bureau of Reclamation to meet established deadlines for entering into a grant or cooperative agreement regarding funding for the Project.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE TRABUCO CANYON WATER DISTRICT HEREBY RESOLVE, DETERMINE AND ORDER AS FOLLOWS:

Section 1: The Board does hereby approve the submission of the application for the Project for the WaterSMART Drought Response Program: Drought Resiliency Projects for FY 2024 Project by TCWD for FY 2024-2025 and 2025-2026.

Section 2: In the event grant funding is provided by the United States Bureau of Reclamation, the General Manager and legal counsel to the District and the District’s staff and consultants are authorized to take any and all actions necessary to accept the grant and sign any contract for administration of the grant funds.

Section 3: The recitals provided in this resolution are true and correct and are incorporated into the operative part of this resolution.

Section 4: If any section, subsection, sentence, clause or phrase of this resolution is, for any reason, held to be invalid or unconstitutional, such decision shall not affect the validity or constitutionality of the remaining portions of this resolution. The Board hereby declares that it would have passed this resolution, and each section, subsection, sentence, clause or phrase hereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional. The District Secretary shall certify to the adoption of this resolution and henceforth and thereafter the same shall be in full force and effect.

Section 5: The Board finds the adoption of this resolution is not subject to the California Environmental Quality Act ("CEQA") pursuant to Sections 15060(c)(2) (the activity will not result in a direct or reasonably foreseeable indirect physical change in the environment) and 15060(c)(3) (the activity is not a project as defined in Section 15378) of the CEQA Guidelines, California Code of Regulations, Title 14, Chapter 3, because it has no potential for resulting in physical change to the environment, directly or indirectly.

Section 6: This resolution shall be effective as of October 19, 2023 ("Effective Date").

ADOPTED, SIGNED, and APPROVED this 19th day of October 2023.

TRABUCO CANYON WATER DISTRICT

President/Vice President

District Secretary

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | OCTOBER 4, 2023**

ENGINEERING MATTERS

ITEM 6: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Metering Downsizing Procedure
2. Saddleback Meadows Development
3. Other Projects

RECOMMENDED ACTION:

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

EXHIBIT(S):

None

CONTACTS (staff responsible): PALUDI/PEREA/LAUSTEN

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | OCTOBER 4, 2023**

OPERATIONAL MATTERS

ITEM 7: WATER SYSTEM UPDATES

The following is a brief report of the water system through **September 2023**.

Projects and Repairs

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

1. Responded to and repaired an emergency pipeline break on Golf Ridge in the Dove Canyon community.
2. Responded to and repaired a broken 4" fire system valve in the Dove Canyon Plaza.
3. Replaced two residential service curb stops on Greenspring and Muirfield in the Dove Canyon community.
4. Worked with Engineering staff on Saddle Crest pump station and reservoir 10-day start up period.
5. Installed data log devices for potable water system monitoring at the Saddle Crest development.
6. Worked with TESCO controls to address systemwide SCADA communication issues.

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

1. Monthly Water System Operations Summary

CONTACTS (staff responsible): PEREA/KESSLER

TRABUCO CANYON WATER DISTRICT
MONTHLY WATER SYSTEM OPERATIONS SUMMARY - 2022

SYSTEM PRODUCTION/SUPPLIES	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
Number of Days	31	28	31	30	31	30	31	31	30	31	30	31	365
Dimension WTP	8%	17%	25%	33%	42%	50%	58%	67%	75%	83%	92%	100%	
SAC Pipeline Meter	91.2	109.2	15.0	25.3	41.2	2.5	0.0	93.3					377.7
Backwash, AF	2.7	3.5	0.8	1.1	1.9	0.6	0.0	3.5					14.1
Flushwater, AF	4.2	3.7	0.6	1.8	2.9	0.6	0.0	6.0					19.8
DWTP Effluent (1)	92.2	111.3	10.2	27.1	39.7	2.6	0.0	99.2					382.3
Groundwater, AF													
Trabuco Creek GWTF	0.0	0.0	17.9	103.1	100.2	105.7	112.3	91.9					439.2
U.S. Well AF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0
Total Groundwater (2)	0.0	0.0	17.9	103.1	100.2	105.7	112.3	91.9					531.1
Water Purchases, AF													
SMWD Treated Interconnection	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0
IRWD Treated Interconnections	0.0	0.0	58.0	0.0	9.3	41.2	106.2	0.0					214.7
IRWD Irvine Lake	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0
Total Purchases (3)	0.0	0.0	58.0	0.0	9.3	41.2	106.2	0.0					214.7
Total Supply													
Total Supply AF (1,2,3)	92.2	111.3	86.1	130.2	149.2	149.5	218.5	190.3					1,127.3
% Year - Peak Prod. - 2,449 AF (2018)	4%	17%	12%	21%	23%	29%	38%	46%					38%
AF/Day	3.0	4.0	2.8	4.3	4.8	5.0	7.0	6.1					4.4
CFS/Day, Avg.	1.5	2.0	1.4	2.2	2.4	2.5	3.5	3.0					2.2
Reservoir Storage													
Monthly Average, MG	9.1	9.1	9.0	8.8	8.8	9.0	8.7	8.8					8.9
Monthly Average, AF	27.9	27.9	27.6	27.0	27.0	27.6	27.0	27.0					27.4
Days of Storage	4.0	4.0	4.0	3.0	3.0	4.0	3.0	3.0					3.6
SYSTEM DEMANDS													
District Operations, AF (1)													
Dimension WTP	0.18	0.13	0.03	0.04	0.07	0.01	0.00	0.11					0.57
Robinson Ranch WWTP	0.001	0.001	0.007	0.004	0.004	0.005	0.004	0.001					0.03
Supplemental Domestic to RW Res.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.00
Subtotal	0.2	0.0	0.4	0.044	0.074	0.015	0.004	0.11					0.81
System Losses, AF (2)													
Flushing	0.98	0.66	0.00	0.00	0.00	0.00	0.00	0.00					1.64
Sewer Cleaning	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02					0.16
Line Breaks	0.46	0.00	0.15	0.00	0.05	0.00	0.01	0.30					0.97
Subtotal	1.46	0.68	0.17	0.02	0.07	0.02	0.03	0.32					2.77
Zone Demands, AF (3)													
Topanga Canyon	0.4	0.4	1.0	2.1	2.0	1.8	3.0	3.0					13.60
Falcon Estates	0.04	0.1	0.1	0.3	0.5	0.3	0.9	0.8					2.98
Rose PRV/The Oaks	0.6	1.7	1.9	1.9	1.5	1.8	2.2	2.0					13.57
Canyon Creek	0.1	0.2	0.1	0.3	0.3	0.4	0.4	0.3					2.21
Rose Pump Station	0.0	0.1	0.4	0.5	0.6	0.6	0.3	0.5					2.96
Robinson Ranch	19.6	26.1	18.1	35.3	36.8	35.6	63.2	59.4					294.12
Dove Canyon	38.8	43.9	39.2	54.8	63.5	65.6	80.5	73.4					459.65
Subtotal	59.5	72.2	60.8	95.1	105.2	106.1	150.5	139.4					788.80
Total System Demand (1,2,3)	61.2	73.0	61.4	95.2	105.3	108.1	150.53	139.8					794.50

TRABUCO CANYON WATER DISTRICT
MONTHLY WATER SYSTEM OPERATIONS SUMMARY - 2022

System Demands**													
AF/Day	3.0	4.0	2.8	4.3	4.4	5.0	7.0	6.1					4.3
Daily Average, CFS	1.5	2.0	1.4	2.2	2.2	2.5	3.4	3.0					2.2
Other Water Deliveries/Purchases													
Ridgeline (DWTP Delivery)	85.2	103.0	8.9	24.9	35.5	2.0	0.0	90.4					259.5
El Toro (Interconnection Purchase)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0
Baker WTP (CSC Delivery)	115.0	108.0	55.2	55.2	81.7	72.2	79.8	103.8					567.1
Portola Hills (Wholesale Purchase)	8.0	8.4	6.9	7.7	9.0	11.0	12.3	14.3					63.3
Skyridge (Wholesale Purchase)	1.5	1.5	1.6	1.9	1.7	2.0	2.2	2.5					12.5
* Usage estimated	** Excludes Operational use, losses, and supplement to Recycled Water Reservoir (RW)												

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | OCTOBER 4, 2023**

OPERATIONAL MATTERS

ITEM 8: WASTEWATER SYSTEM UPDATES

The following is a brief report of the wastewater system through **September 2023**.

Projects and Repairs

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

1. Assisted in TESCO Controls in PLC upgrades to Barneburg and Heritage Sewer Lift Stations.
2. Installed new level control systems at Barneburg and Heritage Sewer Lift Stations.
3. Replaced a 6” check valve on the force main at Barneburg Sewer Lift Station.
4. Assisted in the replacement of 4 rollers for the Belt Filter Press at the Robinson Ranch WWTP.

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:

Sewer System Management Plan (SSMP) Monthly Update	
Total Sewer Line, Feet*	212,045
Total Sewer Line Cleaned (Ft) – Month	5,200
Total Sewer Line Cleaned (Ft) – Cleaning Cycle	123,440
Cleaning Cycle Period (Mos.) [Start date: 9/1/22]	12
Total Sewer Line Cleaned, %	58%
The Oaks at Trabuco – Pumping Frequency for the Month	
O’Neill Park Sewer System Status	Ok
O’Neill Park Sewer System Repairs	None
SSMP Quarterly Report – <i>Next Quarterly Report</i>	4Q 2023
SSMP Program Audit – <i>Next Audit Report**</i>	February 2024

**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

1. Monthly Recycled Water System Operations Summary
2. Sewer System Management Plan (SSMP) 3Q 2023 Report

CONTACTS (staff responsible): PEREA/ULLOA

TRABUCO CANYON WATER DISTRICT | NON-DOMESTIC WATER SYSTEM SUMMARY - 2023

RECYCLED WATER SUPPLY															
	MAX	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	FIVE YEAR AVG
WWTP Reclaimed Water Production, AF	78.3	58.6	37.8	34.6	29.2	38.2	27.1	40.9	43.2					309.5	529.1
Reclaimed Reservoir Level, FT	1274.5	1,273.0	1,274.0	1,272.5	1,272.2	1,272.0	1,270.0	1,259.0	1,262.2					-	-
Reclaimed Reservoir Free Board, FT	25.5	1.5	0.5	2.0	2.3	2.5	4.5	15.5	12.3					-	-
Reclaimed Reservoir Storage, AF	145.5	135.7	139.3	132.1	130.0	128.6	118.8	67.0	78.6					-	-
Supplemental Domestic Water Added, AF	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	35.5

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	0.07	0.1	0.0	0.3	0.2	0.2	0.2	0.3					1.39	16.9%
Dove Canyon Golf Course	106.7	0.29	5.9	0.2	17.4	15.0	26.4	51.2	41.2					157.68	147.8%
Dove Canyon Master Association	279.3	0.28	1.1	0.1	7.6	16.6	13.1	26.3	21.1					86.16	30.8%
Robinson Ranch	80.2	0.25	1.4	0.3	0.8	1.4	2.9	4.0	3.3					14.28	17.8%
Trabuco Highlands	159.7	2.25	5.9	0.1	6.5	8.5	5.3	11.4	6.2					46.04	28.8%
City of RSM	0.1	0.00	0.03	0.00	0.04	0.05	0.05	0.03	0.01					0.20	156.2%
Construction Water	N/A	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.00	N/A
Sakaida Nursery	1.1	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.00	0.0%
SMWD	N/A	41.74	40.6	7.7	0.0	2.3	4.1	5.3	6.2					108.10	N/A
TY Nursery	17.9	0.00	0.05	0.0	0.0	0.0	0.0	0.0	0.0					0.05	0.3%
TOTAL, AF	653.2	44.9	55.1	8.4	32.7	44.1	52.0	98.5	78.2					413.89	63.4%
PERCENTAGE OF NDW ALLOCATION/YEAR		6.9%	15.3%	16.6%	21.6%	28.3%	36.3%	51.4%	63.4%						
TOTAL ANNUAL AVG. NDW AVAILABLE**	774.36														

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		0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.06					0.21	14.2
Dove Tick Creek Production*	<i>Dry Season</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7					7.7	58.8
	TCWD Portion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8					3.8	-
	SMWD Portion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8					3.8	-
Dove Lake Water Pumped		0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.7					47.7	185.8
Dove Lake Free Board, Ft		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					-	-
Dove Lake Storage, AF		331.0	331.0	331.0	331.0	331.0	331.0	331.0	331.0					-	-
Total Rainfall, In.		8.1	2.1	10.3	0.0	1.1	0.0	0.0	3.0					24.4	14.7

* 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
Sewer System Management Plan (SSMP) Quarterly Report

Report Date: September 27, 2023
Report Period: Third Quarter 2023 - September 2023
Prepared By: Oscar Ulloa, Wastewater Operations Superintendent

District Sub-Section	Santiago/Portola Hills			Dove Canyon			Rancho Cielo/Walden			Robinson Ranch/Trabuco Highlands		
	Total Amount	Amount Completed	% Completed	Total Amount	Amount Completed	% Completed	Total Amount	Amount Completed	% Completed	Total Amount	Amount Completed	% Completed
Sewer Line Cleaned, Feet	44,625	44,625	100%	64,135	61,585	96%	29,865	0	0%	59,170	0	0%
Manholes, Inspected/Cleaned	205	205	100%	212	180	85%	124	0	0%	236	0	0%
Manholes Needing Repair	0	0	0%	0	0	0%	0	0	0%	0	0	0%
Wet Wells, Inspected/Cleaned	2	2	100%	3	3	100%	1	1	100%	2	2	100%
Lift Stations, Inspected/Maintained	2	2	100%	3	3	100%	1	1	100%	2	2	100%
Grease Interceptors Inspected	2	2	100%	2	2	100%	10	10	100%	n/a	n/a	n/a

Note: All Sewage Lift stations are inspected 3-4 times a week

Contract Services	O'Neill Park/OCFA			The Oak's		
	Total Amount	Amount Completed	% Completed	Total Amount	Amount Completed	% Completed
Sewer Line Cleaned, Feet	12,700	12,700	100%	1,550	0	0%
Manholes, Inspected/Cleaned	95	95	100%	5	0	0%
Manholes Needing Repair	0	0	0%	0	0	100%
Wet Wells, Inspected/Cleaned	1	1	100%	2	2	100%
Lift Stations, Inspected/Maintained	1	1	100%	1	1	100%
Grease Interceptors Inspected	0	0	0%	0	0	100%

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | OCTOBER 4, 2023**

OPERATIONAL MATTERS

ITEM 9: MAINTENANCE DEPARTMENT UPDATES

The following is a brief report of work completed by Maintenance staff through **September 2023**

Projects and Repairs

Maintenance staff performed and/or completed the following tasks and projects:

Water Operations

1. Assisted Operations with the installation of a new SCADA UPS battery at Dove Tank.
2. New emergency generator "MTS switches" were installed by Hydrotech Electric at: Dove tank, Joplin Tanks, Harris Grade Tanks for telemetry backbone operations during power outages.
3. Assisted Operations at Saddle Crest Booster Pump Station during station startup testing.

Wastewater Operations

1. Emergency Work: Worked with Operations on failed NEQ pump at Robinson Ranch WWTP on the evening of 09/01. Assisted with troubleshooting the pump and worked with Hydrotech Electric for pump restoration by the following day.
2. Assisted Operations at Barneburg Sewer Lift Station during SCADA panel upgrades with Hydrotech Electric and TESCO Controls.
3. Assisted Operations at Heritage Sewer Lift Station for SCADA panel upgrades with Hydrotech Electric and TESCO Controls. Mobilized the Godwin Mobile Transfer Pump for station bypass during project work.
4. Assisted Operations reviewing blower room upgrades, fiber optic install, and station operation with Engineering Support Mr. David Rodriguez.

District Fleet Upgrades & Other Projects

1. Replaced battery in vehicle #10
2. Oil change service and auxiliary lighting repairs on vehicle #12 F-250 service body
3. Oil change service on vehicle #27 F650 (Dump Truck)
4. Quarterly BIT program started and completed.
5. Met with AGM and SCE Field Supervisor for property access concerning power pole upgrades near Robinson Ranch WWTP Reclaimed Water Reservoir.
6. Two staff members attended pump training at Evans Hydro site.
7. Met with Orange County Public Works (OCPW) staff on Trabuco Creek road grading and road repairs.
8. OCFA (Orange Co Fire Authority) USR (Urban Search and Rescue) team performed trench setup and rescue training at Porter Ranch. This is an annual training event hosted by TCWD.

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

EXHIBITS

None

CONTACTS (staff responsible): PEREA/STROUD

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | OCTOBER 4, 2023**

**REGULATORY AND OTHER MATTERS
ITEM 10: OTHER MATTERS/REPORTS**

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/PEREA