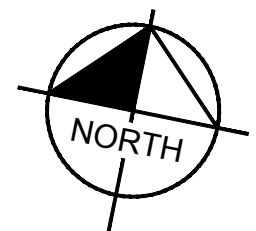
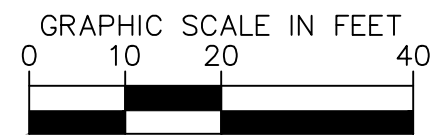


PROJECT SITE
SCALE: 1"=10'



PROJECT VICINITY
SCALE: 1"=20'



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BENCHMARK:
CCS83 ZONE 5, NAD83(2011), EPOCH 2010.0

BASIS OF BEARINGS:
FD GLO BRASS CAP UP 0.6', CN 1/16 COR
S.12, PER RS 103/74.
ELEVATION DETERMINED VIA STATIC GPS
OBSERVATION, PROCESSED THROUGH
OPUS.
NAVD-88 ELEV = 3066.588'



Kimley»Horn
401 B STREET, SUITE 600, SAN DIEGO, CA 92101
PHONE: (619) 234-9411 WWW.KIMLEY-HORN.COM
PREPARED UNDER THE SUPERVISION OF:
SARP SEKEROGLU R.C.E. No. 71474 EXP. 12/31/2025 04/10/2024

REVISIONS	DESCRIPTION	APPR.	DATE

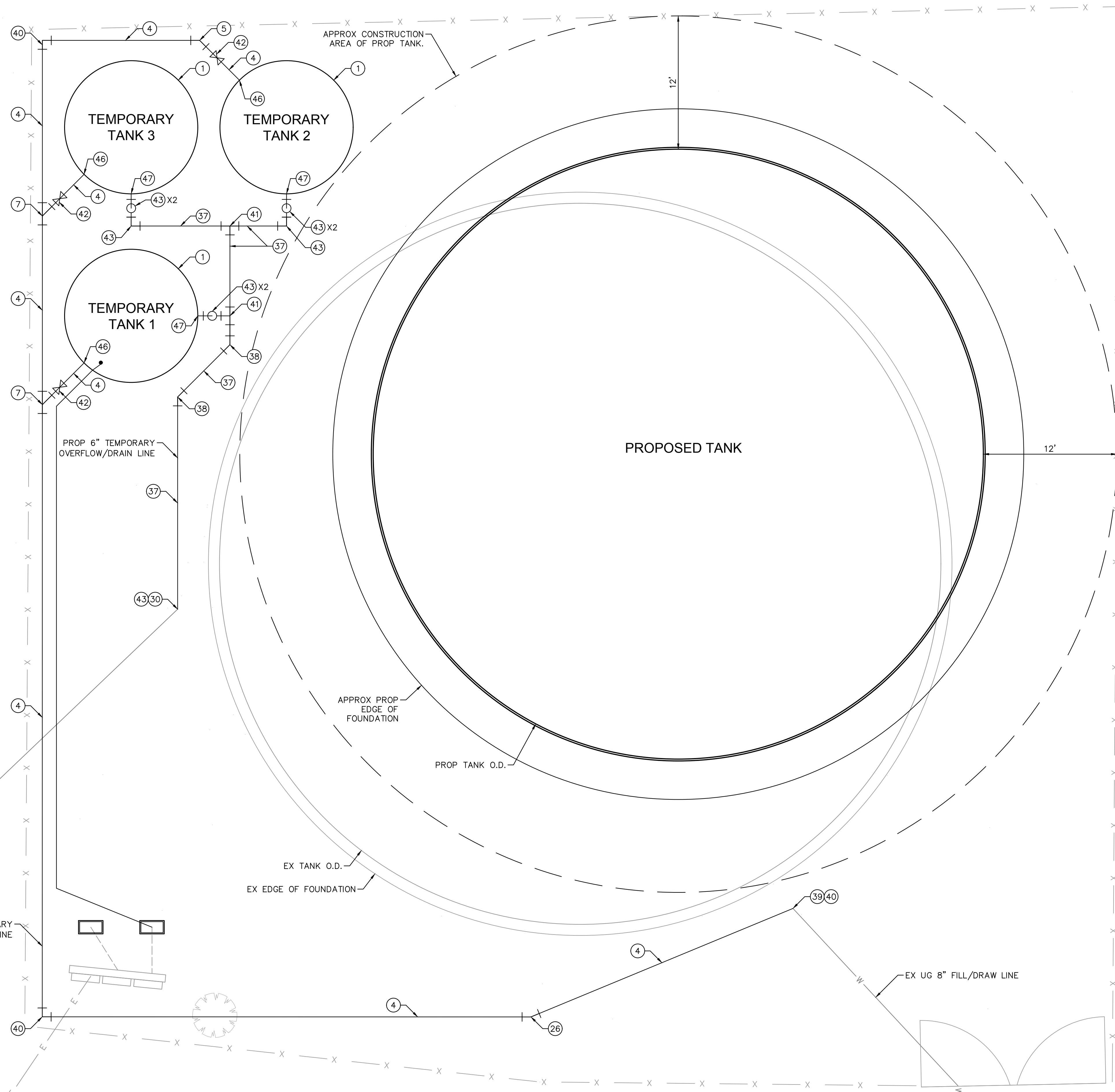
WATER TANK REPLACEMENT PLANS APPROVED BY:
SAN BERNARDINO COUNTY - PUBLIC WORKS
SPECIAL DISTRICTS

David Doublet	05.14.2024
ASSISTANT DIRECTOR	
APPROVALS	

WATER TANK REPLACEMENT PLANS
APN: 0580-241-16-0000
MORONGO VALLEY WATER TANK
REPLACEMENT PROJECT
EXISTING CONDITIONS SITE PLAN

DWG NO.
30.30.00157
FILE NO.
SD003
SHEET 4 OF 17

100% SUBMITTAL

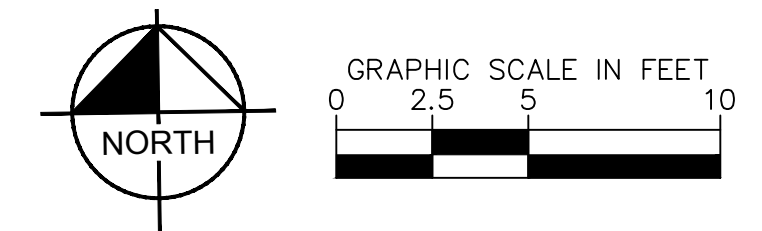


CONSTRUCTION NOTES

- 1 INSTALL 12' DIA 10,500 GALLON TEMPORARY TANK (OPERATIONAL VOLUME: 7,510 GALLONS), SNYDER PRODUCT NO. 5330300N OR APPROVED EQUAL.
- 4 INSTALL ABOVEGROUND 8" I.D. PLASTIC PIPING. PIPE MATERIAL TO BE HDPE OR CONTRACTOR'S CHOICE.
- 5 INSTALL 8" I.D. PLASTIC 45° BEND. MATERIAL TO BE HDPE OR CONTRACTOR'S CHOICE. SEE NOTE 2 BELOW FOR PIPE RESTRAINTS.
- 7 INSTALL 8" I.D. PLASTIC WYE. MATERIAL TO BE HDPE OR CONTRACTOR'S CHOICE. SEE NOTE 2 BELOW FOR PIPE RESTRAINTS.
- 26 INSTALL 8" I.D. PLASTIC 22.5° BEND. MATERIAL TO BE HDPE OR CONTRACTOR'S CHOICE. SEE NOTE 2 BELOW FOR PIPE RESTRAINTS.
- 30 CONNECT TEMPORARY PLASTIC PIPING TO EXISTING 6" DI OVERFLOW DRAIN PIPE WITH RESTRAINED FLANGE COUPLING ADAPTER (ROMAC ALPHA FC OR APPROVED EQUAL). ROLL EXISTING 90 DEGREE DI FITTING AS NEEDED TO CHANGE DIRECTION. SEE DETAIL E, SHEET 11.
- 37 INSTALL ABOVEGROUND 6" I.D. PLASTIC PIPING. PIPE MATERIAL TO BE HDPE OR CONTRACTOR'S CHOICE.
- 38 INSTALL 6" I.D. PLASTIC 45° BEND. MATERIAL TO BE HDPE OR CONTRACTOR'S CHOICE. SEE NOTE 2 BELOW FOR PIPE RESTRAINTS.
- 39 CONNECT TEMPORARY PLASTIC PIPING TO EXISTING 8" DI FILL/DRAIN PIPE WITH RESTRAINED FLANGE COUPLING ADAPTER (ROMAC ALPHA FC OR APPROVED EQUAL). ROLL EXISTING 90 DEGREE DI FITTING AS NEEDED TO CHANGE DIRECTION. SEE DETAIL D, SHEET 11.
- 40 INSTALL 8" I.D. PLASTIC 90° BEND. SEE NOTE 2 BELOW FOR PIPE RESTRAINTS.
- 41 INSTALL 6" I.D. PLASTIC TEE. SEE NOTE 2 BELOW FOR PIPE RESTRAINTS.
- 42 INSTALL 8" PLASTIC (HDPE OR CONTRACTOR CHOICE) BUTTERFLY VALVE FLG X FLG
- 43 INSTALL 6" I.D. PLASTIC 90° BEND. SEE NOTE 2 BELOW FOR PIPE RESTRAINTS.
- 46 CONNECT TEMPORARY PIPING TO BOTTOM OF TEMPORARY TANK.
- 47 CONNECT TEMPORARY OVERFLOW PIPING TO TEMPORARY TANK 9' ABOVE TANK BOTTOM.

NOTES

1. ANY PIPES, FITTINGS, AND HOSES SHALL MEET NSF/ANSI STANDARDS 61 WHENEVER THEY COME IN CONTACT WITH POTABLE WATER.
2. TEMPORARY PIPING SHALL BE FULLY RESTRAINED AGAINST THRUST FORCES AND SHALL BE SECURED TO THE EXISTING GROUND. CONTRACTOR SHALL PROVIDE A SUBMITTAL OF THE TEMPORARY PIPING LAYOUT, CALCULATIONS, AND MATERIALS USED.
3. CONTRACTOR SHALL PROVIDE A SUBMITTAL OF HOW THE TEMPORARY TANKS ARE SECURED, INCLUDING AND RELEVANT CALCULATIONS, AND MATERIALS USED.
4. PREPARE SUBGRADE PER REPORT TITLED "GEOTECHNICAL EXPLORATION PROPOSED MORONGO VALLEY WATER TANK REPLACEMENT PROJECT" DATED JANUARY 10, 2024 BY LEIGHTON CONSULTING INC.
5. TEMPORARY TANK OVEREXCAVATION MAY BE LIMITED TO 18 INCHES, BUT THE EXPOSED SUBGRADE SHOULD BE CONFIRMED TO BE FIRM AND UNYIELDING.
6. ALL DIAMETERS OF PLASTIC PIPING REFER TO INNER DIAMETER (ID).



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BENCHMARK:
 CCS83 ZONE 5, NAD83(2011), EPOCH 2010.0

BASIS OF BEARINGS:
 FD GLO BRASS CAP UP 0.6', CN 1/16 COR S.12, PER RS 103/74.
 ELEVATION DETERMINED VIA STATIC GPS OBSERVATION, PROCESSED THROUGH OPUS.
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 PREPARED UNDER THE SUPERVISION OF:
 SARP SEKEROGLU R.C.E. No. 71474 EXP. 12/31/2025

REVISIONS	
DESCRIPTION	APPR. DATE

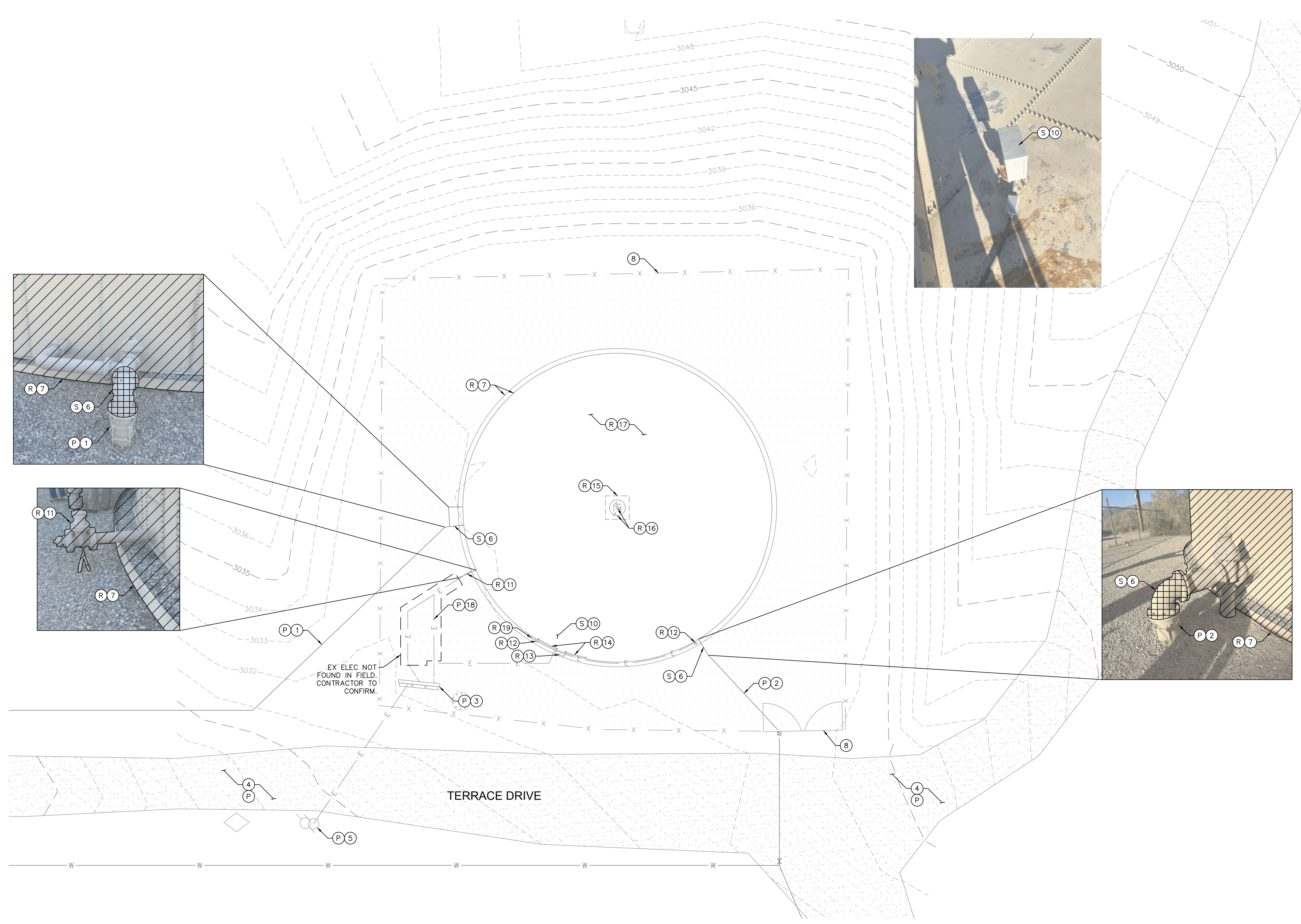
WATER TANK REPLACEMENT PLANS APPROVED BY:
 SAN BERNARDINO COUNTY - PUBLIC WORKS
 SPECIAL DISTRICTS

David Doublet	05.14.2024
ASSISTANT DIRECTOR	
APPROVALS	
REVIEWER	INITIAL DATE
PROJECT MANAGER	05.14.2024
DEPUTY DIRECTOR	05.14.2024
WAS, DIVISION MANAGER	05.14.2024

WATER TANK REPLACEMENT PLANS
 APN: 0580-241-16-0000
 MORONGO VALLEY WATER TANK
 REPLACEMENT PROJECT
 TEMPORARY TANK MECHANICAL PLAN

DWG NO.
 30.30.00157
 FILE NO.
 SD003
 SHEET 5 OF 17

100% SUBMITTAL



DEMOLITION NOTES

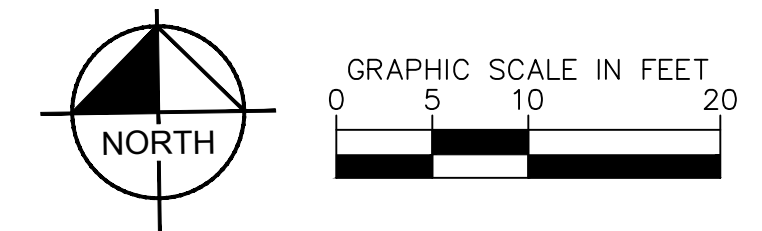
- (P) PROTECT IN PLACE
- (R) REMOVE AND DISPOSE
- (S) SALVAGE
- (1) OVERFLOW/DRAIN LINE
- (2) 8" FILL/DRAW LINE
- (3) ELECTRICAL BOX, LIGHT, TELEMTRY, AND CONDUIT
- (4) DIRT ROAD
- (5) POWER POLE
- (6) 90 DI BEND TO BE SALVAGED AND USED FOR TEMPORARY PIPING
- (7) 211,000 GALLON TANK AND GRAVEL PACKED GRADE RING
- (8) REMOVE AND REPLACE FENCE AS NEEDED FOR TANK CONSTRUCTION PER SBCSD STANDARD DRAWING H-19 AND H-20.
- (10) TRANSDUCER
- (11) 4" PIPING AND VALVE
- (12) LIGHT
- (13) ACCESS LADDER
- (14) HANDRAIL
- (15) 5'X5'X12" CONCRETE FOUNDATION UNDER CENTER COLUMN.
- (16) CENTER COLUMN AND RAFTER HAT
- (17) ROOF RAFTERS, ROOF GUSSET PLATES, TIE BAR, AND ACCESSORIES
- (18) ELECTRICAL LINE AND CONDUIT (APPROX)
- (19) LEVEL INDICATOR

GENERAL NOTES

1. CONTRACTOR TO VERIFY UTILITY LOCATIONS IN THE FIELD PRIOR TO START OF DEMOLITION ACTIVITIES.
2. EXISTING TRANSDUCER TO BE SALVAGED AND REUSED ON TEMPORARY TANK 1 DURING NEW TANK CONSTRUCTION.

EX ELEC NOT FOUND IN FIELD. CONTRACTOR TO CONFIRM.

TERRACE DRIVE



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PREPARED UNDER THE SUPERVISION OF:
SARP SEKEROGLU 04/10/2024

SARP SEKEROGLU R.C.E. No. 71474 EXP. 12/31/2025

REVISIONS	DESCRIPTION	APPR.	DATE

WATER TANK REPLACEMENT PLANS APPROVED BY:
SAN BERNARDINO COUNTY - PUBLIC WORKS
SPECIAL DISTRICTS

David Doublet 05.14.2024
ASSISTANT DIRECTOR

REVIEWER	INITIAL	DATE
PROJECT MANAGER		05.14.2024
DEPUTY DIRECTOR		05.14.2024
WAS, DIVISION MANAGER		05.14.2024

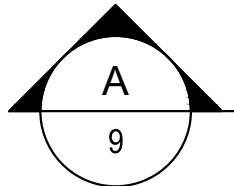
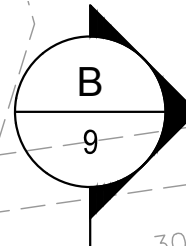
WATER TANK REPLACEMENT PLANS

APN: 0580-241-16-0000
MORONGO VALLEY WATER TANK REPLACEMENT PROJECT

DEMOLITION PLAN

DWG. NO.	30.30.00157
FILE NO.	SD003
SHEET	6 OF 17

100% SUBMITTAL

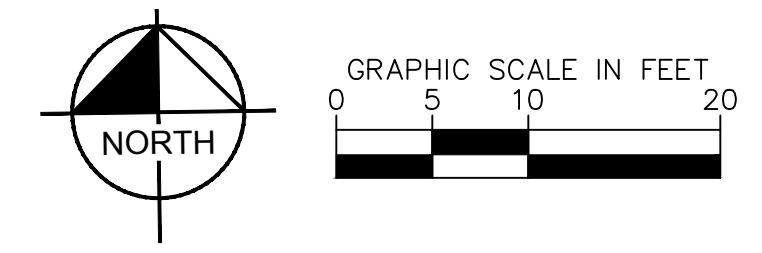
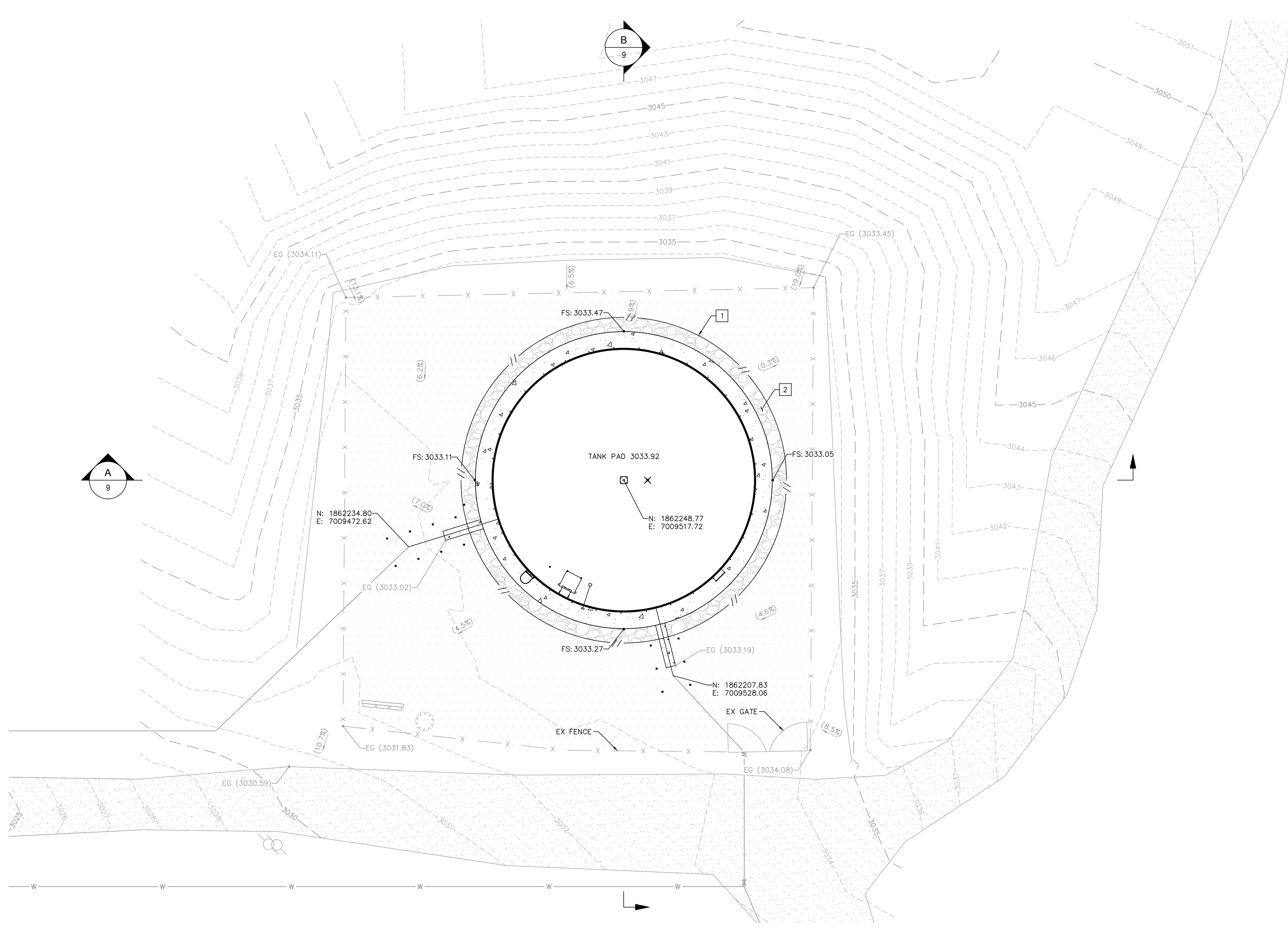


GRADING NOTES

- 1 MATCH EXISTING GRADES AFTER EXCAVATION AND INSTALLATION OF TANK FOUNDATION
- 2 BACKFILL AND RECOMPACT THE AREA OF OVEREXCAVATION EXTENDING 3 FT BEYOND THE CONCRETE FOUNDATION. BACKFILL SHALL BE WITH ONSITE SOILS AND COMPACTED TO 95% PER RECOMMENDATIONS IN THE PROJECT'S GEOTECHNICAL REPORT.

NOTES

- 1. CONTRACTOR TO VERIFY ALL EXISTING TOPOGRAPHY AND STRUCTURES ON THE SITE AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING WORK.
- 2. UTILITIES SHOWN FOR REFERENCE ONLY. SEE MECHANICAL PLAN FOR DETAILS.
- 3. NO SIGNIFICANT GRADING IS EXPECTED AS PART OF THIS PROJECT. CONTRACTOR TO GENERALLY MATCH GRADES IN KIND SUCH THAT STORMWATER DOES NOT DRAIN TOWARDS THE PROPOSED TANK
- 4. ALL GRADING OVEREXCAVATION AND RELATED WORK FOR THIS PROJECT SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL EXPLORATION: PROPOSED MORONGO VALLEY WATER TANK REPLACEMENT PROJECT, DATED JANUARY 10, 2024.



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REVISIONS	DESCRIPTION	APPR.	DATE

WATER TANK REPLACEMENT PLANS APPROVED BY:
 SAN BERNARDINO COUNTY - PUBLIC WORKS
 SPECIAL DISTRICTS

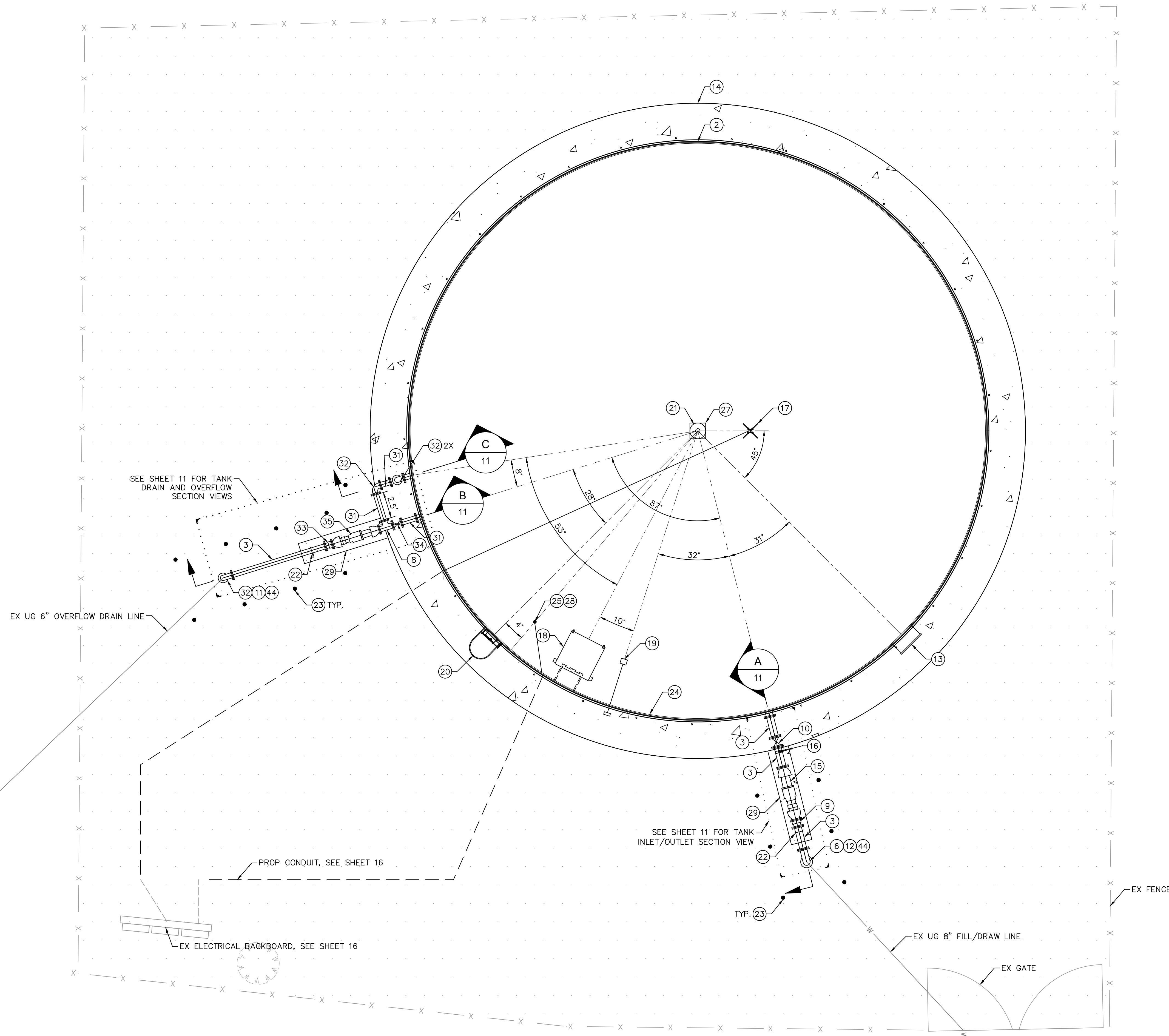
David Doublet 05.14.2024
 ASSISTANT DIRECTOR

APPROVALS	REVIEWER	INITIAL	DATE
	PROJECT MANAGER		05.14.2024
	DEPUTY DIRECTOR		05.14.2024
	WAS, DIVISION MANAGER		05.14.2024

WATER TANK REPLACEMENT PLANS
 APN: 0580-241-16-0000
 MORONGO VALLEY WATER TANK
 REPLACEMENT PROJECT
 GRADING PLAN

DWG NO.
 30.30.00157
 FILE NO.
 SD003
 SHEET 7 OF 17

100% SUBMITTAL



CONSTRUCTION NOTES

- 2) CONSTRUCT BOLTED STEEL WATER STORAGE TANK WITH AN OPERATIONAL VOLUME OF 139,112 GALLONS. SEE DETAIL B, SHEET 12. TANK DESIGN TO BE FINALIZED BY TANK MANUFACTURER.
- 3) INSTALL 8" CL 250 DIP
- 6) INSTALL 8" DI 90° BEND
- 8) INSTALL 6" DI TEE
- 9) INSTALL 8" DISMANTLING JOINT
- 10) INSTALL 8" DI GV
- 11) TIE INTO EXISTING 6" OVERFLOW DRAIN PIPE
- 12) TIE INTO EXISTING 8" WATER PIPE
- 13) INSTALL 30" DIAMETER BOLTED MANWAY WITH HINGED DOOR OPENING WITH SHELL REINFORCING PER TANK MANUFACTURER. LOCATE THE MANWAY CENTER 3" ABOVE FROM TANK BOTTOM. SEE DETAIL F, SHEET 14.
- 14) CONSTRUCT TANK CONCRETE RINGWALL FOUNDATION PER TANK MANUFACTURER. SEE DETAIL A, SHEET 12.
- 15) INSTALL 8" DOUBLE BALL FLEXIBLE EXPANSION JOINT. EBAA IRON FORCE BALANCED FLEX TEND MODEL 4406F20B OR APPROVED EQUAL.
- 16) SAMPLE TAP. SEE DETAIL G, SHEET 13.
- 17) INSTALL TIDAL WAVE MIXER, 0.5 HP. OR APPROVED EQUAL. SEE DETAIL H, SHEET 13. FINAL LOCATION OF THE MIXER TO BE DETERMINED BY THE TANK MANUFACTURER DURING CONSTRUCTION.
- 18) INSTALL 24" TANK ACCESS HATCH AND INTERIOR LADDER PER TANK MANUFACTURER. SEE DETAIL C AND E, SHEET 14.
- 19) INSTALL TANK LEVEL INDICATOR. SEE DETAIL F, SHEET 13.
- 20) INSTALL EXTERIOR LADDER PER TANK MANUFACTURER. PAINT TO MATCH TANK COLOR. SEE DETAIL A, SHEET 14.
- 21) INSTALL TANK ROOF VENT PER TANK MANUFACTURER. SEE DETAIL C, SHEET 13.
- 22) INSTALL SADDLE PIPE SUPPORT. SEE DETAIL B, SHEET 13.
- 23) INSTALL PROTECTION POST. SEE DETAIL E, SHEET 13.
- 24) INSTALL 4" STEEL TOEBOARD PER TANK MANUFACTURER.
- 25) INSTALL LEVEL TRANSDUCER CONNECTION BY TANK MANUFACTURER.
- 27) INSTALL CENTER COLUMN AND FOUNDATION PER TANK MANUFACTURER. SEE DETAIL A, SHEET 12.
- 28) REINSTALL SALVAGED PRESSURE TRANSDUCER WHERE DIRECTED BY OWNER.
- 29) CONSTRUCT CONCRETE PAD PER SECTIONS A AND B ON SHEET 11.
- 31) INSTALL 6" DIP
- 32) INSTALL 6" DI 90° BEND
- 33) INSTALL 6" DISMANTLING JOINT
- 34) INSTALL 6" DI GV
- 35) INSTALL 6" DOUBLE BALL FLEXIBLE EXPANSION JOINT. EBAA IRON FORCE BALANCED FLEX TEND MODEL 4406F20B OR APPROVED EQUAL.
- 44) INSTALL INSULATING FLANGE AT CONNECTION WITH EXISTING FLANGE PER DETAIL C, SHEET 12.

NOTES

1. ALL ABOVE GROUND PIPING SHALL BE PAINTED WITH POLYURETHANE PAINT. PAINT COLOR TO BE APPROVED BY THE CLIENT.
2. ANY PIPES, FITTINGS, AND HOSES SHALL MEET NSF/ANSI STANDARDS 61 WHENEVER THEY COME IN CONTACT WITH POTABLE WATER
3. THE PROJECT'S GEOTECHNICAL INVESTIGATION FOUND THE ONSITE SOILS TO BE "MILDLY" CORROSIVE TO BURIED FERROUS METALS. AS A PRECAUTION, INSULATED FLANGE KITS ARE PROPOSED WHERE NEW METAL FLANGES CONNECT TO EXISTING METAL FLANGES. SEE THE PROJECT'S GEOTECHNICAL REPORT FOR MORE INFORMATION.

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BENCHMARK:
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BASIS OF BEARINGS:
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 PHONE: (619) 234-9411 WWW.KIMLEY-HORN.COM
 PREPARED UNDER THE SUPERVISION OF:

 SARP SEKEROGLU R.C.E. No. 71474 EXP. 12/31/2025 04/10/2024

NO.	DESCRIPTION	APPR.	DATE

WATER TANK REPLACEMENT PLANS APPROVED BY:
 SAN BERNARDINO COUNTY - PUBLIC WORKS
 SPECIAL DISTRICTS

David Doublet 05.14.2024
 ASSISTANT DIRECTOR

REVIEWER	INITIAL	DATE
PROJECT MANAGER		05.14.2024
DEPUTY DIRECTOR		05.14.2024
WAS, DIVISION MANAGER		05.14.2024

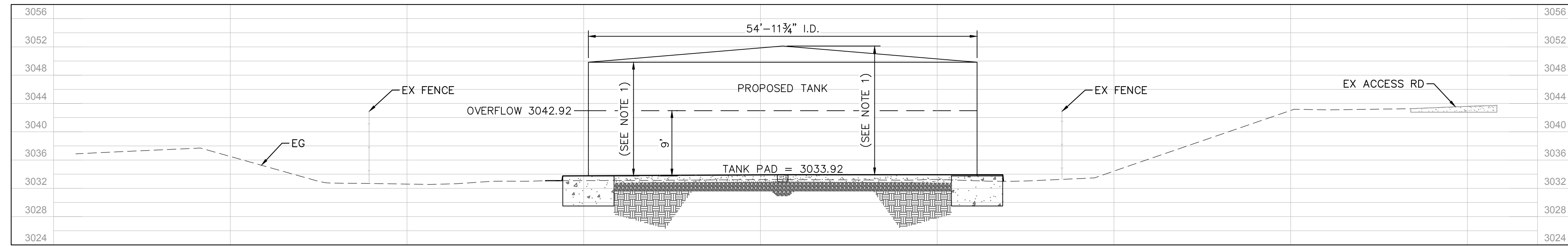
WATER TANK REPLACEMENT PLANS
 APN: 0580-241-16-0000
 MORONGO VALLEY WATER TANK
 REPLACEMENT PROJECT
 SITE AND MECHANICAL PLAN

DWG NO.
 30.30.00157
 FILE NO.
 SD003
 SHEET 8 OF 17

100% SUBMITTAL

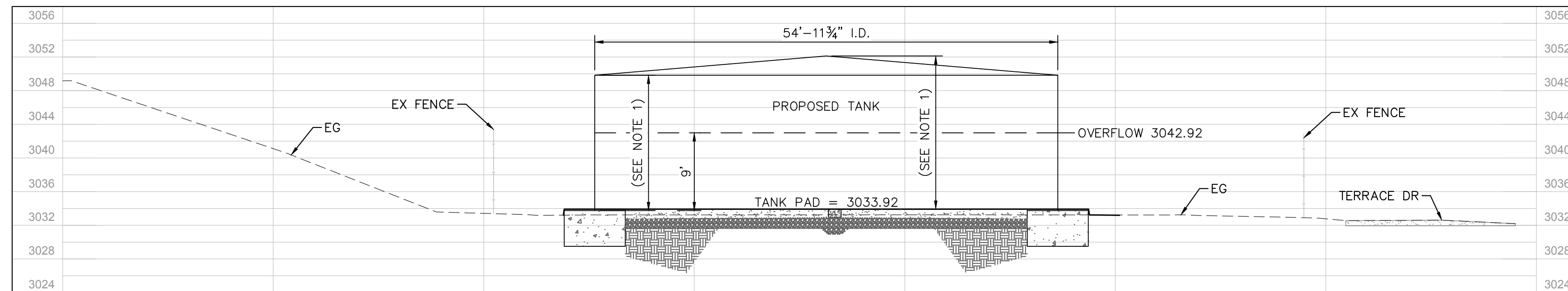
NOTES

1. TANK HEIGHT SHALL BE CONFIRMED BY TANK SUPPLIER PRIOR TO FABRICATION. TANK HEIGHT IS SUBJECT TO CHANGE BASED ON SITE SPECIFIC SEISMIC DESIGN PARAMETERS TO BE DETERMINED BY TANK SUPPLIER



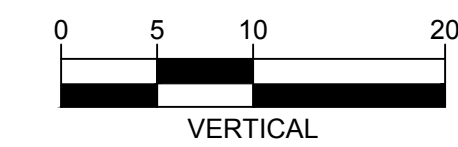
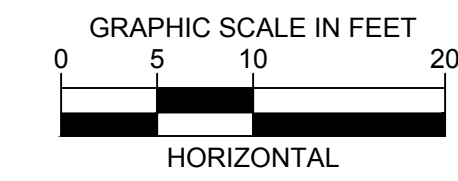
SECTION A

HORZ: 1"=10'
VERT: 1"=10'



SECTION B

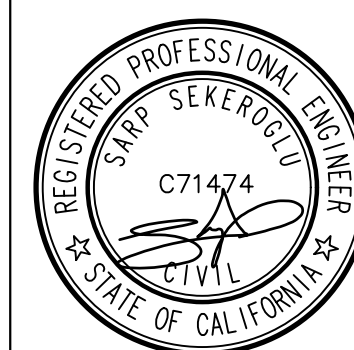
HORZ: 1"=10'
VERT: 1"=10'



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BENCHMARK:
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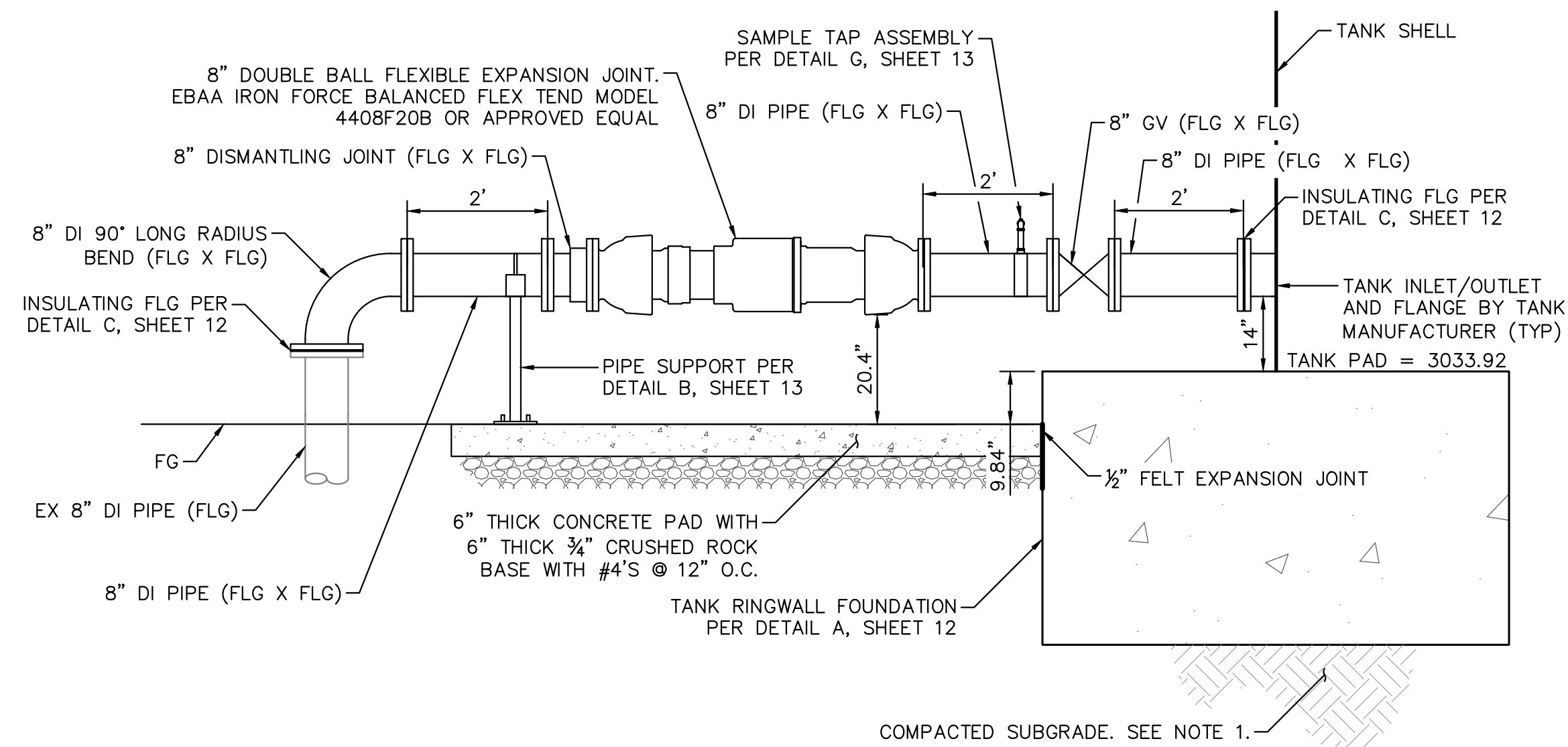
WATER TANK REPLACEMENT PLANS APPROVED BY:
SAN BERNARDINO COUNTY - PUBLIC WORKS
SPECIAL DISTRICTS

David Doublet 05.14.2024
ASSISTANT DIRECTOR

REVIEWER	INITIAL	DATE
PROJECT MANAGER		05.14.2024
DEPUTY DIRECTOR		05.14.2024
WAS, DIVISION MANAGER		05.14.2024

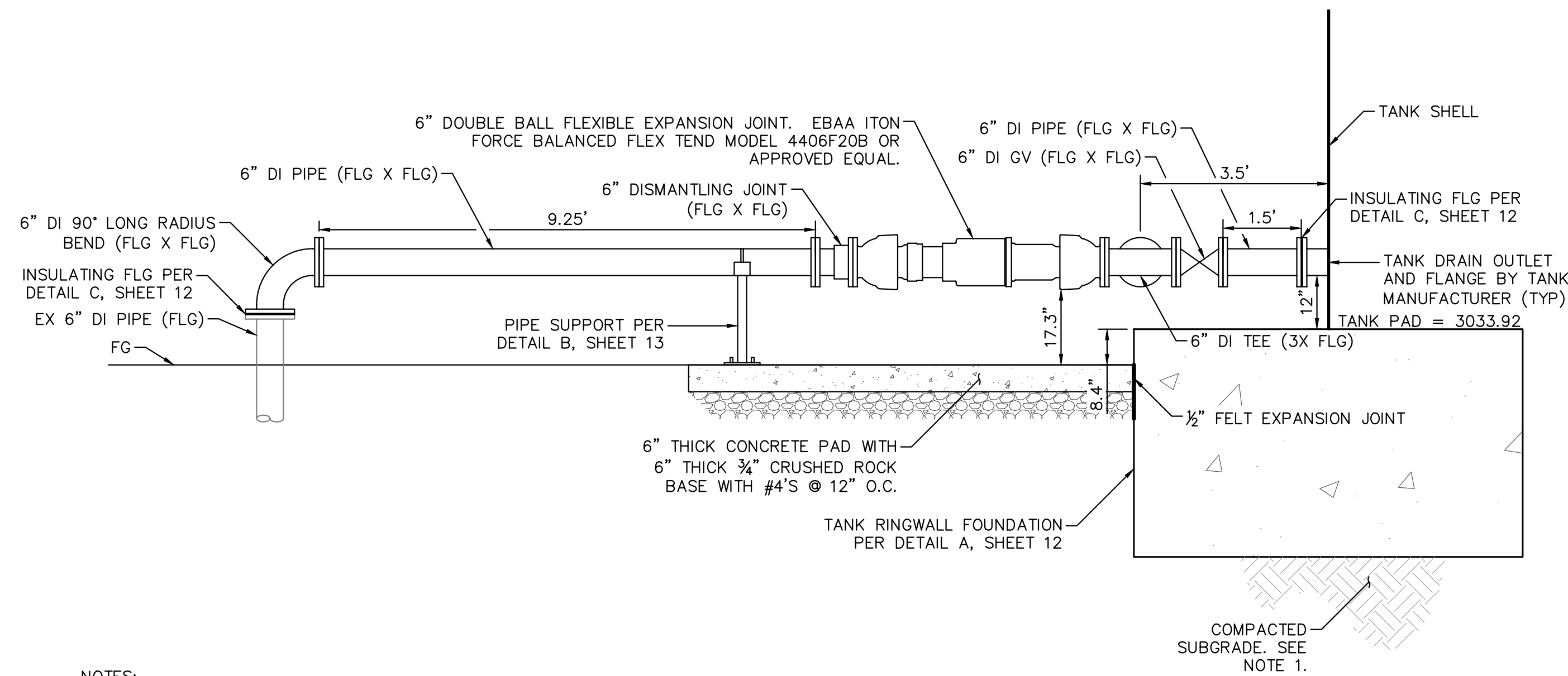
WATER TANK REPLACEMENT PLANS
APN: 0580-241-16-0000
MORONGO VALLEY WATER TANK
REPLACEMENT PROJECT
TANK SECTIONS

DWG NO.	30.30.00157
FILE NO.	SD003
SHEET	9 OF 17



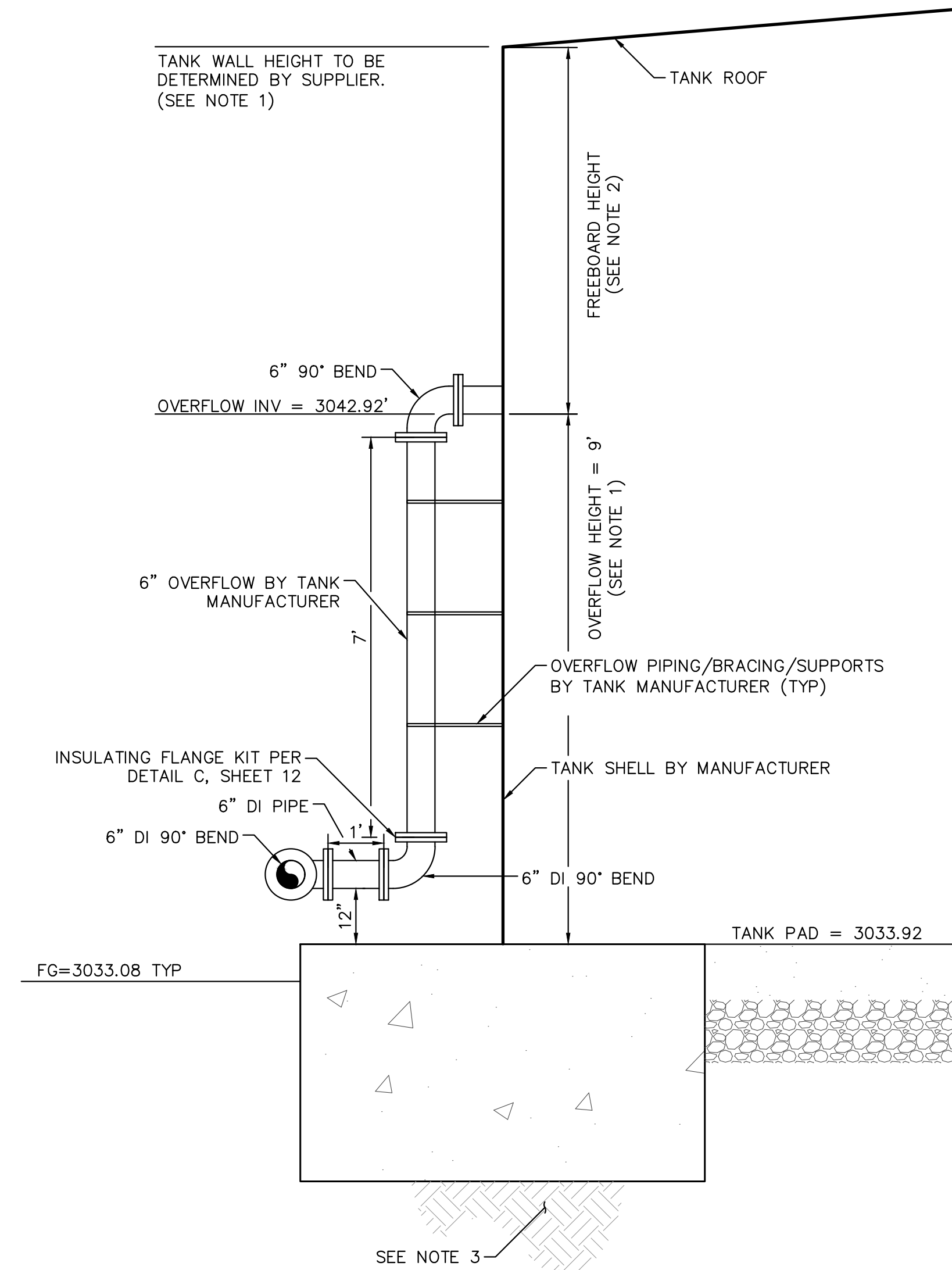
- NOTES:
1. PREPARE SUBGRADE PER REPORT TITLED "GEO TECHNICAL EXPLORATION PROPOSED MORONGO VALLEY WATER TANK REPLACEMENT PROJECT." DATED JANUARY 10, 2024 BY LEIGHTON CONSULTING INC.
 2. INSTALLATION OF THE FORCE BALANCED DOUBLE BALL FLEXIBLE EXPANSION JOINT SHALL BE IN STRICT CONFORMANCE TO THE REQUIREMENTS OF THE MANUFACTURER.

A TANK INLET/OUTLET SECTION
SCALE: 1" = 2'



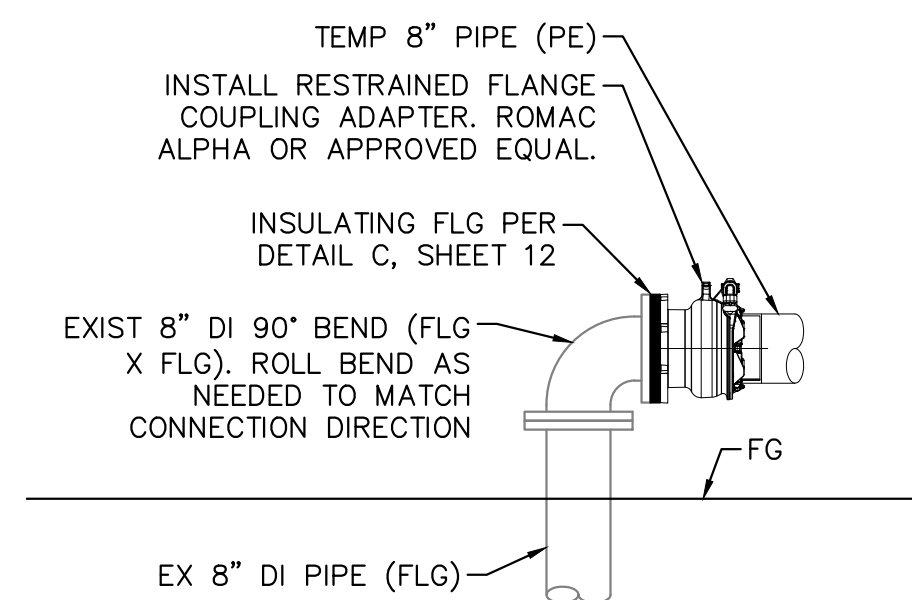
- NOTES:
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 2. INSTALLATION OF THE FORCE BALANCED DOUBLE BALL FLEXIBLE EXPANSION JOINT SHALL BE IN STRICT CONFORMANCE TO THE REQUIREMENTS OF THE MANUFACTURER.

B TANK DRAIN SECTION
SCALE: 1" = 2'

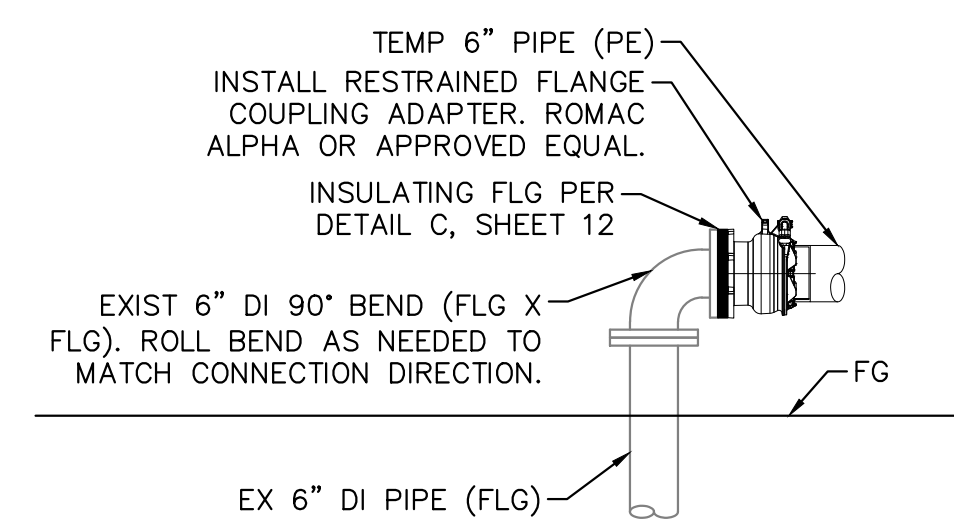


- NOTES:
1. TANK HEIGHT SHALL BE CONFIRMED BY TANK SUPPLIER PRIOR TO FABRICATION. TANK HEIGHT IS SUBJECT TO CHANGE BASED ON SITE SPECIFIC SEISMIC DESIGN PARAMETERS TO BE DETERMINED BY TANK SUPPLIER.
 2. THE MINIMUM FREEBOARD IS TO BE CONFIRMED BY TANK SUPPLIER PRIOR TO FABRICATION.
 3. PREPARE SUBGRADE PER REPORT TITLED "GEO TECHNICAL EXPLORATION PROPOSED MORONGO VALLEY WATER TANK REPLACEMENT PROJECT." DATED JANUARY 10, 2024 BY LEIGHTON CONSULTING INC.

C TANK OVERFLOW SECTION
SCALE: 1" = 2'



D TEMPORARY TANK FILL/DRAIN CONNECTION
SCALE: 1" = 2'



E TEMPORARY TANK OVERFLOW CONNECTION
SCALE: 1" = 2'

UNDERGROUND SERVICE ALERT

Call: TOLL FREE
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TWO WORKING DAYS BEFORE YOU DIG

BENCHMARK:
CCS83 ZONE 5, NAD83(2011), EPOCH 2010.0

BASIS OF BEARINGS:
FD GLO BRASS CAP UP 0.6', CN 1/16 COR S.12, PER RS 103/74.
ELEVATION DETERMINED VIA STATIC GPS OBSERVATION, PROCESSED THROUGH OPUS.
NAVD-88 ELEV = 3066.588'

Kimley Horn

401 B STREET, SUITE 600, SAN DIEGO, CA 92101
PHONE: (619) 234-9411 WWW.KIMLEY-HORN.COM

PREPARED UNDER THE SUPERVISION OF:
SARP SEKEROGLU R.C.E. No. 71474 EXP. 12/31/2025

REVISIONS	
DESCRIPTION	APPR. DATE

WATER TANK REPLACEMENT PLANS APPROVED BY:
SAN BERNARDINO COUNTY - PUBLIC WORKS
SPECIAL DISTRICTS

David Doublet 05.14.2024
ASSISTANT DIRECTOR

REVIEWER	INITIAL	DATE
PROJECT MANAGER		05.14.2024
DEPUTY DIRECTOR		05.14.2024
WAS, DIVISION MANAGER		05.14.2024

WATER TANK REPLACEMENT PLANS

APN: 0580-241-16-0000
MORONGO VALLEY WATER TANK
REPLACEMENT PROJECT

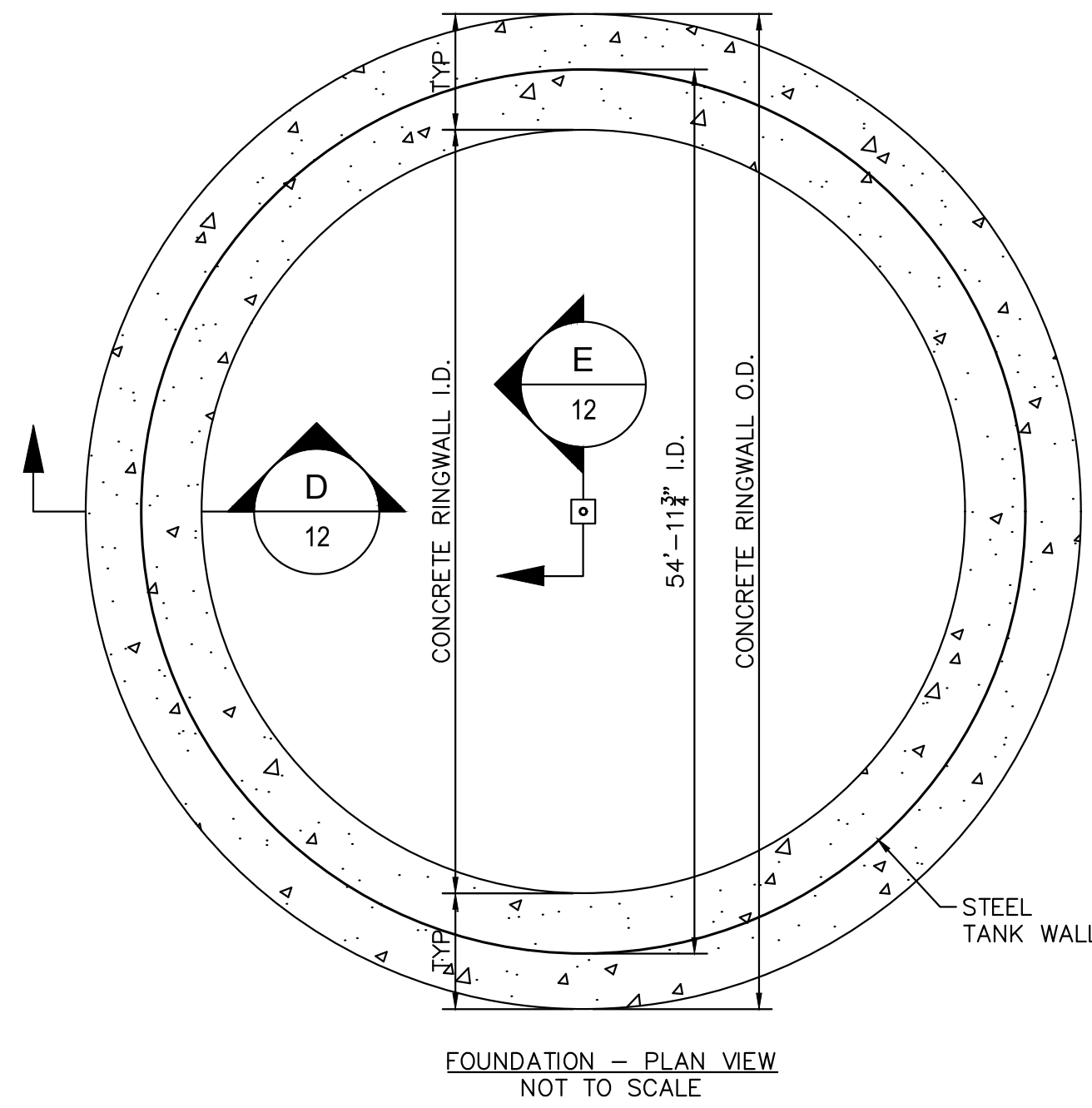
DETAILS

DWG NO.
30.30.00157

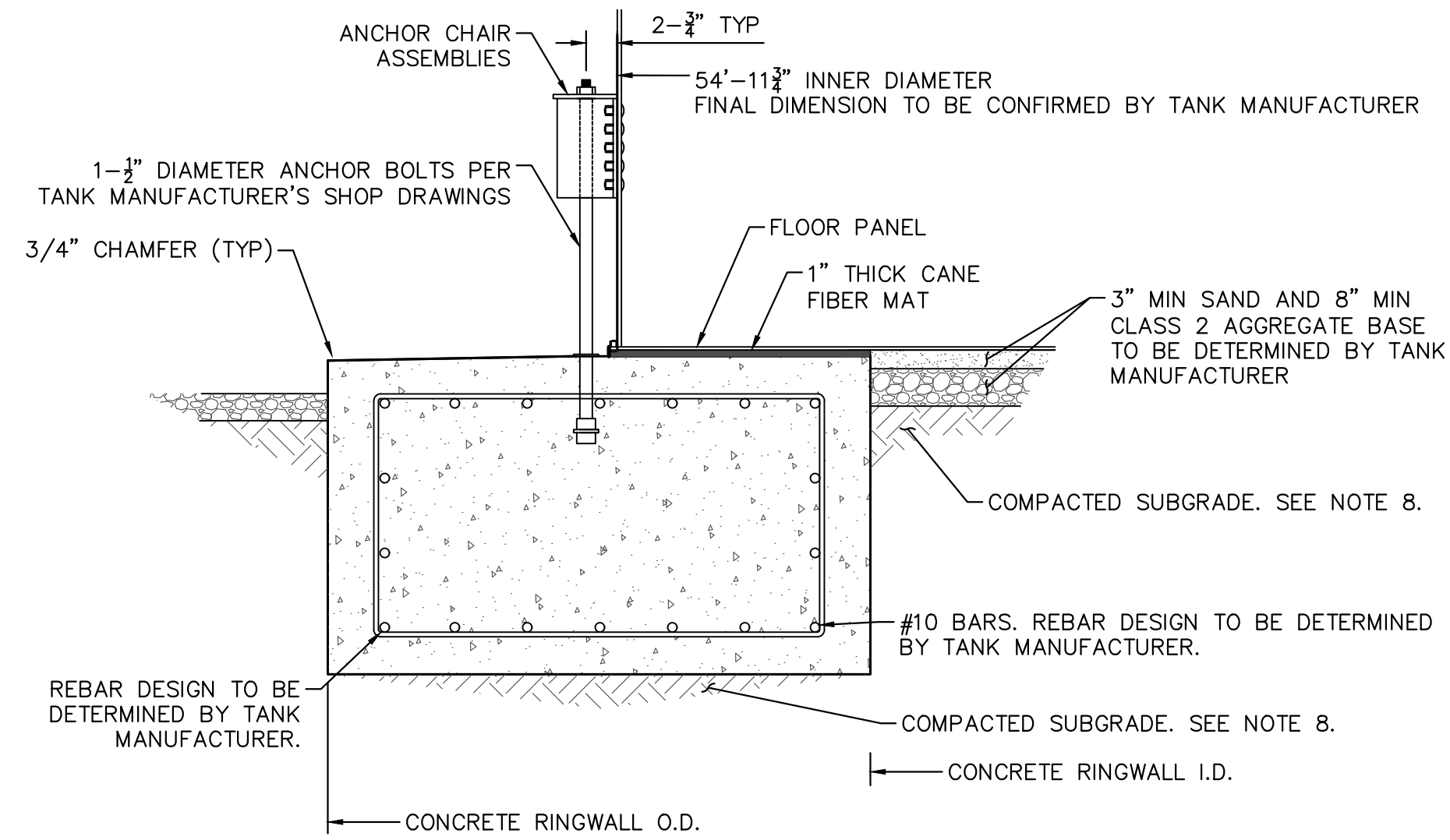
FILE NO.
SD003

SHEET 11 OF 17

100% SUBMITTAL



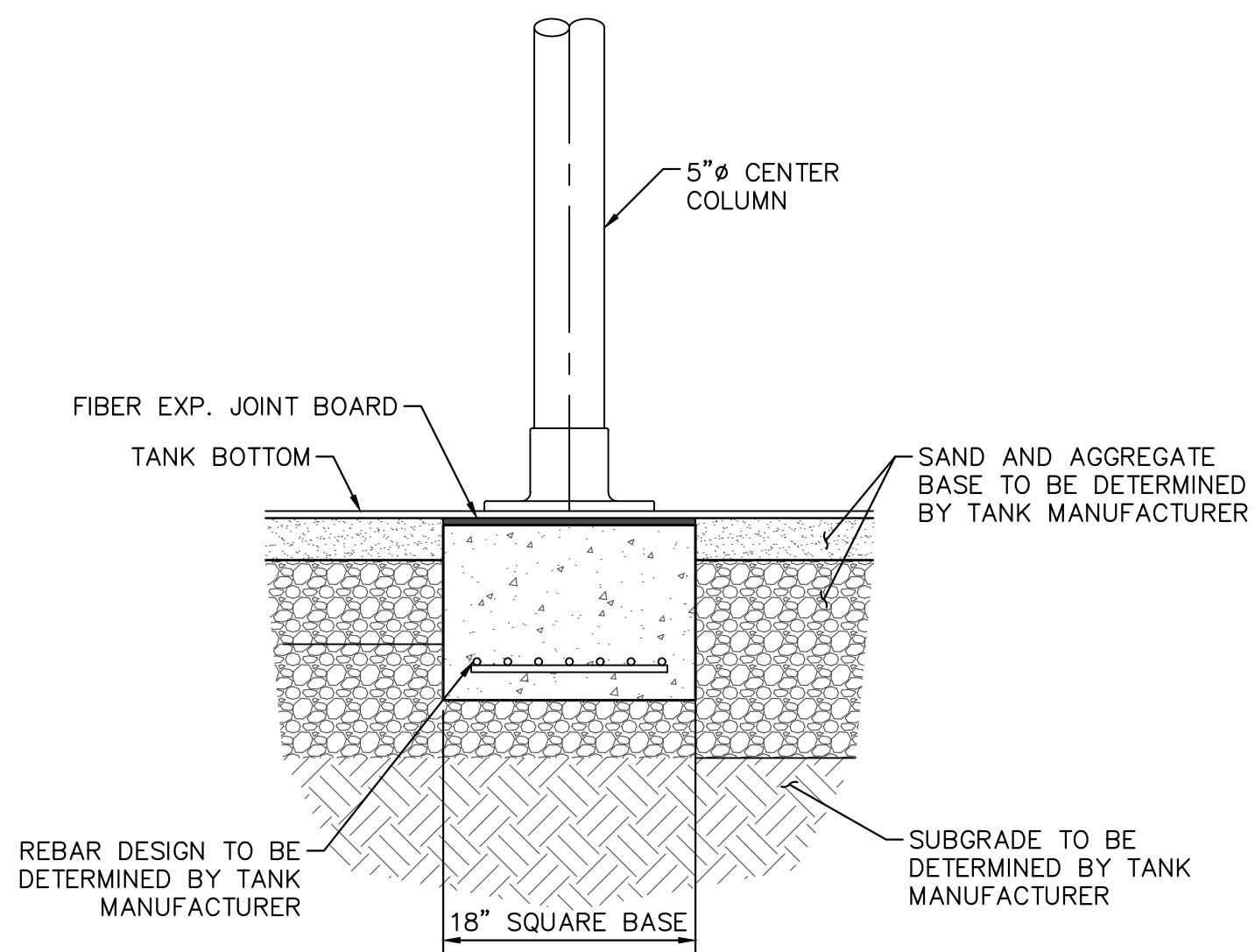
D RINGWALL FOUNDATION
SCALE: NTS



D RINGWALL FOUNDATION
SCALE: NTS

NOTES:
TANK FOUNDATION IS SHOWN FOR REFERENCE ONLY. FOUNDATION DESIGN WILL BE DESIGNED BY TANK MANUFACTURER'S SHOP DRAWINGS.

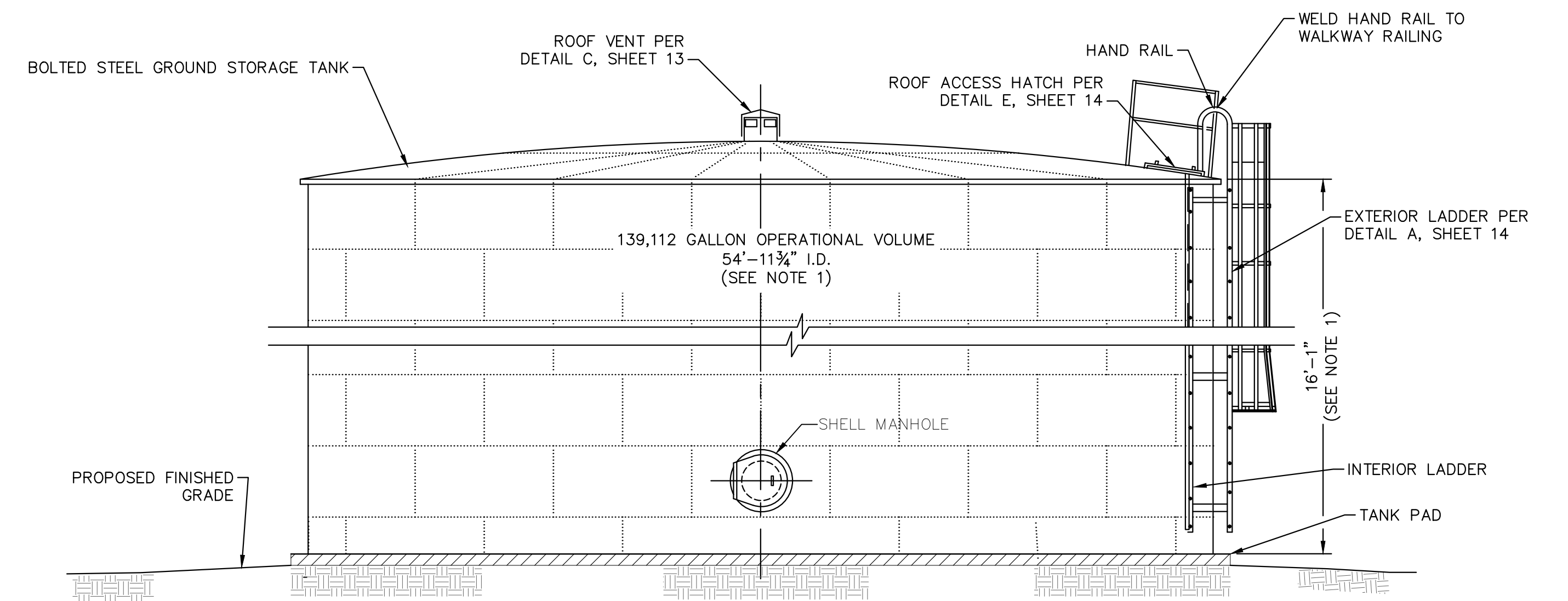
- NOTES:
- TANK MANUFACTURER: SUPERIOR TANKS OR APPROVED EQUAL.
 - CONCRETE DIMENSIONS SHOWN ARE APPROXIMATE.
 - CONCRETE RINGWALL FOUNDATION TO BE DESIGNED BY TANK MANUFACTURER'S STRUCTURAL ENGINEER AFTER SELECTION.
 - REBAR SIZE AND SPACING TO BE DETERMINED BY TANK MANUFACTURER.
 - ALL COSTS ASSOCIATED WITH THE STRUCTURAL DESIGN OF THE CONCRETE RINGWALL FOUNDATION SHALL BE INCLUDED IN THE COST OF THE STORAGE TANK.
 - TANK FOUNDATION PREPARATION SHALL BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER.
 - TANK FOUNDATION SHALL BE INSPECTED BY A STRUCTURAL ENGINEER AND GEOTECHNICAL ENGINEER.
 - PREPARE SUBGRADE PER REPORT TITLED "GEOTECHNICAL EXPLORATION PROPOSED MORONGO VALLEY WATER TANK REPLACEMENT PROJECT" DATED JANUARY 10, 2024 BY LEIGHTON CONSULTING INC.
 - FOR AN AREA EXTENDING 3 FEET OUT RADIALLY (HORIZONTALLY) FROM THE TANK FOUNDATION EXTERIOR PERIMETER, OVEREXCAVATE 3 FEET BELOW BOTTOM OF THE RING WALL FOUNDATION, OR AT LEAST 5 FEET BELOW EXISTING GRADE, WHICHEVER IS DEEPER. AFTER OVEREXCAVATION IS COMPLETED, THE EXPOSED SUBGRADE SHOULD BE SCARIFIED, MOISTURE-CONDITIONED AND COMPACTED.
 - CONCRETE DESIGN TO BE PROVIDED BY TANK MANUFACTURER.
 - REINFORCING STEEL GRADE SHALL BE DETERMINED BY TANK MANUFACTURER.
 - THE FINAL TANK DIAMETER WILL BE CONFIRMED BY TANK MANUFACTURER.



E CENTER COLUMN FOUNDATION
SCALE: NTS

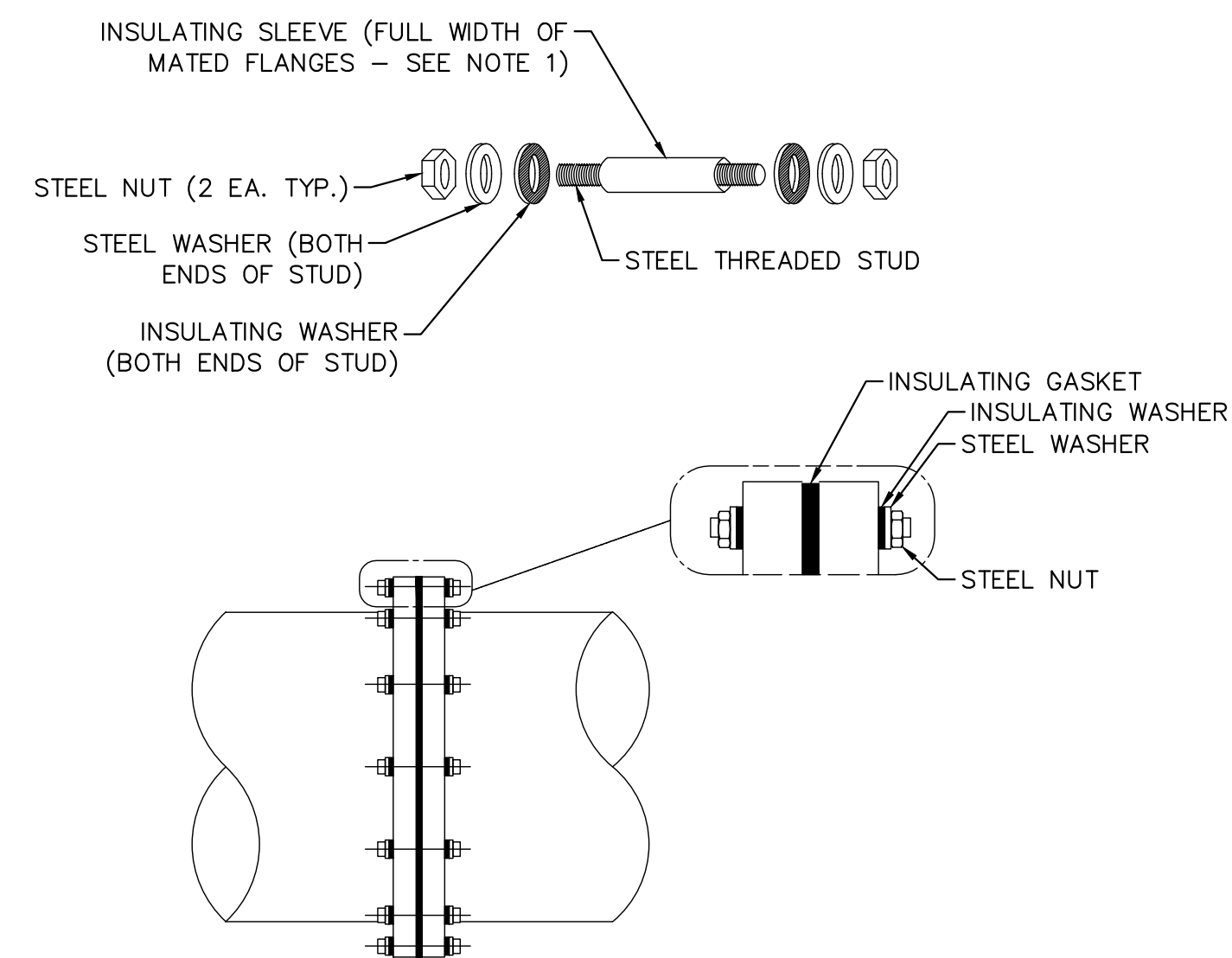
NOTES:
CENTER COLUMN FOUNDATION IS SHOWN FOR REFERENCE ONLY. CENTER COLUMN FOUNDATION WILL BE INSTALLED PER TANK MANUFACTURER'S SHOP DRAWINGS.

A TANK RINGWALL FOUNDATION
SCALE: NTS



- NOTES:
- TANK HEIGHT SHALL BE CONFIRMED BY TANK SUPPLIER PRIOR TO FABRICATION. TANK HEIGHT IS SUBJECT TO CHANGE BASED ON SITE SPECIFIC SEISMIC DESIGN PARAMETERS TO BE DETERMINED BY TANK SUPPLIER.
 - PLATES AND SHEETS USED IN THE CONSTRUCTION OF THE TANK SHELL, TANK FLOOR AND TANK ROOF, SHALL COMPLY WITH THE MINIMUM STANDARDS OF AWWA D103, LATEST EDITION

B BOLTED STEEL WATER STORAGE TANK
SCALE: NTS



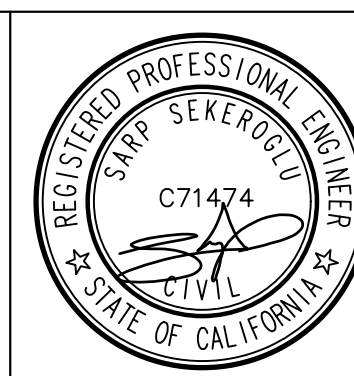
- NOTES:
- USE HALF WIDTH SLEEVES AT THREADED FLANGE BOLTS.
 - INSULATING MATERIALS:
 - GASKET- 12" AND GREATER -TYPE "E" FULLFACED NEOPRENE WITH RECTANGULAR NITRILE OR VITON O-RING SEAL. (PSI LINEBACKER OR EQUAL).
 - 12" OR LESS-TYPE "E" FULLFACED NEOPRENE FACED PHENOLIC.
 - SLEEVE- 1/32-INCH THICK, FULL LENGTH TUBE, LAMINATED G-10 GLASS
 - WASHER- 1/8-INCH THICK LAMINATED G-10 GLASS.
 - ALIGN FLANGE PROPERLY AND FOLLOW GASKET MANUFACTURER BOLT TIGHTENING SEQUENCE INSTRUCTIONS.
 - DO NOT PAINT OUTER SURFACE OF FLANGE WITH METALLIC PIGMENTED OR CONDUCTIVE PAINTS.
 - TEST MATED FLANGE WITH GAS ELECTRONICS MODEL 601 INSULATION CHECKER (OR EQUIVALENT). PRIOR TO ACCEPTANCE.

C ABOVE-GRADE INSULATING FLANGE
SCALE: NTS

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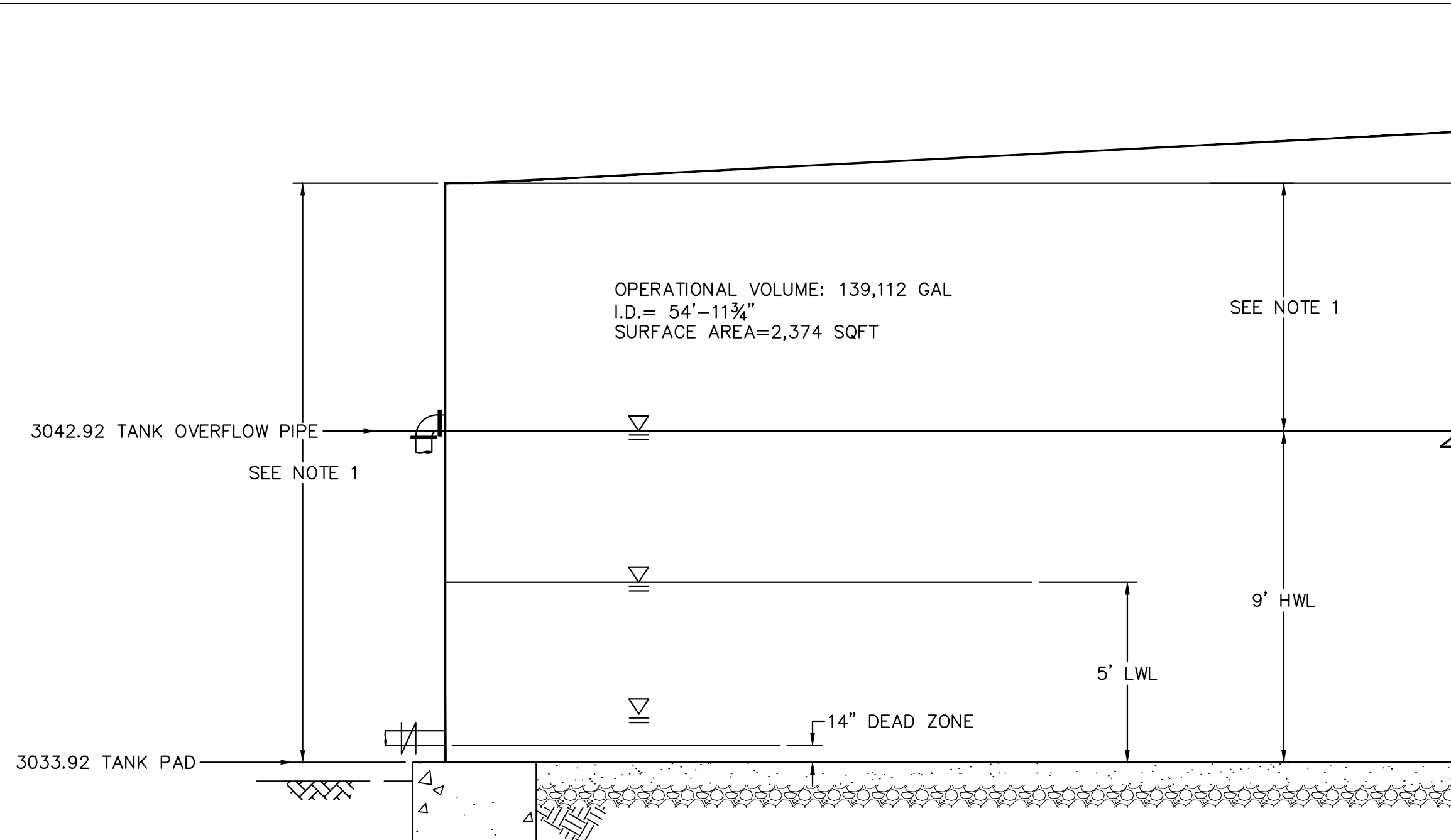
WATER TANK REPLACEMENT PLANS APPROVED BY:
SAN BERNARDINO COUNTY - PUBLIC WORKS
SPECIAL DISTRICTS

David Doublet	05.14.2024
ASSISTANT DIRECTOR	
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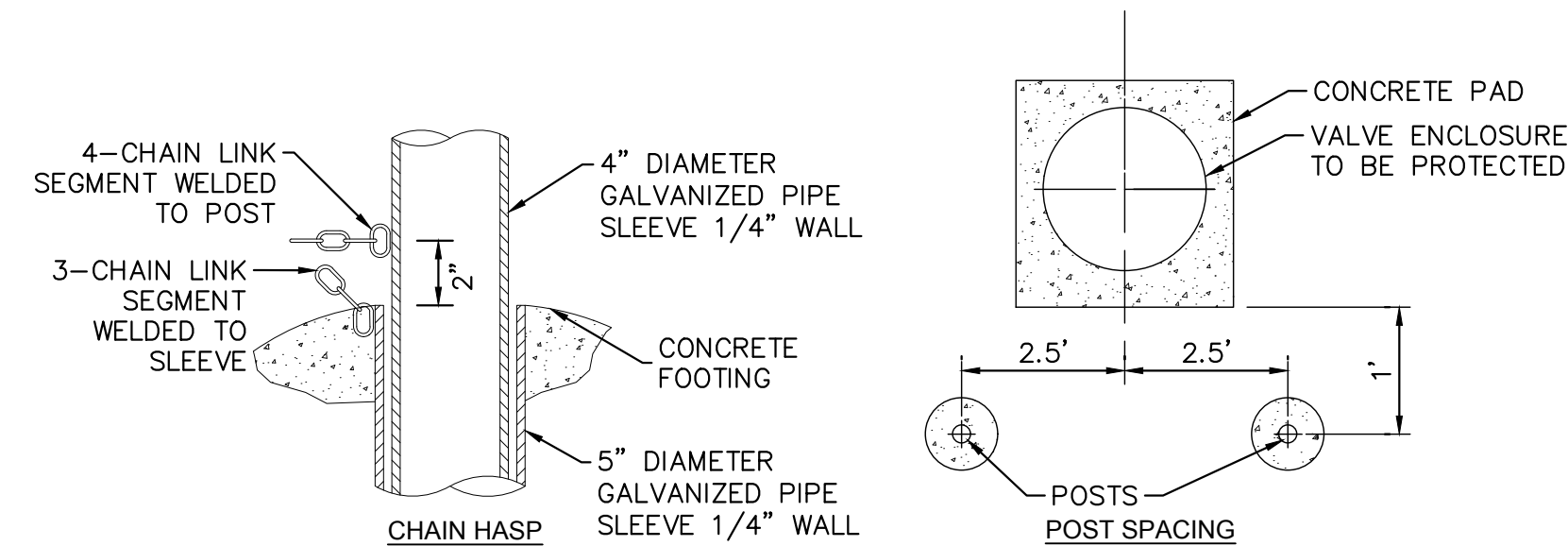
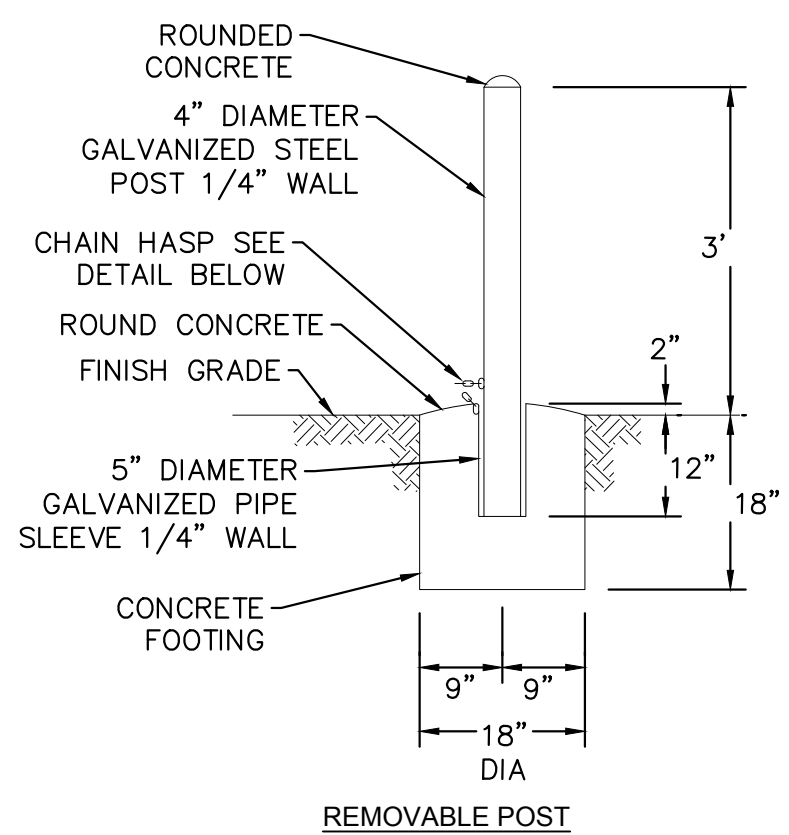
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SHEET 12 OF 17

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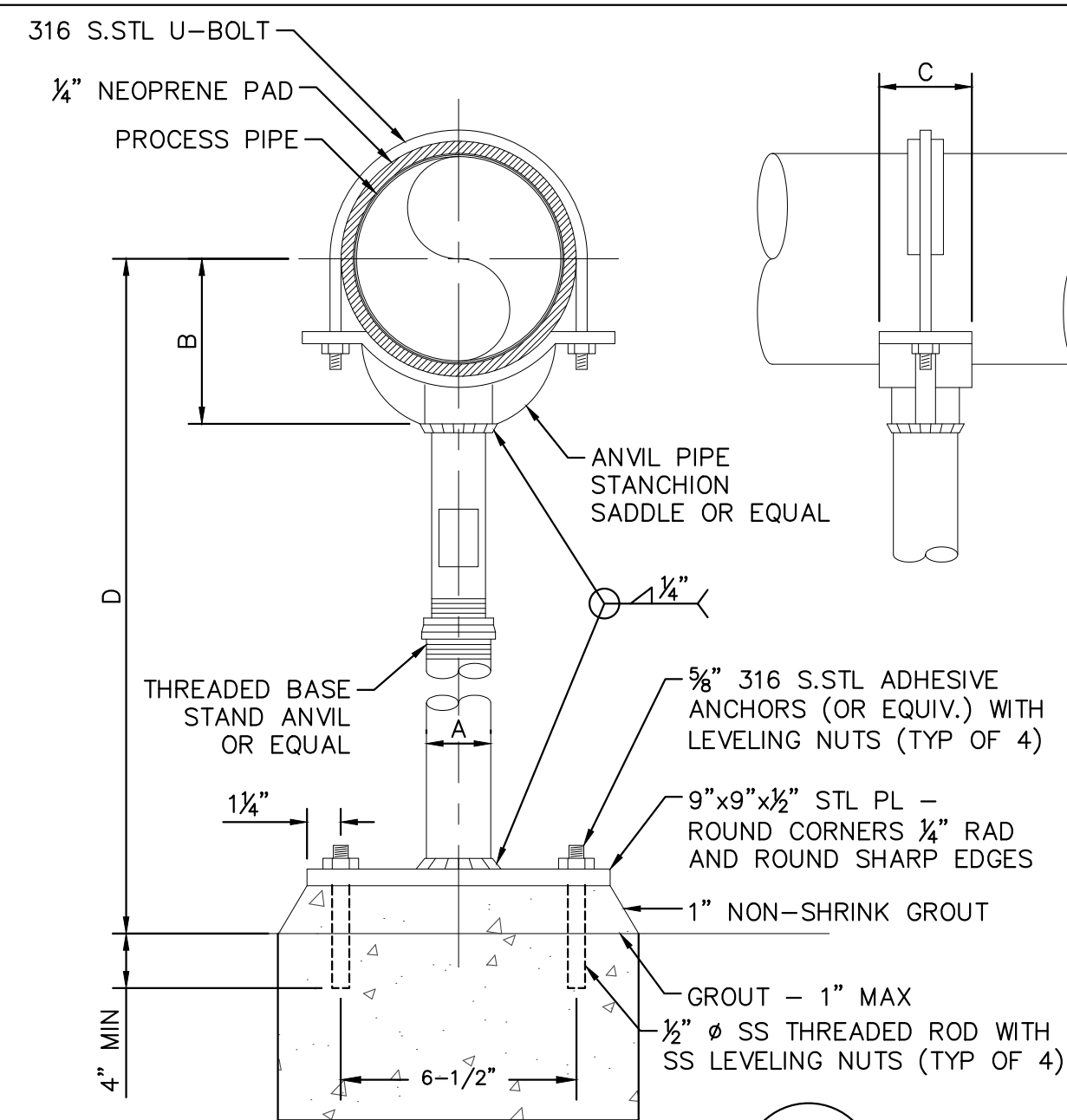


A TANK OPERATIONAL DIAGRAM
SCALE: NTS



- NOTES:**
- CHAIN TO BE 1/4" PROOF COIL CHAIN GALVANIZED STEEL. WELD 4-LINK SEGMENT TO POST AND 3-LINK SEGMENT TO SLEEVE.
 - PROTECTION POSTS SHALL BE COATED USING SAFETY YELLOW COLOR.
 - PROVIDE TWO POSTS PER ASSEMBLY, EXCEPT WHERE ASSEMBLY IS LOCATED BEHIND CONCRETE CURBS.
 - FIELD PAINT ABOVE GROUND SURFACES OF GUARD POSTS OSHA YELLOW COLOR.
 - GUARD POSTS SHALL BE STANDARD WEIGHT (SCHEDULE 40) STEEL PIPE, HOT DIPPED GALVANIZED, FILLED WITH CONCRETE WITH A DOME TOP FINISH.

E PROTECTION POST INSTALLATION
SCALE: NTS



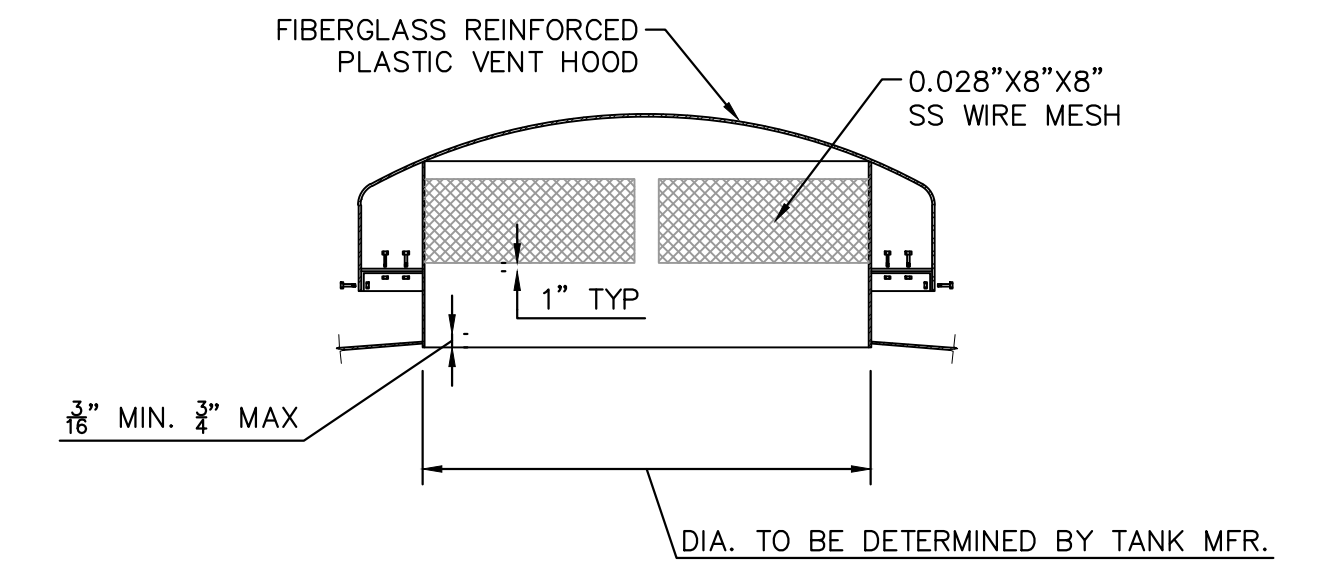
B SADDLE PIPE SUPPORT
SCALE: NTS

PIPE SIZE	A (NOM.)	B	C	D	
				MIN	MAX
4	3	4-3/16	3-5/8	6	60
5	3	4-13/16	3-5/8	6	60
6	3	5-7/16	3-5/8	8	60
8	3	6-15/16	3-5/8	8	60
10	3	8-7/16	3-5/8	10	60
12	3	9-15/16	3-5/8	12	60
14	3	10-1/2	6	6	60
16	3	11-1/2	6	8	60
18	4	13-1/2	6	8	60
20	4	14-1/2	6	10	60
24	4	17-1/2	6	12	60
26	4	18-1/2	6	6	60
30	4	20-5/8	6	8	60
32	4	21-5/8	6	8	60
36	4	23-5/8	6	10	60

* ALL DIMENSIONS IN INCHES

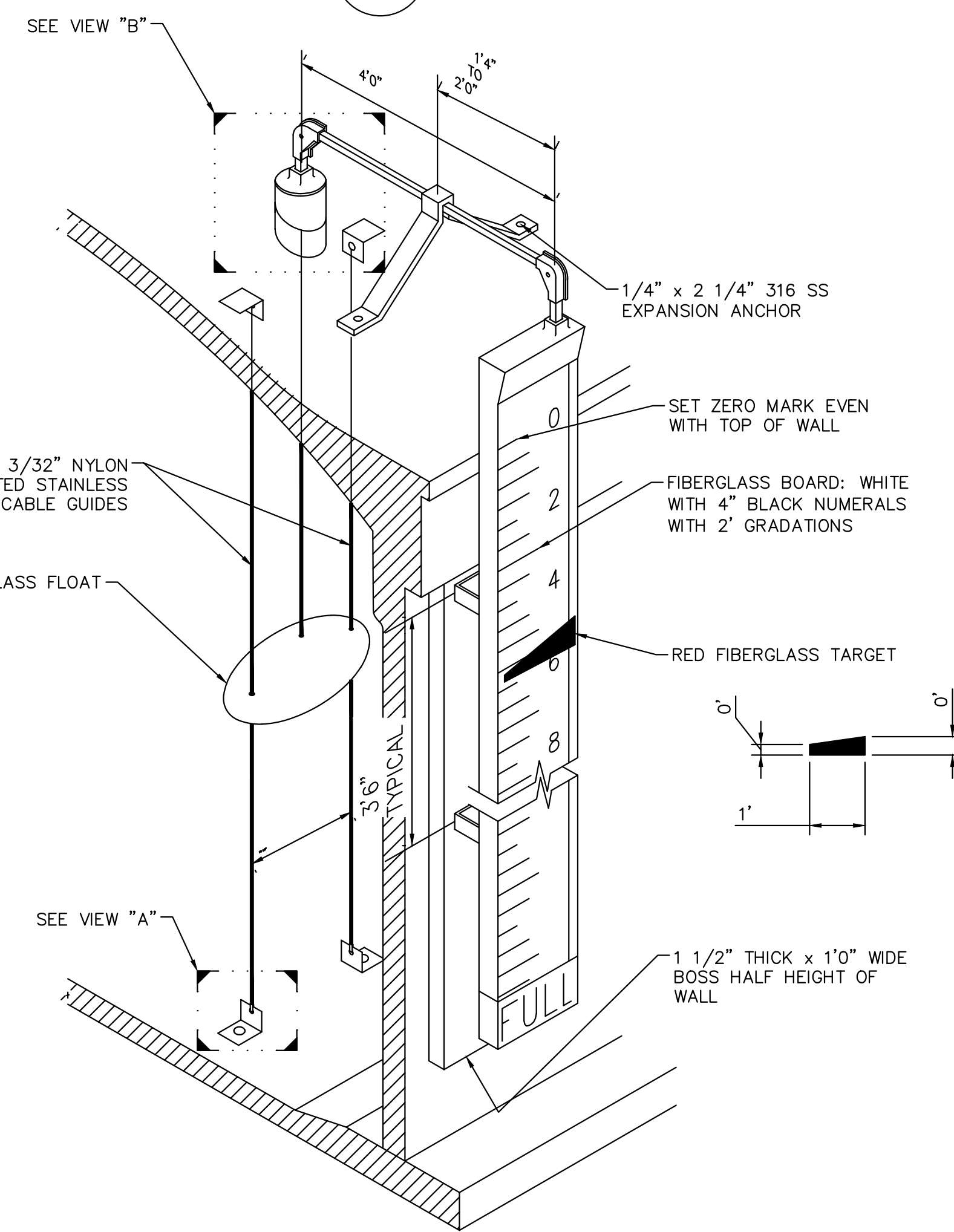
NOTES:

- HOT-DIP GALVANIZE ENTIRE PIPE SUPPORT AFTER FABRICATION (EXCEPT FOR STAINLESS STEEL FASTENING HARDWARE), OR UNLESS OTHERWISE NOTED ON THE DRAWINGS AND SPECIFICATIONS.
- SEE PLANS AND SECTIONS FOR PIPE GRADE REQUIREMENT.

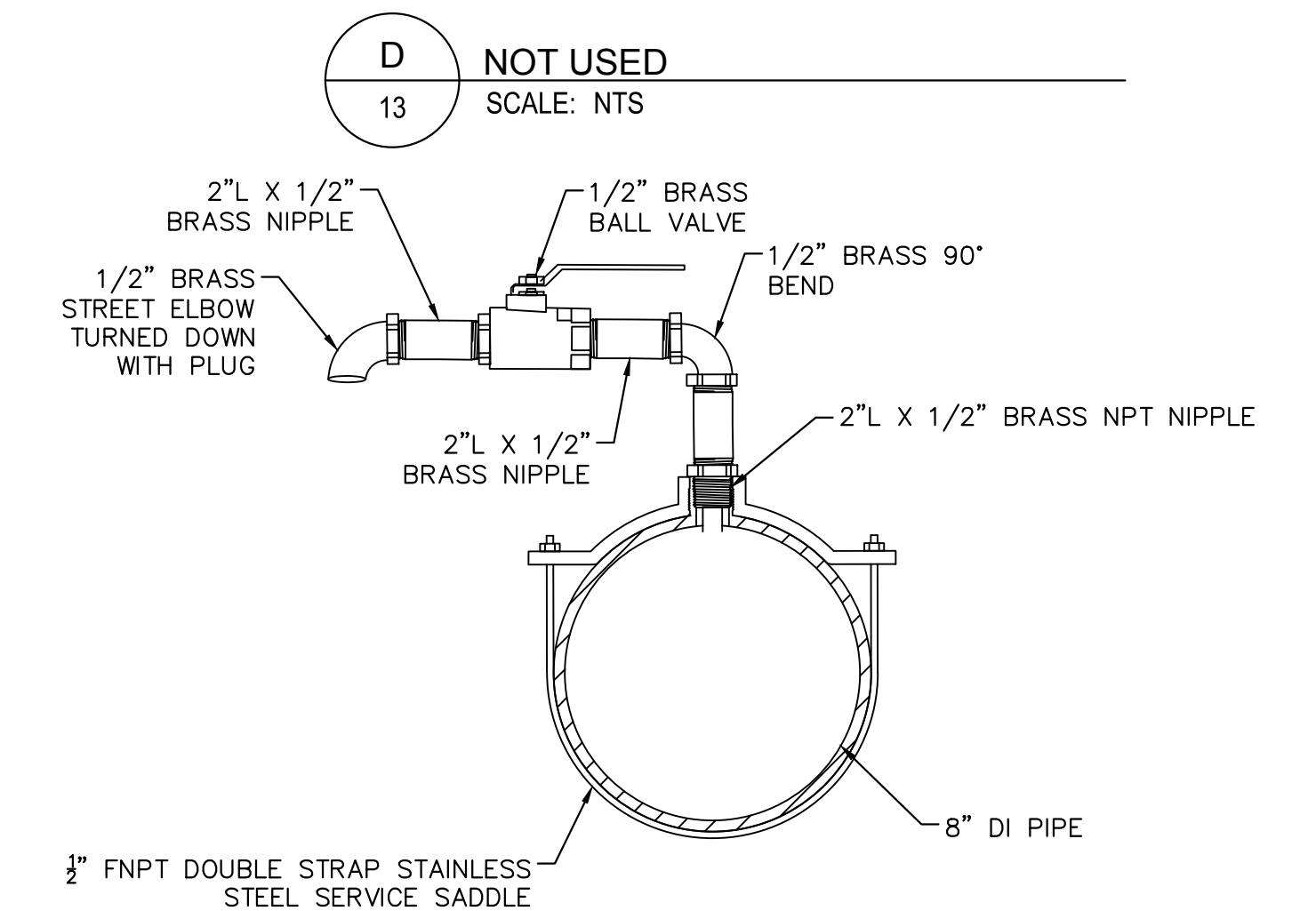


- NOTES:**
- ROOF VENT ASSEMBLY SHALL BE IN ACCORDANCE WITH AWWA D103-09.
 - THE VENT SHALL BE DESIGNED TO PREVENT THE ENTRANCE OF BIRDS OR OTHER ANIMALS BY INCLUDING STAINLESS STEEL WIRE CLOTH OR MESH.
- NOTES:**
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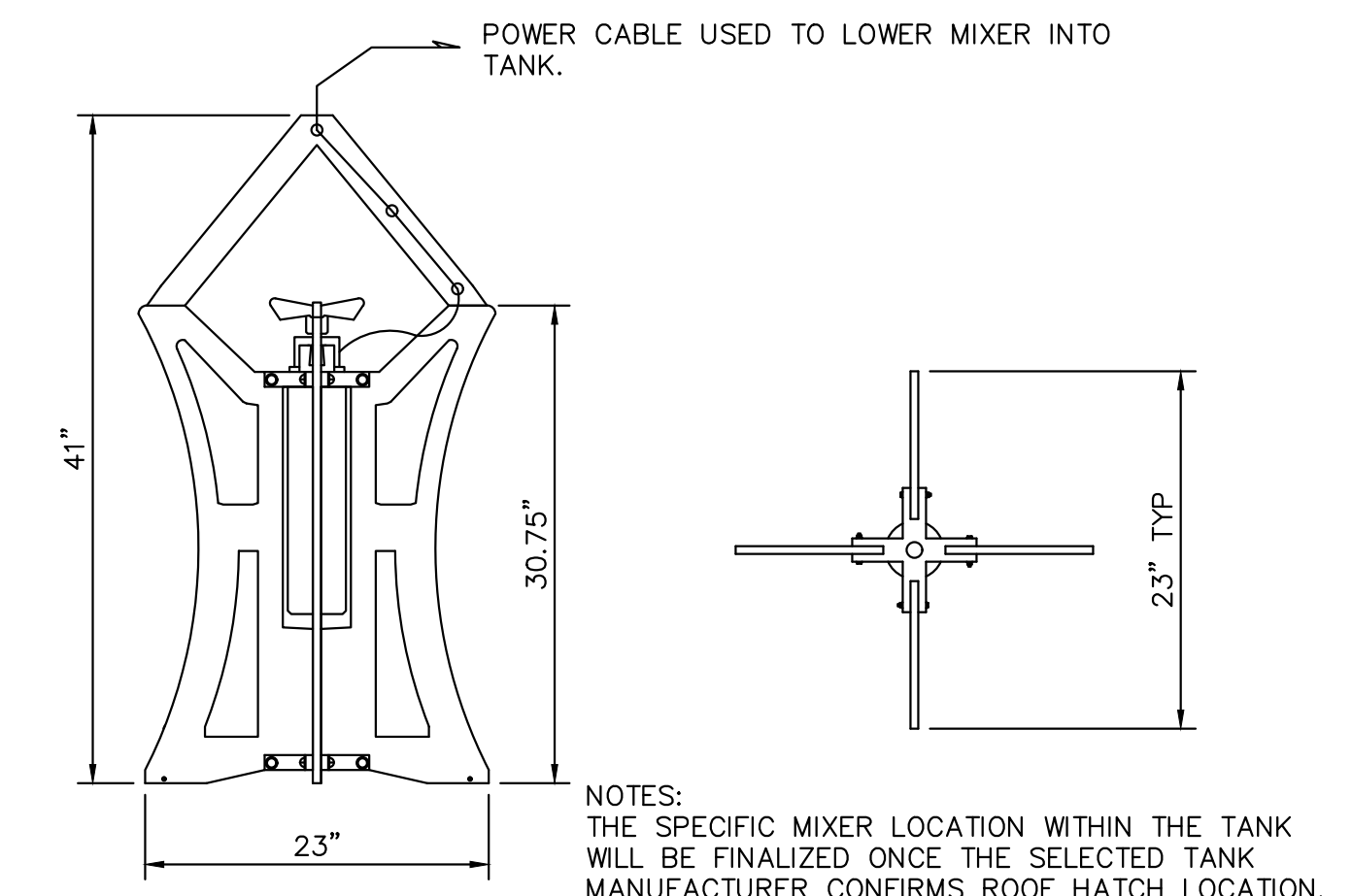
C ROOF VENT
SCALE: NTS



F TANK LEVEL INDICATOR
SCALE: NTS



G SAMPLE TAP ASSEMBLY FOR DUCTILE IRON PIPE
SCALE: NTS

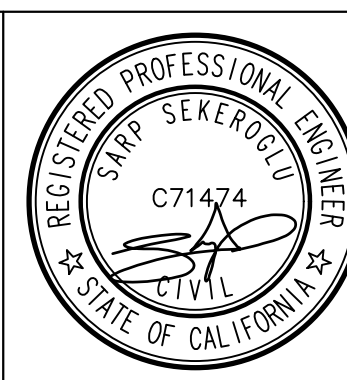


H TIDAL WAVE WATER MIXER
SCALE: NTS

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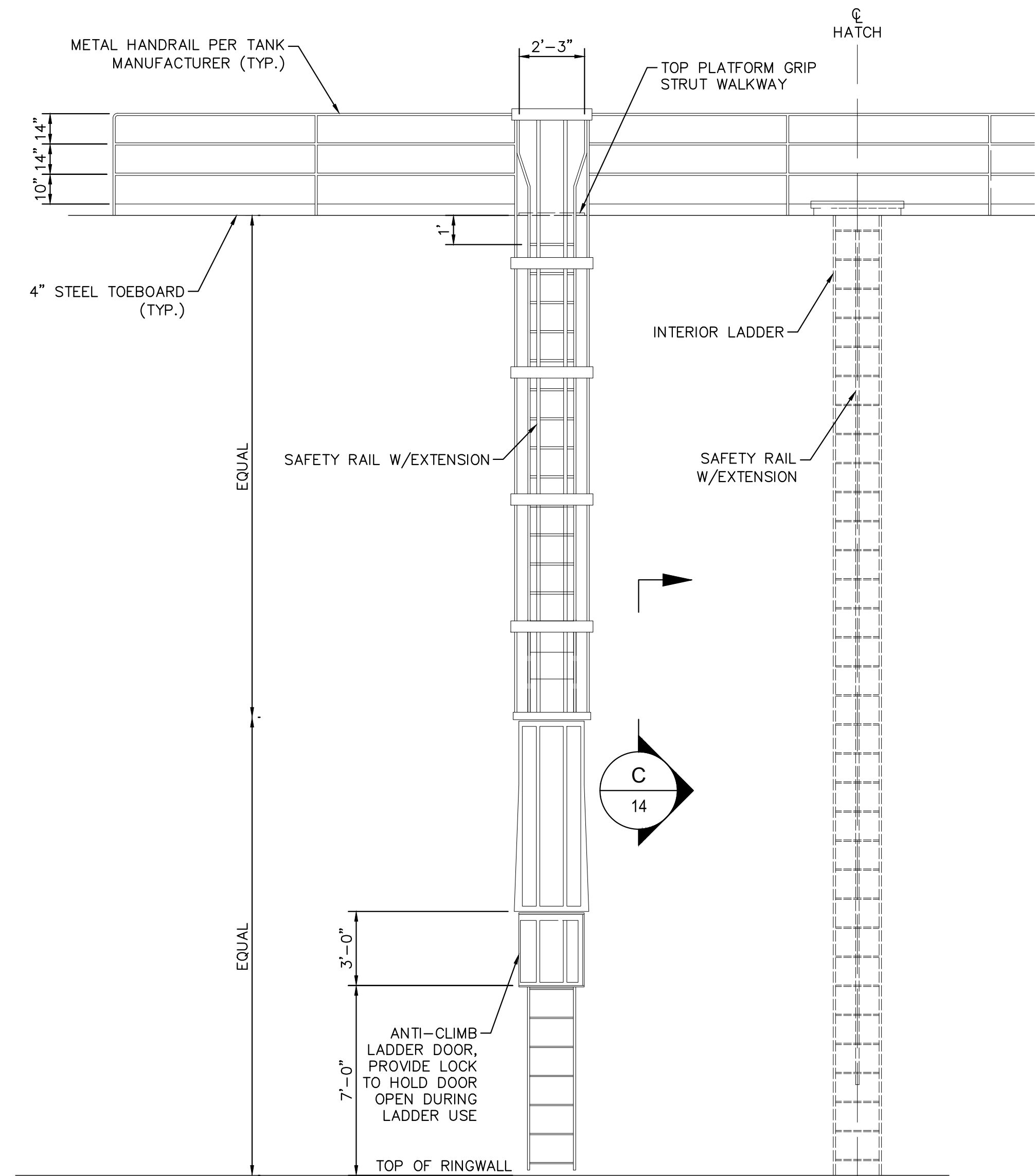
REVISIONS	
DESCRIPTION	APPR. DATE

WATER TANK REPLACEMENT PLANS APPROVED BY: SAN BERNARDINO COUNTY - PUBLIC WORKS SPECIAL DISTRICTS			
David Doublet	ASSISTANT DIRECTOR	05.14.2024	

WATER TANK REPLACEMENT PLANS
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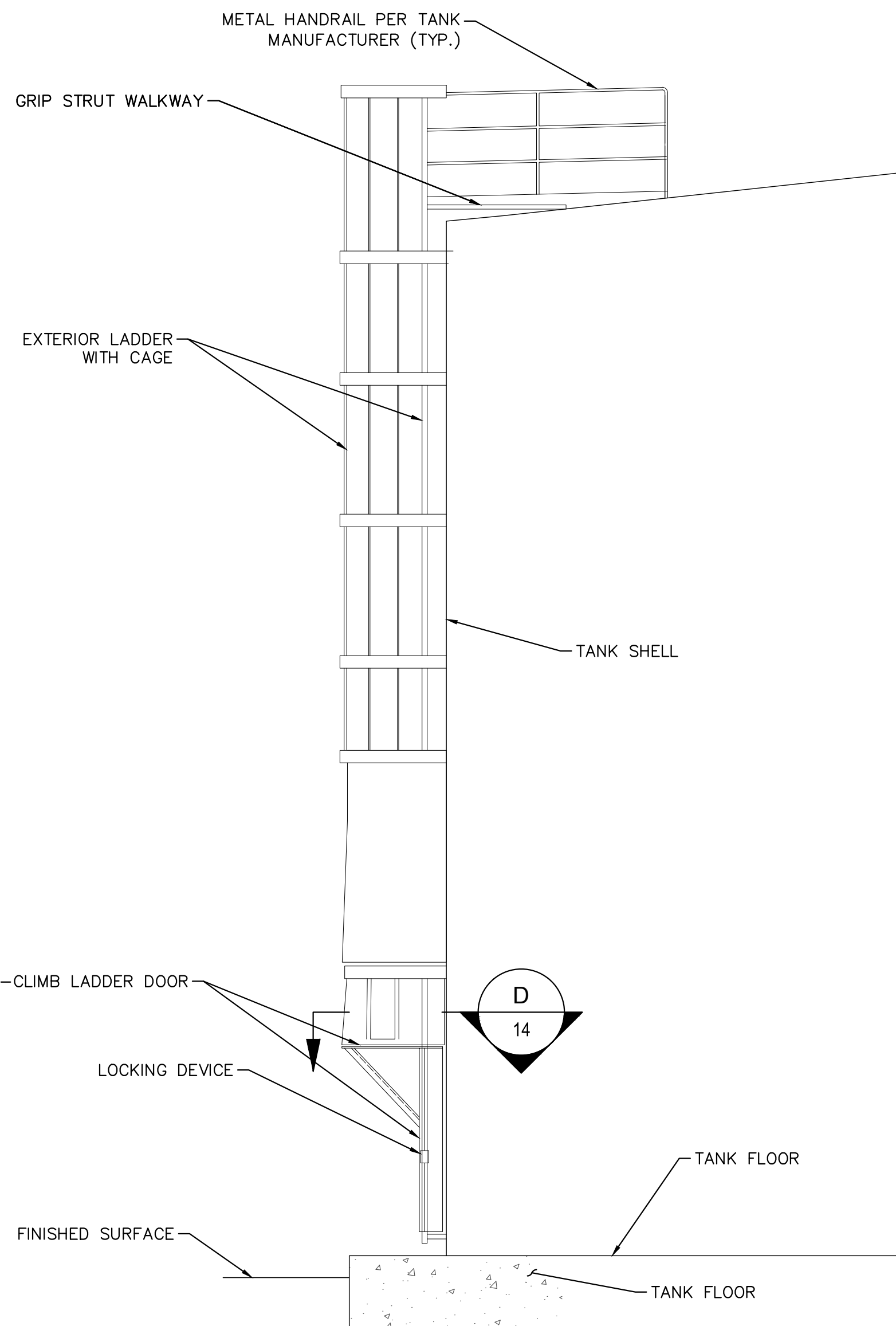
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SD003
SHEET 13 OF 17

100% SUBMITTAL



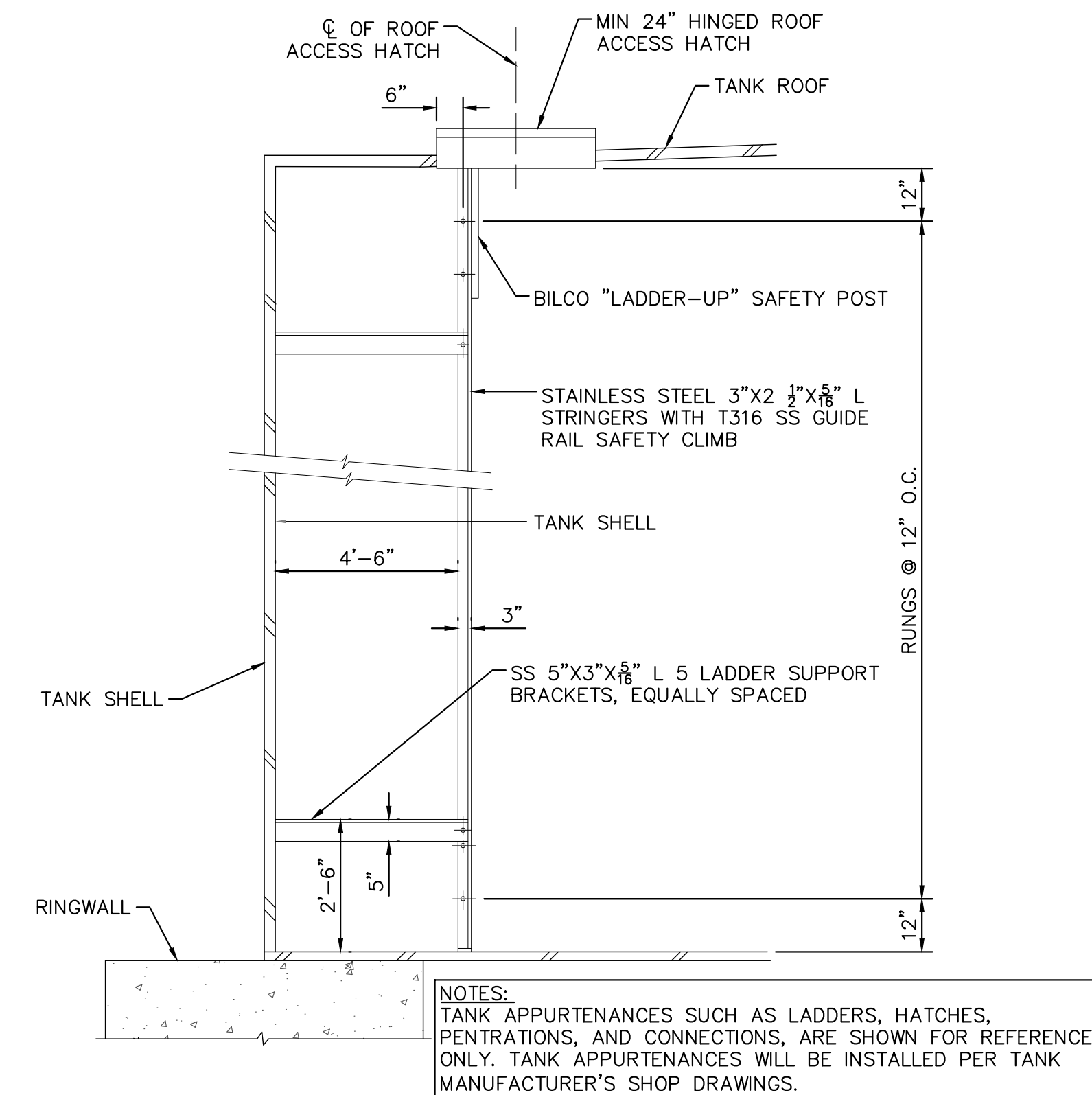
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A EXTERIOR LADDER
SCALE: NTS



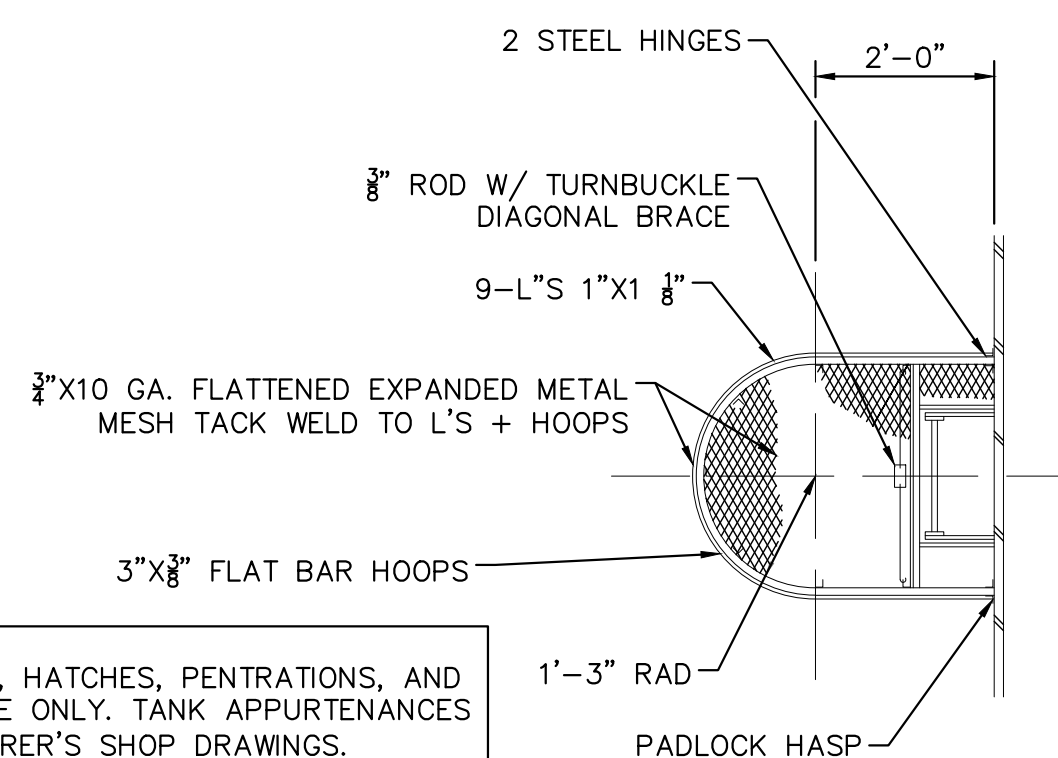
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B SECTION 1
SCALE: NTS



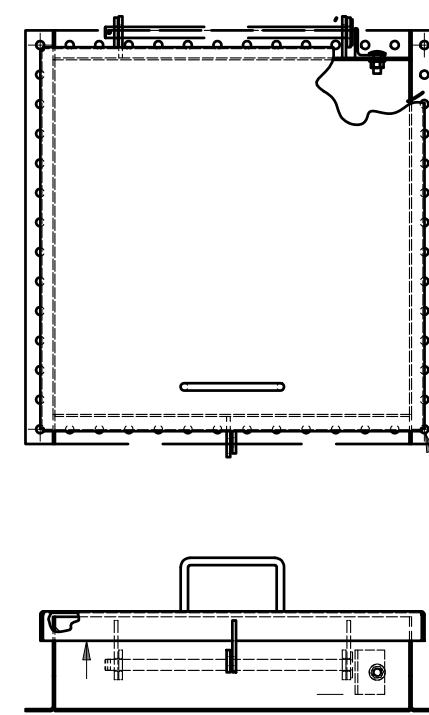
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C INTERIOR ACCESS LADDER
SCALE: NTS



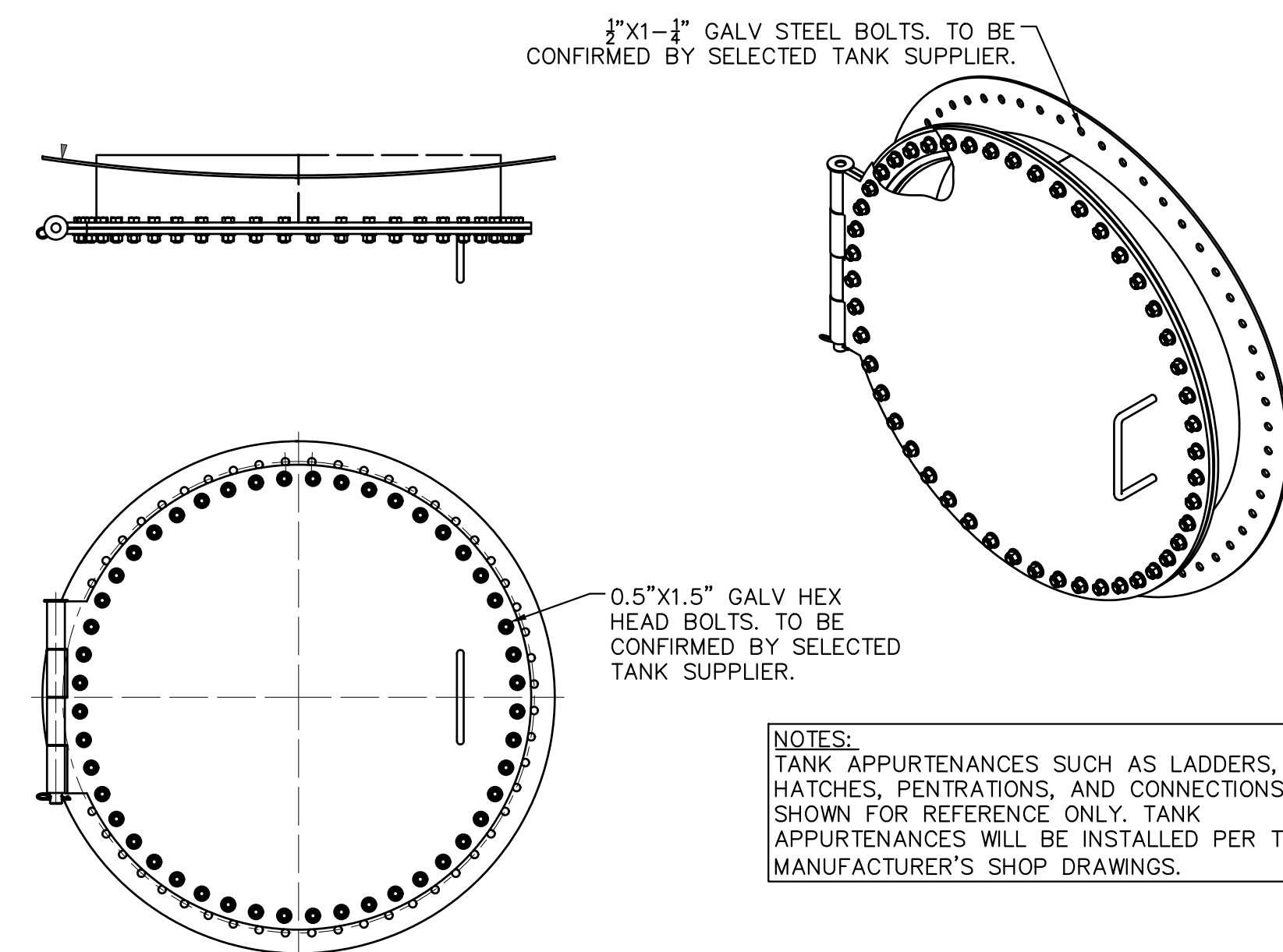
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D SECTION 2
SCALE: NTS



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E ACCESS HATCH
SCALE: NTS



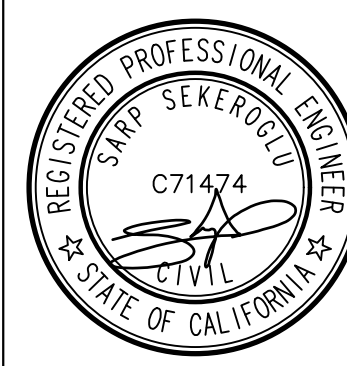
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F TYPICAL HINGED MANWAY
SCALE: NTS

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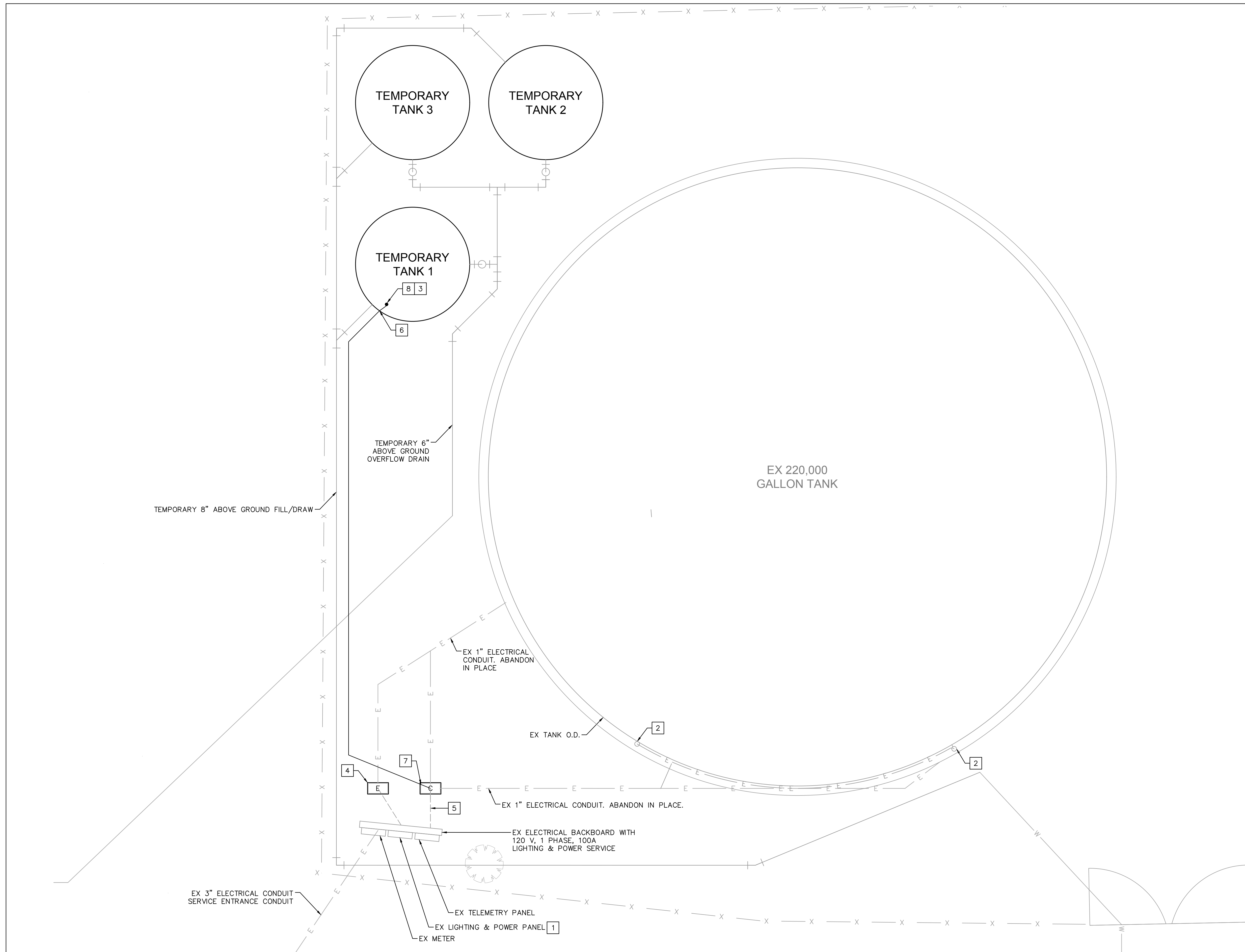
REVISIONS	DESCRIPTION	APPR.	DATE

WATER TANK REPLACEMENT PLANS APPROVED BY: SAN BERNARDINO COUNTY - PUBLIC WORKS SPECIAL DISTRICTS			
David Doublet			05.14.2024
ASSISTANT DIRECTOR			
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SHEET 14 OF 17

100% SUBMITTAL



ELECTRICAL NOTES

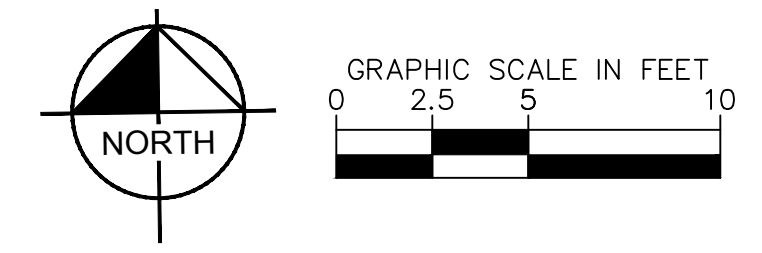
- 1] VERIFY POWER HAS BEEN DISCONNECTED PRIOR TO COMMENCING WORK. SEE PANEL SCHEDULE AND SINGLE LINE DIAGRAM ON DETAIL D, SHEET 17.
- 2] CONTRACTOR TO REMOVE TANK LIGHTING AND LIGHT FEEDERS.
- 3] DISTRICT PERSONNEL TO MAKE CONNECTION TO NEW TRANSDUCER AND CONFIRM SCADA CONNECTIVITY.
- 4] CONTRACTOR TO INTERCEPT POWER CONDUITS ENTERING TANK AND STUB THEM UP FOR FUTURE INTERCONNECTIONS, SEE SHEET 15. PLACE PULLBOX OVER CONDUIT INTERCONNECTION POINT. SEE DETAIL C, SHEET 17. INSTALL MULE TAPE IN TEMPORARY 1" PVC COATED RGS ABOVE GROUND CONDUIT.
- 5] REPLACE COMMUNICATION WIRES EXTENDING BACK TO TELEMETRY PANEL, AND EXTEND THEM TO TRANSDUCER RELOCATED TO THE TEMPORARY TANK.
- 6] MOUNT 1" RGS CONDUIT ALONG NEW TANK WALL AND MAKE FINAL CONNECTION TO 6"x6" JUNCTION BOX AT TOP OF TANK.
- 7] INSTALL 1" PVC COATED RGS ABOVE GROUND CONDUIT FROM PULLBOX TO BASE OF TEMPORARY TANK. SEE TRANSITION DETAIL B, SHEET 17. TERMINATE WIRE ON TRANSDUCER AT THE TOP OF THE TANK. REPLACE WIRE FEEDING TRANSDUCER WITH AN EQUAL. EXTEND CABLE FROM THE TELEMETRY PANEL TO THE TRANSDUCER'S NEW LOCATION.
- 8] RECONNECT RELOCATED TRANSDUCER TO THE TEMPORARY TANK. CONTRACTOR TO COMPLETE NECESSARY COMMUNICATION AND CONTROL TERMINATIONS FROM IN FIELD EQUIPMENT TO TELEMETRY PANEL AS NECESSARY FOR A COMPLETE WORKING SYSTEM.

LEGEND

- EXISTING UNDER GROUND ELECTRICAL CONDUIT - REUSE
- - - - - ABANDONED ELECTRICAL/COMMUNICATION CONDUIT
- — — — — ABOVE GROUND ELECTRICAL CONDUIT
- [E] PULL BOX (SIZE AS REQUIRED)
- [C]

NOTES

1. CONFIRM HOOKUP REQUIREMENTS FOR ELECTRICAL AND MECHANICAL EQUIPMENT PRIOR TO INSTALLING UNDERGROUND CONDUIT AND STUB-UPS. MISSING CONDUITS, INCORRECT SIZING, OR OTHER ISSUES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BACKFILL.
2. CONDUIT ROUTING SHOWN IS GENERALLY DIAGRAMMATIC AND DOES NOT INDICATE TRENCH WIDTH OR TRENCH LAYOUT. FOR CONDUITS OUTSIDE OF BUILDINGS, IF THE CONTRACTOR WANTS TO RUN CONDUITS IN ROUTES OTHER THAN THOSE SHOWN, THEY SHALL SPECIFY THE REASON FOR THE CHANGE AND SUBMIT THE PLAN FOR APPROVAL PRIOR TO INSTALLATION.
3. ALL WORK SHALL CONFORM TO LOCAL CODES AND NATIONAL ELECTRIC CODE.
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5. INSTALL UNDERGROUND NON-DUCTBANK CONDUITS PER ELECTRICAL DETAIL A SHEET 17.
6. CONDUIT TRANSITIONS SHALL BE PER EXPOSED CONDUIT TRANSITION DETAIL B, SHEET 17.
7. REPAIR SURFACE TO PREVIOUS CONDITION FOR ALL UNDERGROUND CONDUIT ROUTES. GROUT, CAULK, AND PAINT ANY PENETRATIONS INTO STRUCTURES FOR WATER TIGHT SEAL.
8. USE SST EXPANSION WEDGE ANCHORS OR EPOXY ANCHORS AS NECESSARY FOR EQUIPMENT MOUNTING.
9. SEE SPECIFICATIONS AND EXPOSED TRANSITION DETAIL OR EQUIPMENT SPECIFIC DETAIL FOR CONDUIT TRANSITION MATERIALS AND METHODS FROM BELOW GROUND TO EXPOSED PORTIONS OF RUN.
10. CONDUITS OVER 15 FT LENGTH (EITHER EMPTY OR WITH CONDUITS SIZED LESS THAN #8 AWG). SHALL INCLUDE A POLY PULL STRING. STRING SHALL BE TIED OFF AT EACH END.
11. USE CONDUIT SPACERS TO SUPPORT CONDUITS AND MAINTAIN SPACING (3" INTERVALS).
12. MAXIMUM DEPTH OF TRENCH SHALL BE 42". DESIGN TRENCH AND INSTALL TO MAINTAIN 6" VERTICAL CLEARANCE AND 12" HORIZONTAL CLEARANCE FROM PIPES.



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MORONGO VALLEY WATER TANK
REPLACEMENT PROJECT

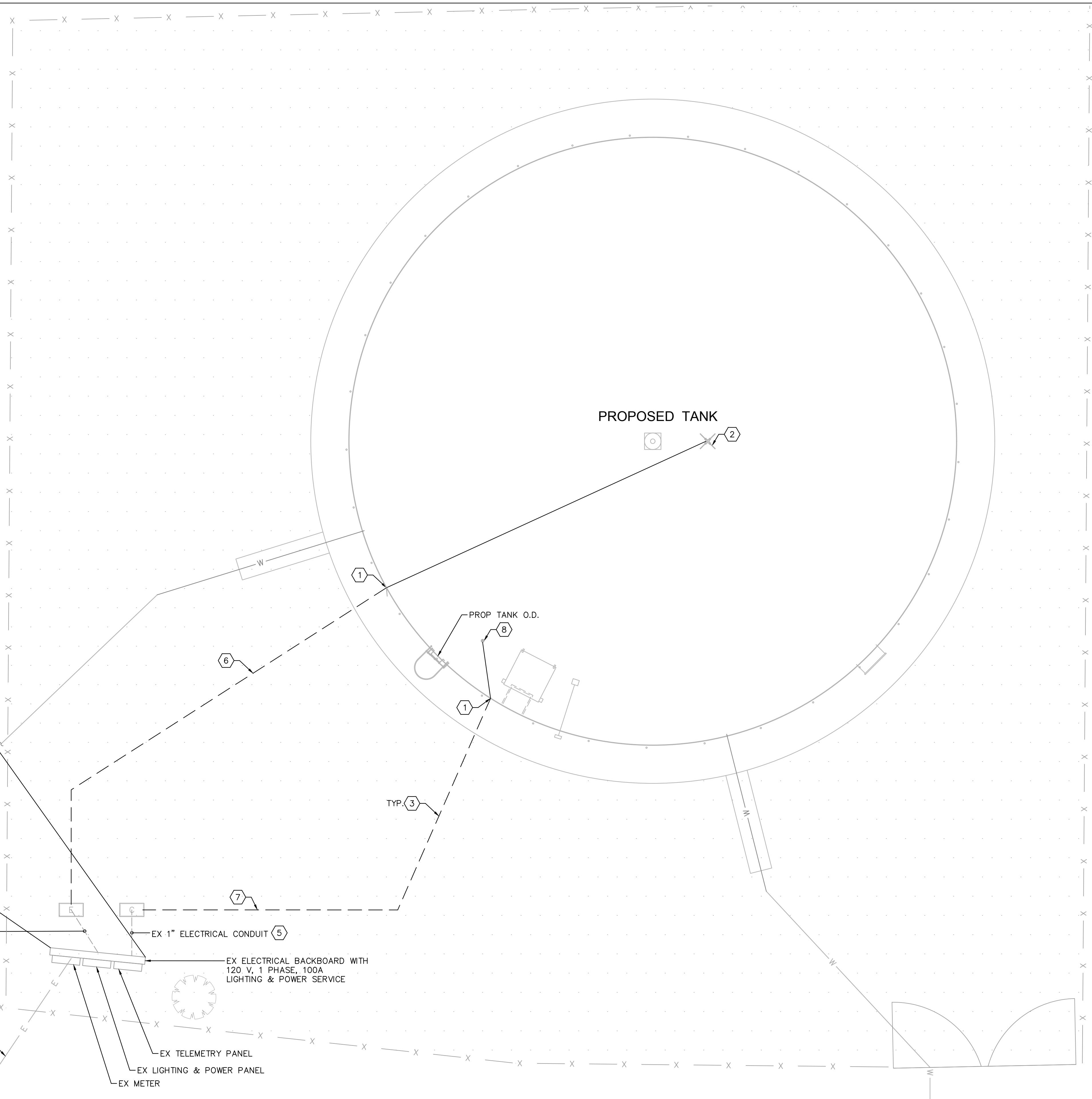
TEMPORARY ELECTRICAL PLAN

DWG NO.
30.30.00157

FILE NO.
SD003

SHEET 15 OF 17

100% SUBMITTAL



ELECTRICAL NOTES

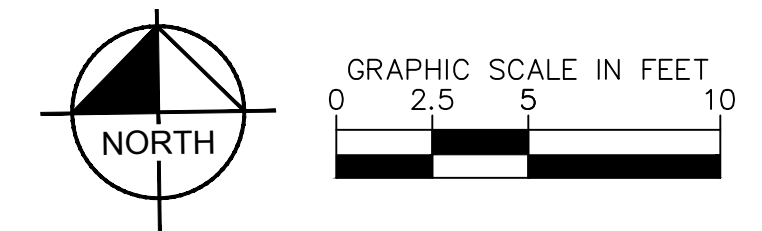
- 1 CONNECT ELECTRICAL CONDUIT TO TANK
- 2 CONTRACTOR TO INSTALL TIDAL WAVE WATER MIXER PER MANUFACTURER SPECIFICATIONS FOR A COMPLETE WORKING SYSTEM. FINAL LOCATION OF THE MIXER TO BE DETERMINED BY THE TANK MANUFACTURER DURING CONSTRUCTION.
- 3 SEE DETAIL A SHEET 17 FOR BEDDING AND TRENCHING.
- 4 EXTEND FEEDER CONDUCTORS FROM THE LIGHTING AND POWER PANEL TO MIXER LOCATED AT THE TANK. REUSE EXISTING CONDUIT FROM PULLBOX TO LIGHTING AND POWER PANEL. SEE PANEL SCHEDULE ON SHEET 17, DETAIL E.
- 5 REPLACE COMMUNICATION WIRES EXTENDING BACK TO TELEMETRY PANEL, AND EXTEND THEM TO TRANSDUCER RELOCATED TO THE NEW TANK. REUSE EXISTING CONDUIT FROM PULLBOX TO TELEMETRY PANEL.
- 6 INSTALL 1" SCHED 40 PVC UNDERGROUND CONDUIT WITH (2) #12 AWG AND (1) #12 GND WIRE FROM PULLBOX TO BASE OF TANK AND TRANSITION TO PVC COATED RGS CONDUIT. SEE TRANSITION DETAIL B, 17. TERMINATE WIRE AT MIXER.
- 7 INSTALL 1" SCHED 40 PVC UNDERGROUND CONDUIT FROM PULLBOX TO BASE OF TANK, AND TRANSITION TO PVC COATED RGS CONDUIT. SEE TRANSITION DETAIL B, 17. REPLACE WIRE FEEDING EXISTING TRANSDUCER WITH EQUAL FROM THE TELEMETRY PANEL TO THE TRANSDUCER'S NEW LOCATION. TERMINATE WIRE ON TRANSDUCER AT THE TOP OF THE TANK.
- 8 RECONNECT RELOCATED TRANSDUCER TO THE NEW TANK. CONTRACTOR TO COMPLETE NECESSARY COMMUNICATION AND CONTROL TERMINATIONS FROM IN FIELD EQUIPMENT TO TELEMETRY PANEL AS NECESSARY FOR A COMPLETE WORKING SYSTEM.

LEGEND

- EXISTING UNDER GROUND ELECTRICAL CONDUIT - REUSE
- ABOVE GROUND ELECTRICAL CONDUIT
- [E] PULL BOX (SIZE AS REQUIRED)
- [C] PULL BOX (SIZE AS REQUIRED)

NOTES

1. CONFIRM HOOKUP REQUIREMENTS FOR ELECTRICAL AND MECHANICAL EQUIPMENT PRIOR TO INSTALLING UNDERGROUND CONDUIT AND STUB-UPS. MISSING CONDUITS, INCORRECT SIZING, OR OTHER ISSUES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BACKFILL.
2. CONDUIT ROUTING SHOWN IS GENERALLY DIAGRAMMATIC AND DOES NOT INDICATE TRENCH WIDTH OR TRENCH LAYOUT. FOR CONDUITS OUTSIDE OF BUILDINGS, IF THE CONTRACTOR WANTS TO RUN CONDUITS IN ROUTES OTHER THAN THOSE SHOWN, THEY SHALL SPECIFY THE REASON FOR THE CHANGE AND SUBMIT THE PLAN FOR APPROVAL PRIOR TO INSTALLATION.
3. ALL WORK SHALL CONFORM TO LOCAL CODES AND NATIONAL ELECTRIC CODE.
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5. INSTALL UNDERGROUND NON-DUCTBANK CONDUITS PER ELECTRICAL DETAIL A, SHEET 17.
6. CONDUIT TRANSITIONS SHALL BE PER EXPOSED CONDUIT TRANSITION DETAIL B, SHEET 17.
7. REPAIR SURFACE TO PREVIOUS CONDITION FOR ALL UNDERGROUND CONDUIT ROUTES. GROUT, CAULK, AND PAINT ANY PENETRATIONS INTO STRUCTURES FOR WATER TIGHT SEAL.
8. USE SST EXPANSION WEDGE ANCHORS OR EPOXY ANCHORS AS NECESSARY FOR EQUIPMENT MOUNTING.
9. SEE SPECIFICATIONS AND EXPOSED TRANSITION DETAIL OR EQUIPMENT SPECIFIC DETAIL FOR CONDUIT TRANSITION MATERIALS AND METHODS FROM BELOW GROUND TO EXPOSED PORTIONS OF RUN.
10. CONDUITS OVER 15 FT LENGTH (EITHER EMPTY OR WITH CONDUITS SIZED LESS THAN #8 AWG). SHALL INCLUDE A POLY PULL STRING. STRING SHALL BE TIED OFF AT EACH END.
11. USE CONDUIT SPACERS TO SUPPORT CONDUITS AND MAINTAIN SPACING (3' INTERVALS).
12. MAXIMUM DEPTH OF TRENCH SHALL BE 42". DESIGN TRENCH AND INSTALL TO MAINTAIN 6" VERTICAL CLEARANCE AND 12" HORIZONTAL CLEARANCE FROM PIPES.



UNDERGROUND SERVICE ALERT

Call: TOLL FREE
1-800-227-2600
OR
811

TWO WORKING DAYS BEFORE YOU DIG

BENCHMARK:
CCS83 ZONE 5, NAD83(2011), EPOCH 2010.0

BASIS OF BEARINGS:
FD GLO BRASS CAP UP 0.6', CN 1/16 COR S.12, PER RS 103/74.
ELEVATION DETERMINED VIA STATIC GPS OBSERVATION, PROCESSED THROUGH OPUS.
NAVD-88 ELEV = 3066.588'



Kimley»Horn

401 B STREET, SUITE 600, SAN DIEGO, CA 92101
PHONE: (619) 234-9411 WWW.KIMLEY-HORN.COM

PREPARED UNDER THE SUPERVISION OF:
SARP SEKEROGLU R.C.E. No. 71474 EXP. 12/31/2025

04/10/2024

REVISIONS	
DESCRIPTION	APPR. DATE

WATER TANK REPLACEMENT PLANS APPROVED BY:
SAN BERNARDINO COUNTY - PUBLIC WORKS
SPECIAL DISTRICTS

David Doublet 05.14.2024
ASSISTANT DIRECTOR

APPROVALS	REVIEWER	INITIAL	DATE
	PROJECT MANAGER		05.14.2024
	DEPUTY DIRECTOR		05.14.2024
	WAS, DIVISION MANAGER		05.14.2024

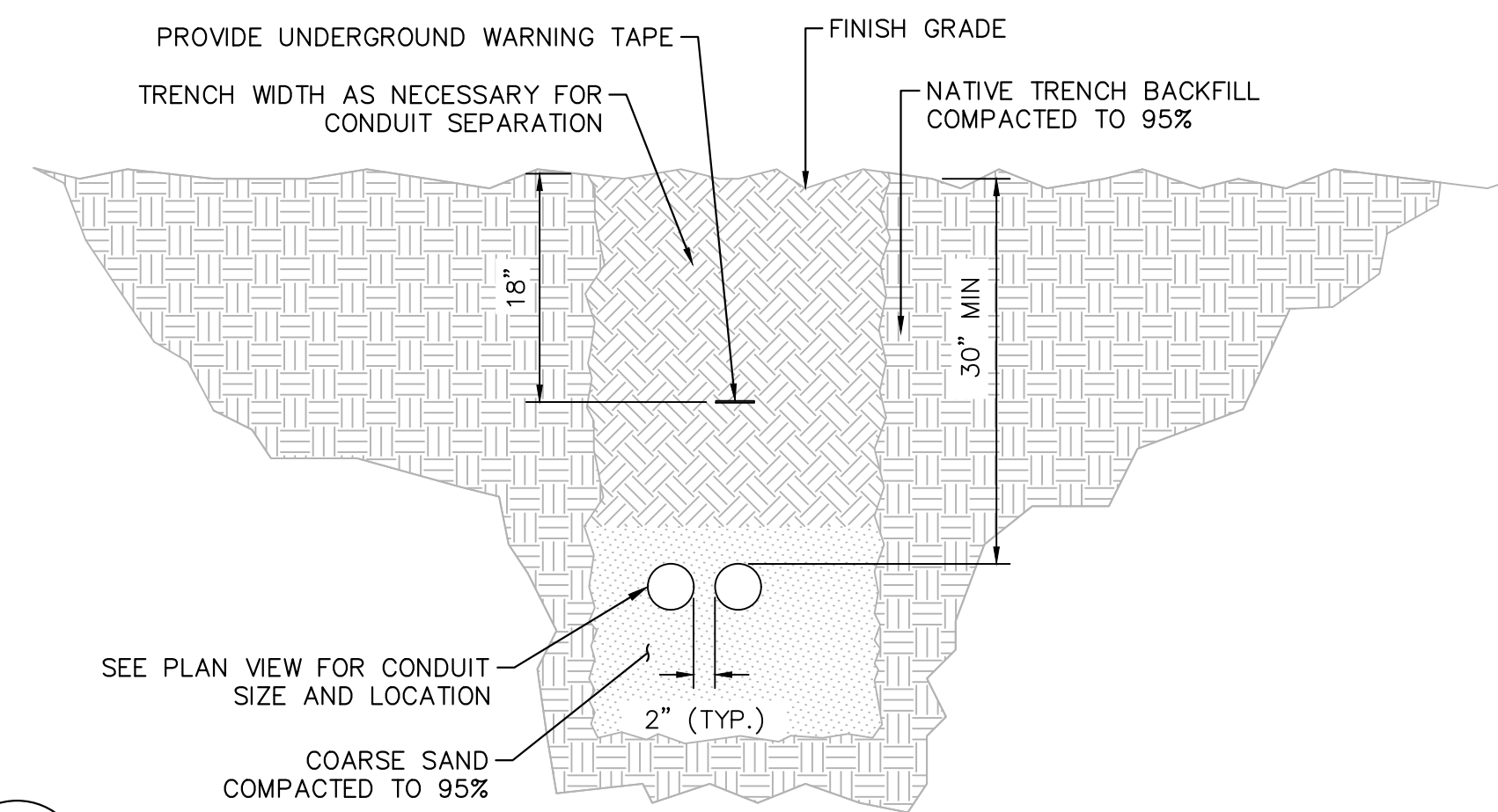
WATER TANK REPLACEMENT PLANS

APN: 0580-241-16-0000
MORONGO VALLEY WATER TANK
REPLACEMENT PROJECT

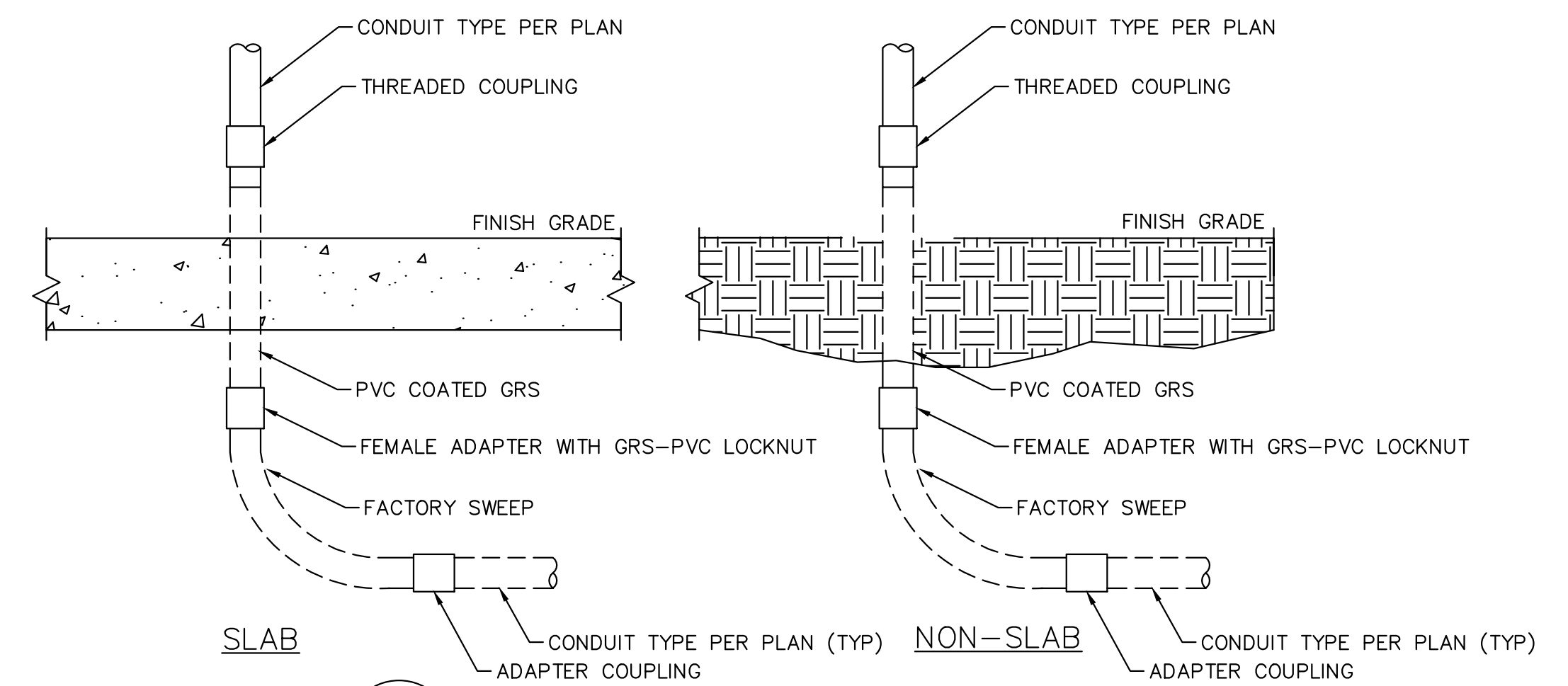
ELECTRICAL SITE PLAN

DWG NO. 30.30.00157
FILE NO. SD003
SHEET 16 OF 17

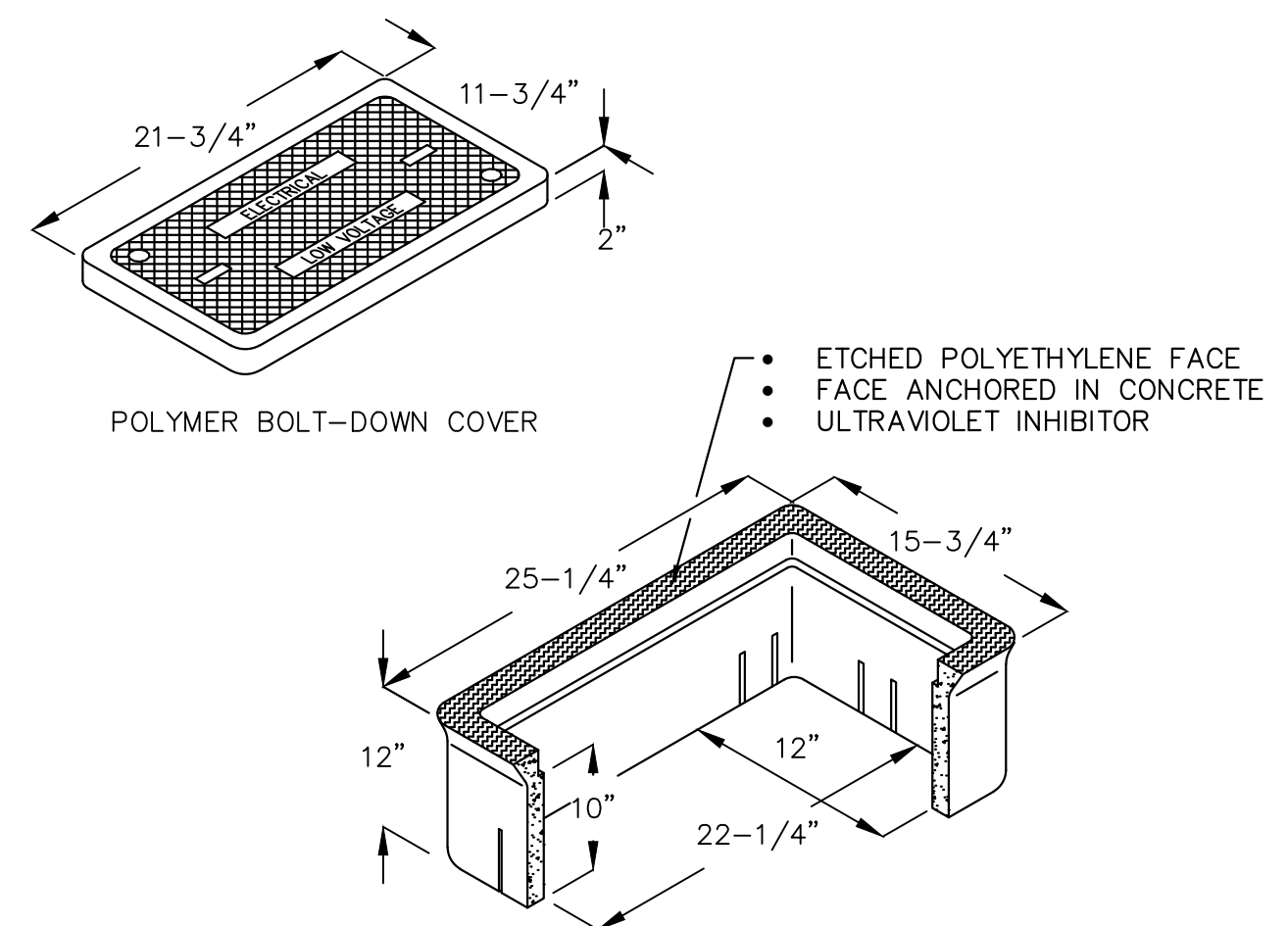
100% SUBMITTAL



A
17
LOW VOLTAGE DUCT BANK TRENCH DETAIL
SCALE: N.T.S.



B
17
EXPOSED CONDUIT TRANSITION DETAIL
SCALE: N.T.S.



C
17
ELECTRICAL PULLBOX DETAIL
SCALE: N.T.S.

PANEL: "LP"

VOLTAGE: 120/240
PHASE WIRES: 1Ø, 3W
SCCR (AMPS): 10,000
SOURCE: SES

PANEL BUS: 100 AMPS
MAIN: 100 BREAKER

DESCRIPTION	VA	CB	CKT	A	B	CKT	CB	VA	DESCRIPTION
SPACE			1	0.0		2			SPACE
EXISTING	1920	20/1	3		21.6	4	20/1	670	MIXER
SPARE		20/1	5	16.0		6	20/1	1920	OUTLET
TELEMETRY POWER	1920	20/1	7		16.0	8			SPACE
SPACE			9	0.0		10			SPACE
SPACE			11		0.0	12			SPACE
SPACE			13	0.0		14			SPACE
SPACE			15		0.0	16			SPACE
SPACE			17	0.0		18			SPACE
SPACE			19		0.0	20			SPACE
			TOTALS	16.0		37.6			AMPS

LOAD CALCULATIONS:
SUBTOTAL (VA): 6430
+25% PER NEC (VA): N/A
TOTAL (VA): 8430 @ 240V, 1Ø = 26.8 AMPS

D
17
PANEL SCHEDULE
SCALE: N.T.S.

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MORONGO VALLEY WATER TANK
REPLACEMENT PROJECT

ELECTRICAL DETAILS

DWG NO.
30.30.00157

FILE NO.
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SHEET 17 OF 17

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