



**ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA
TRABUCO CANYON WATER DISTRICT
ADMINISTRATION FACILITY
32003 DOVE CANYON DRIVE, TRABUCO CANYON, CA
AUGUST 6, 2025 AT 8:00 AM**

COMMITTEE MEMBERS

Mark Anderson, Committee Chair
Glenn Acosta, Committee Member
John Horst, 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 at the time of the meeting or 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 at the time of the meeting 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 | AUGUST 6, 2025**

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. July 2, 2025 Committee Meeting

ITEM 2: DIMENSION WATER TREATMENT PLANT TRANSMISSION MAIN & FILTER 4 REHABILITATION UPDATE

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

ITEM 3: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Heritage SLS Improvements
2. Saddle Crest Reservoir/Pump Station Piping Improvements
3. RRWWTP Blower Equipment Station and Blower Relocation
4. Other Projects

RECOMMENDED ACTION:

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

OPERATIONAL MATTERS

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

ITEM 4: WATER SYSTEM UPDATES

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

ITEM 5: WASTEWATER SYSTEM UPDATES

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

ITEM 6: MAINTENANCE DEPARTMENT UPDATES

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.



**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA | AUGUST 6, 2025**

REGULATORY AND OTHER MATTERS

ITEM 7: 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 | AUGUST 6, 2025

ENGINEERING 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. *July 2, 2025 Committee Meeting*

CONTACTS (staff responsible): PALUDI/PEREA



TRABUCO CANYON WATER DISTRICT ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | JULY 2, 2025

DIRECTORS PRESENT

Mark Anderson, Committee Chair
Glenn Acosta, 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
Roseann Lejsek, Executive Assistant
Karen Warner, Principal Accountant
Phil Serpas, CMMS/SCADA Administrator

STAFF ABSENT

Oscar Ulloa, Wastewater Superintendent

DISTRICT CONSULTANTS

None

PUBLIC PRESENT

None

CALL MEETING TO ORDER

Director Anderson called the July 2, 2025 Engineering/Operational Committee Meeting to order at 8:01 a.m.

VISITOR PARTICIPATION

No comments were received.

ORAL COMMUNICATION

No comments were received.

COMMITTEE MEMBER COMMENTS

None

REPORT FROM THE GENERAL MANAGER

None

ITEM 1: ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP

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

RECOMMENDATION: The Committee recommended forwarding this matter to the Board of Directors (Consent Calendar).

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | JULY 2, 2025**

ITEM 2: APPROVAL OF SCADA INTEGRATION ON-CALL SERVICES AGREEMENT WITH ADVANCED INTEGRATION & CONTROLS (AIC) [A W.M. Lyles Company]

Mr. Paludi presented this matter for Committee consideration, and he reported that the SCADA system upgrade project has been completed and that District staff issued a request for proposals (RFP) for integration on-call services. Mr. Perea reported that Mr. Serpas issued an RFP to seven firms, and three proposals were received. Mr. Perea noted that W.M. Lyles completed the SCADA upgrade project after the District experienced performance issues with the original contractor. Mr. Perea provided an overview of the summary of proposals, and he stated that staff recommends awarding a contract to AIC for SCADA integration on-call services. Mr. Serpas added that AIC has been very responsive and is knowledgeable of the District's SCADA system.

Director Anderson expressed concern with certain proposed costs associated with travel time in the AIC proposal and recommended the standard contract language included a requirement of General Manager approval of travel costs. Mr. Perea indicated that requirement language can be included in the standard agreement.

RECOMMENDATION: Recommend the Board of Directors authorize the General Manager to execute a professional services agreement with Advanced Integration & Controls (AIC) [A W.M. Lyles Company] for a not-to-exceed amount of \$100,000 (Action Calendar).

ITEM 3: DIMENSION WATER TREATMENT PLANT IMPROVEMENTS

Mr. Paludi presented this matter for Committee consideration, and he reported that Ms. Lausten has been working with a structural engineering firm to prepare calculations and plans for a seismic retrofit to the Filter 4 Tank. Ms. Lausten stated that staff worked with Arcon Structural to prepare structural calculations and plans for this project. Ms. Lausten also reported that staff prepared a scope of work and structural plans, before inviting three contractors to bid on the project. Ms. Lausten stated that two bids were received, and that staff recommends awarding the project to SS Mechanical. Ms. Lausten noted that although the contract amount is within the General Manager's authority, staff is bringing the item to the Board for transparency purposes.

RECOMMENDATION: Recommend the Board of Directors award a construction contract for the DWTP Filter 4 Repair Project to SS Mechanical Construction Corp. in the amount of \$48,910 plus a 10% contingency of \$4,980, for a not-to-exceed amount of \$53,800 (Action Calendar).

ITEM 4: QUARTERLY CAPITAL IMPROVEMENT PROGRAM UPDATE

Mr. Paludi presented this matter for Committee consideration. Ms. Lausten provided a high-level overview of the status of budgeted projects for FY24/25, and she highlighted the multi-year projects being carried over into FY25/26 as well as projects that staff completed in-house. Discussion occurred regarding the status of multiple grant funding opportunities that District staff have sought in order to mitigate project costs. Discussion also occurred regarding a dedicated webpage on the District's website to keep ratepayers informed on the status of Capital Improvement Plan (CIP) projects.

RECOMMENDATION: None – Informational item only.

ITEM 5: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Recycled Water Reservoir Dam V-Ditch and Storm Drain Culvert Repair Project Update

Ms. Lausten provided an update on this matter, and she presented the Committee with pictures showing various stages of the project, including culvert pipe repairs, new headwall and drainage channel. Ms. Lausten stated that she will bring pictures of the completed project to next month's meeting. A brief discussion occurred regarding public access, and Ms. Lausten stated that a guardrail will be installed at the culvert crossing.

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2. Heritage SLS Update

Ms. Lausten reported that some site improvements were completed in 2021, and she provided information on the improvements that will be completed in this phase of the project. Ms. Lausten stated that staff is looking at cost-saving measures wherever possible.

3. Saddle Crest Development Update

Mr. Paludi reported that the Saddle Crest agreement has been signed, and he stated that District staff will be recommending acceptance of on-site and off-site facilities and releasing developer bonds. Mr. Paludi stated that staff will bring this item to the Board for acceptance of on-site water and sewer facilities in the coming months.

4. Oaks at Trabuco Development Update

Mr. Paludi reported that the developer would like the District to take ownership and run the on-site wastewater treatment package plant for the development. Mr. Paludi stated that the District will be looking into creating an associated rate for the costs of running the plant. Mr. Paludi added that staff currently pumps sewage out of the wet well several times a month, and that the District will continue to do so if analysis proves this to be a more cost-effective option.

5. Saddleback Meadows Development Update

Mr. Paludi reported that Trumark (developer) is in negotiations with California Quartet, and he stated that Trumark has issues with the processing agreement in place. Mr. Paludi stated that the District has not engaged with the developer yet, and that additional deposits have been requested as per the agreement. Ms. Lausten added that the third plan check is complete.

6. Other Projects

Summer Supply & Demand – Mr. Paludi reported that staff met with Irvine Ranch Water District (IRWD) and Santa Margarita Water District (SMWD) to discuss a strategy for evaluating whether IRWD and SMWD will be able to meet TCWD's demands in the summer months. Mr. Paludi stated that staff is looking at the hydraulic model to determine which interconnections will allow a balance of flow. Director Acosta requested that staff provide water supply updates to the Committee in the coming months.

RECOMMENDATION: None – Informational item only.

ITEM 6: WATER SYSTEM UPDATES

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

1. Repaired Live Oak line break at the Harris Grade Entrance.
2. Assisted Meter Department with curb stop change out in Portola Hills.
3. Repaired service line break on Trabuco Oaks.
4. Serviced and rebuilt high pressure blow off on Live Oak Canyon Road.
5. Serviced and repaired flow control valve at Plano Trabuco Lift Station.
6. Serviced 12 valves in Trabuco Canyon area.

Mr. Kessler presented the Water System Summary for Committee review, and he noted that the report would reflect July's data at next month's meeting. Director Acosta inquired whether the Portola Hills area has any issues with line breaks. Mr. Kessler explained that the District does not have a history of frequent line breaks in its service area in the Portola Hills community.

**TRABUCO CANYON WATER DISTRICT
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RECOMMENDATION: None – Informational item only.

ITEM 7: WASTEWATER SYSTEM UPDATES

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

1. Installed and tested a new flow meter at Shadow Rock Dry Season Recovery Pump Station.
2. Completed quarterly F.O.G. (Fats, Oil, and Grease) inspections throughout District.
3. Replaced 6" check and isolation valves at Via Alegre Lift Station.
4. Installed 2 new submersible pumps at Via Alegre Lift Station.
5. Replaced two 6" check valves at Barneburg Lift Station.

Mr. Perea presented the Recycled Water System Summary for Committee review, and he noted that the report would reflect July's data at next month's meeting. Mr. Perea reported that Dove Lake was full and that Dove/Tick Creek was offline.

Mr. Perea reported that one of the Hoffman blowers at the Wastewater Treatment Plant died the previous day, and as a result, the plant was operating at half flow. Mr. Perea reported that Mr. Ulloa and his team were working to replace the blower that day to bring the WWTP back online.

Discussion occurred regarding the efficiency of Dove Canyon Country Club's grease interceptor (trap) and the District's communications to management, suggesting improvements in order to protect the District's sanitary sewer system.

RECOMMENDATION: None – Informational item only.

ITEM 8: 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. Ridgeline BPS emergency gen alarm callout due to low coolant.
2. Saddle Crest emergency gen PM's scheduled: fuel sampling and polishing.

Wastewater Operations

1. Assist Wastewater with upgrades to Via LS dry pit valve replacement, bypass "T" on discharge of pump, two new submersibles installed. Hydrotech Electric onsite for wire landing and conduit repairs. Bypass pump disassembled and removed.
2. JES onsite below reclaim reservoir dam for V-Ditch project.
3. El Toro surge tank repairs underway.

District Fleet Upgrades & Other Projects

1. Started skip loader hydraulic ram rebuilds.
2. Received TCWD's mobile emergency diesel generator from repair shop (Duthie Power).
3. BIT program started.
4. Tony attended a VFD seminar at BBK Electric.

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- 5. Tony attended Electric Fleet seminar at Anaheim Stadium.
- 6. Attended WEROC tabletop exercise.

RECOMMENDATION: None – Informational item only.

ITEM 9: OTHER MATTERS/REPORTS

Mr. Perea reported that a 1.5-acre brush fire broke out the previous week and that no water from our system was used in the firefighting efforts.

Mr. Serpas provided the Committee with an updated monthly CMMS status report for their review. Mr. Perea noted that Mr. Serpas worked with Open Gov to reorganize all facility groupings within the system to provide this comprehensive report.

RECOMMENDATION: None

ADJOURNMENT

Director Anderson adjourned the July 2, 2025 Engineering/Operational Committee Meeting at 9:10 a.m.

DRAFT

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | AUGUST 6, 2025**

ENGINEERING MATTERS

ITEM 2: DIMENSION WATER TREATMENT PLANT TRANSMISSION MAIN & FILTER 4 REHABILITATION UPDATE

Background

Trabuco Canyon Water District (District) owns and operates the Dimension Water Treatment Plant (DWTP) in the City of Lake Forest. DWTP is a valuable asset to the District as it is one of the only local drinking water treatment facilities of its kind in Orange County with the capacity to serve all District customers. DWTP can process up to six cubic feet per second (cfs) of untreated water from Metropolitan Water District (MWD). Treated water leaving DWTP is pumped to the District’s service area via a 4-mile, 16” transmission pipeline (Transmission Main). Although the Transmission Main was originally constructed in 1964, some portions have been replaced as part of road improvement projects, residential development, and overall system upgrades and repairs. The Transmission Main operates under high pressure and several major breaks in the pipeline occurred between the months of August-November 2024. Consequently, the Transmission Main has been taken out of service and the District has relied on contractual interconnections with neighboring districts for water supply at a substantially higher cost and with no guarantee of reliability.

Project Status

Staff have worked with their consulting engineers, Hazen and Sawyer (Hazen), to develop a repair plan focused on the most appropriate and effective construction methods to rehabilitate the Transmission Main. Exhibit 1 shows the first phase (1A and 1B) which will repair/replace the most vulnerable 12,500 linear feet (LF) to restore water service as soon as possible. At the June 18, 2025 Regular Board of Directors meeting, Phase 1A and 1B was awarded to TE Roberts for an amount of \$1,793,012 and \$3,721,445, respectively. An updated schedule of completed and planned tasks is included below:

Transmission Main Pipeline Rehabilitation Project Schedule				
Item No.	Task/Item Description	Agency/Consultant/ Contractor	Completion Date	Estimated Completion Date
1	Source of Supply Ad Hoc Committee Meeting Kick - Off	Staff	1/28/2025	
2	Rehabilitation Investigation and Engineering Design	Hazen	1/29/2025	
3	Geotechnical Investigation	GMU	4/8/2025	
4	ROW, Easements and Property Owner Investigation	KDM	4/14/2025	
5	Soil Boring Permits	City of Mission Viejo & County of Orange	5/9/2025	
6	Plans and Bid Documents Completed. Bids Solicitated for Pipeline Repair/Replacement	Hazen	5/15/2025	
7	Soil Borings Completed	GMU	5/16/2025	
8	Pipeline Pre-Bid Construction Meeting	Staff	5/21/2025	
9	Geotechnical Report Completed	GMU	5/23/2025	
10	E/O Committee Meeting - Committee review	Staff	6/4/2025	
11	Pipeline Bids Due	Staff	6/11/2025	
12	Ad Hoc Committee Meeting - Committee review	Staff	6/16/2025	
13	Regular Board Meeting - Award Project		6/18/2025	
14	Executed Contract Sent to Contractor		7/21/2025	
15	Submittals/Permitting	TE Roberts/Staff		8/21/2025
16	Material Procurement (Concurrent with Submittals)	TE Roberts		9/21/2025
17	Phase 1A - Video, Clean Pipe, Install Liner, Pipeline Connections (30 Days-2 crews)	TE Roberts/Staff		10/21/2025
18	Phase 1B - Install Pipeline/Pipe Bursting (60 Days-2 crews)	TE Roberts/Staff		11/21/2025

The second phase will repair/replace an additional 4,500 LF of pipeline and will be completed within 24 months following Phase I, during periods when water demands are low. Staff is in the design phase of Phase 2 of the Transmission Main rehabilitation, subject to analysis of alternatives and construction methods.

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In addition to the Pipeline Rehabilitation, Staff worked with their consulting Engineers, Arcon Structural, to prepare structural calculation and plans for the seismic retrofit to the DWTP Filter 4 Tank. At the July 16, 2025 Regular Board of Directors meeting, the Filter 4 Rehabilitation was awarded to SS Mechanical Construction Corp. in the amount of \$48,910. An updated schedule of completed and planned tasks is included below:

Dimension Water Treatment Plant Filter 4 Rehabilitation Project Schedule				
Item No.	Task/Item Description	Agency/Consultant/ Contractor	Completion Date	Estimated Completion Date
1	Structural Repair on DWTP Filter 4	Arcon	3/25/2025	
2	Structural Plans and Calcs Completed for Filter 4 Repair	Arcon	5/12/2025	
3	Bids Solicitated for Structural Repairs	Staff	5/28/2025	
4	DWTP Filter Bids Received	Staff	6/24/2025	
5	Regular Board Meeting - Award Project		6/18/2025	
6	Executed Contract Sent to Contractor	Staff	7/21/2025	
7	Pre-Construction Meeting	SS Mechanical & Staff	7/28/2025	
8	Submittals (15 days)	Arcon & Staff		8/12/2025
9	Construction	SS Mechanical/CM		8/29/2025

FUNDING SOURCE:

Capital Improvement Program

FISCAL IMPACT:

The Fiscal Impact for Phase I of the Transmission Main Rehabilitation and the Filter Repair is \$5,563,367 for construction only. The estimated cost to date of engineering support, including constructability analysis, design, geotechnical, and survey is \$200,000. In addition, staff issued a Request for Proposals for Construction Management and Inspection Services, which is due on August 14, 2025.

The Fiscal Year 2025-26 CIP Budget total for Phase 1 of this project is \$7,000,000.

ENVIRONMENTAL COMPLIANCE:

Notice of Exemption was filed on July 15, 2025

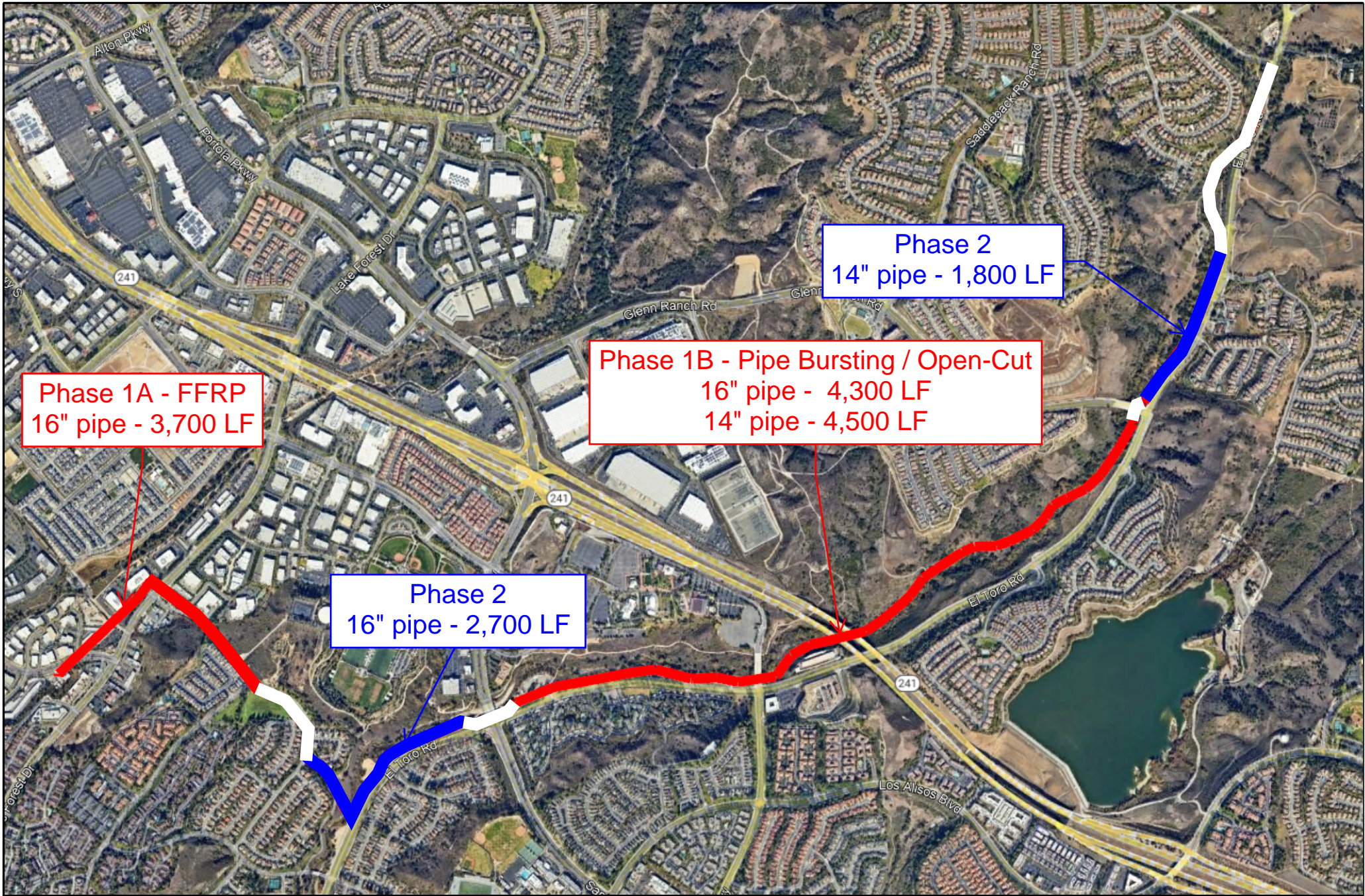
RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

EXHIBIT(S):

1. Project Phasing Exhibit
2. [Structural Retrofit Plans](#)

CONTACTS (staff responsible): LAUSTEN/PALUDI



Hazen



Figure X-X: Project Phase 1 and Phase 2

March 2025

GENERAL:

1. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB SITE AND REPORT ANY ERRORS, OMISSIONS, OR POSSIBLE DISCREPANCIES BETWEEN FIELD CONDITIONS AND DRAWINGS TO THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. SPECIAL CARE SHALL BE GIVEN TO SITE AND BUILDING LAYOUT THEREON.
2. NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES.
3. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE 2022 CALIFORNIA BUILDING CODE AND THE LOCAL BUILDING OFFICIAL.
4. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD CLIENT AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF CLIENT OR THE ENGINEER.
5. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKERS AND PEDESTRIANS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, TEMPORARY STRUCTURES, AND PARTIALLY COMPLETED WORK, ETC. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT/ENGINEER SHALL NOT INCLUDE INSPECTION OF SUCH ITEMS.
6. THE DESIGN, ADEQUACY AND SAFETY OF ERECTION, BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND HAS NOT BEEN CONSIDERED BY THE STRUCTURAL ENGINEER.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING PIPING WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT IN CONJUNCTION WITH PROSECUTION OF THIS WORK.
8. ALL DETAIL CALLOUTS AS SHOWN ON THE DRAWINGS, SECTIONS AND ELEVATIONS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER REFERENCED OR NOT. TYPICAL DETAILS AND NOTES SHALL APPLY UNLESS SHOWN OTHERWISE IN DRAWINGS.
9. DESIGN LOADS:
 FILTER TANK 33,000 LBS
 OPERATING WEIGHT 407,000 LBS
 RISK CATEGORY: IV
EARTHQUAKE
 SEISMIC IMPORTANCE FACTOR I = 1.5
 $S_s = 1.267 g$
 $S_1 = 0.452 g$
 SITE CLASS : D (DEFAULT)
 $S_{DS} = 1.01 g$
 $S_{D1} = 0.56 g$
10. NO CHANGES SHALL BE MADE TO THESE DRAWINGS WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.

11. A REGISTERED DEPUTY INSPECTOR LISTED, APPROVED BY, AND RESPONSIBLE TO THE TRABUCO CANYON WATER DISTRICT AND THE ENGINEER SHALL BE EMPLOYED BY THE DISTRICT DURING THE CONSTRUCTION OF THE FOLLOWING TASKS OF WORK:

VERIFICATION AND INSPECTION TASK	SPECIAL INSPECTION
EPOXY ANCHORS TO FOOTINGS	PERIODIC INSPECTION

12. OPTIONS, IF PROVIDED HEREIN, ARE FOR THE CONTRACTOR'S CONVENIENCE. HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY, SHALL COORDINATE ALL DETAILS, SHALL OBTAIN ALL REQUIRED APPROVALS, AND PAY ALL COSTS INCIDENT THERETO.

REINFORCED CONCRETE:

1. EPOXY ANCHORS SHALL BE INSTALLED W/ SPECIAL INSPECTION W/ HILTI HIT-HY 200 ADHESIVE, IN ACCORDANCE W/ ICC-ES REPORT No. ESR-4868, OR APPROVED EQUAL (ANCHORS EXPOSED TO WEATHER SHALL BE GALVANIZED OR STAINLESS STEEL 316).

STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 OR UNLESS OTHERWISE NOTED.
2. ANCHOR BOLTS SHALL CONFORM TO F1554 GRADE 55 UNLESS NOTED OTHERWISE.
3. HIGH STRENGTH FASTENERS SHALL CONFORM TO ASTM A325N UNLESS NOTED OTHERWISE.
4. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE "AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
5. ALL STRUCTURAL STEEL MUST BE SUPPLIED BY A CITY OF LAKE FOREST APPROVED FABRICATOR SHOP AND ALL WELDING PERFORMED ON SITE SHALL BE DONE IN THE PRESENCE OF A CITY OF LAKE FOREST APPROVED SPECIAL INSPECTOR (CBC SECTIONS 1704.2 & 1704.3). A CERTIFICATE OF COMPLIANCE FROM THE SHOP PERFORMING THE FABRICATION SHALL BE SUBMITTED BY THE CONTRACTOR TO THE BUILDING INSPECTOR PRIOR THE ERECTION OF THE STRUCTURAL STEEL.

JN 202500.03

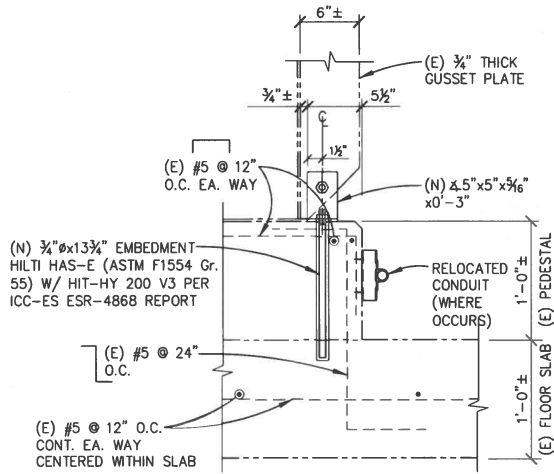


TRABUCO CANYON WATER DISTRICT
 CANADA FILTER UNIT No. 4 EVALUATION
 20904 DIMENSION DR. LAKE FOREST, CA

STRUCTURAL NOTES

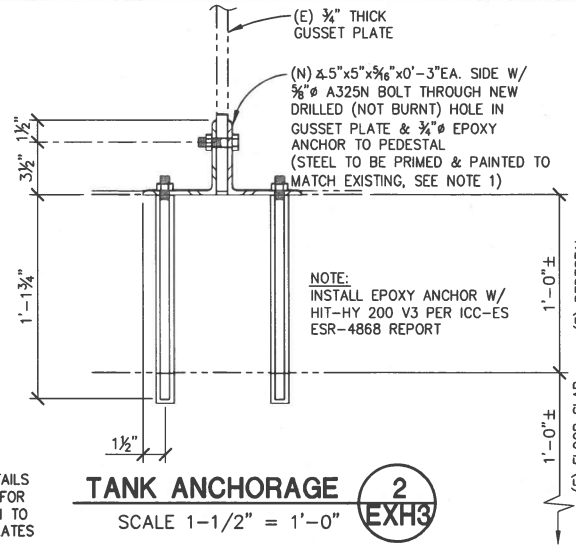
EXHIBIT NO.

1



TANK ANCHORAGE 1
SCALE 1" = 1'-0"
EXH3

NOTE:
SEE ALTERNATE DETAILS
3/EXH3 & 4/EXH3 FOR
WELDED CONNECTION TO
EXISTING GUSSET PLATES



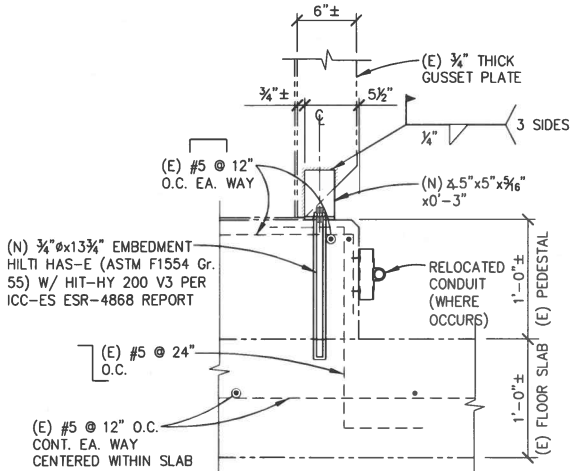
TANK ANCHORAGE 2
SCALE 1-1/2" = 1'-0"
EXH3

LEGEND:

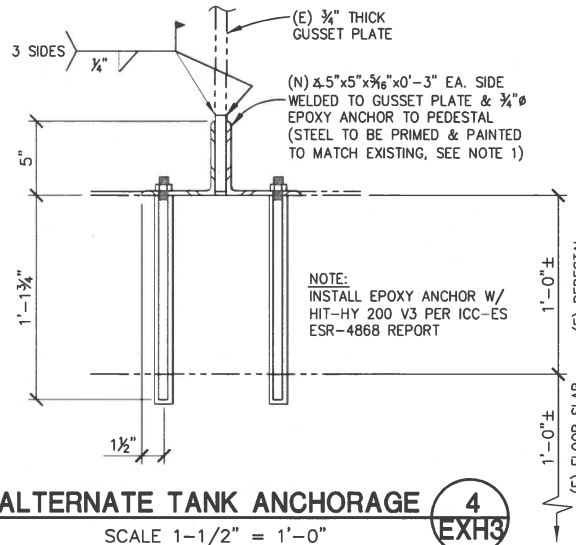
- (E) --- INDICATES EXISTING CONSTRUCTION
- (N) --- INDICATES NEW CONSTRUCTION

NOTES:

1. FOR PAINTING AND COATING REFER TO TRABUCO CANYON WATER DISTRICT SPECIFICATION 09900, PART 2, SECTION E, SUBSECTION 1, SYSTEM No. C-1 - "EXPOSED METAL."



ALTERNATE TANK ANCHORAGE 3
SCALE 1" = 1'-0"
EXH3



ALTERNATE TANK ANCHORAGE 4
SCALE 1-1/2" = 1'-0"
EXH3



JN 202500.03

 ARCON STRUCTURAL ENGINEERS, INC. <small>22501 GILBERTO, SUITE E • RANCHO SANTA MARGARITA, CA 92688 (949) 708-8122 • FAX: (949) 708-1701</small>	 TRABUCO CANYON WATER DISTRICT	TRABUCO CANYON WATER DISTRICT CANADA FILTER UNIT No. 4 EVALUATION 20904 DIMENSION DR. LAKE FOREST, CA	EXHIBIT NO. 3
STRUCTURAL DETAILS			

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | AUGUST 6, 2025**

ENGINEERING MATTERS

ITEM 3: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Heritage SLS Improvements
2. Saddle Crest Reservoir/Pump Station Piping Improvements
3. RRWWTP Blower Equipment Station and Blower Relocation
4. Other Projects

RECOMMENDED ACTION:

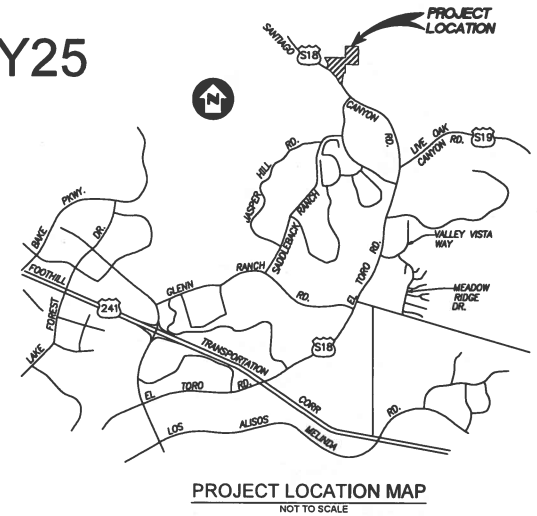
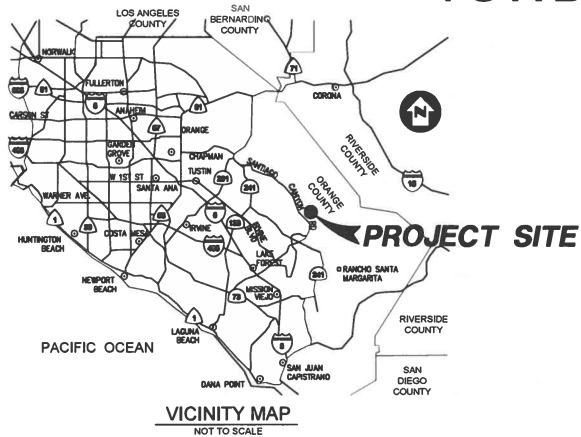
Committee to receive project status updates at the time of the Committee Meeting.

EXHIBIT(S):

1. Saddle Crest Piping Plans

CONTACTS (staff responsible): PALUDI/LAUSTEN

SADDLECREST RESERVOIR INLET PIPELINE IMPROVEMENT PLANS FOR TRACT 17388 TCWD PROJECT NO. PW-38-FY25



JULY 2025

SHEET	DESCRIPTION
SHEET 1	T-1 TITLE SHEET / VICINITY MAP / LOCATION MAP / LIST OF DRAWINGS
SHEET 2	G-1 GENERAL NOTES / ABBREVIATIONS
SHEET 3	C-4 APPURTENANCES LAYOUT
SHEET 4	M-1 INLET & OUTLET PIPING PLAN AND SECTIONS
SHEET 5	M-2 OUTLET PIPING PLAN SECTION & DETAILS



PREPARED BY:
MKN & ASSOCIATES



PROJECT MANAGER:

Kathleen Hong
KATHLEEN HONG P.E.
(EXPIRES: 09/30/2026)

7/23/2025

R.O.E. 90856 DATE

APPROVED:
TRABUCO CANYON WATER DISTRICT

Lorraine S. Lausten 7/23/25
LORRAINE S. LAUSTEN R.C.E. 67027 DATE
ENGINEER

NO.	DATE	REVISIONS	APPROVED

GENERAL NOTES:

- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO BID.
- ADVERTISING SIGNS ARE NOT ALLOWED IN THE STREET RIGHT OF WAY.
- WORK SHOWN OR INDICATED ON THESE PLANS, OR CALLED FOR IN THE SPECIFICATIONS, BUT NOT INCLUDED AS PAY QUANTITY ITEMS SHALL BE CONSIDERED INCIDENTAL WORK-COST OF WHICH SHALL BE INCLUDED IN THE CONTRACTOR'S BID FOR PAY QUANTITY ITEMS. NO ADDITIONAL COMPENSATION SHALL BE CONSIDERED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING UTILITIES, PAVEMENT, CURBS, TRAFFIC STRIPPING AND MARKINGS, TRAFFIC DETECTOR LOOPS, STRUCTURES, TREES, LANDSCAPING AND IRRIGATION SYSTEMS, AS A RESULT OF HIS OPERATIONS, AND WILL BE REQUIRED TO REPAIR OR REPLACE SAME TO THE SATISFACTION OF, AND AS DIRECTED BY, THE DISTRICT OR UTILITY COMPANY.
- REFER TO SPECIFICATIONS FOR TRAFFIC CONTROL, LENGTH OF OPEN TRENCH, BACKFILL, AND REPAIRING REQUIREMENTS.
- TRENCH COMPACTOR AND SUBGRADE COMPACTION TEST SHALL BE PERFORMED BY A LABORATORY RETAINED BY THE CONTRACTOR. THE RESULTS OF ALL TESTING SHALL BE SUBMITTED TO THE TRABUCO CANYON WATER DISTRICT FOR REVIEW. COMPACTION TEST SHALL CONFORM TO SECTION 211-2.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- THE WORK SITE AND EXISTING STREETS SHALL BE MAINTAINED IN A NEAT, CLEAN, HAZARD FREE, ORDERLY STATE THROUGHOUT CONSTRUCTION. THE SITE SHALL BE CLEANED DAILY UPON REQUEST OF THE DISTRICT. THE CONTRACTOR SHALL MAINTAIN TRAFFIC, AND REMOVE OR OFF THE PROJECT SITE. ALL EXCESS EXCAVATED MATERIAL AND CONSTRUCTION DEBRIS. ALL DISPOSALS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- ALL CONSTRUCTION SURVEYS FOR THIS PROJECT SHALL BE PROVIDED BY THE CONTRACTOR AT HIS EXPENSE. SURVEY POINTS DESTROYED AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR FAILURE TO PROVIDE PROPER PROTECTION, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL NOTIFY ALL AGENCIES AND UTILITY OWNERS PRIOR TO ANTICIPATED CONSTRUCTION IN AREAS WHERE THEIR FACILITIES MAY BE AFFECTED.
- THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS OBTAINED FROM A SEARCH OF EXISTING RECORDS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY RESPECTIVE UTILITIES AND UNDERGROUND SERVICE ALERTS OF SOUTHERN CALIFORNIA (800) 422-4133 TO DETERMINE THE EXACT FIELD LOCATION OF UTILITIES WHICH MAY CONFLICT WITH HIS WORK. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES FAR ENOUGH IN ADVANCE OF PIPE LAYING OPERATIONS TO MAKE NECESSARY ADJUSTMENTS IN GRADE TO CLEAR THESE UTILITIES.
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND TAKE ALL STEPS NECESSARY TO AVOID CONTACT WITH SUCH WHICH MAY RESULT IN PERSONAL INJURY OR DAMAGE TO FACILITIES. THE FINAL DETERMINATION OF EXACT LOCATIONS, AND THE COST OF REPAIR TO DAMAGED FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES INCLUDING SHORING, AND BE RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY HEALTH STANDARDS, LAWS, AND REGULATIONS.
- NO CONNECTION SHALL BE MADE TO ANY EXISTING WATER FACILITY WITHOUT SCHEDULING THROUGH TRABUCO CANYON WATER DISTRICT.
- CONTRACTOR SHALL COORDINATE ACCESS ON ALL PAVED AND UNPAVED ROADS.
- AFTER THE PRESSURE-STRENGTH TEST IS SUCCESSFULLY PASSED, ALL THE WATERMANS SHALL BE CHLORINATED (50 PPM MINIMUM) AND FLUSHED BY THE CONTRACTOR AND SHALL PASS A BACTERIA TEST CONDUCTED BY AND TO THE SATISFACTION OF THE DISTRICT. THE DISTRICT SHALL BE NOTIFIED A MINIMUM OF 24 HOURS PRIOR TO NEED FOR BACTERIA TEST. COST FOR THIS TESTING SHALL BE BORNE BY THE CONTRACTOR.
- SUPERVISION FOR INSTALLATION, START-UP, AND TESTING SHALL BE PROVIDED BY MANUFACTURERS REPRESENTATIVES AS PART OF THE EQUIPMENT PURCHASE CONTRACT.
- CONTRACTOR SHALL CONTACT THE TRABUCO CANYON WATER DISTRICT A MINIMUM OF TWO WEEKS PRIOR TO WORK FOR ASSISTANCE IN THE SHUT DOWN OF EXISTING WATER MAINS.
- CONNECTION TO EXISTING PIPELINES SHALL BE COMPLETED ONLY AFTER DISINFECTION, TESTING OF NEW PIPING FACILITIES IS COMPLETE.
- SURPLUS MATERIAL WHICH IS NOT SUITABLE FOR USE ON THIS PROJECT SHALL BECOME PROPERTY OF THE CONTRACTOR, AND SHALL BE DISPOSED OF AT A LEGAL DISPOSAL SITE AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR IS TO MAINTAIN AND PROVIDE THE DISTRICT WITH A SET OF AS-BUILT DRAWINGS AT THE COMPLETION OF ALL WORK.

WATER SYSTEM NOTES:

- THE WATER SYSTEM AS SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TRABUCO CANYON WATER DISTRICT'S STANDARD SPECIFICATIONS ("STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (GREEN BOOK), AS LATEST REVISED), AND "STANDARD SPECIAL PROVISIONS AND STANDARD DRAWINGS FOR WATER AND SEWER CONSTRUCTION." THE CONTRACTOR SHALL HAVE A COPY OF EACH OF THESE STANDARDS, AS WELL AS A COPY OF THE PROJECT PLANS AND SPECIFICATIONS, ON THE JOB AT ALL TIMES.
- THE DISTRICT SHALL BE FURNISHED WITH SIX COPIES OF APPROVED CONSTRUCTION PLANS PRIOR TO THE START OF CONSTRUCTION.
- THE DISTRICT INSPECTOR SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION AND ANY SUBSEQUENT REQUIRED INSPECTION. PHONE (949) 858-0277 TO ARRANGE FOR INSPECTION.
- A PRECONSTRUCTION CONFERENCE WITH REPRESENTATIVES FROM ALL AFFECTED AGENCIES AND THE CONTRACTOR SHALL BE HELD ON THE JOB SITE AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL OBTAIN ALL CITY AND/OR COUNTY PERMITS PRIOR TO THE START OF CONSTRUCTION.
- WATER MAINS SHALL BE STAKED FOR LINE AND GRADE OR SHALL BE INSTALLED SUBSEQUENT TO THE INSTALLATION OF THE CURBS BUT PRIOR TO PAVING OF THE STREETS. THE MINIMUM COVER OVER DOMESTIC WATER MAINS SHALL BE 42 INCHES BELOW PAVEMENT FINISHED GRADE.
- NO VALVE SHALL BE LOCATED WITHIN A DUTTER OR OTHER CONCRETE DRAINAGE DEVICES.
- ALL FIRE HYDRANTS SHALL BE INSTALLED PER THE DISTRICT'S STANDARD DRAWINGS.
- ALL EXPOSED BURIED METAL APPURTENANCES IN CONTACT WITH THE SOIL OR WATER, INCLUDING PIPE, FLANGES, NUTS, BOLTS, VALVES, COUPLINGS, ETC., SHALL BE GIVEN TWO (2) COATS OF DEURAP 1425 PROTECTIVE COATING, OR EQUAL.
- NO FACILITY IS TO BE BACKFILLED UNTIL INSPECTED BY THE DISTRICT.
- SHUT DOWN OF EXISTING WATERLINES TO FACILITATE CONNECTION TO EXISTING FACILITIES SHALL BE COORDINATED WITH THE DISTRICT INSPECTOR. NO CONNECTIONS TO THE DISTRICT'S EXISTING WATER SYSTEM SHALL BE MADE UNTIL THE NEW FACILITIES HAVE BEEN SUCCESSFULLY TESTED AND DISINPECTED. ALL CONNECTIONS TO THE DISTRICT'S WATER SYSTEM SHALL BE MADE IN THE PRESENCE OF THE DISTRICT INSPECTOR.
- ALL BURIED BOLTS, ANCHOR BOLTS AND NUTS SHALL BE TYPE 316 STAINLESS STEEL AND SHALL BE COATED WITH DEURAP 1425 OR APPROVED EQUAL.

- THE CONTRACTOR SHALL RAISE ALL VALVE BOXES TO THE FINISHED PAVEMENT GRADE UPON COMPLETION OF THE PAVEMENT.
 - AFTER THE BASE COURSE OF PAVEMENT IS COMPLETED, THE CONTRACTOR SHALL RAISE THE VALVE BOXES TO THE FINISHED GRADE OF THE BASE COURSE SO THAT THE DISTRICT MAY OPERATE THE VALVES. THE DEVELOPER SHALL THEN RAISE ALL VALVE BOXES TO FINAL FINISHED GRADE OF THE PAVEMENT UPON COMPLETION OF THE SURFACE COURSE OF PAVEMENT. THE REQUIRED RAISING OF VALVE BOXES TO THE FINISHED GRADE OF THE BASE COURSE OF PAVEMENT WILL BE DETERMINED AND SPECIFIED BY THE DISTRICT.
 - BACKFLOW PREVENTERS APPROVED BY THE USC FOUNDATION FOR CROSS CONNECTION CONTROL ARE THE ONLY BACKFLOW PREVENTER DEVICES ACCEPTABLE FOR USE IN THE DISTRICT. THE DISTRICT'S CROSS CONNECTION INSPECTOR SHALL BE NOTIFIED PRIOR TO INSTALLATION OF BACKFLOW DEVICE AT (949) 858-0277.
 - IRRIGATION SYSTEMS MUST COMPLY WITH THE DISTRICT'S RULES AND REGULATIONS FOR NONDOMESTIC WATER SERVICE.
- PRIVATE ENGINEER NOTE TO CONTRACTOR:**
- UNAUTHORIZED CHANGES & USES: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USE OF THESE PLANS. ALL CHANGES TO THE PLAN MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.
 - HOLD HARMLESS INDEMNIFICATION CLAUSE: THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT, THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE TRABUCO CANYON WATER DISTRICT, THE OWNER, AND THE PRIVATE ENGINEER HARMLESS FOR ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
 - EXISTING UNDERGROUND STRUCTURES: ALL UNDERGROUND UTILITIES OR STRUCTURES, REPORTED OR FOUND ON PUBLIC RECORDS, ARE INDICATED WITH THEIR APPROXIMATE LOCATION AND EXIST. THE OWNER BY ACCEPTING THESE PLANS OR PROCEEDING WITH THE IMPROVEMENTS HEREON, AGREES TO ASSUME LIABILITY AND TO HOLD THE ENGINEER HARMLESS FOR ANY DAMAGES RESULTING FROM THE EXISTENCE OF UNDERGROUND UTILITIES OR STRUCTURES NOT REPORTED OR INDICATED ON PUBLIC RECORDS, OR THOSE CONSTRUCTED AT VARIANCE WITH REPORTED OR RECORD LOCATION. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES SHOWN AND ANY OTHERS FOUND AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF ALL UTILITIES STRUCTURES CONCERNED BEFORE STARTING WORK.
 - NOTE TO CONTRACTOR: CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

LEGEND OF ABBREVIATIONS

- A.C. ASPHALT CONCRETE
- B.C. BECON CURVE
- CL. CLASS
- CALB.C. CEMENT MORTAR UNED AND COATED
- CALB.C.C. CEMENT MORTAR UNED AND EPOXY COATED
- CAL.C. CEMENT MORTAR UNED
- CONC. CONCRETE
- DI. DIAMETER
- DIA. DIAMETER
- DOM. DOMESTIC
- DWT. DUTTER
- E. END CURVE
- FL. FLANGE
- FLC. FLANGED
- FS. FINISHED SURFACE
- GR. GRADE BREAK
- GE. GROUDED END
- HPI. HIGH POINT
- HML. HIGH WATER LINE
- HW. HIGH WATER
- LF. LINEAR FEET
- MG. MALLOW GALLOW
- MN. MANHOLE
- MW. METER
- MJ. MECHANICAL JOINT
- N. NORTH
- NOR/NOR/STANG. NORTH/NORTH/STANG.
- NO. NUMBER
- P.S. PUMP STATION
- PLAN END
- R/W. RIGHT OF WAY
- REP. REINFORCED CONCRETE PIPE
- ROAD. ROAD
- SPEC. SPECIFICATION
- STA. STATION
- STD. STANDARD
- TYP. TYPICAL
- W. WEST

LEGEND OF SYMBOLS

- CENTERLINE
- ⊕ FIRE HYDRANT PROPOSED/EXISTING
- ⊕ GATE VALVE PROPOSED/EXISTING
- PROPOSED WATERLINE
- SEWER MANHOLE
- DARTLINE LINE
- XXX XX XX TITLE OF DETAIL OR SECTION
- SHEET THAT REFERENCES DETAIL OR SECTION

CONSTRUCTION NOTES:

- 12" ELACB STEEL SPOOL, FE x FE TRENCH & BEDDING PER TCWD STD. DWG. W-20
- REPLACE EXISTING CHECK VALVE WITH 12" ELACB STEEL SPOOL, FE x FE
- 12" ELACB STEEL, BUND FLANGE
- 12" RESTRAINED FLANGE ADAPTER, EBA8 IRON SERIES 2112, OR EQUAL
- 8" SWING CHECK VALVE LEVER AND HEIGHT TYPE, DEURAP APCO CVS-8000 OR EQUAL
- 8" WELD ON STEEL CLASS D FLANGE
- 12" EL & CMC STEEL 90° BEND, FE x FE
- 12" DI. 22.5° BEND, MJ & MJ W/ RESTRAINED JOINTS EBA8 IRON METALLURGY SERIES 2012P
- 12" DI. 45° BEND, MJ & MJ W/ RESTRAINED JOINTS EBA8 IRON METALLURGY SERIES 2012P
- 12" PVC CS200, OR 14" WITH RESTRAINED JOINTS, TRENCH & BEDDING PER TCWD STD. DWG. W-20
- 12" DI. 11.25° BEND, MJ & MJ W/ RESTRAINED JOINTS EBA8 IRON METALLURGY SERIES 2012P
- 12" DI. 11.25° BEND, FE x FE
- 12" BUTTERFLY VALVE (FEET) WITH VALVE STEM AND BOX ASSEMBLY PER TCWD STD. DWG. W-25
- 12" DI. TEE (CUT-IN), FC
- 12" DI. 11.25° BEND, FE x MJ
- INSULATING FLANGE KIT PER DETAIL 3 ON DWG. W-4
- INSTALL ADJUSTABLE PIPE SUPPORT PER TCWD STD. DWG. W-18
- 8" ELACB STEEL SPOOL, FE x FE
- 12" MJ & FLC ADAPTER, EBA8 IRON SERIES 2100 OR EQUAL

BASIS OF BEARINGS:

THE BEARINGS SHOWN HEREON ARE BASED ON THE BEARING BETWEEN O.C.S HORIZONTAL CONTROL STATION CDS NO. 2560 AND STATION GPS NO. 2568 BEING NORTH 47° 1' 23" EAST PER RECORDS ON FILE IN THE OFFICE OF THE ORANGE COUNTY SURVEYOR

BENCHMARK:

ORANGE COUNTY SURVEYOR BENCHMARK NO. 30-163-04
ELEVATION = 1120.921 DATUM NAVD 29 YEAR 2004
DESCRIPTION:
3 1/4" OCS ALUMINUM BENCHMARK DISK STAMPED "30-163-04" SET IN THE SOUTHWESTERLY CORNER OF A 4 FT BY 22 FT CONCRETE GATE VALVE MONUMENT IS LOCATED IN THE NORTHEASTLY CORNER OF THE CENTERLINE OF SANTRAGO CANYON ROAD AND CRYSTAL CANYON ROAD 118 FT NORTHERLY OF THE CENTERLINE OF SANTRAGO CANYON ROAD AND 21 FT EASTERLY OF THE CENTERLINE OF CRYSTAL CANYON ROAD MONUMENT IS SET LEVEL WITH THE TOP OF THE CATCH BASIN



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

NO.	DATE	REVISIONS	APPROVED	DES. GNT.
				DRAINING
				CH
		CHECKED:		KS



PREPARED UNDER THE SUPERVISION OF

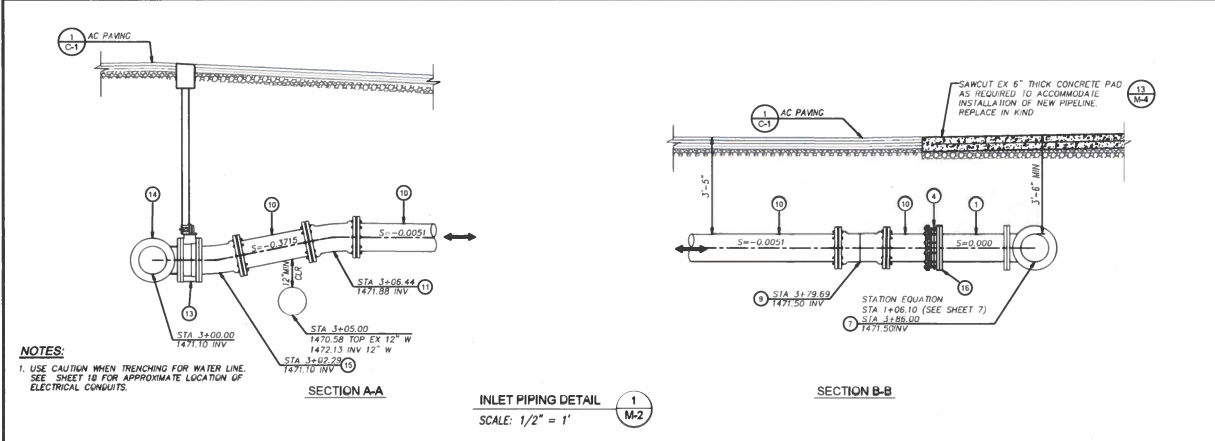


SADDELCREST RESERVOIR INLET PIPELINE IMPROVEMENT PLANS
FOR TRACT 17388
TCWD PROJECT NO. PW-38-FY25

CIVIL ENGINEERING FIRM
mkn
1810 BAKE PARKWAY
IRVINE, CA 92618
(949) 837-8868

GENERAL NOTES / ABBREVIATIONS

SHEET NO. **2**
OF 5 SHEETS
DATE: 11/20/24
G-1

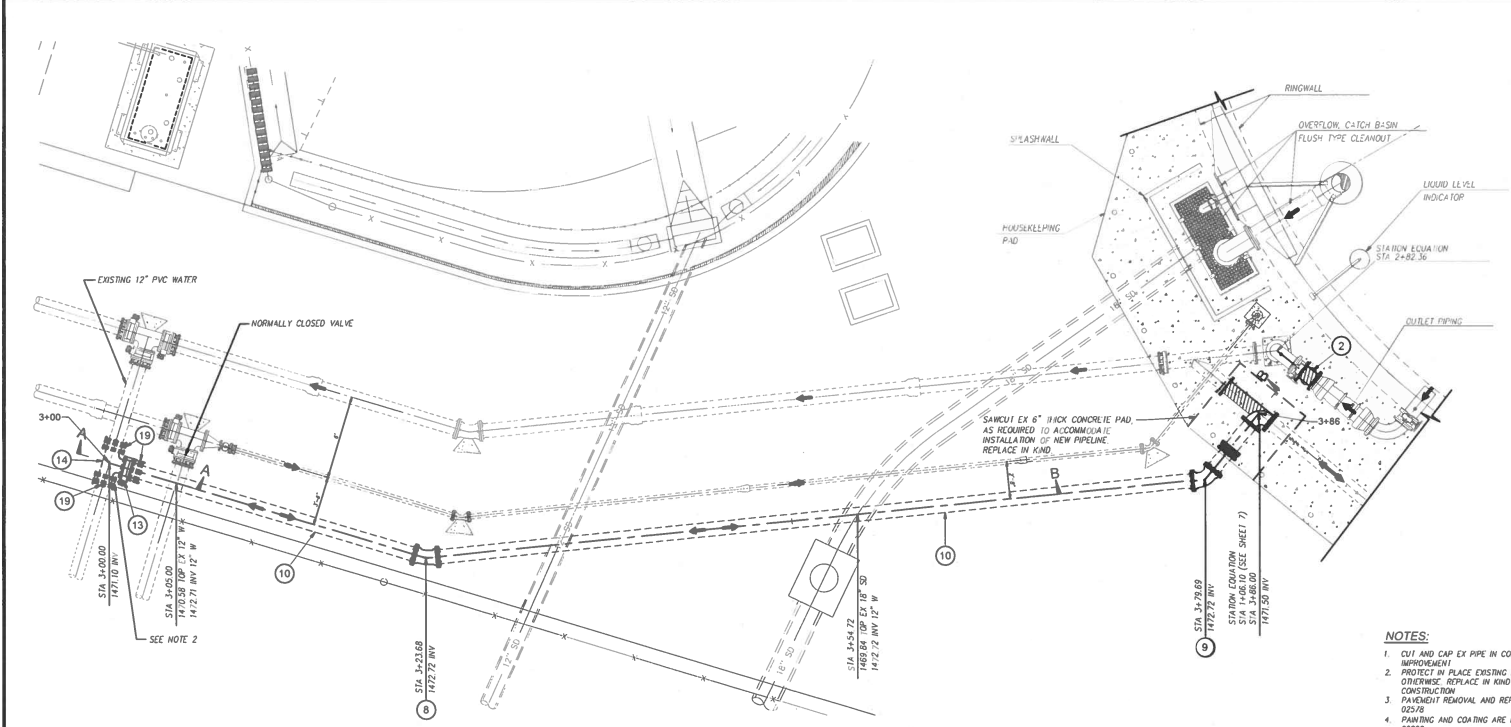


NOTES:
 1. USE CAUTION WHEN TRENCHING FOR WATER LINE. SEE SHEET 10 FOR APPROXIMATE LOCATION OF ELECTRICAL CONDUITS.

SECTION A-A

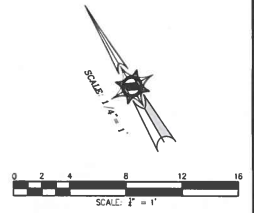
INLET PIPING DETAIL
 SCALE: 1/2" = 1'
 1 M-2

SECTION B-B

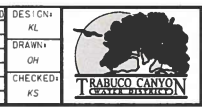


- CONSTRUCTION NOTES:**
- 1 — 12" ELBAC STEEL SPOOL, FE x FE, TRENCH & BEDDING PER TCWD STD. DWG. W-20
 - 2 — REPLACE EXISTING CHECK VALVE WITH 12" ELBAC STEEL SPOOL, FE x FE
 - 3 — 12" RESTRAINED FLANGE ADAPTER, EDNA IRON SERIES 2112, OR EQUAL
 - 4 — 12" EL & CHC STEEL 90° BEND, FE x FE
 - 5 — 12" D.I. 22.5° BEND, M.J. x M.J. W/ RESTRAINED JOINTS, EDNA IRON MEGALUG SERIES 2012PV
 - 6 — 12" D.I. 45° BEND, M.J. x M.J. W/ RESTRAINED JOINTS, EDNA IRON MEGALUG SERIES 2012PV
 - 7 — 12" PVC C900, DR 14, 18 IN RESTRAINED JOINTS, TRENCH & BEDDING PER TCWD STD. DWG. W-20
 - 8 — 12" D.I. 11.25° BEND, FE x FE
 - 9 — 12" D.I. 11.25° BEND, M.J. x M.J. W/ RESTRAINED JOINTS, EDNA IRON MEGALUG SERIES 2012PV
 - 10 — 12" BUTTERFLY VALVE (FEES) WITH VALVE STEM AND BOX ASSEMBLY PER TCWD STD. DWG. W-24
 - 11 — 12" D.I. TEE (CUT-IN), FE x M.J.
 - 12 — 12" D.I. 11.25° BEND, FE x FE
 - 13 — INSULATING FLANGE KIT PER DETAIL J ON DWG. M-4
 - 14 — 12" M.J. x FLC ADAPTER, EDNA IRON SERIES 2100 OR EQUAL

- NOTES:**
- 1. CUT AND CAP EX PIPE IN CONFLICT WITH PROPOSED IMPROVEMENT
 - 2. PROTECT IN PLACE EXISTING IMPROVEMENTS, UNLESS SHOWN OTHERWISE. REPLACE IN KIND IF DAMAGED DURING CONSTRUCTION
 - 3. PAVEMENT REMOVAL AND REPLACEMENT PER SPECS. SECTION 02518
 - 4. PAINTING AND COATING ARE PER TCWD'S SPECIFICATION SECTION 09900



NO.	DATE	REVISIONS	APPROVED	DESIGN
				KL
				OH
				KS



PREPARED UNDER THE SUPERVISION OF:



SADDLECREST RESERVOIR INLET PIPELINE IMPROVEMENT PLANS
 FOR TRACT 17388
 TCWD PROJECT NO. PW-38-FY25

CIVIL ENGINEERING FIRM

16310 BANE PARKWAY
 IRVINE, CA 92618
 (949) 637-9999

INLET PIPING PLAN, SECTION & DETAILS

SHEET NO. **5**
 OF 5 SHEETS
 DRAWING NO. **M-2**

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | AUGUST 6, 2025**

OPERATIONAL MATTERS

ITEM 4: WATER SYSTEM UPDATES

The following is a brief report of the water system through **July 2025**.

Projects and Repairs

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

1. Replaced another curb stop in Saddle Crest.
2. Raised 6 valve cans in the Trabuco Oaks area.
3. Mr. Brent Monson attended Cross Connection Control training at USC.
4. Worked with hazmat specialist to dispose of 1,700 gallons of old Clarion A7 at DWTP.
5. Rebuilt sump pump at the Bell Canyon PRV.
6. Serviced 59 valves.

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 - 2025

System Demands**													
AF/Day	3.9	3.3	3.4	3.7	4.2	5.5							4.0
Daily Average, CFS	2.0	1.6	1.7	1.9	2.1	2.8							2.0
Other Water Deliveries/Purchases													
Ridgeline (DWTP Delivery)	0.0	0.0	0.0	0.0	0.0	0.0							0.0
El Toro (Interconnection Purchase)	0.0	0.0	0.0	0.0	0.0	0.0							0.0
Baker WTP (CSC Delivery)	98.6	89.7	90.2	103.7	68.0	88.9							539.1
Portola Hills (Wholesale Purchase)	10.0	7.5	8.2	7.8	9.1	10.6							53.2
Skyridge (Wholesale Purchase)	1.8	1.6	1.6	1.4	1.6	2.0							10.0
<i>* Usage estimated</i>	<i>** Excludes Operational use, losses, and supplement to Recycled Water Reservoir (RW)</i>												

OPERATIONAL MATTERS

ITEM 5: WASTEWATER SYSTEM UPDATES

The following is a brief report of the wastewater system through **July 2025**.

Projects and Repairs

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

1. Assisted in the replacement of the East Hoffman Blower.
2. Replaced Dove Lake Pump.
3. Plano Lift Station wet well cleaning and inspection.
4. Quarterly cleaning of hot spots with vactor truck.
- 5.

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	8,500
Total Sewer Line Cleaned (Ft) – Cleaning Cycle	137,840
Cleaning Cycle Period (Mos.) [Start date: 1/1/25]	7
Total Sewer Line Cleaned, %	65%
The Oaks at Trabuco – Pumping Frequency for the Month	13
O’Neill Park Sewer System Status	Ok
O’Neill Park Sewer System Repairs	None
SSMP Quarterly Report – <i>Next Quarterly Report</i>	3Q 2025
SSMP Program Audit – <i>Next Audit Report**</i>	October 2025

**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

CONTACTS (staff responsible): PEREA/ULLOA

TRABUCO CANYON WATER DISTRICT | RECYCLED WATER SYSTEM SUMMARY - 2025

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	37.1	35.6	41.5	39.4	39.6	37.8							230.9	520.1
Reclaimed Reservoir Level, FT	1274.5	1,265.5	1,270.0	1,271.5	1,271.5	1,270.0	1,264.0							-	-
Reclaimed Reservoir Free Board, FT	25.5	9.0	4.5	3.0	3.0	4.5	10.5							-	-
Reclaimed Reservoir Storage, AF	145.5	94.6	118.8	127.7	127.7	118.8	87.5							-	-
Supplemental Domestic Water Added, AF	N/A	0.0	0.0	0.0	0.0	0.0	0.0							0.0	5.2

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	0.04	0.02	0.0	0.0	0.2	0.3							0.5	6.1%
Dove Canyon Golf Course	106.7	12.49	5.1	4.8	25.1	28.9	31.6							108.0	101.2%
Dove Canyon Master Association	279.3	10.92	3.6	3.6	11.2	16.4	17.2							62.9	22.5%
Robinson Ranch	80.2	1.41	0.4	0.8	2.8	2.7	2.9							11.0	13.7%
Trabuco Highlands	159.7	3.26	27.4	0.2	5.3	6.6	6.0							48.6	30.5%
City of RSM	0.1	0.00	0.02	0.00	0.02	0.02	0.02							0.08	57.7%
Construction Water	N/A	0.00	0.0	0.0	0.0	0.0	0.0							0.00	N/A
Sakaïda Nursery	1.1	0.00	0.0	0.0	0.0	0.0	0.0							0.00	0.0%
SMWD	N/A	0.00	0.0	0.0	0.0	4.4	8.1							12.5	N/A
TY Nursery	17.9	0.00	0.00	0.0	0.01	2.6	3.7							6.4	35.8%
TOTAL, AF	653.2	28.1	36.5	9.4	44.3	61.9	69.8							250.0	38.3%
PERCENTAGE OF NDW ALLOCATION/YEAR		4.3%	9.9%	11.3%	18.1%	27.6%	38.3%								
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		0.00	10.19	8.18	0.00	0.00	0.00							18.37	1.6
Dove Tick Creek Production*	<i>Dry Season</i>	5.5	5.3	5.8	0.0	0.0	0.0							16.6	45.0
	TCWD Portion	5.5	5.3	5.8	0.0	0.0	0.0							16.6	-
	SMWD Portion	0.0	0.0	0.0	0.0	0.0	0.0							0.0	-
Dove Lake Water Pumped		0.0	0.0	0.0	0.0	0.0	0.0							0.0	190.1
Dove Lake Free Board, Ft		10.3	3.2	0.0	0.0	0.0	0.0							-	-
Dove Lake Storage, AF		131.2	309.0	331.0	331.0	331.0	331.0							-	-
Total Rainfall, In.		0.9	2.4	5.2	0.2	0.5	0.3							9.5	16.2

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

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

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | AUGUST 6, 2025**

OPERATIONAL MATTERS

ITEM 6: MAINTENANCE DEPARTMENT UPDATES

The following is a brief report of work completed by Maintenance staff through **July 2025**.

Projects and Repairs

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

Water Operations

1. Attended job walk at DWTP for Filter #4 seismic brackets.

Wastewater Operations

1. Emergency repairs needed for failed blower at WWTP. Vaughan Industrial called out for immediate repairs.
2. Dove Lake motor replacement.
3. Reclaim Water Filter tour at Tustin Golf Course, potential new filters for Dove Recycle booster station.

District Fleet Upgrades & Other Projects

1. Repairs on truck #8, AC service new steering wheel, LOF and all new shocks with Elite Services.
2. Repairs on truck #7, AC service and LOF and recall checks with Ford Fleet Center.
3. LOF on truck #16 and #29.
4. Complete BIT inspections.
5. Began fire extinguisher inspections/repair.
6. OBD smog check on Crane truck.
7. OVI smog check on Slide Rail, and inspection.
8. Emergency gen and ATS testing.

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 | AUGUST 6, 2025**

REGULATORY AND OTHER MATTERS

ITEM 7: 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