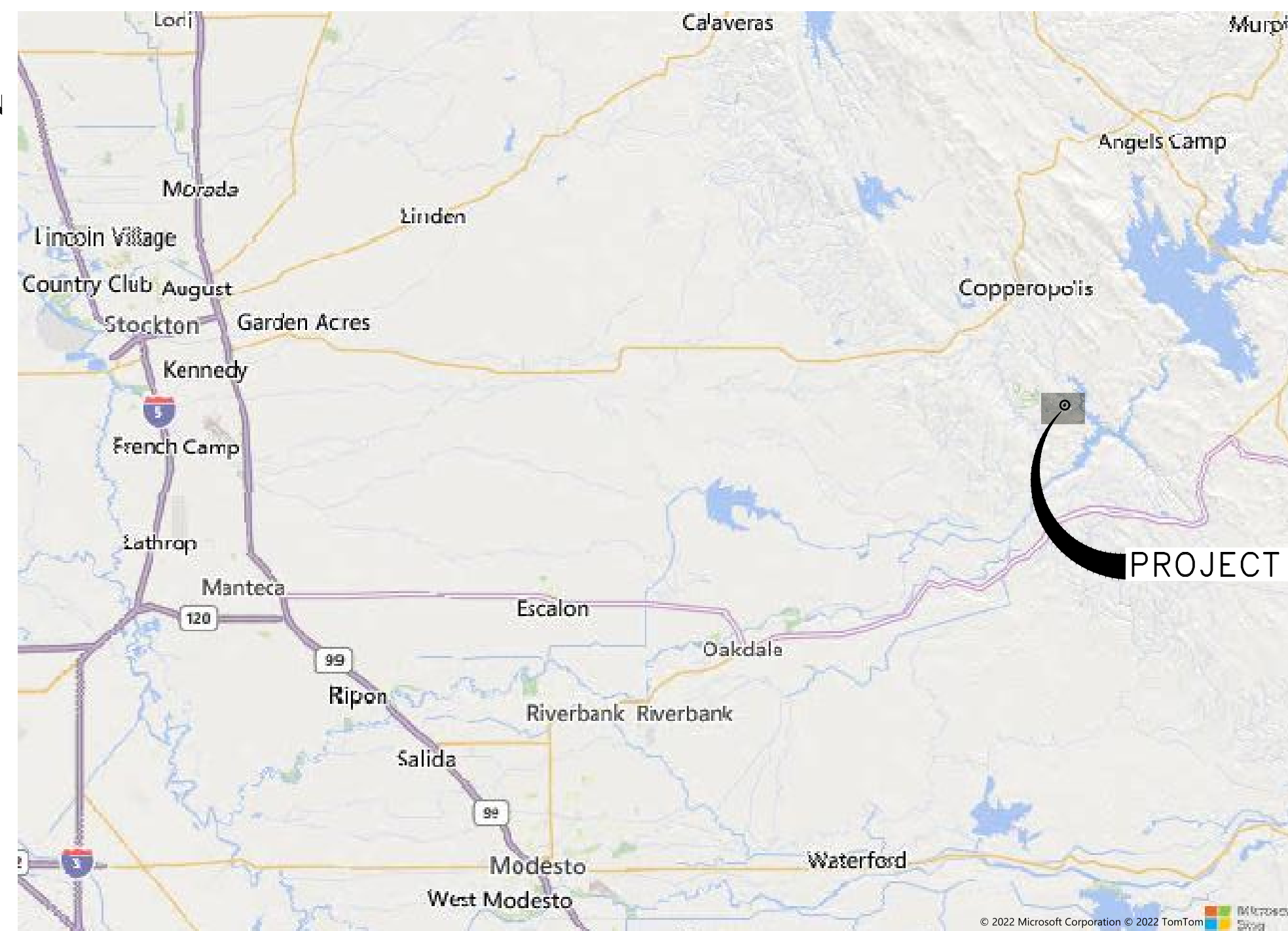


COPPER COVE TANKS

THE COPPER COVE WATER SYSTEM IMPROVEMENTS

PHASE 1 AND PHASE 2 TANKS

JUNE 2023



VICINITY MAP
NTS

- GENERAL
- G1 TITLE SHEET, LOCATION MAP, & VICINITY MAP
- G2 ABBREVIATIONS, SYMBOLS, GENERAL NOTES, AND DESIGN CRITERIA
- G3 PROJECT AREA AND SURVEY CONTROL MAP CLEARWELL
- G4 PROJECT AREA AND SURVEY CONTROL MAP B TANK

- CIVIL
- C1 EXISTING CLEARWELL SITE PLAN
- C2 EXISTING B TANK SITE PLAN
- C3 CLEARWELL TANK SITE DEMOLITION PLAN
- C4 B TANK SITE DEMOLITION PLAN
- C5 CLEARWELL TANK SITE GRADING PLAN
- C6 B TANK SITE GRADING PLAN
- C7 CLEARWELL TANK SITE PIPING PLAN
- C8 B TANK SITE PIPING PLAN
- C9 TANK PLAN FOR NEW CLEARWELL
- C9A TANK SECTION FOR NEW CLEARWELL
- C10 TANK PLAN FOR NEW B TANK
- C10A TANK SECTION FOR NEW B TANK
- C11 TANK REHABILITATION PLAN FOR EXISTING CLEARWELL
- C11A TANK REHABILITATION SECTION FOR EXISTING CLEARWELL
- C12 TANK REHABILITATION PLAN FOR EXISTING B TANK
- C12A TANK REHABILITATION SECTION FOR EXISTING B TANK
- C13 PIPE CONNECTION DETAILS CLEARWELL
- C14 PIPE CONNECTION DETAILS B TANK
- C15 CHAIN LINK FENCE AND GATE DETAIL
- C16 PROPOSED B TANK AND CLEARWELL OVERFLOW DETAILS
- C17 B TANK AND CLEARWELL REHABILITATION DETAILS
- C18 B TANK AND CLEARWELL DETAILS
- C19 STANDARD DETAILS

- CATHODIC PROTECTION
- CP-1 CATHODIC PROTECTION NEW CLEARWELL TANK PLAN & SECTION
- CP-2 CATHODIC PROTECTION NEW B TANK PLAN & SECTION
- CP-3 CATHODIC PROTECTION CLEARWELL REHABILITATION TANK PLAN & SECTION
- CP-4 CATHODIC PROTECTION B TANK REHABILITATION PLAN & SECTION
- CP-5 CATHODIC PROTECTION DETAILS I
- CP-6 CATHODIC PROTECTION DETAILS II

- ELECTRICAL
- E1 ELECTRICAL SYMBOLS & ABBREVIATIONS
- E2 EXAMPLE INTERCONNECT DIAGRAM
- E3 TYPICAL ELECTRICAL DETAILS NO. 1
- E10 COPPER COVE WTP ELECTRICAL SITE PLAN
- E11 PANELBOARD SCHEDULES
- E20 B TANK ELECTRICAL SITE PLAN

- INSTRUMENTATION
- I1 INSTRUMENTATION SYMBOLS & ABBREVIATIONS
- I100 CLEARWELL TANKS P&ID
- I200 TANK B1 & B2 P&ID



LOCATION MAP
NTS

APPROVALS

DAMON WYCKOFF DIRECTOR OF OPERATIONS CALAVERAS COUNTY WATER DISTRICT	DATE _____
KARL BRUSTAD, PE PRINCIPAL PETERSON, BRUSTAD, INC.	6/14/23 DATE _____

Calaveras County Water District

120 TOMA CT, SAN ANDREAS, CA 95249
PHONE: (209) 754-3543

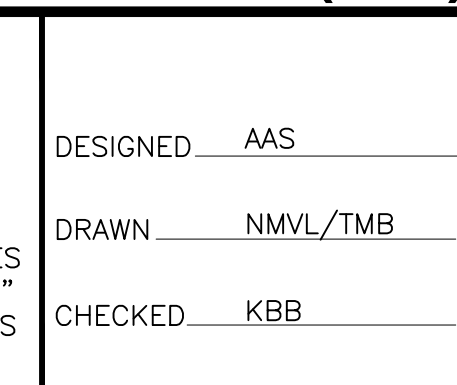


WARNING: CONTRACTOR TO USE EXTREME CAUTION. EXACT DEPTH AND LOCATION OF UNDERGROUND UTILITIES ARE UNKNOWN. CONTRACTOR TO FIELD VERIFY LOCATIONS AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER OF ANY CONFLICT. CONTRACTOR SHALL CALL USA AT 1-800-642-2444 OR 811 AT LEAST TWO WORKING DAYS BEFORE DIGGING.

ISSUED FOR BID

REV	DATE	BY	DESCRIPTION

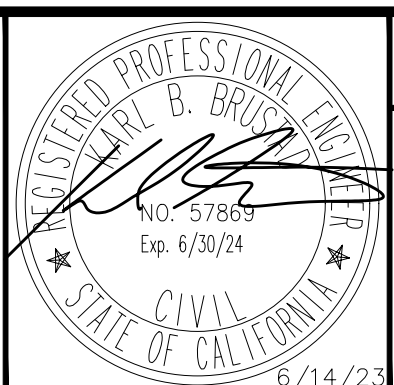
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DATE: JUNE 2023	DESIGNED: AAS DRAWN: NMVL/TMB CHECKED: KBB



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 PHONE (209) 754-3543

PETERSON . BRUSTAD . INC
 ENGINEERING . CONSULTING

 80 Blue Ravine Rd. Suite 280
 Folsom, CA 95630
 PH. 916-608-2212



COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
 PHASE 1 AND PHASE 2 TANKS

TITLE SHEET, LOCATION MAP, & VICINITY MAP

DRAWING
G1
 SHEET 1 OF 42

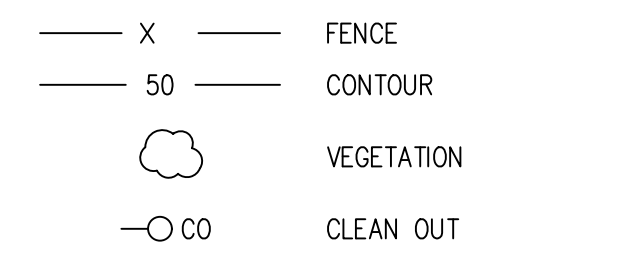
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P:\CCWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\COPPER COVE (2018) - GENERAL_4.20.23 RECOVER.dwg 6-14-23 04:33:42 PM nvanleeuwen

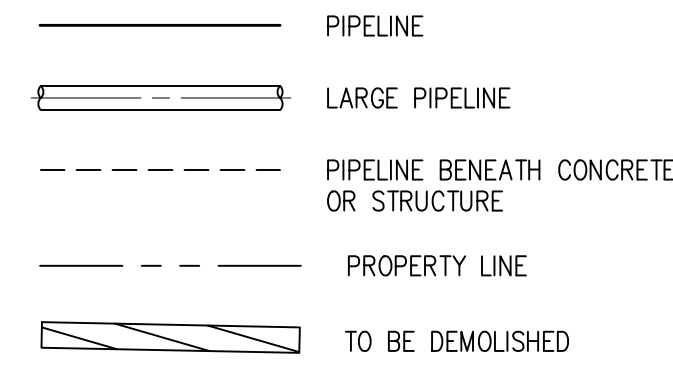
ABBREVIATIONS

AC	ASPHALT CONCRETE	ID	INSIDE DIAMETER
ACP	ASBESTOS CEMENT PIPE	IN, "	INCH
AWWA	AMERICAN WATER WORKS ASSOCIATION	INV	INVERT
ARV	AIR RELIEF VALVE	IE	INVERT ELEVATION
BFV	BUTTERFLY VALVE	LF	LINEAR FEET
BLDG	BUILDING	MAX	MAXIMUM
BWS	BACKWASH SUPPLY	MFR	MANUFACTURER
		MIN	MINIMUM
		MH	MANHOLE
CCWD	CALAVERAS COUNTY WATER DISTRICT	N	NORTH, NEUTRAL
CONC	CONCRETE	NTS	NOT TO SCALE
CTRL	CONTROL POINT		
CY	CUBIC YARDS		
DI	DROP INLET		
DIA, Ø	DIAMETER	OF	OVERFLOW
DEMO	DEMOLISH	OHP	OVERHEAD POWER
DIP	DUCTILE IRON PIPE	OD	OUTSIDE DIAMETER
		OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
E	EAST	P	PROPOSED
EX, (E)	EXISTING	PVC	POLYVINYL CHLORIDE
EG	EXISTING GRADE	PP	POWER POLE
EL	ELEVATION		
EP	EDGE OF PAVEMENT	SCH	SCHEDULE
ESEW	EMERGENCY SHOWER EYEWASH	SF	SQUARE FEET
EA	EACH	SS	SANITARY SEWER
FCA	FLANGED COUPLING ADAPTER	STL	STEEL
FE	FILTER EFFLUENT, FLOW ELEMENT, FLANGED END	SD	STORM DRAIN
FH	FIRE HYDRANT	TW	TREATED WATER
		TYP	TYPICAL
GALV	GALVANIZED	W	WATER, WEST, WIDTH
GW	GUY WIRE	WSP	WELDED STEEL PIPE
GV	GATE VALVE	WTP	WATER TREATMENT PLANT
HT	HEIGHT	WV	WATER VALVE

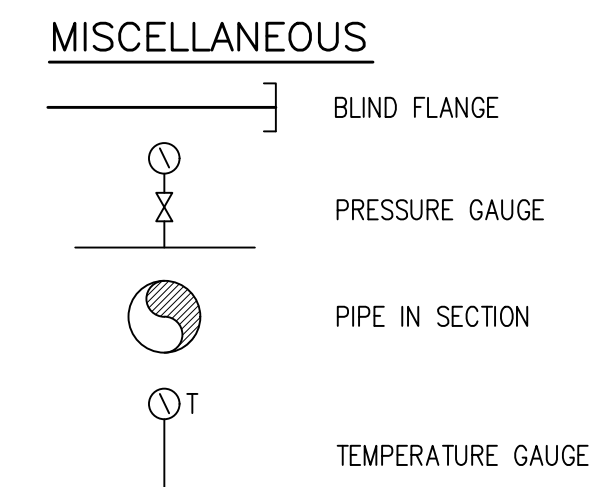
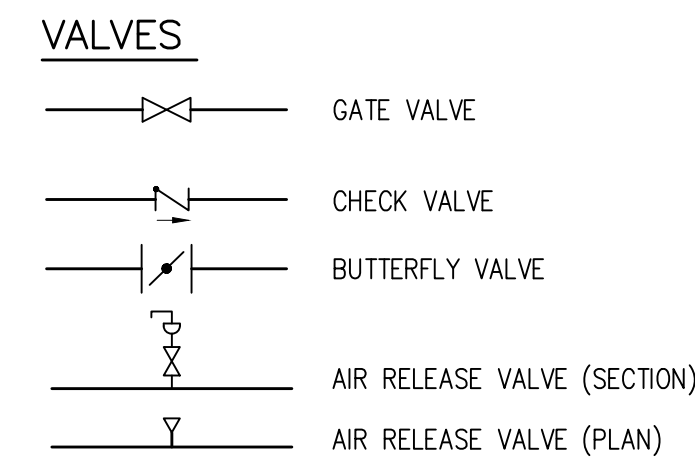
SITE PLAN SYMBOLOGY & LINE TYPE



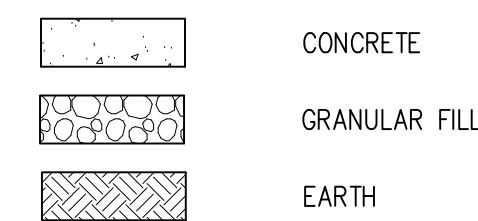
NOTES:
1. UTILITIES THAT ARE SUSPENDED ABOVE GRADE ARE DESIGNATED BY THE PREFIX "OH".



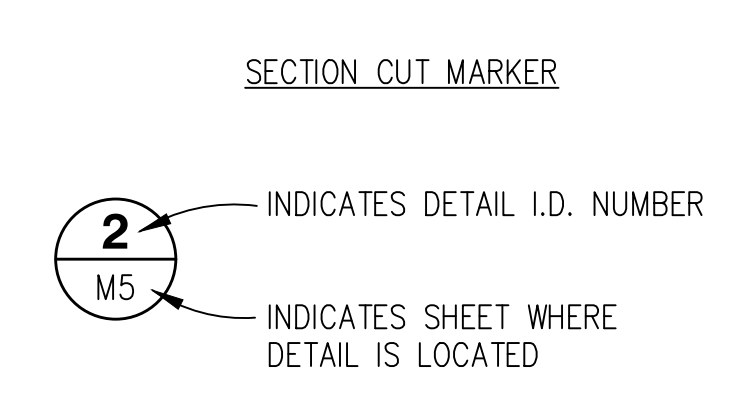
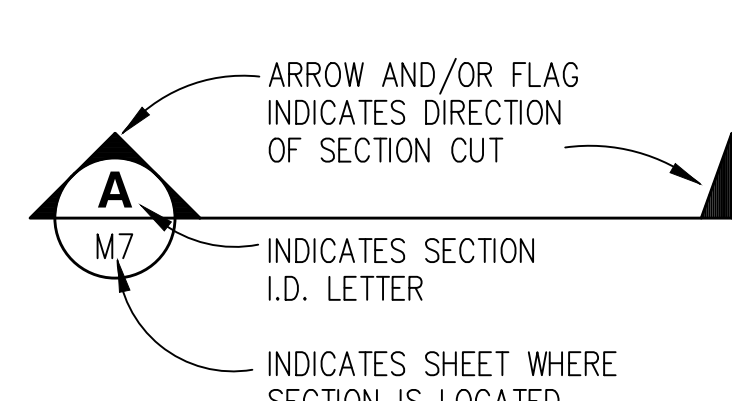
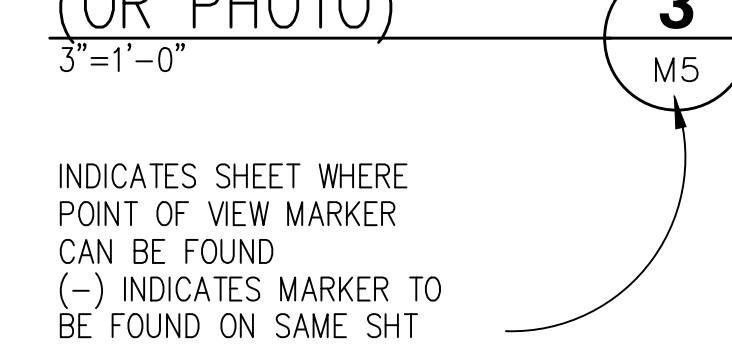
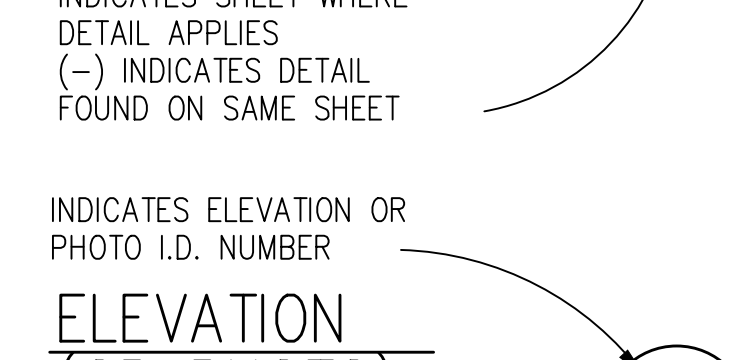
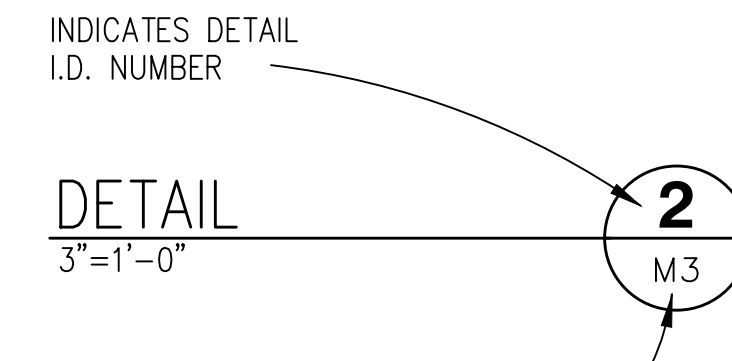
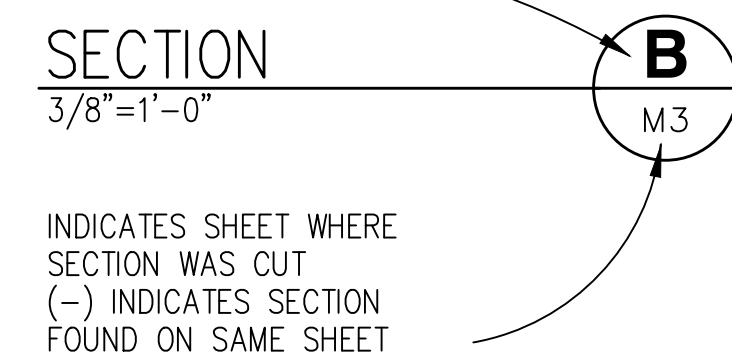
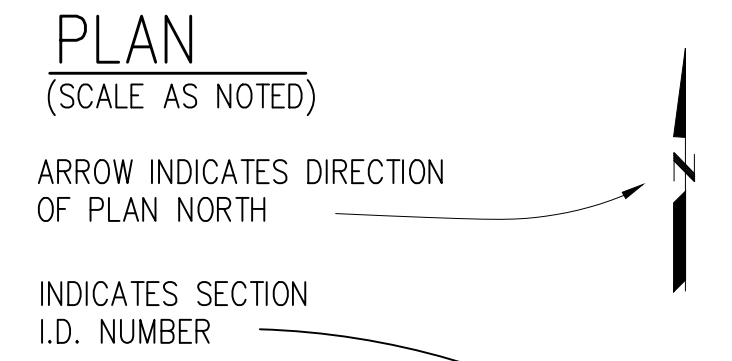
PIPING SYMBOLOGY



MATERIALS IN PLAN/SECTION



GENERAL SYMBOLOGY



DESIGN CRITERIA

NEW B TANK CAPACITY - 360,000 GALLONS
EXISTING STEEL B TANK CAPACITY - 373,000 GALLONS (PARALLEL) AND 683,000 (SERIES)

NEW CLEARWELL CAPACITY - 346,000 GALLONS
EXISTING CLEARWELL CAPACITY - 375,000 GALLONS

GENERAL NOTES

- THESE ABBREVIATIONS APPLY TO THE ENTIRE SET OF CONTRACT DRAWINGS.
- LISTING OF ABBREVIATIONS DOES NOT IMPLY ALL ABBREVIATIONS ARE USED IN THE CONTRACT DRAWINGS.
- ABBREVIATIONS SHOWN ON THIS DRAWING INCLUDE VARIATIONS OF THE WORD. FOR EXAMPLE, "W" MAY MEAN WATER OR WEST.
- SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH DRAWING FOR USAGE.

ISSUED FOR BID

SCALE:	AS NOTED		
DATE:	JUNE 2023		
WARNING:	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.		
DESIGNED:	AAS		
DRAWN:	NMVL/TMB		
CHECKED:	KBB		
REV	DATE	BY	DESCRIPTION

SCALE:	AS NOTED
DATE:	JUNE 2023
WARNING:	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
DESIGNED:	AAS
DRAWN:	NMVL/TMB
CHECKED:	KBB

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SAN ANDREAS, CALIFORNIA 95249
PHONE (209) 754-3543

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Folsom, CA 95630
PH. 916-608-2212

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

ABBREVIATIONS, SYMBOLS, GENERAL NOTES, & DESIGN CRITERIA

DRAWING

G2

SHEET 2 OF 42

P:\CGWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\COPPER COVE (2018) - GENERAL_4.20.23 RECOVER.dwg 6-14-23 04:33:50 PM nvanleeuwen

PSOMAS

11661 Blocker Drive, Suite 200
 Auburn, Ca. 95603
 (800) 400-7072

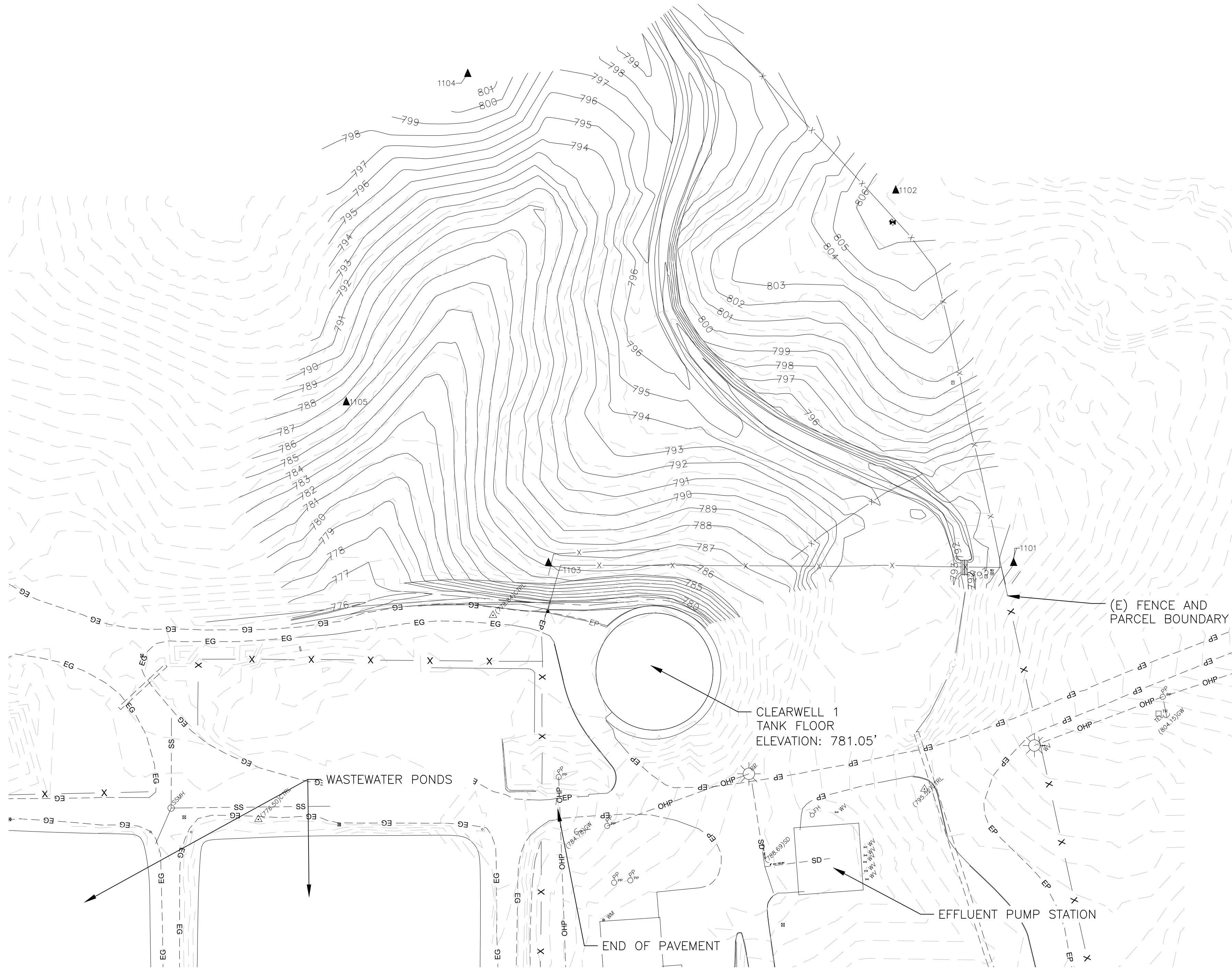
DATE OF GROUND SURVEY:
 07/27/2022 THRU 08/01/2022
 AND 03/13/2023

HORIZONTAL DATUM:
 CALIFORNIA STATE PLANE COORDINATE SYSTEM ZONE II
 NAD83(2010) CA HPGN

MEAN COMBINATION FACTOR (CF):
 0.999899618017

DISTANCES SHOWN HEREON ARE GRID DISTANCES
 TO CONVERT GRID DISTANCE TO GROUND DISTANCE ... DIVIDE
 BY THE CF
 TO CONVERT GROUND DISTANCE TO GRID DISTANCE ...
 MULTIPLY BY THE CF

VERTICAL DATUM:
 NAVD88 BASED ON
 CORS STATION P306 EL: 372.59



ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
1101	2153404.25	6528456.37	794.94	5" RBR & CAP
1102	2153630.02	6528384.90	806.86	6" RBR & CAP
1103	2153404.17	6528174.30	786.13	6" RBR & CAP
1104	2153700.73	6528125.35	803.03	6" RBR & CAP
1105	2153501.64	6528051.69	786.85	6" RBR & CAP

ISSUED FOR BID

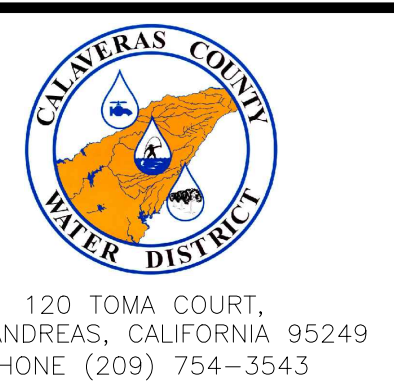
REV	DATE	BY	DESCRIPTION

SCALE: 1" = 40'

DATE: JUNE 2023

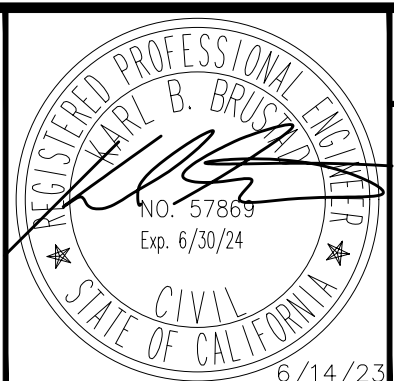
WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: AAS
 DRAWN: NMVL/TMB
 CHECKED: KBB



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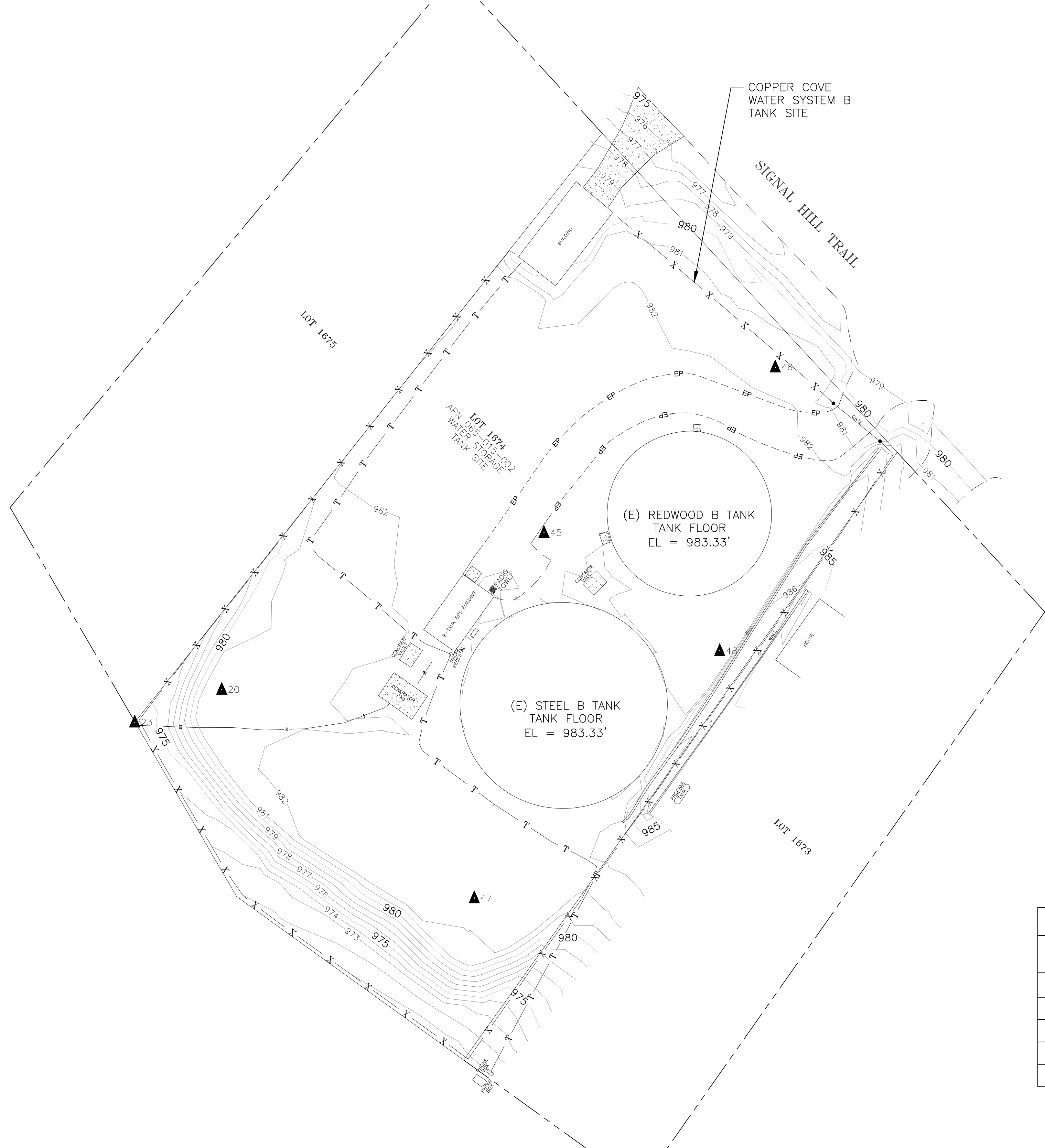


COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
 PHASE 1 AND PHASE 2 TANKS

**PROJECT AREA AND SURVEY CONTROL MAP
 CLEARWELL SITE**

DRAWING: **G3**
 SHEET 3 OF 42

P:\COWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\COPPER COVE (2018) - GENERAL_4.20.23 RECOVER.dwg 6-14-23 04:33:57 PM nvanleeuwen



ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
20	2154619.14	6528879.99	981.33	AUTONOMOUS SETUP
23	2154608.61	6528851.96	974.55	3/4" R.NOTAG
45	2154669.64	6528983.82	982.69	SPK&CAP
46	2154722.98	6529058.32	981.70	SPK&CAP
47	2154551.97	6528961.36	982.60	SPK&CAP
48	2154631.60	6529040.43	982.56	SPK&CAP

ISSUED FOR BID

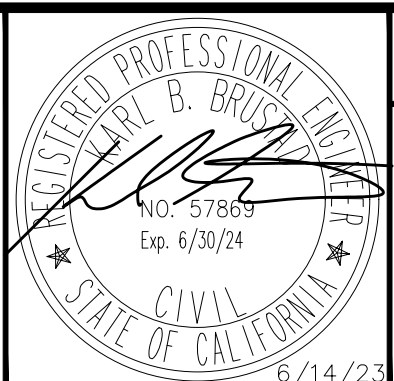
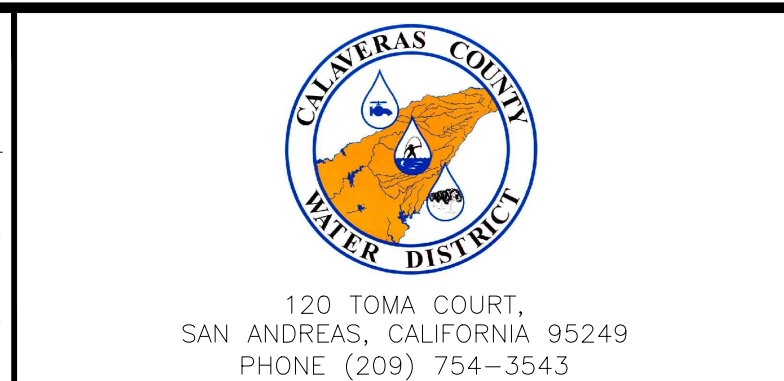
REV	DATE	BY	DESCRIPTION

SCALE:
1" = 20'

DATE:
JUNE 2023

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED AAS
DRAWN NMVL/TMB
CHECKED KBB



COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

PROJECT AREA AND SURVEY CONTROL MAP
B TANK SITE

DRAWING
G4
SHEET 4 OF 42

P:\CCWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\Clearewell\5.1 CAD\Phase 1 and 2 Tanks\Clearewell C Sheets (2019)-C1.dwg 6-14-23 04:34:10 PM nvanleeuwen

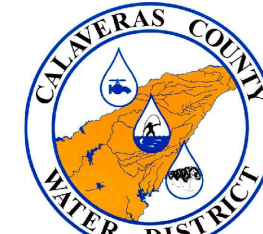


ISSUED FOR BID

REV	DATE	BY	DESCRIPTION

SCALE: 1" = 20'	WARNING 0 1/2 1
DATE: JUNE 2023	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED AAS
DRAWN NMVL/TMB
CHECKED KBB



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PHONE (209) 754-3543



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Folsom, CA 95630
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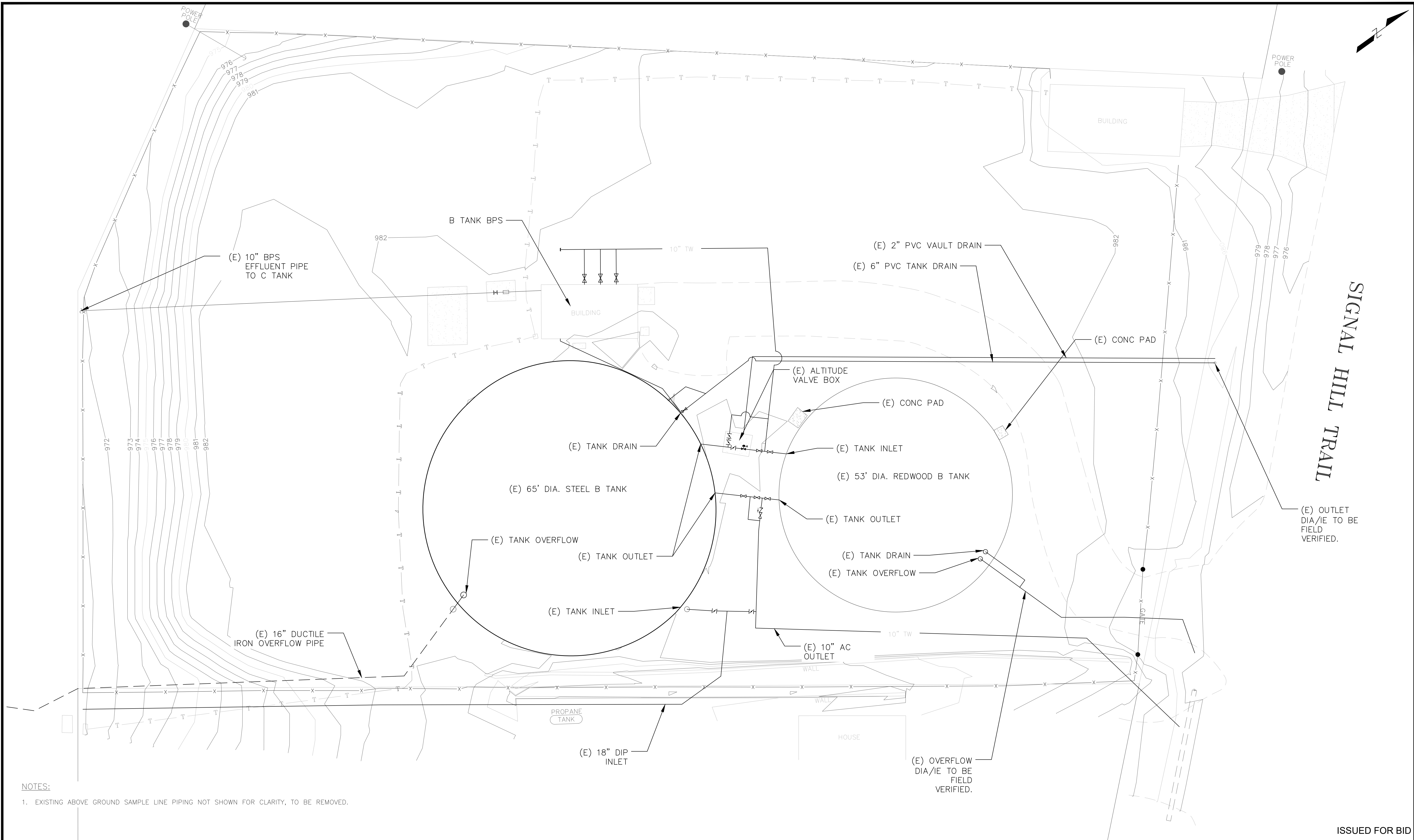


COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

EXISTING CLEARWELL SITE PLAN

DRAWING
C1
SHEET 5 OF 42

P:\COWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\B Tank C Sheets (2019)-C2.dwg 6-14-23 04:34:16 PM nvanleeuwen



NOTES:

- 1. EXISTING ABOVE GROUND SAMPLE LINE PIPING NOT SHOWN FOR CLARITY, TO BE REMOVED.

REV	DATE	BY	DESCRIPTION

SCALE:
1" = 10'

DATE:
JUNE 2023

WARNING

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DESIGNED AAS
DRAWN NMVL/TMB
CHECKED KBB

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6/14/23

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

EXISTING B TANK SITE PLAN

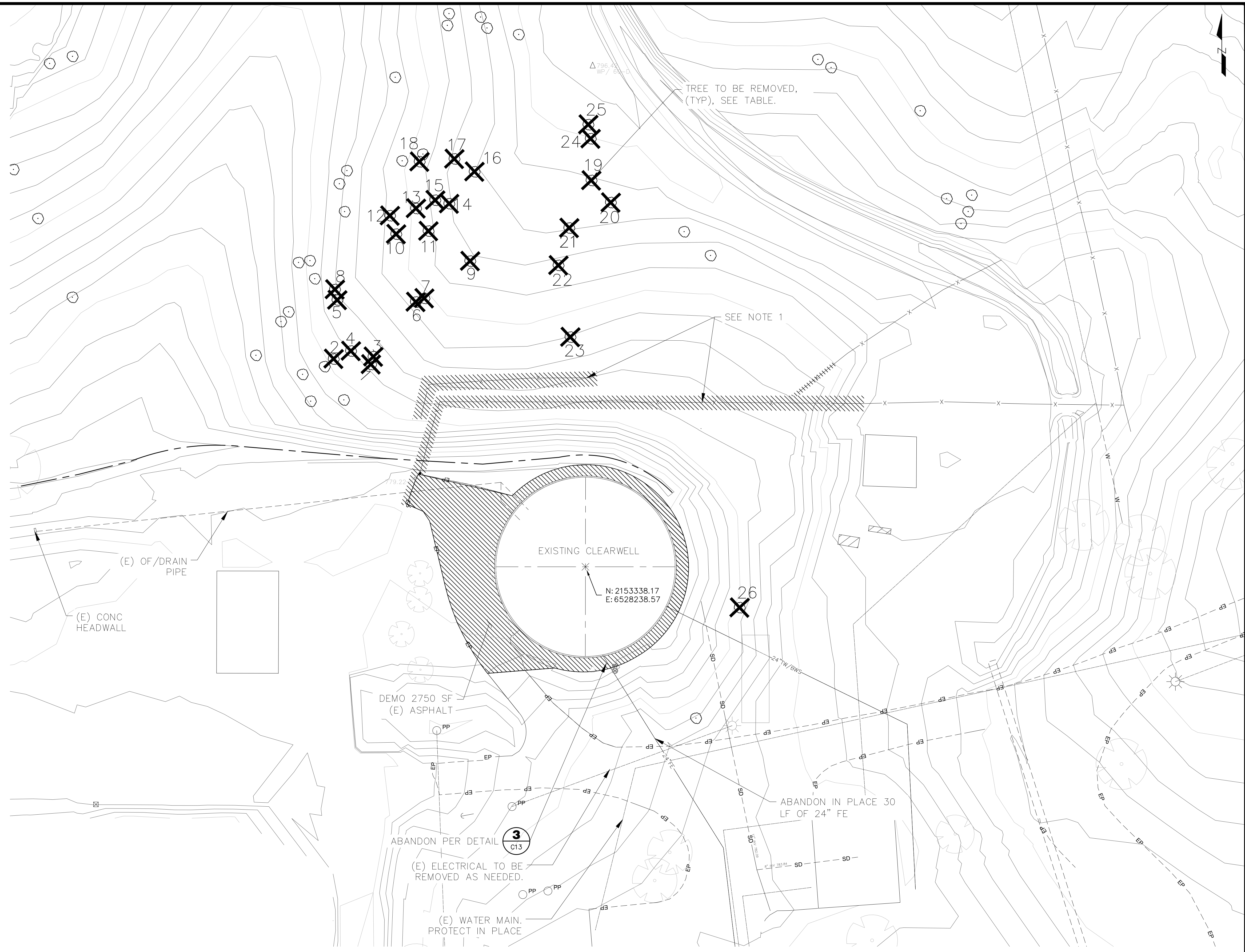
ISSUED FOR BID

DRAWING
C2

SHEET 6 OF 42

P:\CCWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\Clearwell C Sheets (2019)-C3.dwg 6-14-23 04:34:29 PM nvanleuwen

TREE REMOVAL TABLE				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	2153417.24'	6528154.78'	786.75	06" OAK
2	2153419.33'	6528140.18'	785.46	06" OAK
3	2153420.24'	6528155.73'	787.08	06" OAK
4	2153422.47'	6528146.96'	786.54	06+08" OAK
5	2153442.39'	6528141.64'	787.04	04"+08" OAK
6	2153441.60'	6528172.28'	790.23	10" OAK
7	2153443.04'	6528175.61'	790.53	08"(2) OAK
8	2153446.50'	6528140.70'	786.93	06" OAK
9	2153457.59'	6528193.52'	791.87	16" OAK
10	2153468.12'	6528164.62'	790.63	08" OAK
11	2153469.31'	6528177.22'	791.51	06" (2) OAK
12	2153475.32'	6528162.18'	789.93	12" OAK
13	2153478.13'	6528172.36'	791.33	08" OAK
14	2153480.00'	6528185.34'	792.23	06" OAK
15	2153481.36'	6528179.86'	792.02	06" OAK
16	2153492.46'	6528195.22'	793.26	10" OAK
17	2153497.48'	6528187.36'	792.21	06" OAK
18	2153496.39'	6528173.76'	790.98	08" OAK
19	2153489.08'	6528240.88'	794.82	12" OAK
20	2153480.46'	6528248.44'	793.87	06+12" OAK
21	2153470.51'	6528232.20'	793.84	12" OAK
22	2153455.92'	6528228.00'	792.33	16" OAK
23	2153427.91'	6528232.65'	789.34	14" OAK
24	2153505.37'	6528240.58'	795.55	10" OAK
25	2153510.87'	6528239.66'	795.58	6" OAK
26	2153322.25'	6528298.77'	785.63	24" OAK



NOTES:
1. DEMO 100 LF OF (E) BARBWIRE FENCE, 200 LF OF (E) 6' CHAIN LINK FENCE, AND 26 TREES PER THE TABLE ABOVE.

ISSUED FOR BID

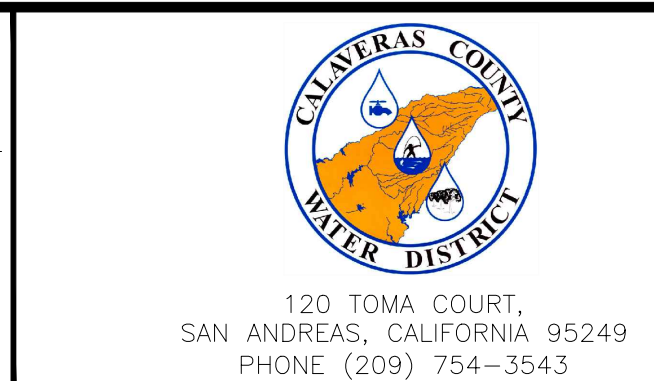
REV	DATE	BY	DESCRIPTION

SCALE: 1" = 20'

DATE: JUNE 2023

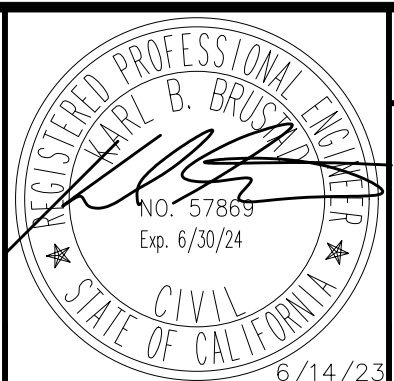
WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: AAS
DRAWN: NMVL/TMB
CHECKED: KBB



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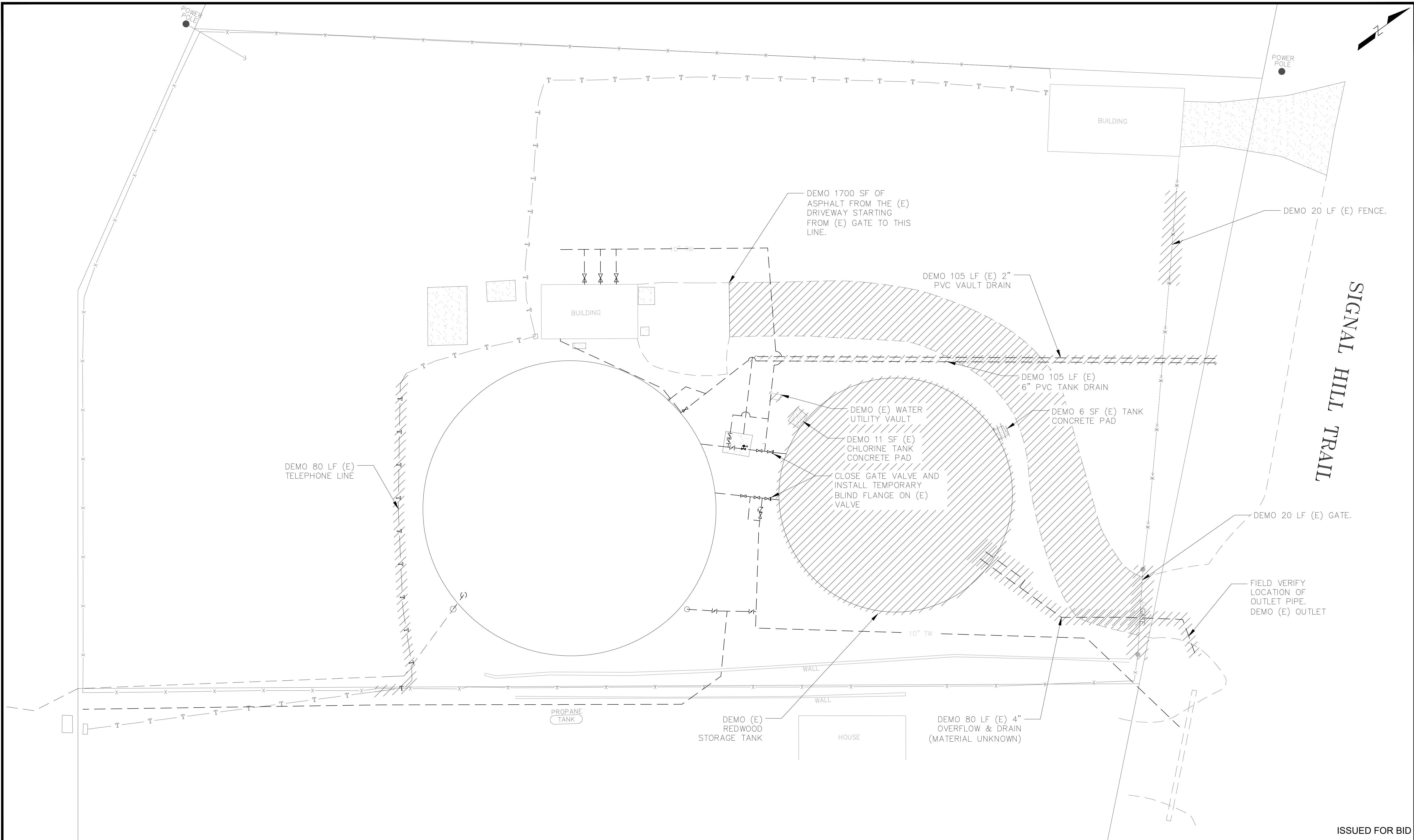


COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

CLEARWELL TANK SITE DEMOLITION PLAN

DRAWING: C3
SHEET 7 OF 42

P:\COWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\B Tank C Sheets (2019)-C4.dwg 6-14-23 04:34:36 PM nvanleeuwen



ISSUED FOR BID

REV	DATE	BY	DESCRIPTION

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1" = 10'

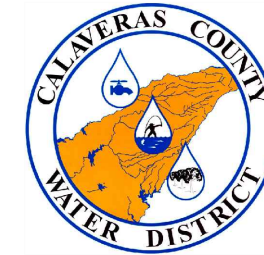
DATE:
JUNE 2023

WARNING

0 1/2 1

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DESIGNED AAS
DRAWN NMVL/TMB
CHECKED KBB




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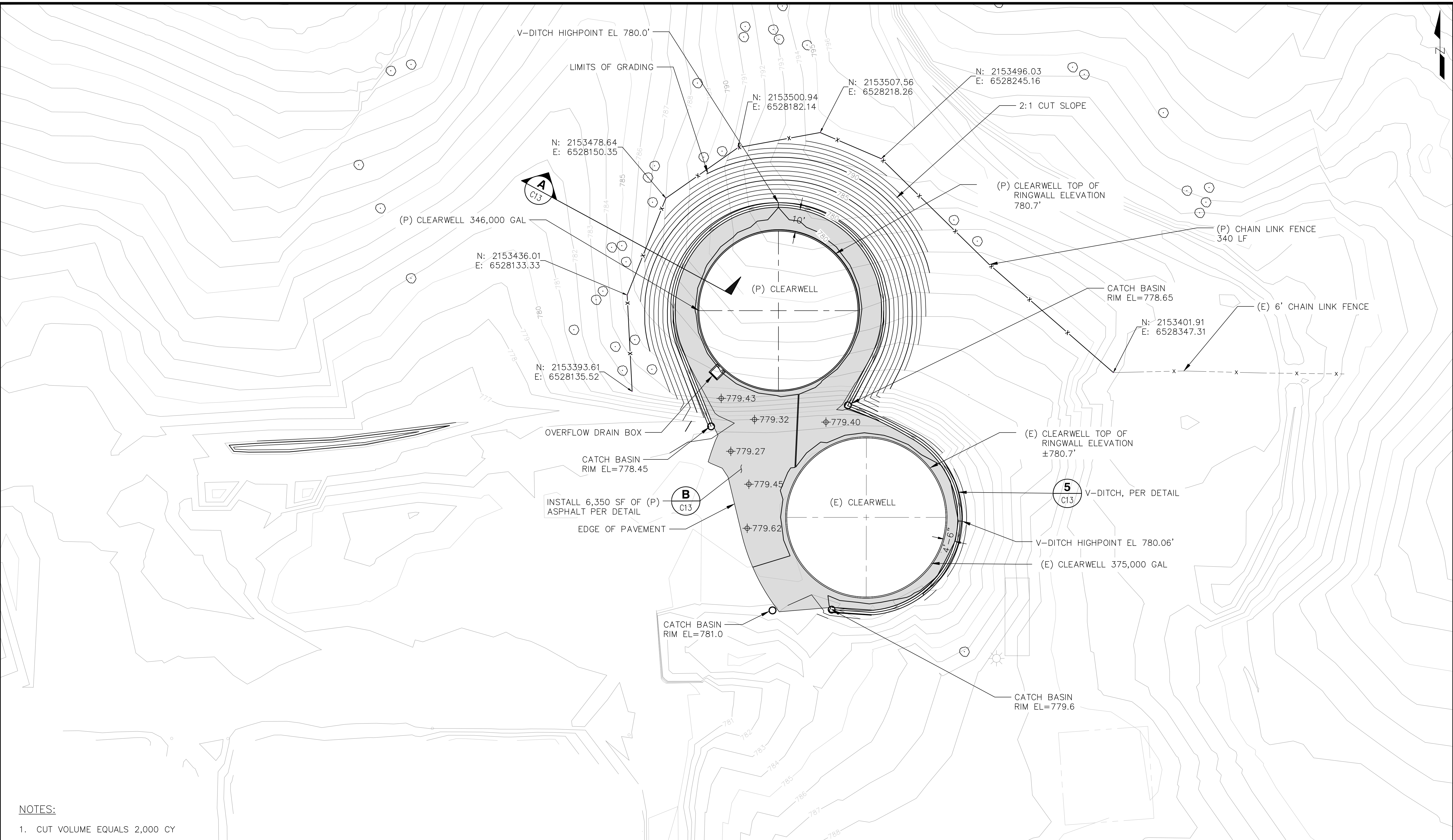
CIVIL
6/14/23

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

B TANK SITE DEMOLITION PLAN

DRAWING
C4
SHEET 8 OF 42

P:\CCWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\Clearwell C Sheets (2019)-C5.dwg 6-14-23 04:34:48 PM nvanleuwen



NOTES:
 1. CUT VOLUME EQUALS 2,000 CY

REV	DATE	BY	DESCRIPTION

SCALE: 1" = 20'

DATE: JUNE 2023

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: AAS
 DRAWN: NMVL/TMB
 CHECKED: KBB

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 PH. 916-608-2212

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

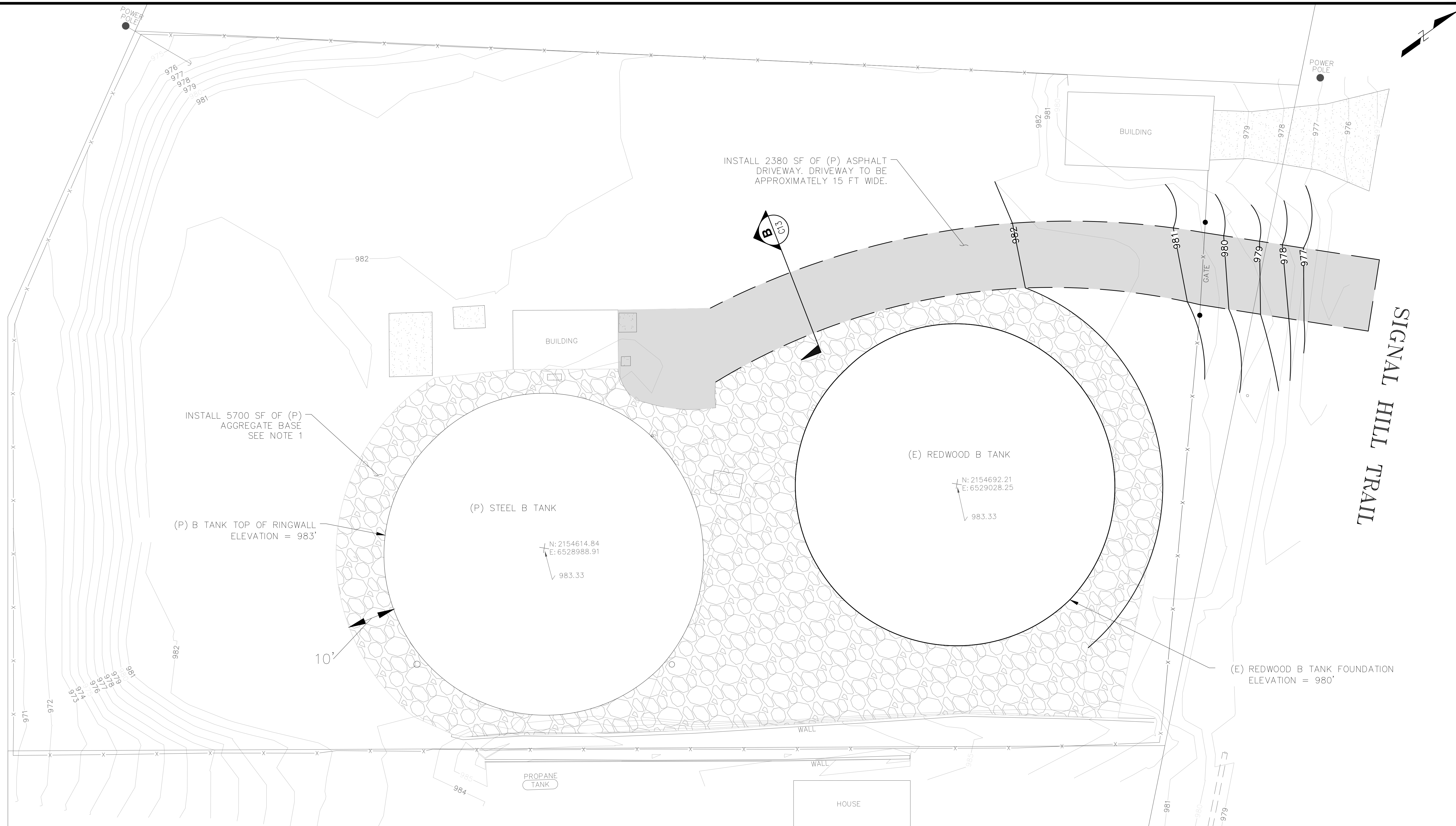
CLEARWELL TANK SITE GRADING PLAN

ISSUED FOR BID

DRAWING **C5**

SHEET 9 OF 42

P:\COWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\B Tank C Sheets (2019)-C6.dwg 6-14-23 04:34:51 PM nvanleeuwen



- NOTE:**
1. PROVIDE 6" THICK 3/4" CLASS 2 AB COMPACTED TO 92%. SCARIFY SUBBASE FOR GRAVEL BOUNDARY AND COMPACT TO 90% PRIOR TO PLACEMENT OF AB.

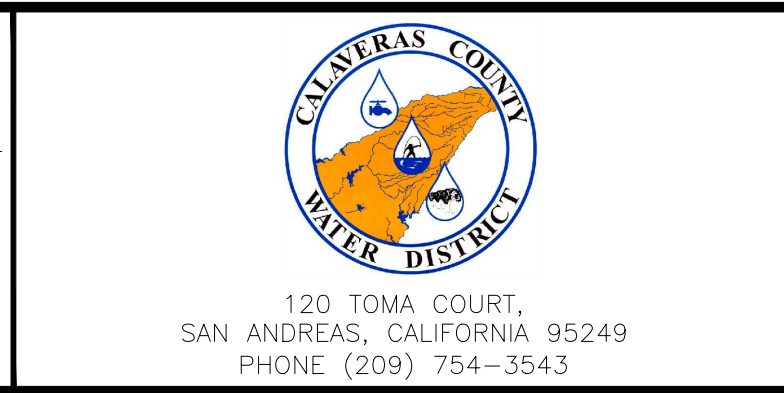
REV	DATE	BY	DESCRIPTION

SCALE: 1" = 10'

DATE: JUNE 2023

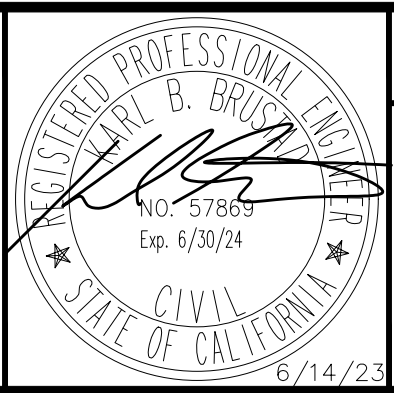
WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: AAS
 DRAWN: NMVL/TMB
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COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

B TANK SITE GRADING PLAN

ISSUED FOR BID

DRAWING: **C6**

SHEET 10 OF 42

P:\COWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\Cleerwell C Sheets (2019)-C7.dwg 6-14-23 05:49:46 PM amartin



- NOTES:**
1. ALL PIPE SHALL BE FULLY RESTRAINED.
 2. TRENCHING SHALL BE PERFORMED IN ACCORDANCE WITH CALAVERAS COUNTY WATER DISTRICT STANDARDS.
 3. PROVIDE LOCKOUT VALVE COVER TO VALVES 2, 3, AND 8, PER SPECIFICATIONS.
 4. NEW CHLORINE ANALYZER TO BE ECD DC-80 OR APPROVED EQUAL, REAGENT-LESS ANALYZER.

RIM EL=779.6
12" INV EL(IN)=775.7
12" INV EL (OUT)=775.6

INSTALL 22.5" ELBOW
INV EL=773.0

RIM EL=781.0
12" INV EL(IN)=775.1
12" INV EL (OUT)=775.0

ANALYZER DRAIN TO DI

INSTALL 22.5" ELBOW
INV EL=772.0

REINSTALL WATER QUALITY ANALYZER PANEL WITH CONCRETE PAD AND NEW CHLORINE ANALYZER, SEE NOTE 4.

INSTALL 11.25" ELBOW
INV EL=771.2

INSTALL 45" ELBOW
INV EL=771.0

INSTALL TEE
INV EL=771.0

(E) OF/DRAIN PIPE

CONSTRUCT NEW CLEARWELL PER DETAIL

1
C9

(N) TANK INLET

VALVE 1

RIM EL=778.45
12" INV EL(IN)=775.2
12" INV EL (OUT)=775.1

INSTALL 20" BLIND FLANGE

MAINTAIN 10' CLEARANCE FROM (E) 10" SS

INSTALL 45" ELBOW
INV EL=789.0

INSTALL 22.5" ELBOW
INV EL=783.0

RIM EL=778.65
12" INV EL (OUT)=775.3

INSTALL 11.25" ELBOW
INV EL=772.6

INSTALL 45" ELBOW
INV EL=772.6

INSTALL 22.5" ELBOW
INV EL=772.6

CONSTRUCT NEW 6' CHAIN LINK FENCE PER DETAILS ON SHEET C15

REHABILITATE (E) CLEARWELL PER DETAIL

1
C11

INSTALL 45" ELBOW
INV EL=772.6

20" DIP TRANSMISSION MAIN

CONNECT TO (E) 24" TW/BWS PER DETAIL

2
C13

INSTALL 22.5" ELBOW
INV EL=785.0

VALVE 10

INSTALL 18" WYE WITH TWO BFFVS

CONNECT 12" PVC TO EXISTING MANHOLE (E) RIM EL=788.7 (E) 8" INV EL (IN)=783.84 (E) 18" INV EL (IN)=783.78 (E) 12" INV EL (OUT)=782.09 (P) 12" INV EL (OUT)=782.0

REV	DATE	BY	DESCRIPTION

SCALE: 1" = 20'

DATE: JUNE 2023

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: AAS

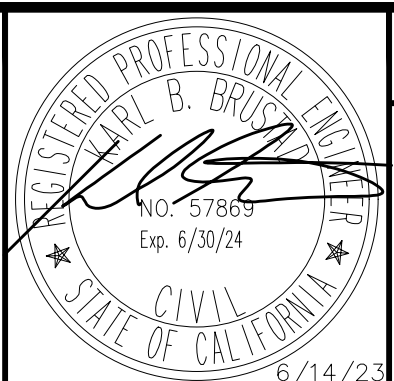
DRAWN: NMVL/TMB

CHECKED: KBB



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COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

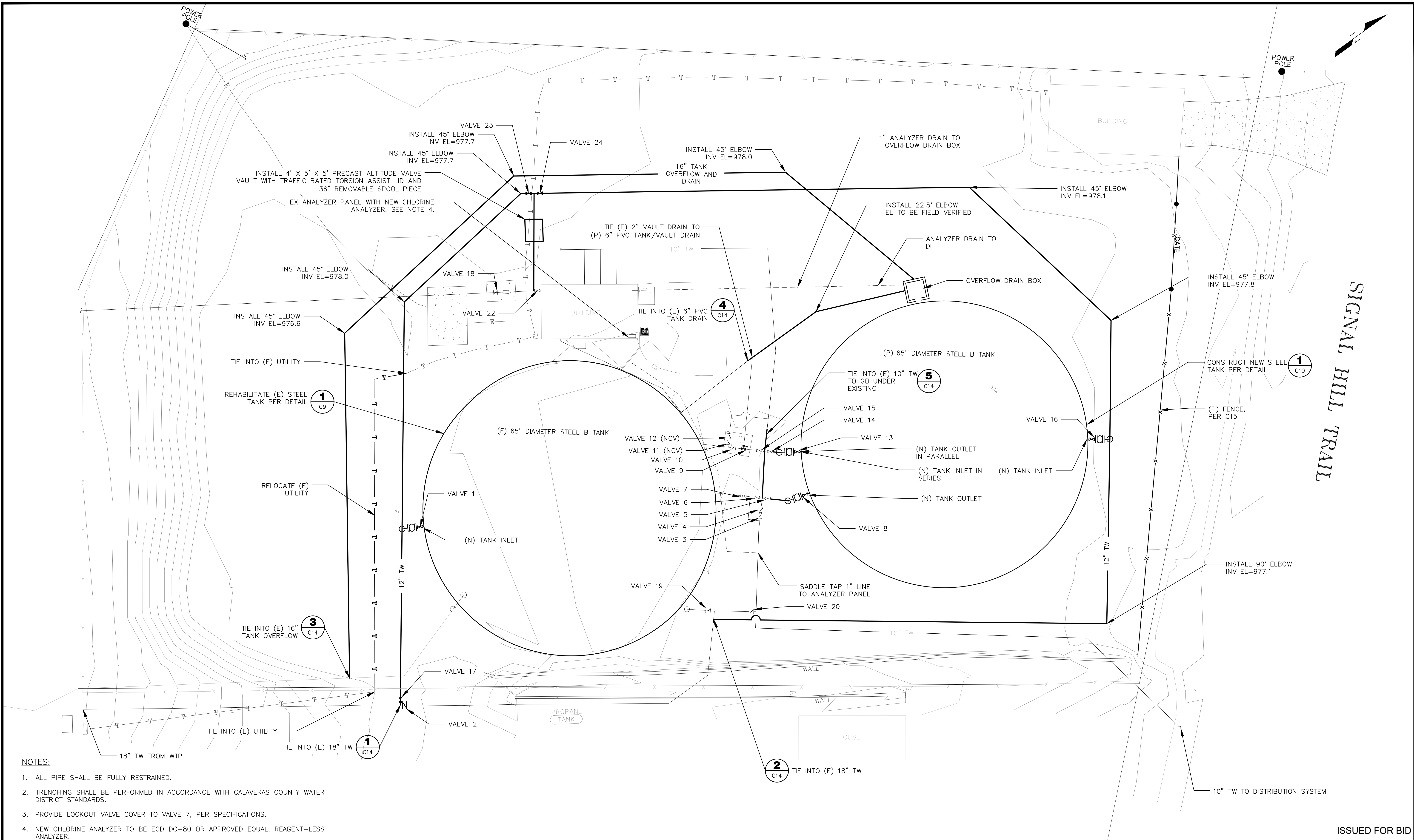
CLEARWELL TANK SITE PIPING PLAN

ISSUED FOR BID

DRAWING: C7

SHEET 11 OF 42

P:\COWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\B Tank C Sheets (2019)-C8.dwg 6-14-23 04:35:11 PM nvanleeuwen



NOTES:

1. ALL PIPE SHALL BE FULLY RESTRAINED.
2. TRENCHING SHALL BE PERFORMED IN ACCORDANCE WITH CALAVERAS COUNTY WATER DISTRICT STANDARDS.
3. PROVIDE LOCKOUT VALVE COVER TO VALVE 7, PER SPECIFICATIONS.
4. NEW CHLORINE ANALYZER TO BE ECD DC-80 OR APPROVED EQUAL, REAGENT-LESS ANALYZER.

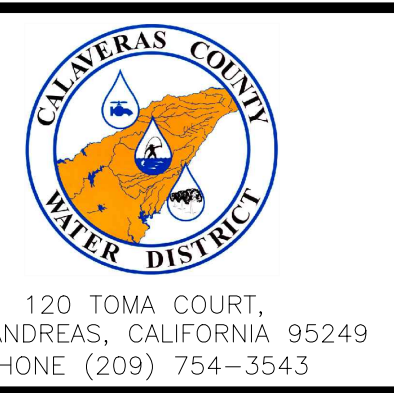
REV	DATE	BY	DESCRIPTION

SCALE: 1" = 10'

DATE: JUNE 2023

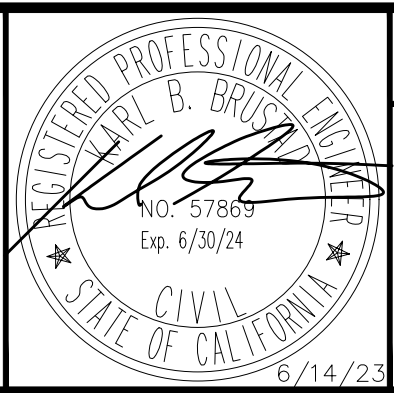
WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: AAS
 DRAWN: NMVL/TMB
 CHECKED: KBB



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COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

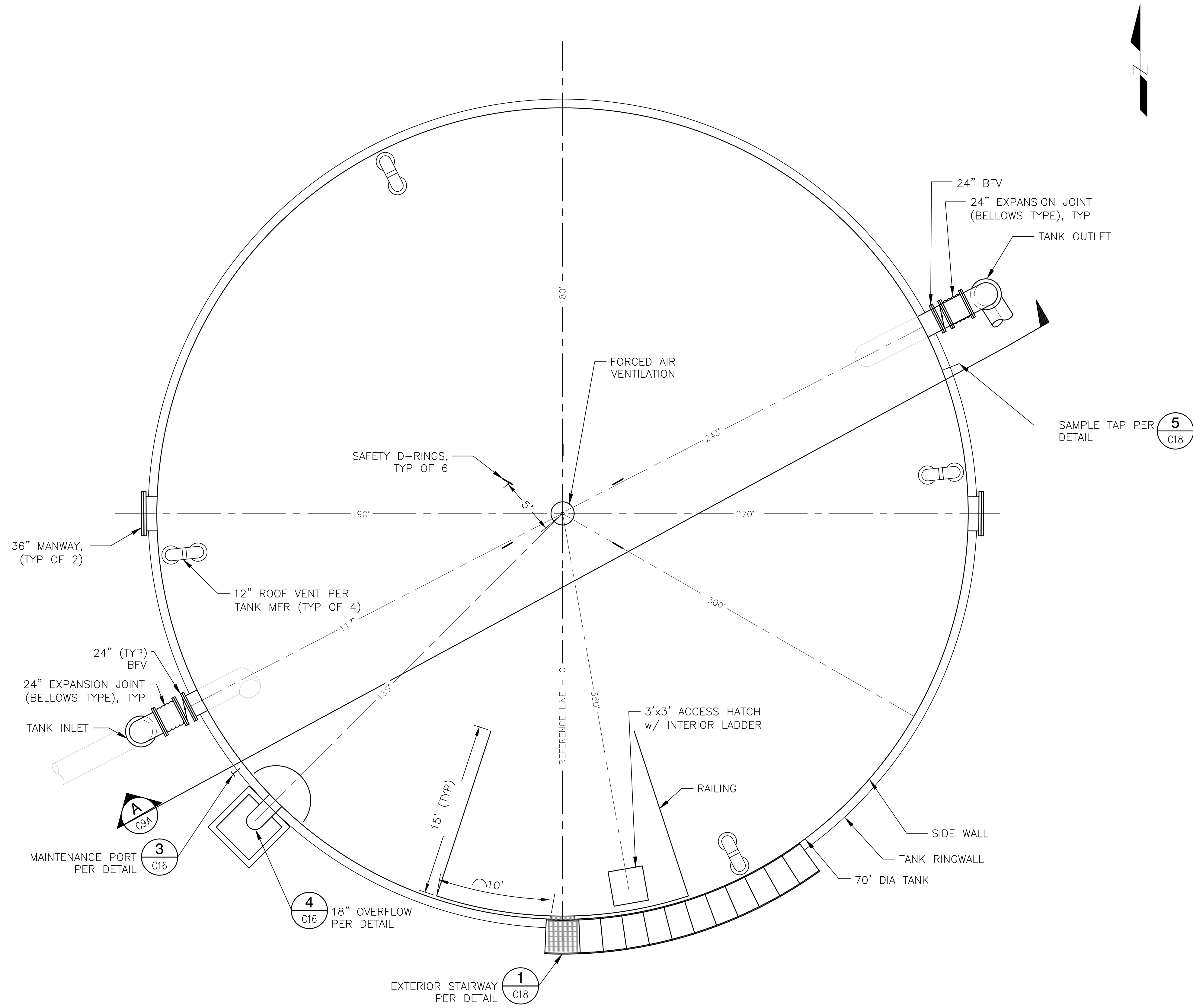
B TANK SITE PIPING PLAN

ISSUED FOR BID

DRAWING: **C8**

SHEET 12 OF 42

P:\COWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\COPPER COVE (2019) - Details.dwg 6-14-23 04:35:21 PM nvanleeuwen



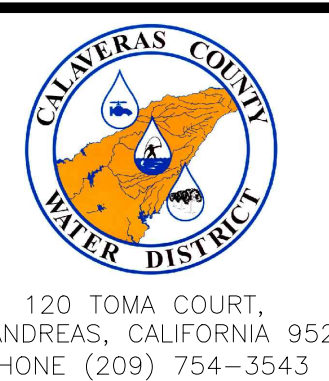
NEW CLEARWELL TANK PLAN **1**
1" = 5'

ISSUED FOR BID

REV	DATE	BY	DESCRIPTION

SCALE: AS NOTED	WARNING 0 1/2 1 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
DATE: JUNE 2023	

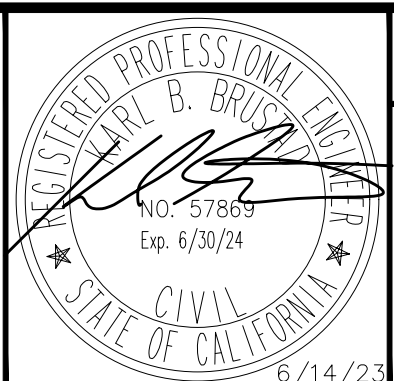
DESIGNED: AAS
DRAWN: NMVL/TMB
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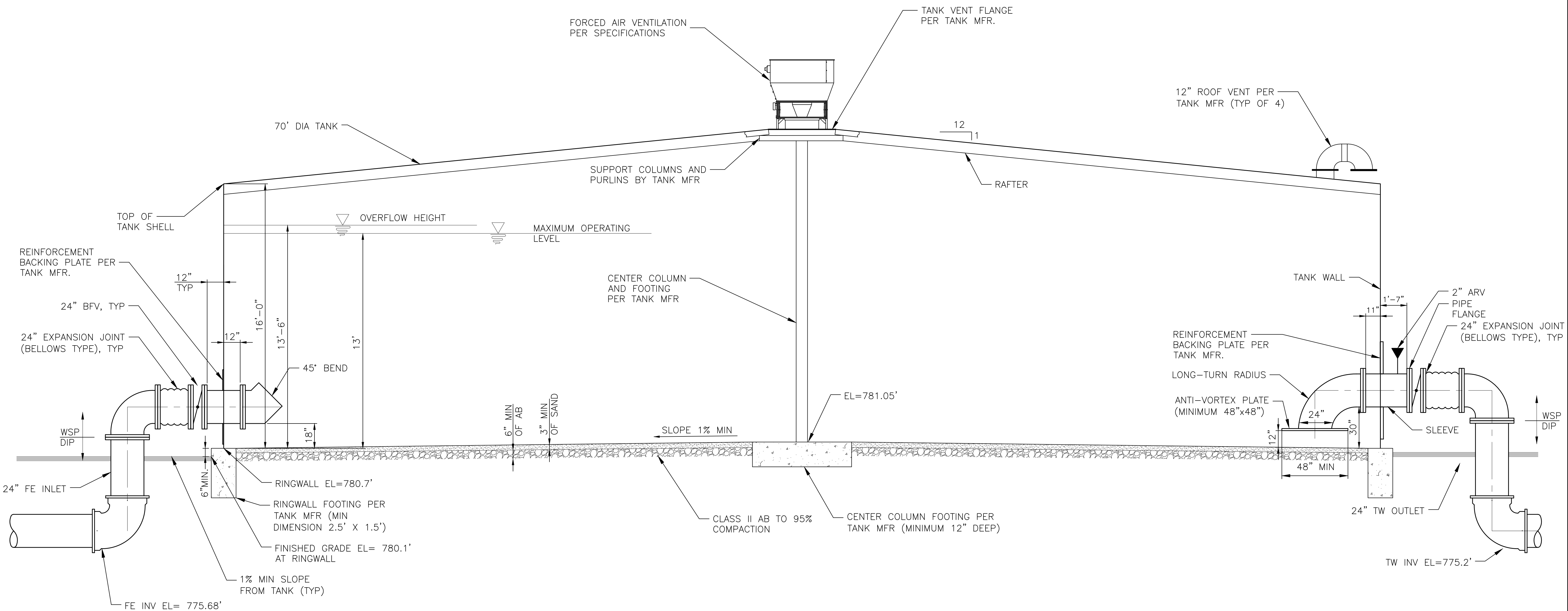


COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

TANK PLAN FOR NEW CLEARWELL

DRAWING
C9
SHEET 13 OF 42

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NEW CLEARWELL SECTION A
 1" = 3' C9

ISSUED FOR BID

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SCALE: AS NOTED	WARNING 0 1/2 1
DATE: JUNE 2023	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

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PAUL B. BRUSCIA
REGISTERED PROFESSIONAL ENGINEER
NO. 57869
Exp. 6/30/24
CIVIL
STATE OF CALIFORNIA
6/14/23

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

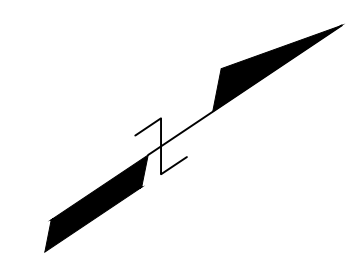
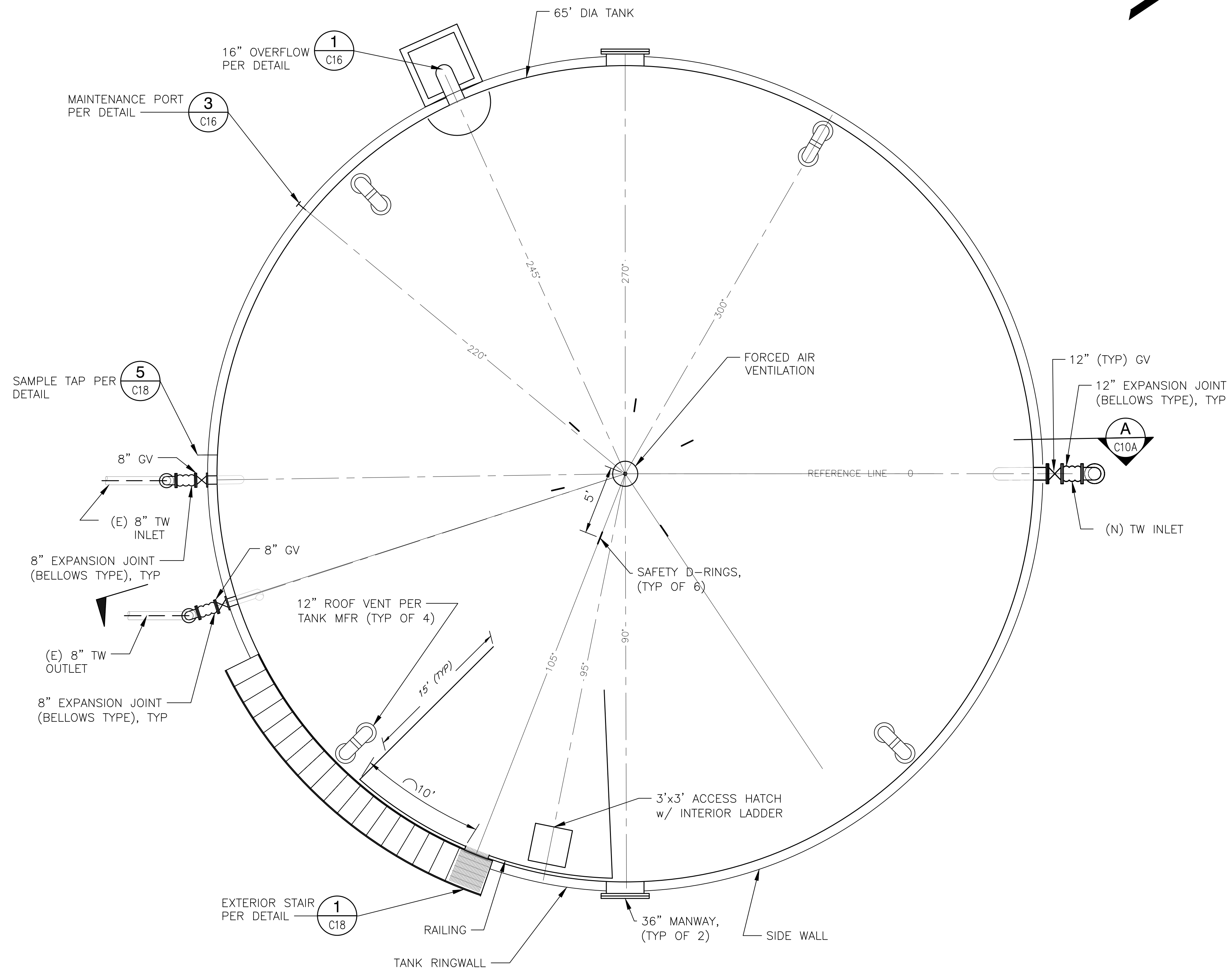
TANK SECTION FOR NEW CLEARWELL

DRAWING

C9A

SHEET 14 OF 42

P:\COWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\COPPER COVE (2019) - Details.dwg 6-14-23 04:35:30 PM nvanleeuwen



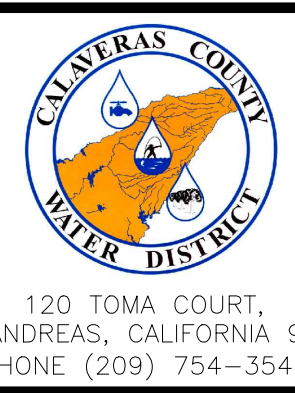
NEW B TANK PLAN
1" = 5'

ISSUED FOR BID

REV	DATE	BY	DESCRIPTION

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DATE: JUNE 2023	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

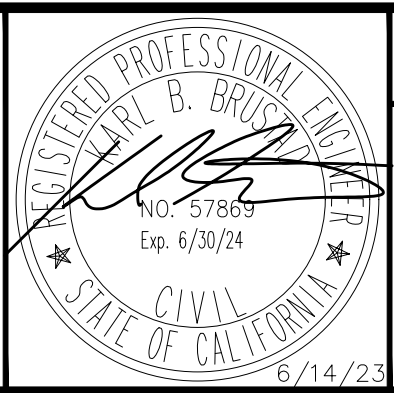
DESIGNED: AAS
DRAWN: NMVL/TMB
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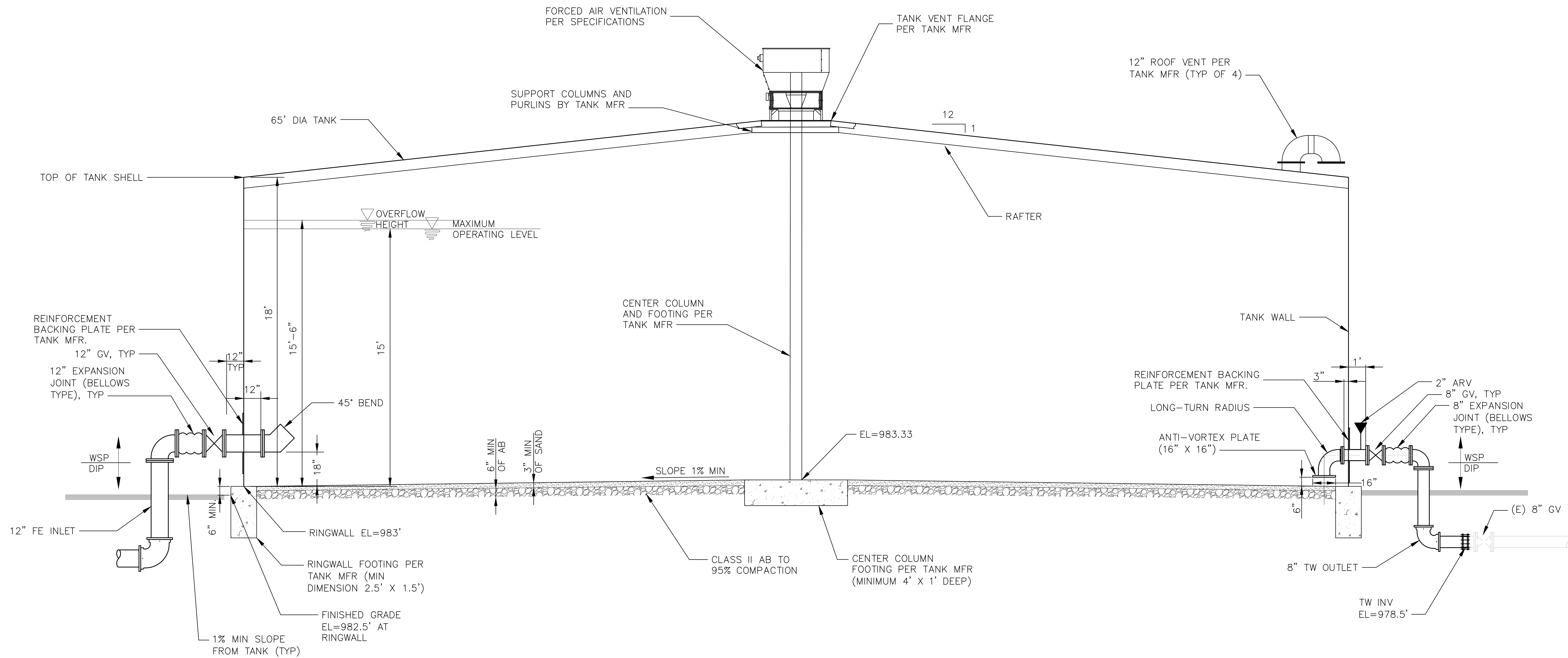


COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

TANK PLAN FOR NEW B TANK

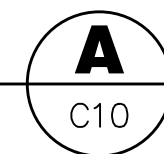
DRAWING
C10
SHEET 15 OF 42

P:\COWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\COPPER COVE (2019) - Details.dwg 6-14-23 04:35:35 PM nvanleuwen



NEW B-TANK SECTION

1" = 3'

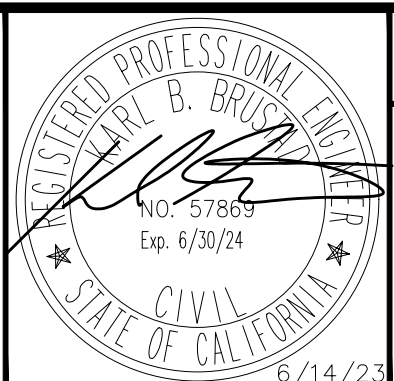
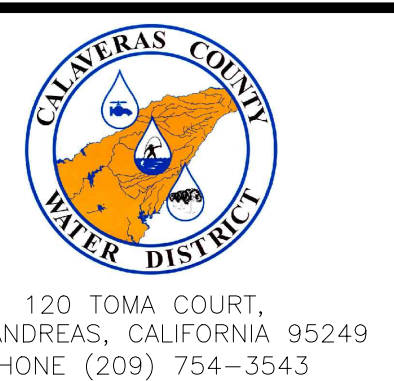


ISSUED FOR BID

REV	DATE	BY	DESCRIPTION

SCALE: AS NOTED	WARNING 0 1/2 1
DATE: JUNE 2023	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: AAS
DRAWN: NMVL/TMB
CHECKED: KBB

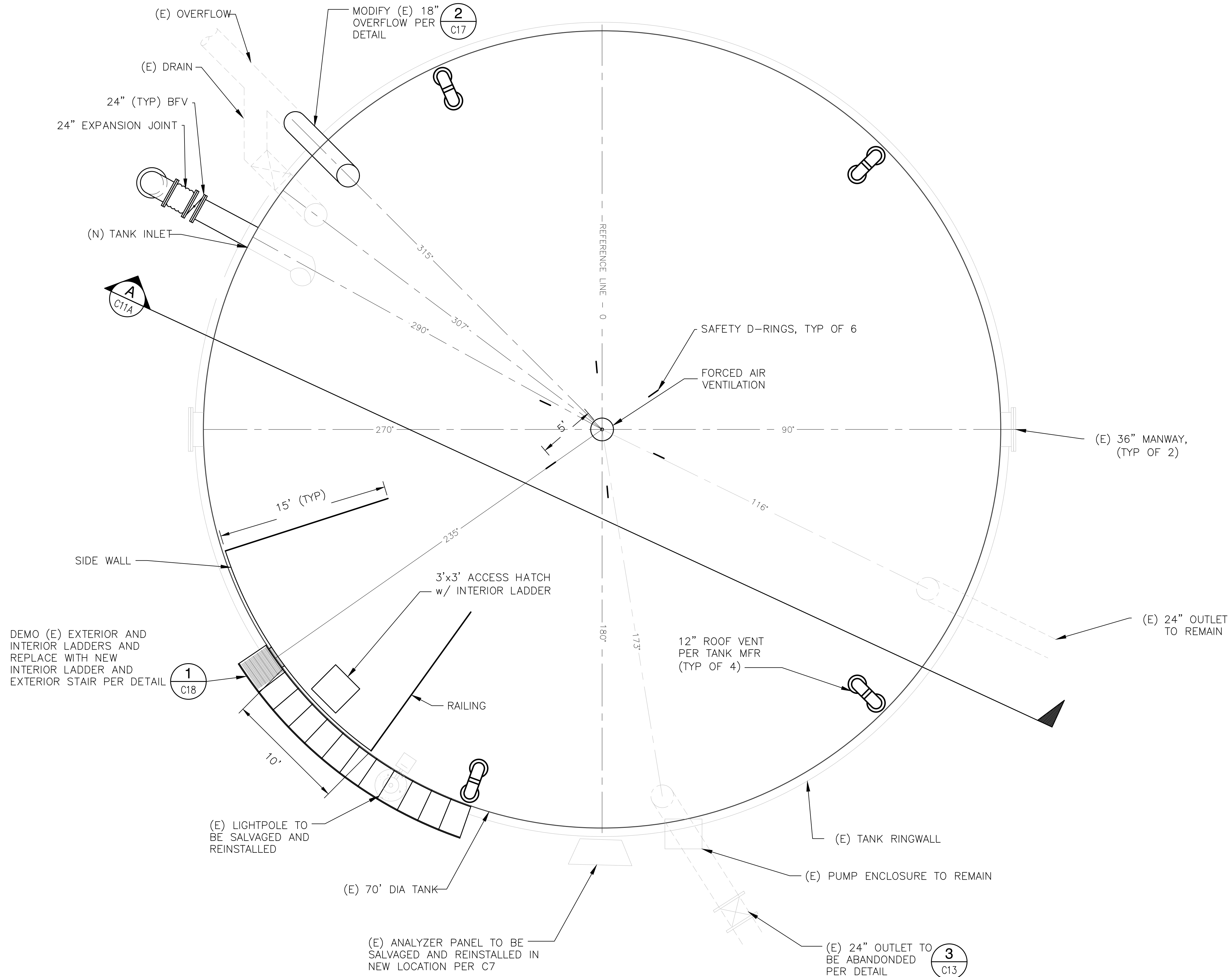


COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

TANK SECTION FOR NEW B TANK

DRAWING
C10A
SHEET 16 OF 42

P:\COWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\COPPER COVE (2019) - Details.dwg 6-14-23 04:35:40 PM nvanleeuwen



EXISTING CLEARWELL TANK PLAN **1**
1" = 5'

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REV	DATE	BY	DESCRIPTION

SCALE: AS NOTED

DATE: JUNE 2023

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

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COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

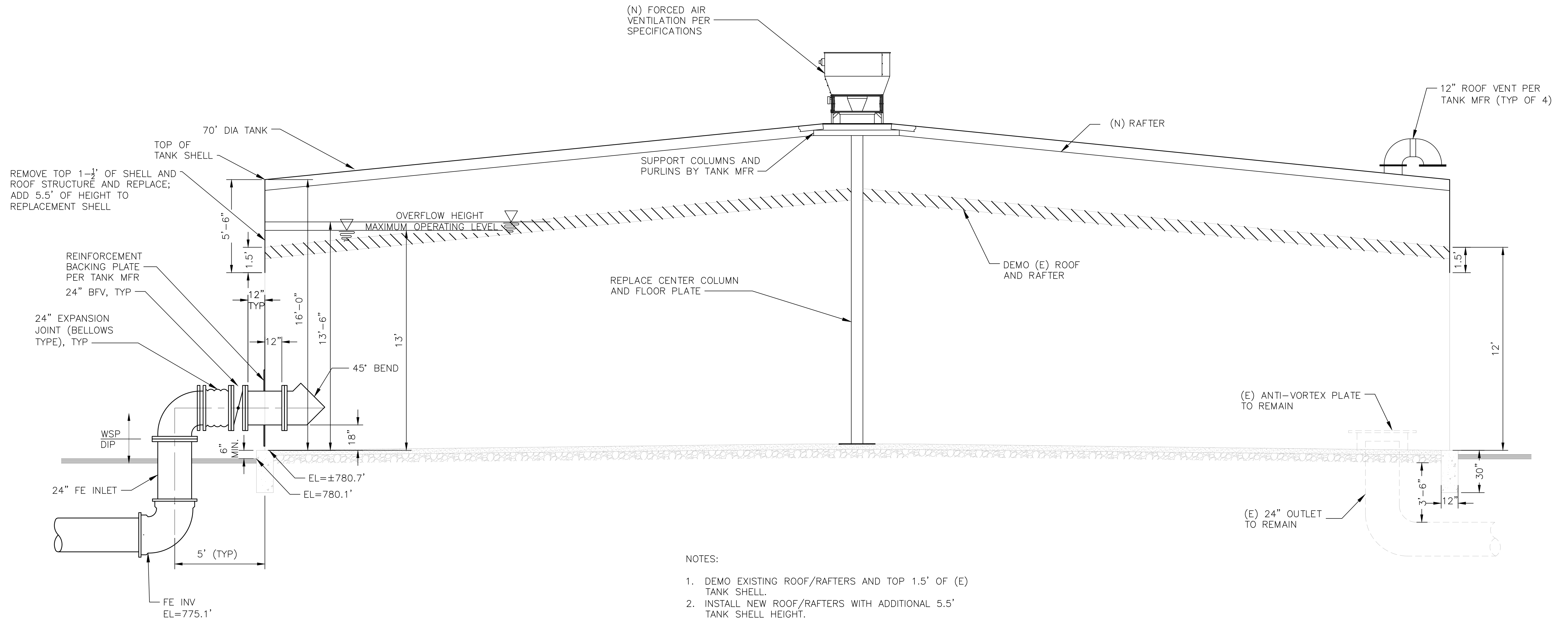
TANK REHABILITATION PLAN
FOR EXISTING CLEARWELL

DRAWING

C11

SHEET 17 OF 42

P:\COWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\COPPER COVE (2019) - Details.dwg 6-14-23 04:35:45 PM nvanleeuwen



- NOTES:
1. DEMO EXISTING ROOF/RAFTERS AND TOP 1.5' OF (E) TANK SHELL.
 2. INSTALL NEW ROOF/RAFTERS WITH ADDITIONAL 5.5' TANK SHELL HEIGHT.
 3. DEMO EXISTING EXTERIOR LADDER, INTERIOR LADDER, OVERFLOW PIPING, ACCESS HATCH, RAILING, AND LIGHT

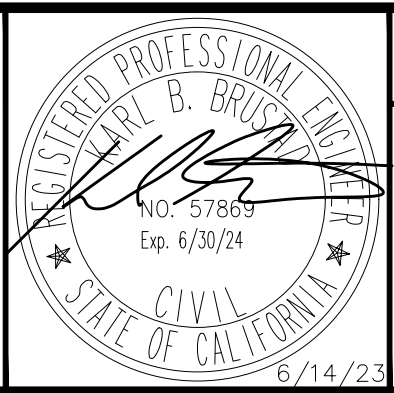
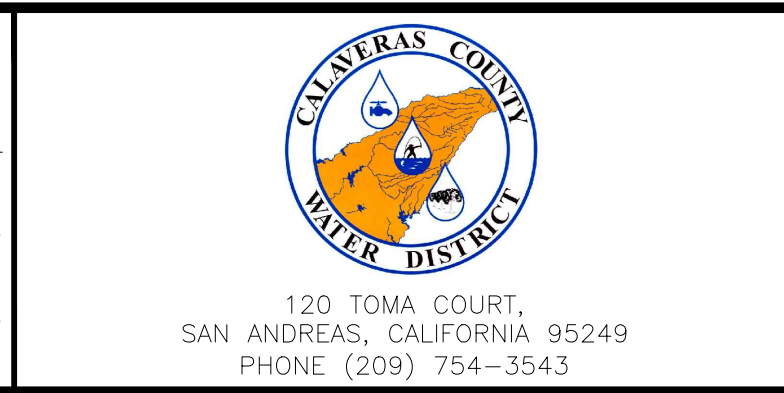
EXISTING CLEARWELL SECTION **A**
 1" = 3" C11

ISSUED FOR BID

REV	DATE	BY	DESCRIPTION

SCALE: AS NOTED	WARNING 0 1/2 1
DATE: JUNE 2023	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: AAS
DRAWN: NMVL/TMB
CHECKED: KBB

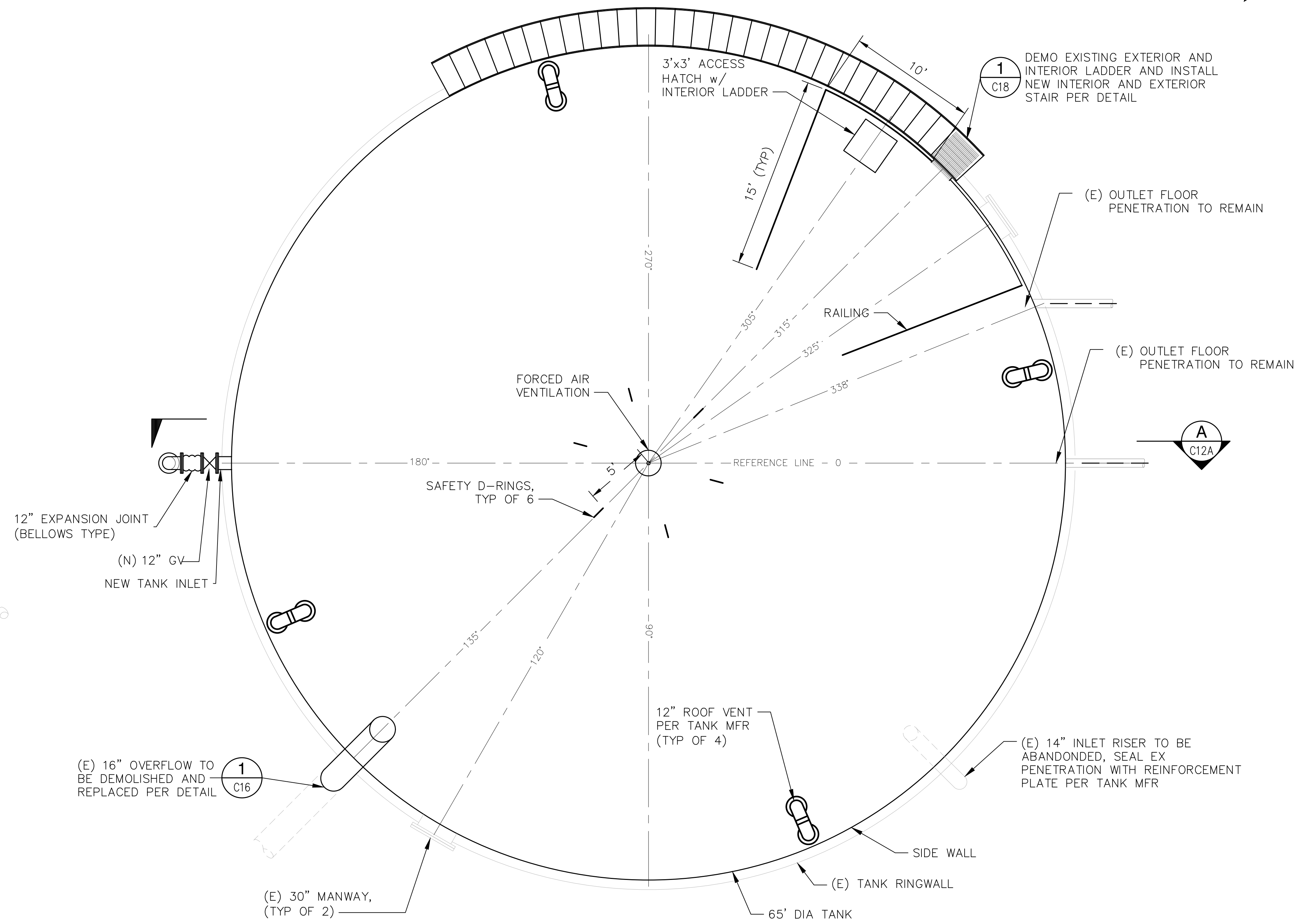


COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

TANK REHABILITATION SECTION FOR EXISTING CLEARWELL

DRAWING
C11A
SHEET 18 OF 42

P:\COWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\COPPER COVE (2019) - Details.dwg 6-14-23 04:35:50 PM nvanleeuwen



EXISTING B TANK REHABILITATION PLAN SECTION **A**
 1" = 5'

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REV	DATE	BY	DESCRIPTION

SCALE: AS NOTED	WARNING 0 1/2 1 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
DATE: JUNE 2023	

DESIGNED: AAS
DRAWN: NMVL/TMB
CHECKED: KBB

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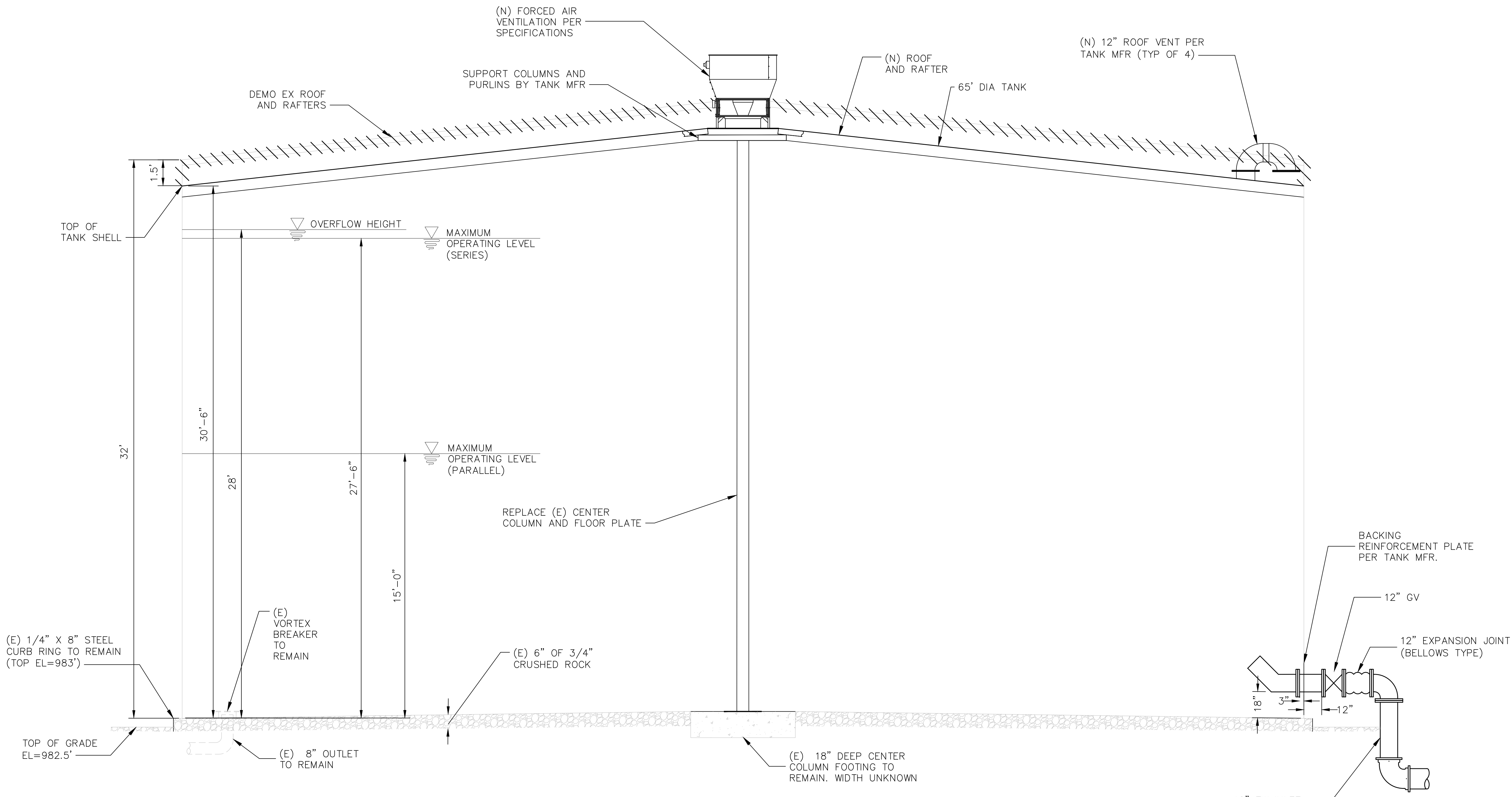
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COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

TANK REHABILITATION PLAN FOR EXISTING B TANK

DRAWING
C12
SHEET 19 OF 42

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- NOTES:
1. DEMO EXISTING ROOF/RAFTERS AND TOP 1.5' OF (E) TANK SHELL.
 2. INSTALL NEW ROOF/RAFTERS.
 3. DEMO EXISTING EXTERIOR LADDER, INTERIOR LADDER, OVERFLOW PIPING, ACCESS HATCH, RAILING, AND LIGHT.

EXISTING B TANK REHABILITATION SECTION **A**
 1" = 3' C12

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REV	DATE	BY	DESCRIPTION

SCALE: AS NOTED	WARNING 0 1/2 1
DATE: JUNE 2023	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: AAS
DRAWN: NMVL/TMB
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COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

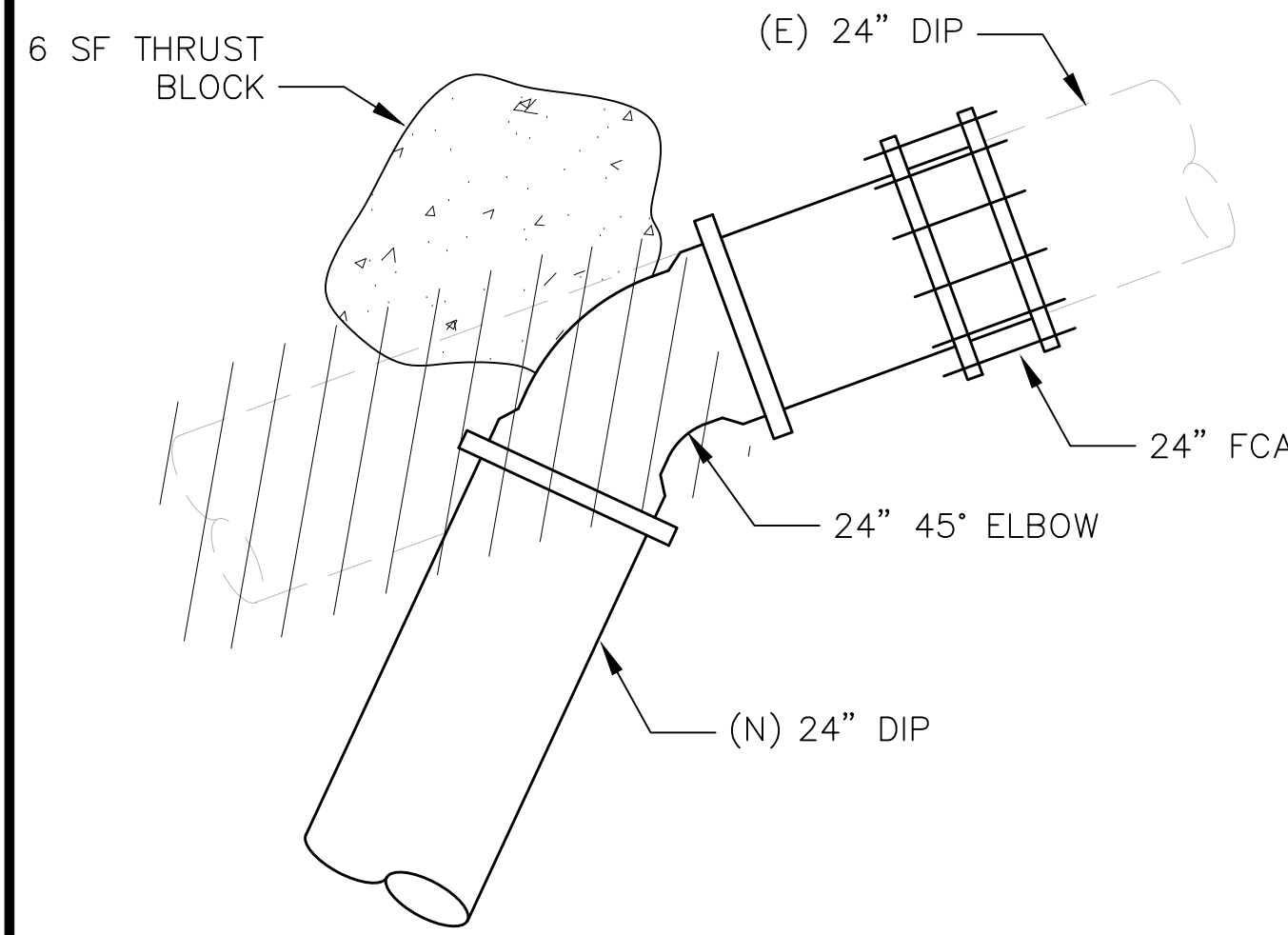
TANK REHABILITATION SECTION FOR EXISTING B TANK

DRAWING

C12A

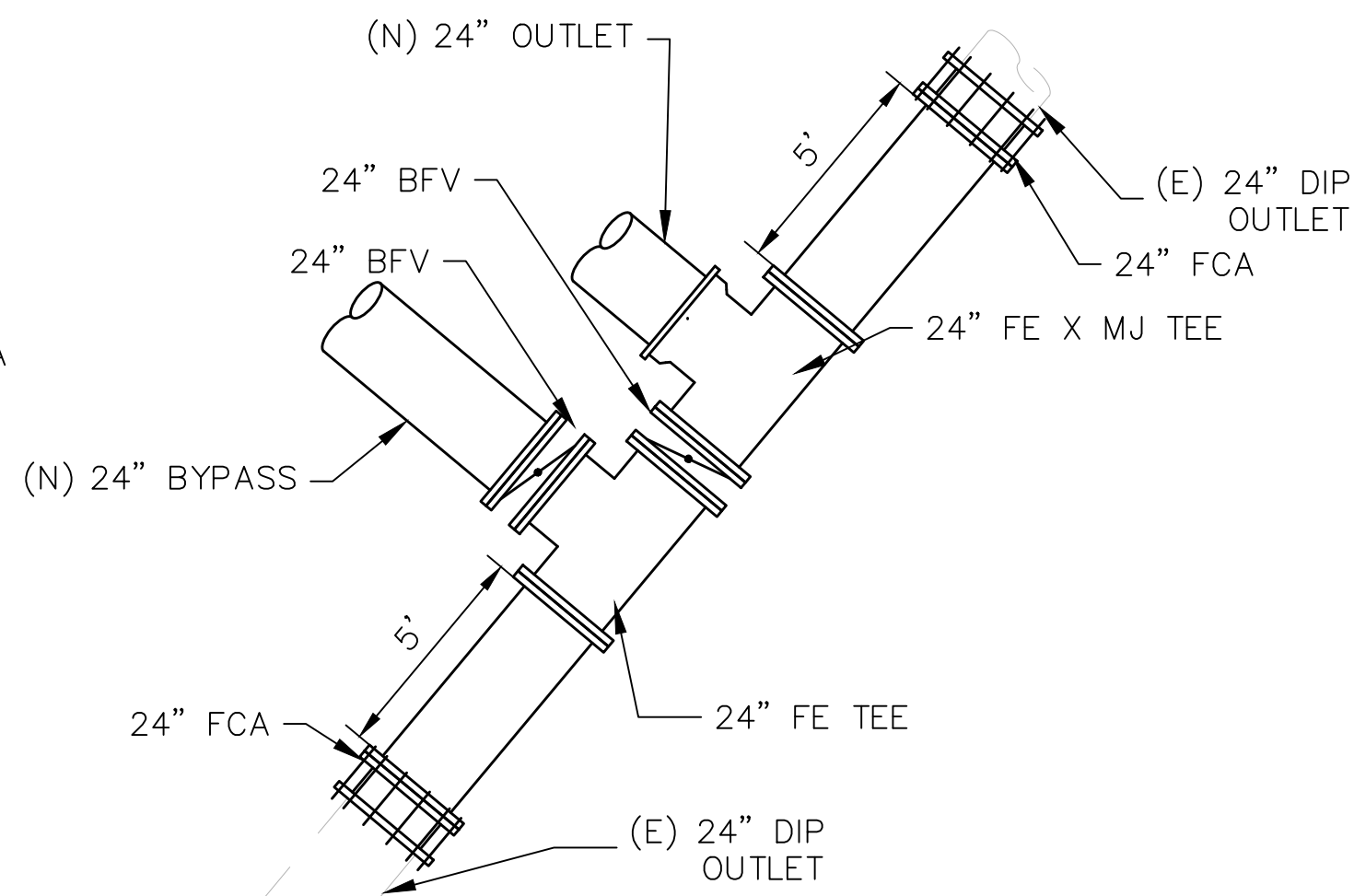
SHEET 20 OF 42

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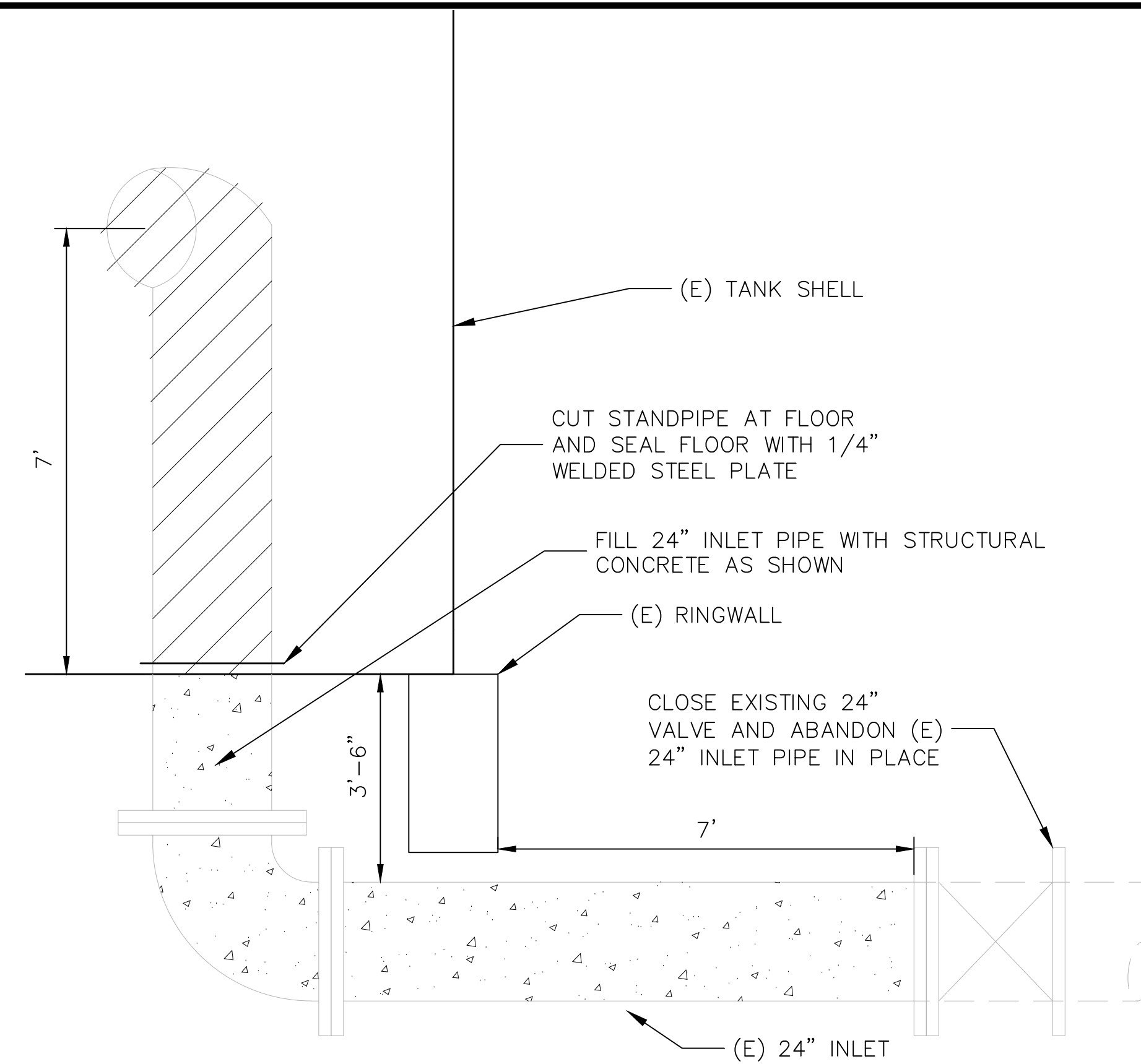
- NOTES:
1. CONTRACTOR TO POTHOLE TO VERIFY EXISTING PIPE MATERIAL, OD, AND CONDITION PRIOR TO PREPARING DETAILED TIE-IN PLAN.
 2. CONTRACTOR TO PROVIDE DETAILED TIE-IN PLAN FOR DISTRICT REVIEW AT LEAST 2 WEEKS PRIOR TO SCHEDULED WORK.
 3. CONNECTION TO EXISTING 24" PIPE TO BE MADE AFTER NEW 24" IS INSTALLED AND DISINFECTED.

CLEARWELL INLET TIE IN DETAIL 1
1/2" = 1'
C7

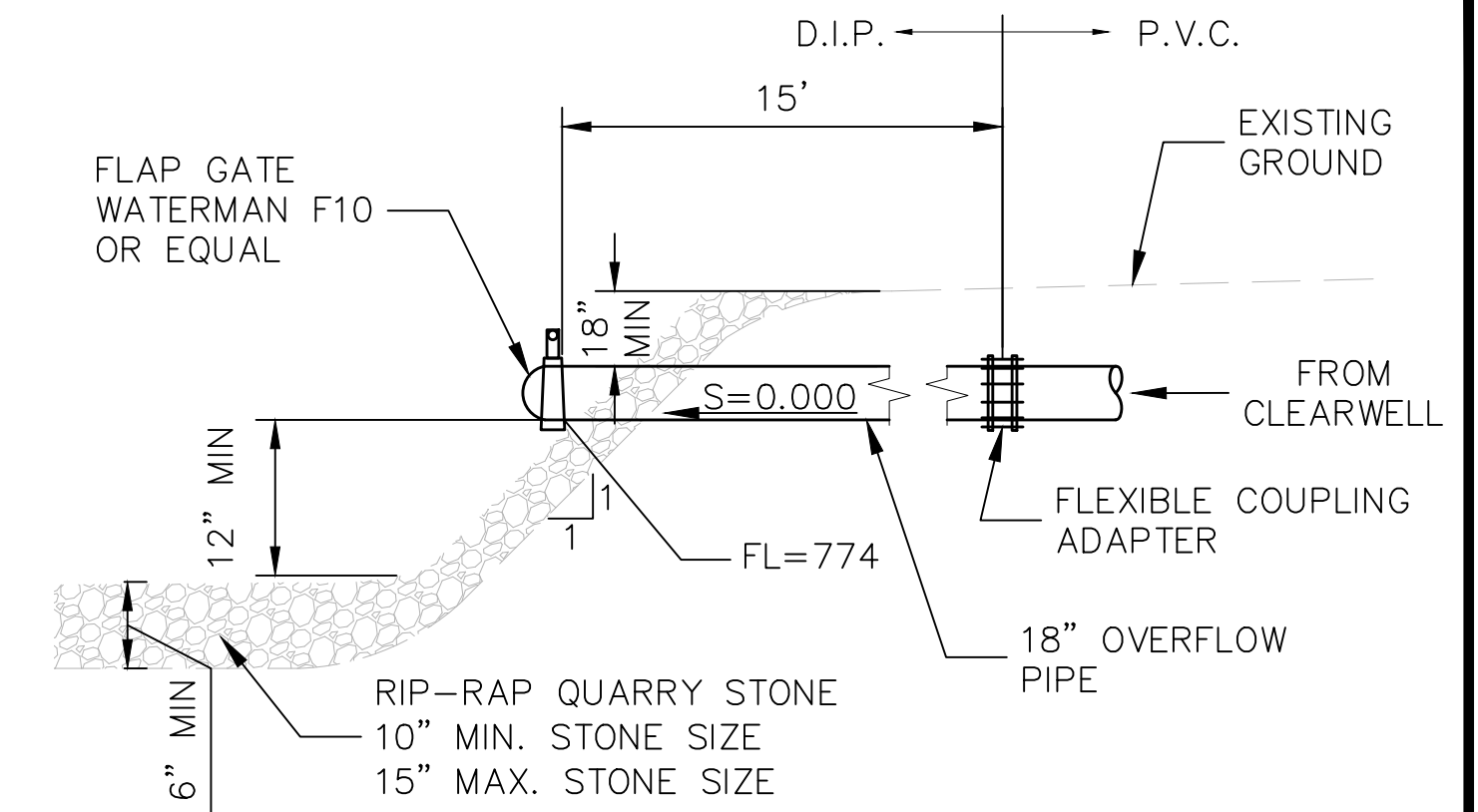


- NOTES:
1. CONTRACTOR TO POTHOLE TO VERIFY EXISTING PIPE MATERIAL, OD, AND CONDITION PRIOR TO PREPARING DETAILED TIE-IN PLAN.
 2. CONTRACTOR TO PROVIDE DETAILED TIE-IN PLAN FOR DISTRICT REVIEW AT LEAST 2 WEEKS PRIOR TO SCHEDULED WORK.
 3. CONNECTION TO EXISTING 24" PIPE TO BE MADE AFTER NEW 24" IS INSTALLED AND DISINFECTED.

CLEARWELL OUTLET TIE-IN DETAIL 2
1/4" = 1'
C7

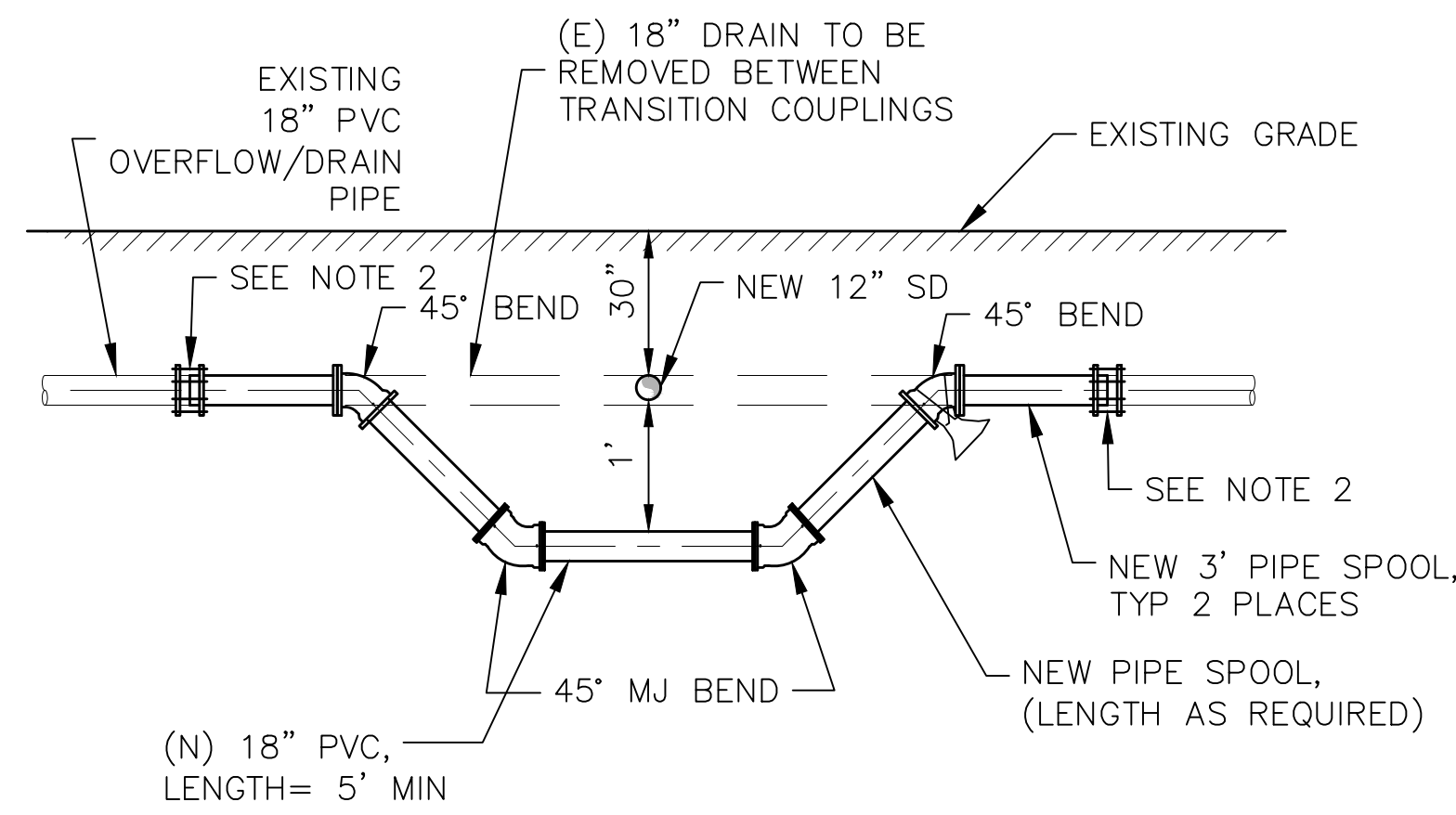


EXISTING CLEARWELL INLET DEMO DETAIL 3
1/2" = 1'
C11



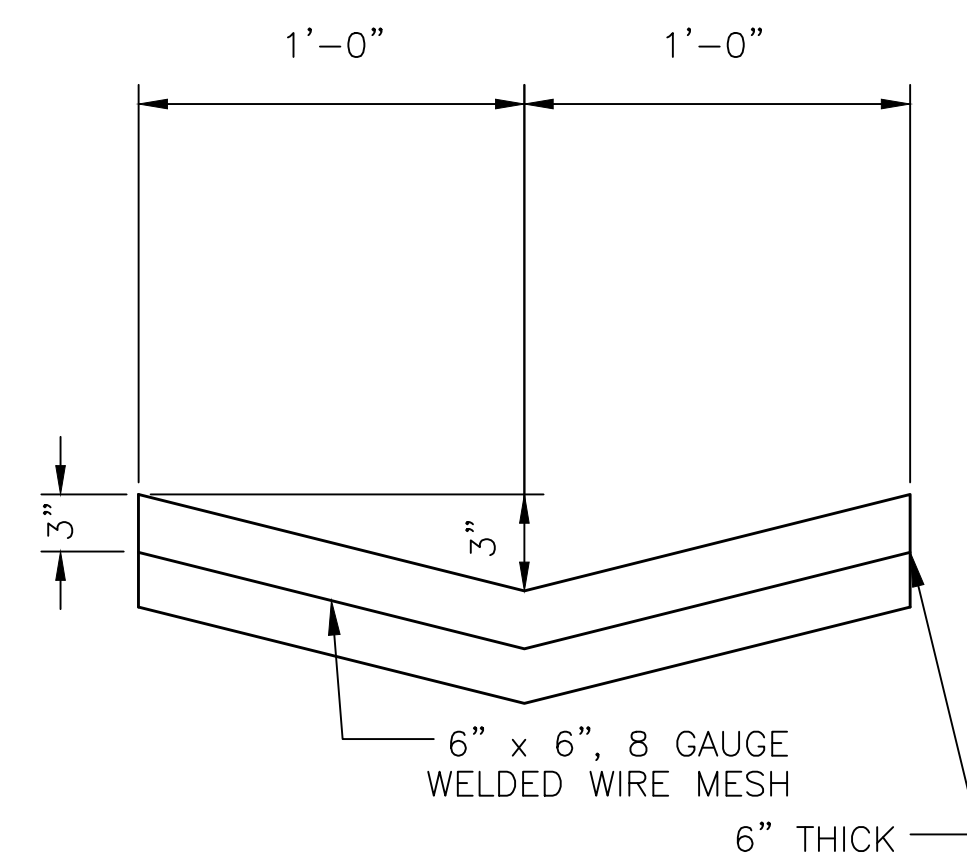
- NOTES:
1. LAST SECTION OF OUTFALL PIPE TO BE PLACED AT FLAT (0.000).

CLEARWELL OVERFLOW OUTFALL DETAIL 6
NTS
C7

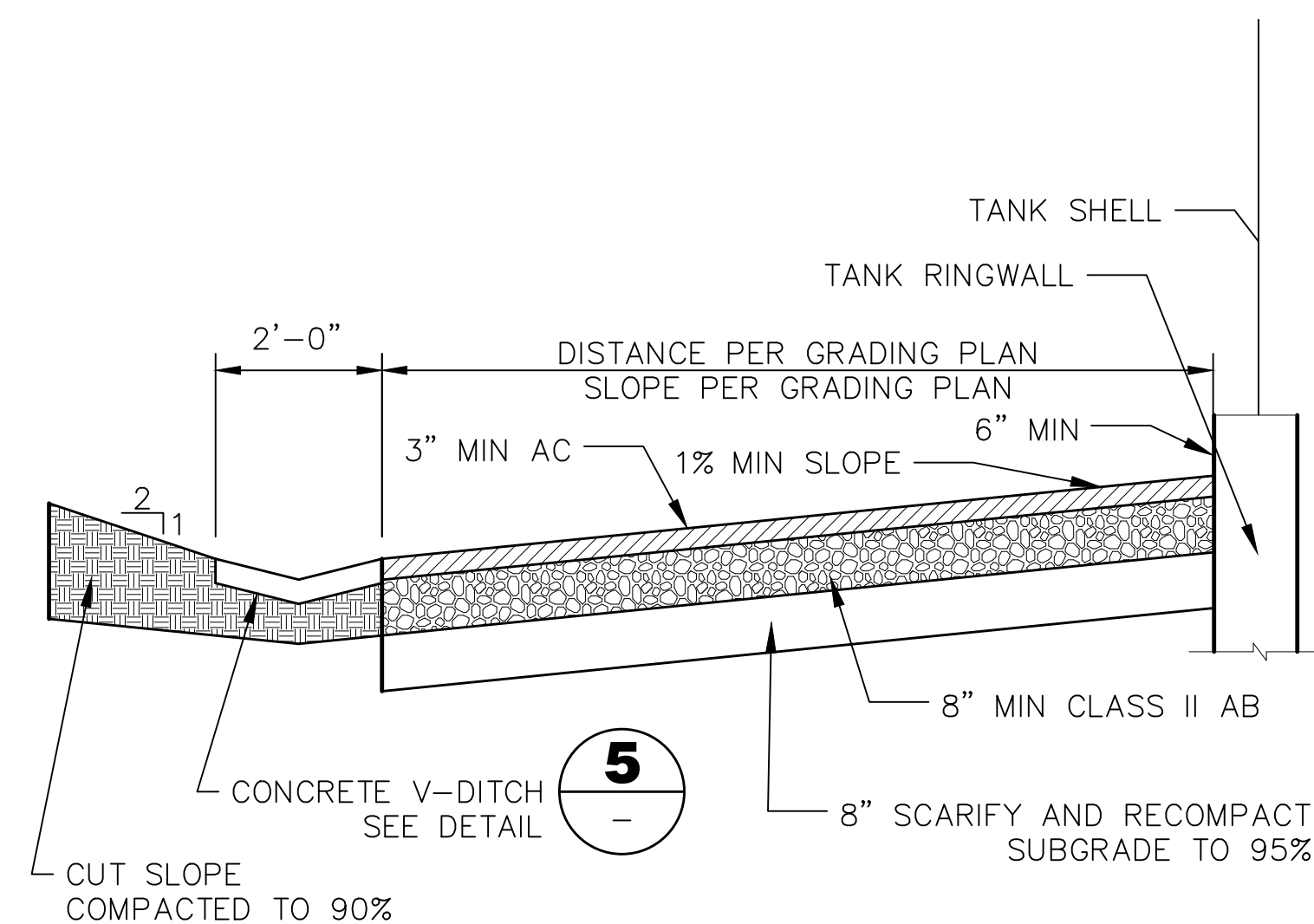


- NOTES:
1. RESTRAIN ALL JOINTS.
 2. MECHANICAL OR TRANSITION COUPLING AS REQUIRED FOR EXISTING PIPE MATERIAL.

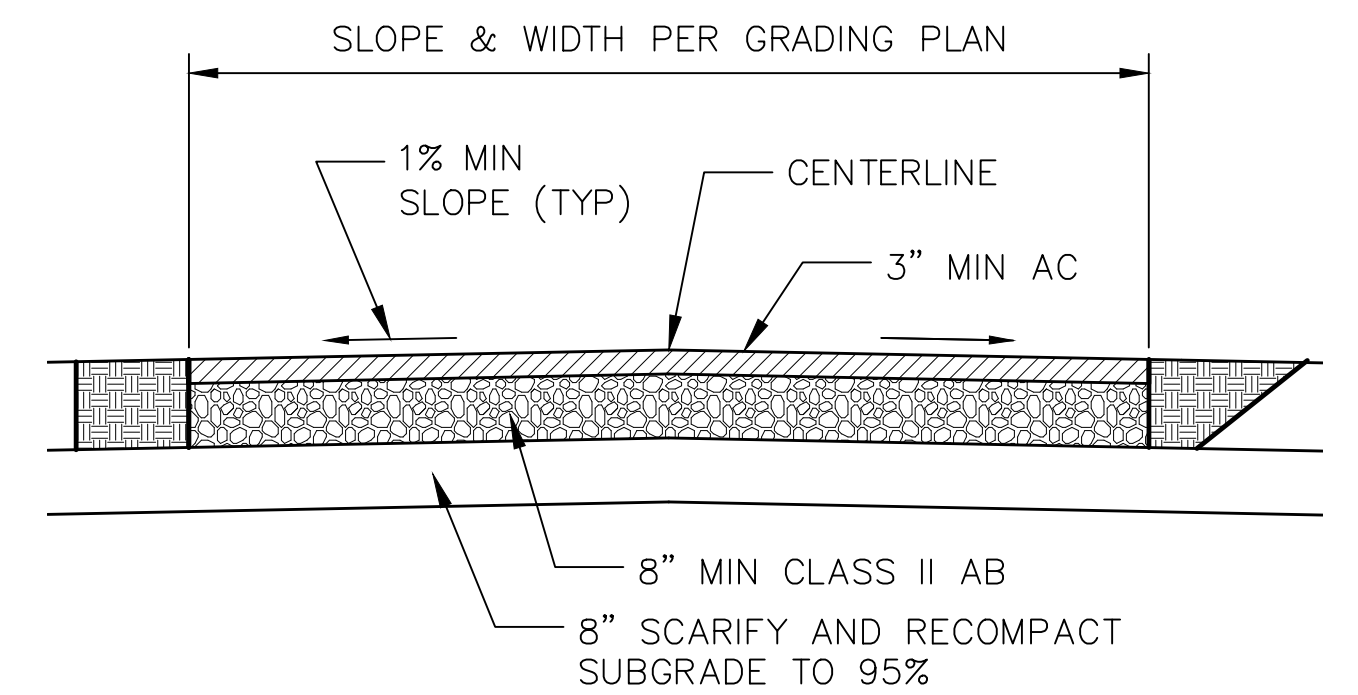
STORM DRAIN/OVERFLOW CROSSING DETAIL 4
NTS
C7



CONCRETE V-DITCH DETAIL 5
NTS



TYPICAL TANK SITE PAVING SECTION A
NTS
C5



TYPICAL TANK ACCESS PAVING SECTION B
NTS
C5

ISSUED FOR BID

REV	DATE	BY	DESCRIPTION

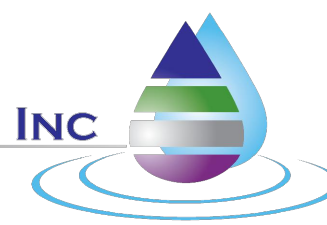
SCALE: AS NOTED	WARNING 0 1/2 1
DATE: JUNE 2023	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: AAS
DRAWN: NMVL/TMB
CHECKED: KBB



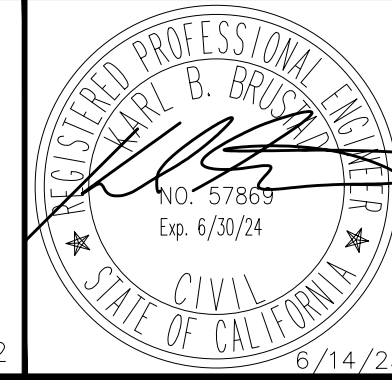
120 TOMA COURT,
SAN ANDREAS, CALIFORNIA 95249
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COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

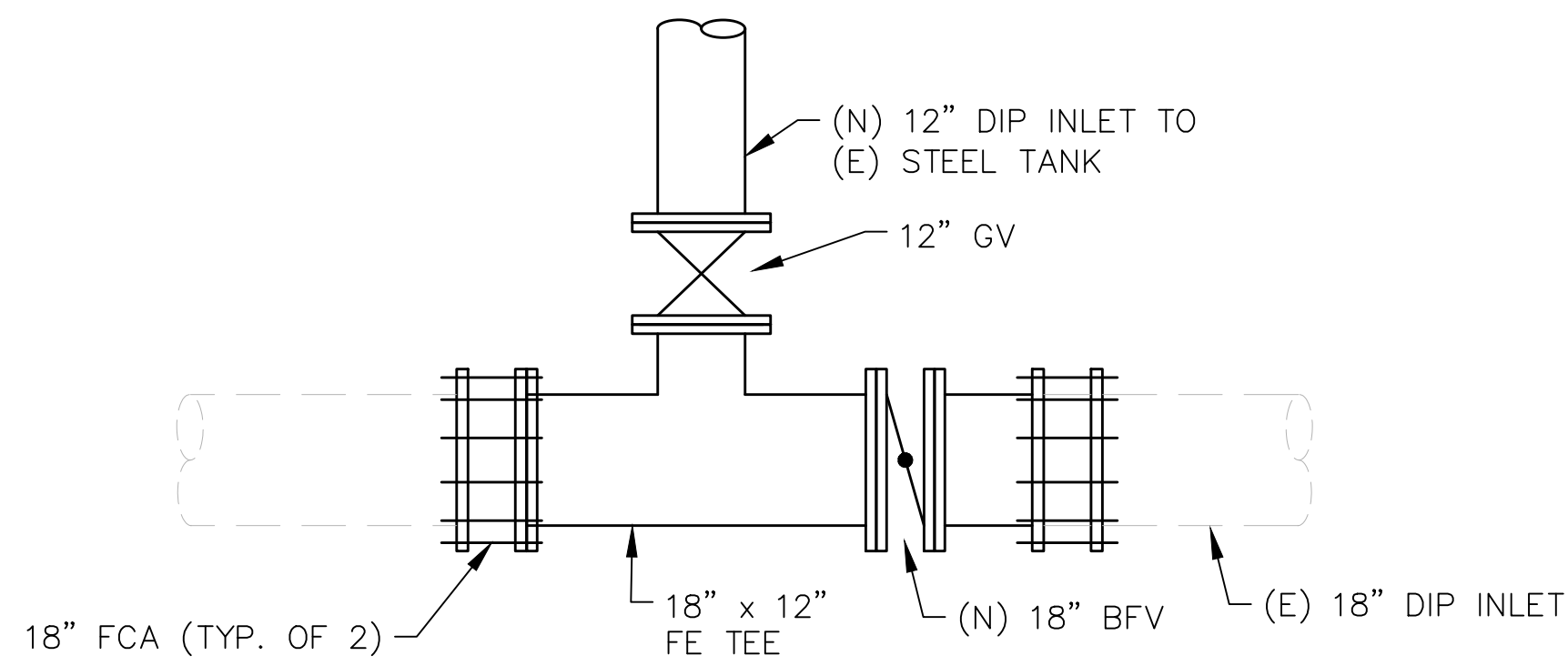
PIPE CONNECTION DETAILS CLEARWELL

DRAWING

C13

SHEET 21 OF 42

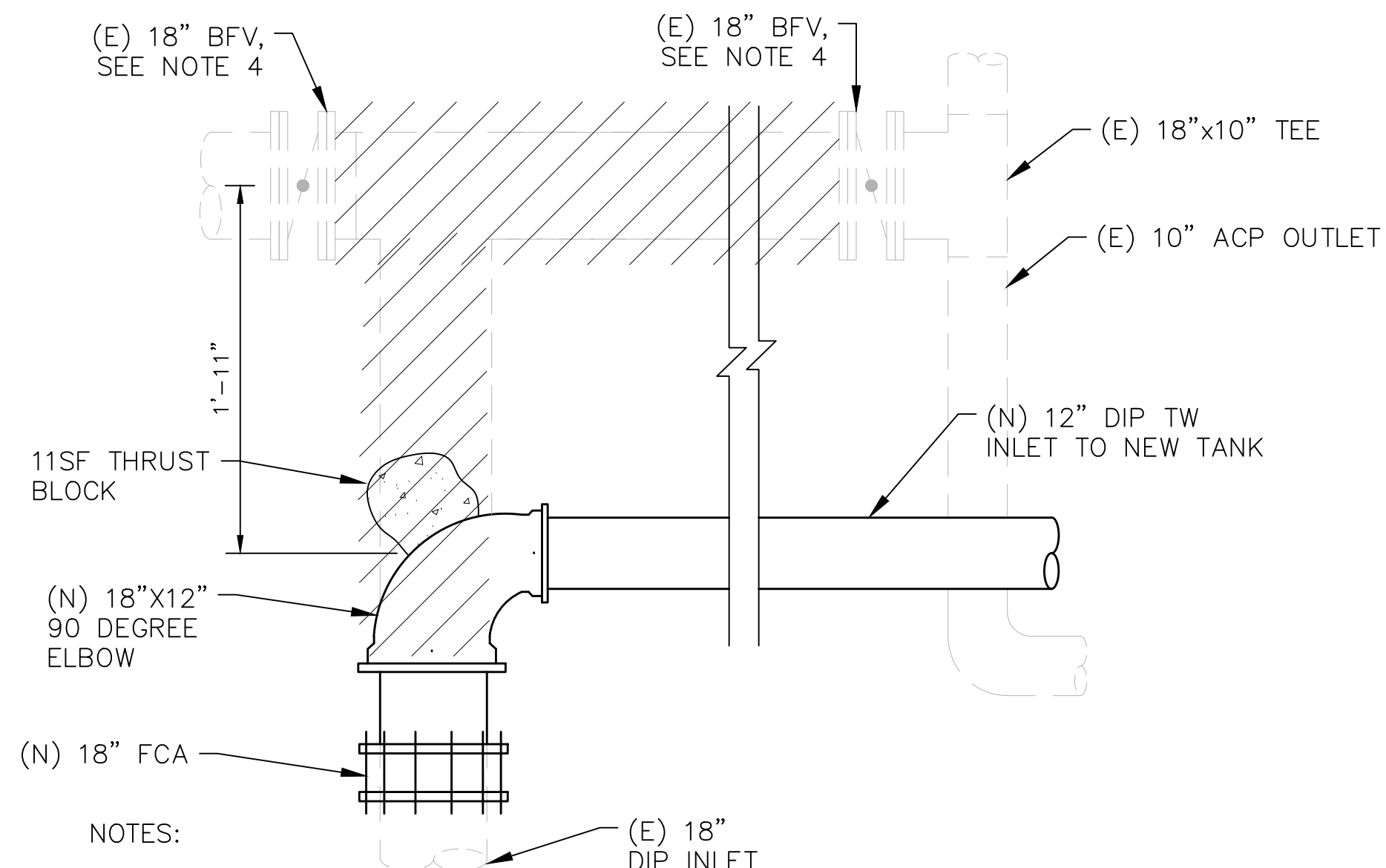
P:\COWD\Copper Cove Water System Improvements\05 Drawings\5.1 CAD\Phase 1 and 2 Tanks\COPPER COVE (2019) - Details.dwg 6-14-23 04:36:12 PM nvanleeuwen



NOTES:

1. CONTRACTOR TO POTHOLE TO VERIFY EXISTING PIPE MATERIAL, OD, AND CONDITION PRIOR TO PREPARING DETAILED TIE-IN PLAN.
2. CONTRACTOR TO PROVIDE DETAILED TIE-IN PLAN FOR DISTRICT REVIEW AT LEAST 2 WEEKS PRIOR TO SCHEDULED WORK.
3. CONNECTION TO EXISTING 18" PIPE TO BE MADE AFTER NEW 12" IS INSTALLED AND DISINFECTED.

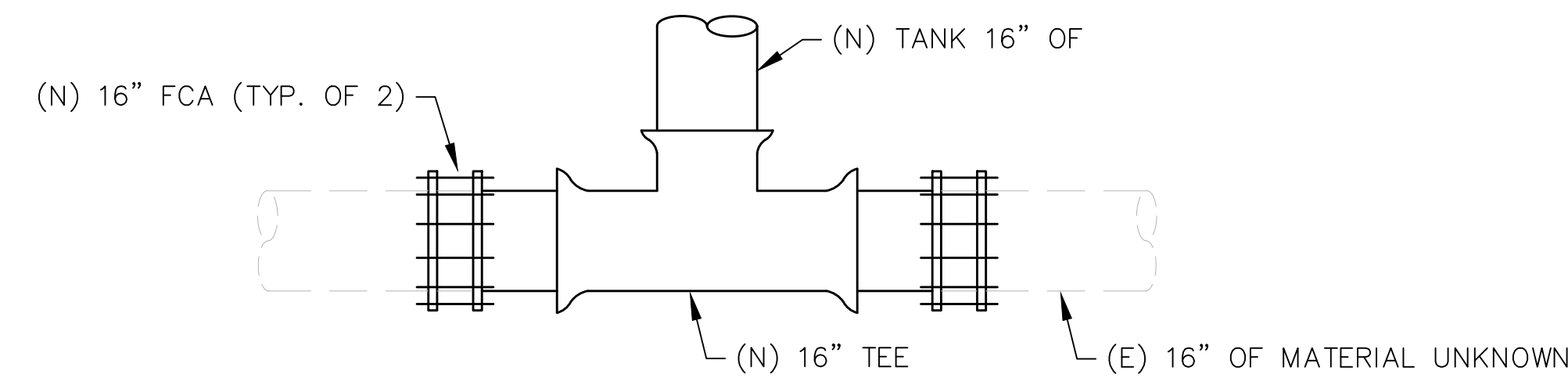
EXISTING B TANK INLET TIE-IN DETAIL **1**
1/2" = 1' C8



NOTES:

1. CONTRACTOR TO POTHOLE TO VERIFY EXISTING PIPE MATERIAL, OD, AND CONDITION PRIOR TO PREPARING DETAILED TIE-IN PLAN.
2. CONTRACTOR TO PROVIDE DETAILED TIE-IN PLAN FOR DISTRICT REVIEW AT LEAST 2 WEEKS PRIOR TO SCHEDULED WORK.
3. CONNECTION TO EXISTING 18" PIPE TO BE MADE AFTER NEW B TANK HAS BEEN DISINFECTED.
4. INSTALL BLIND FLANGE AND PERMANENTLY ABANDON VALVE AFTER COMPLETION OF TIE-IN.

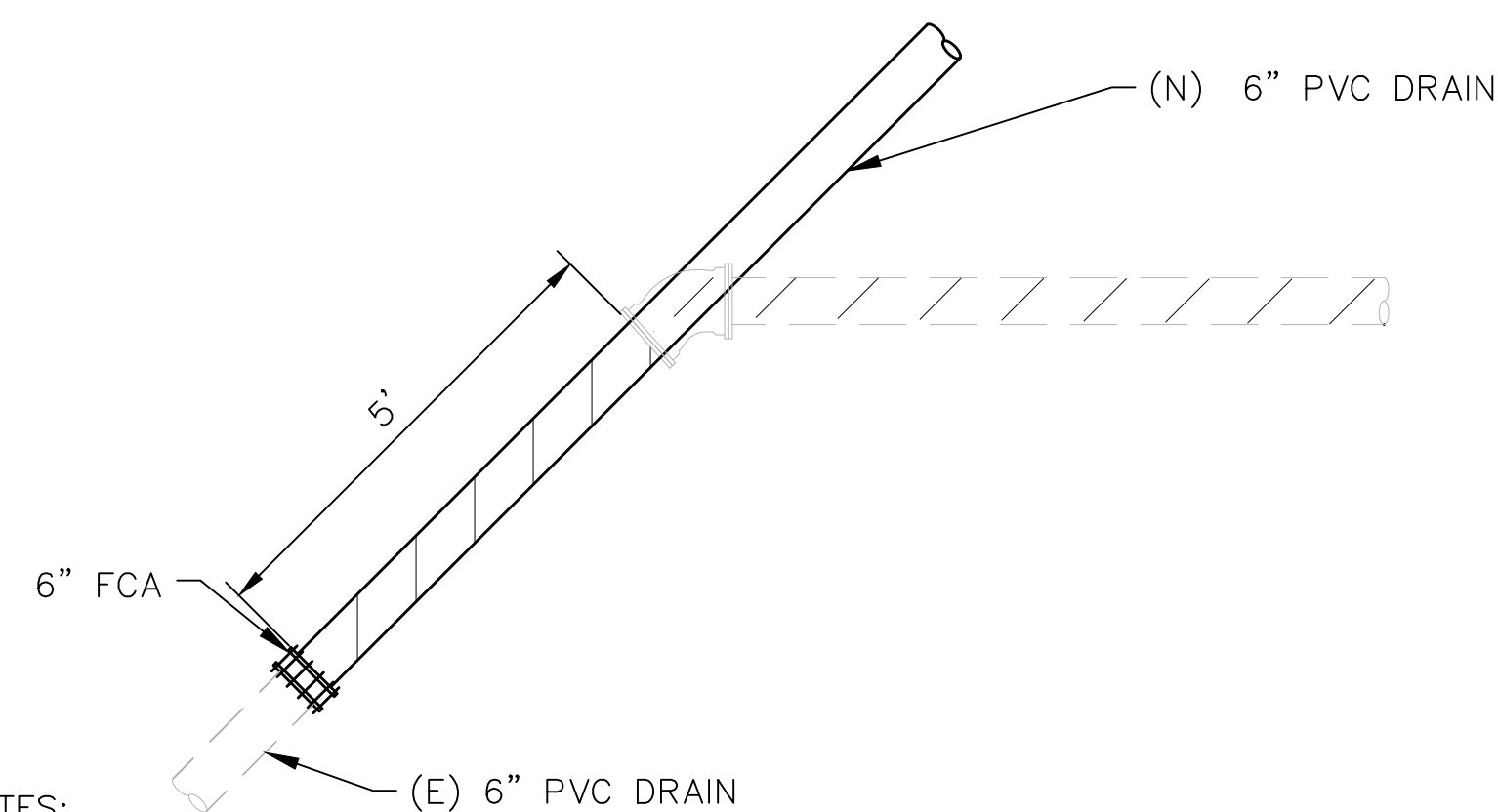
NEW B-TANK INLET TIE-IN DETAIL **2**
NTS C8



NOTES:

1. CONTRACTOR TO POTHOLE TO VERIFY EXISTING PIPE MATERIAL, OD, AND CONDITION PRIOR TO PREPARING DETAILED TIE-IN PLAN.
2. CONTRACTOR TO PROVIDE DETAILED TIE-IN PLAN FOR DISTRICT REVIEW AT LEAST 2 WEEKS PRIOR TO SCHEDULED WORK.

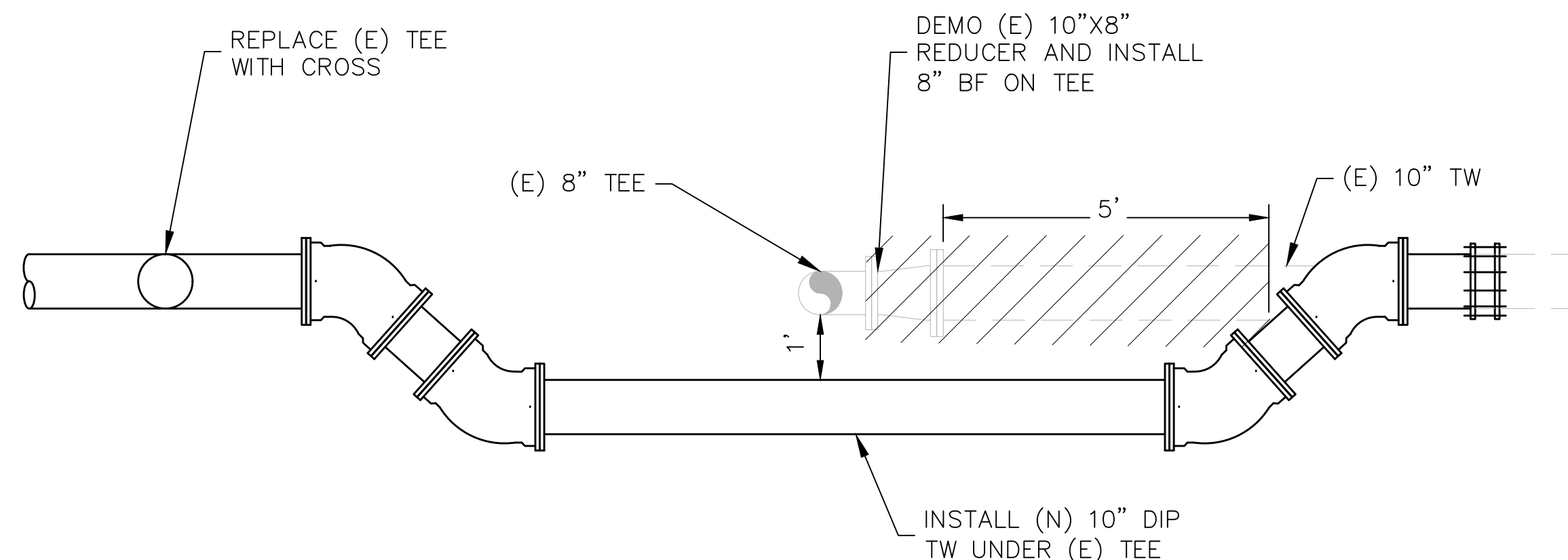
NEW B-TANK OVERFLOW TIE-IN DETAIL **3**
1/2" = 1' C8



NOTES:

1. CONTRACTOR TO POTHOLE TO VERIFY EXISTING PIPE MATERIAL, OD, AND CONDITION PRIOR TO PREPARING DETAILED TIE-IN PLAN.
2. CONTRACTOR TO PROVIDE DETAILED TIE-IN PLAN FOR DISTRICT REVIEW AT LEAST 2 WEEKS PRIOR TO SCHEDULED WORK.

EXISTING B-TANK DRAIN TIE IN DETAIL **4**
1/2" = 1' C8



NOTES:

1. CONTRACTOR TO POTHOLE TO VERIFY EXISTING PIPE MATERIAL, OD, AND CONDITION PRIOR TO PREPARING DETAILED TIE-IN PLAN.
2. CONTRACTOR TO PROVIDE DETAILED TIE-IN PLAN FOR DISTRICT REVIEW AT LEAST 2 WEEKS PRIOR TO SCHEDULED WORK.
3. CONNECTION TO (E) TW TO BE MADE AFTER NEW 10" IS INSTALLED AND DISINFECTED.

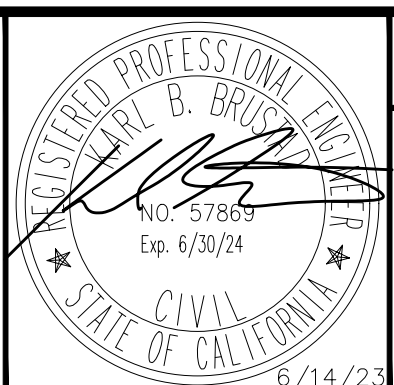
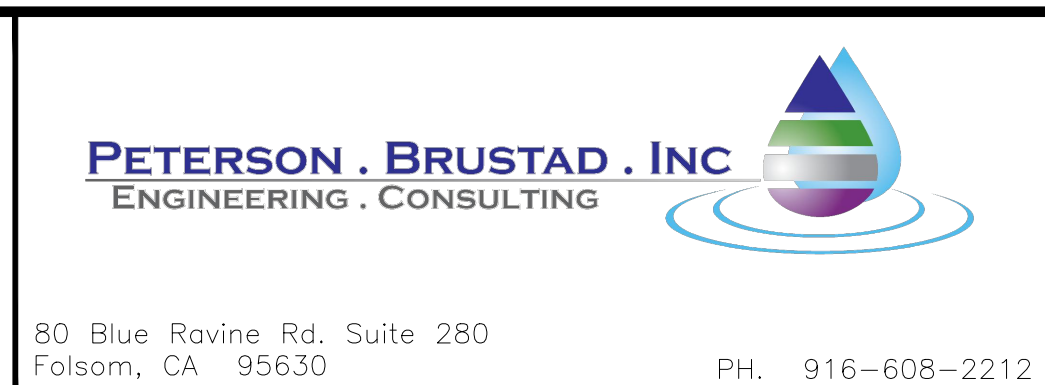
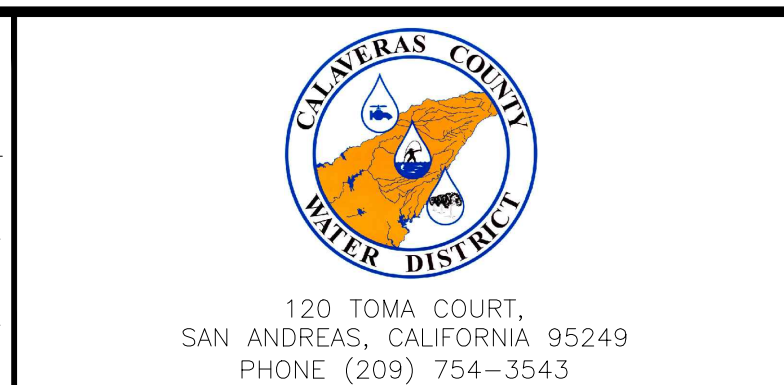
EXISTING 10" TREATED WATER TIE IN DETAIL **5**
1/2" = 1' C8

ISSUED FOR BID

REV	DATE	BY	DESCRIPTION

SCALE:	WARNING
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DATE:	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
JUNE 2023	

DESIGNED	AAS
DRAWN	NMVL/TMB
CHECKED	KBB



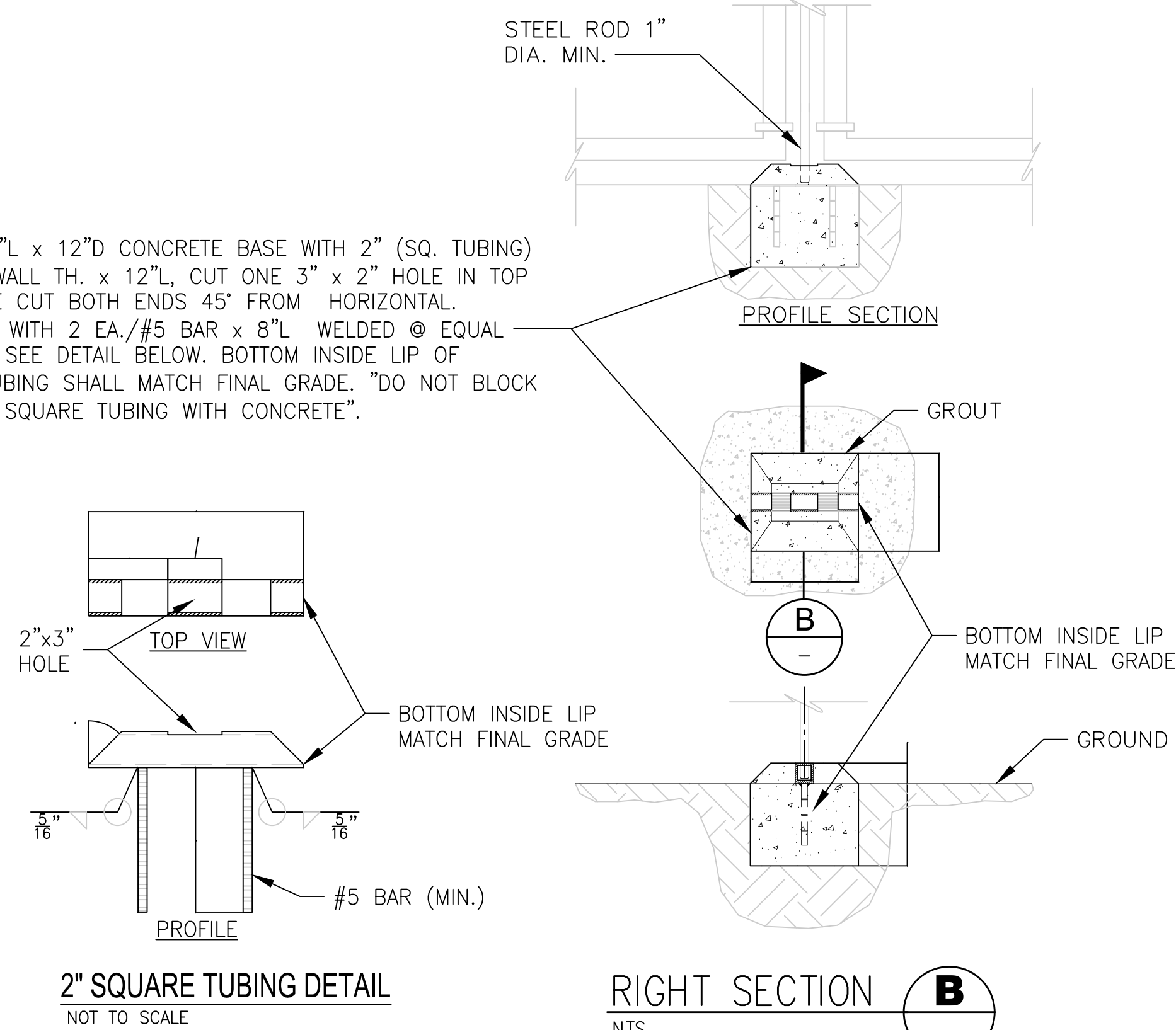
COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS
PIPE CONNECTION DETAILS B TANK

DRAWING	C14
SHEET	22 OF 42

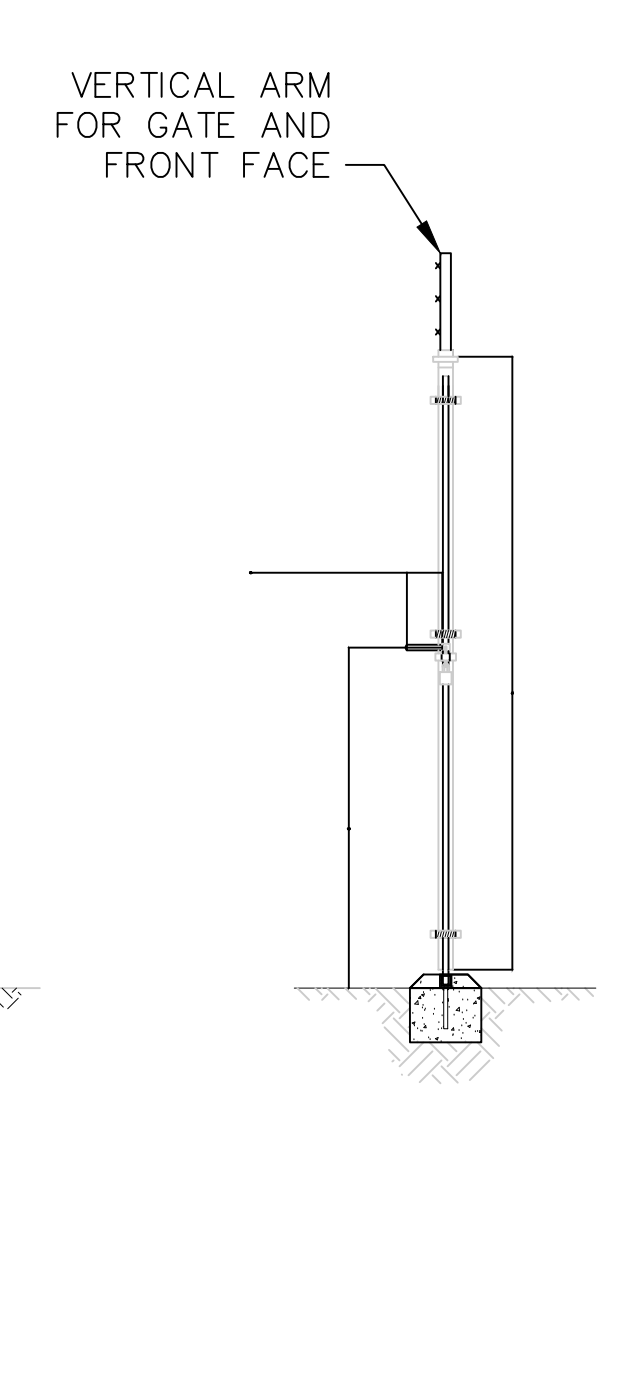
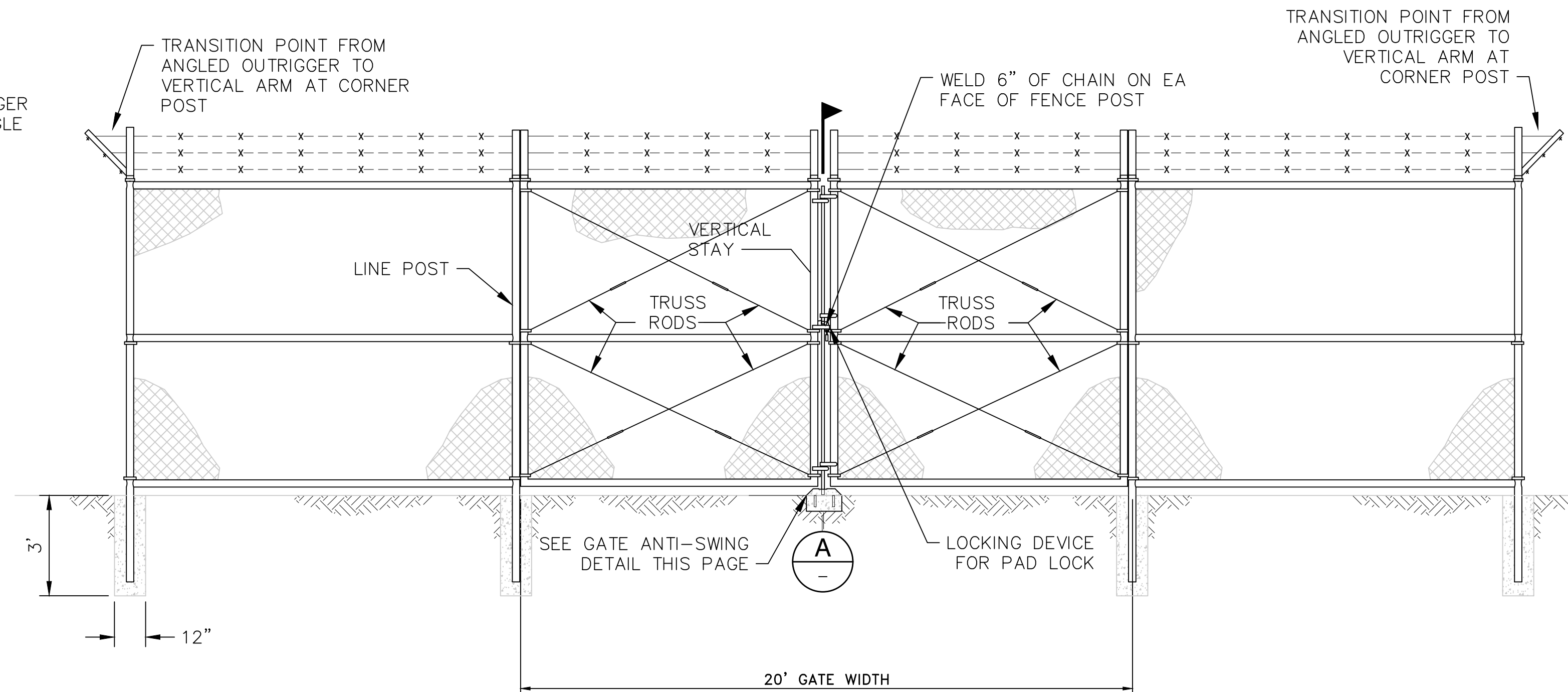
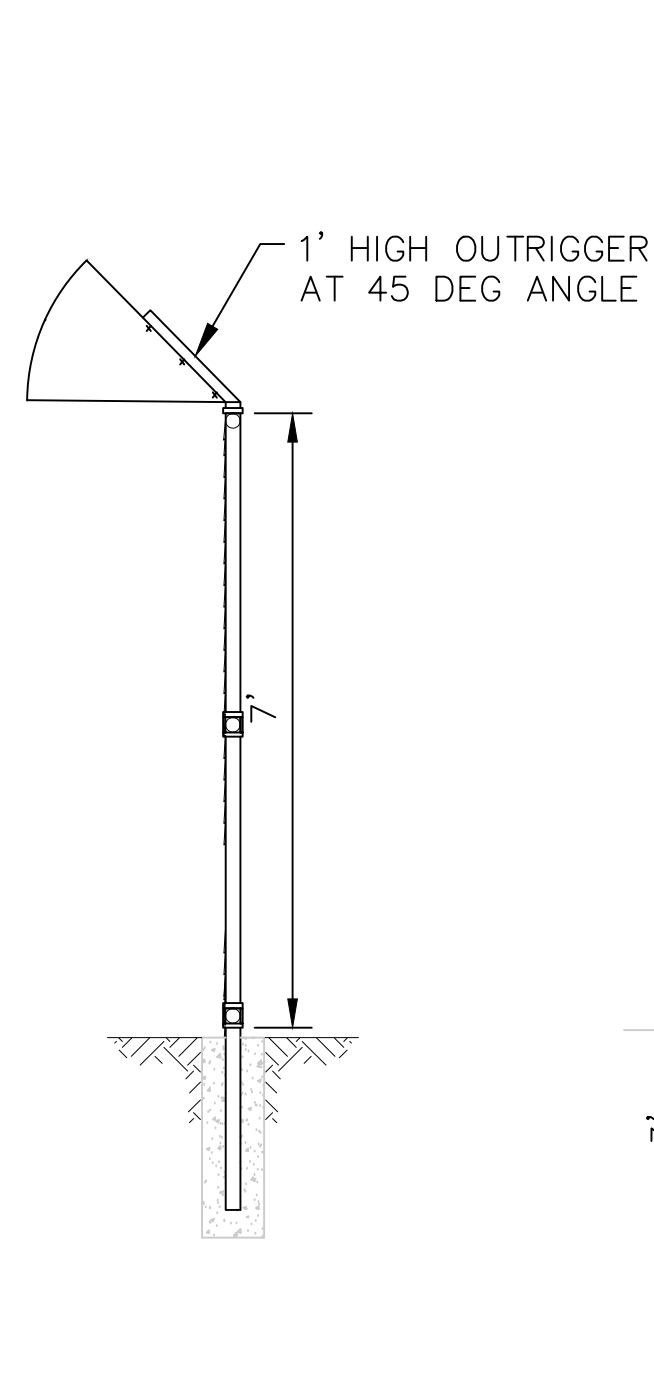
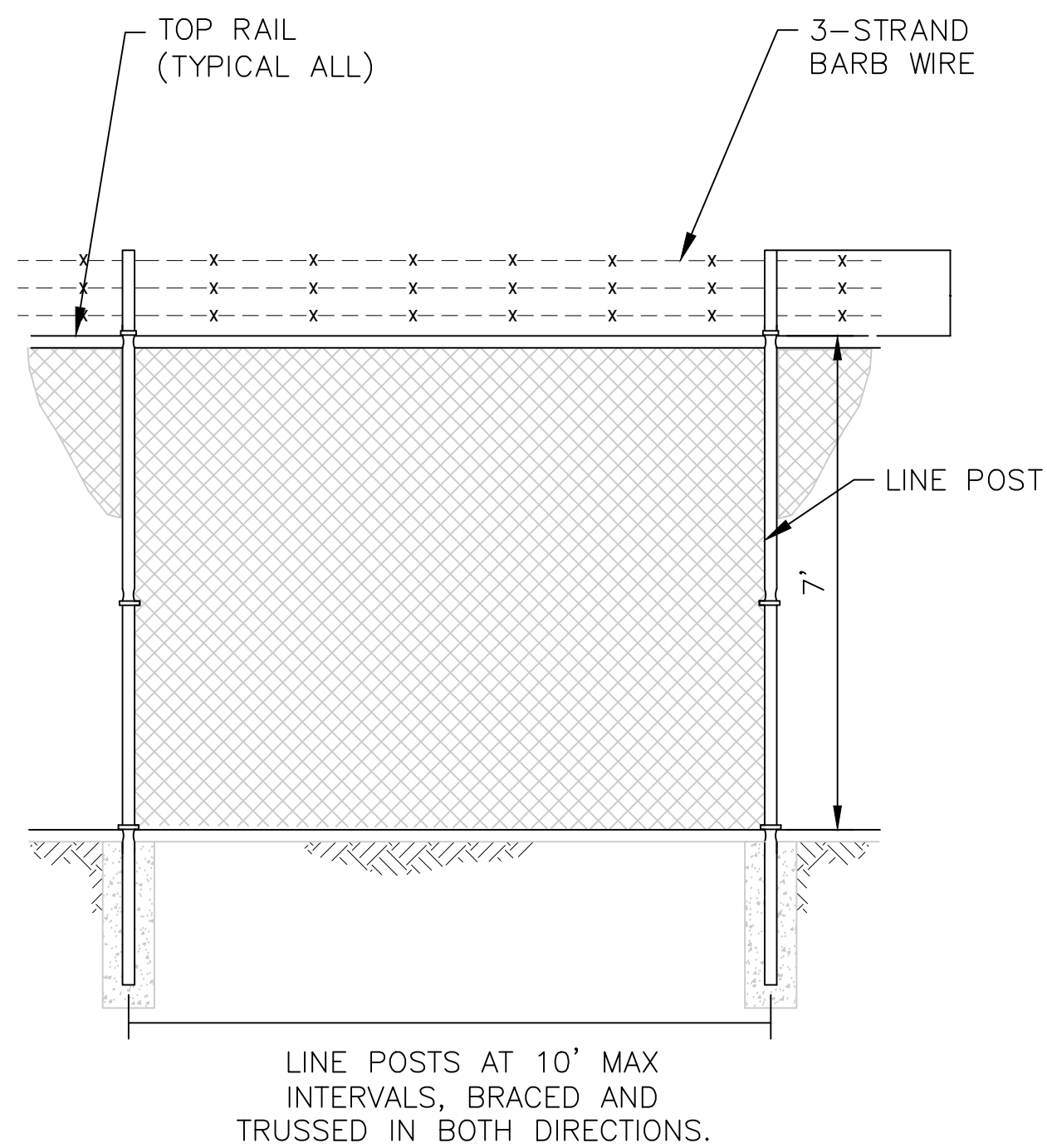
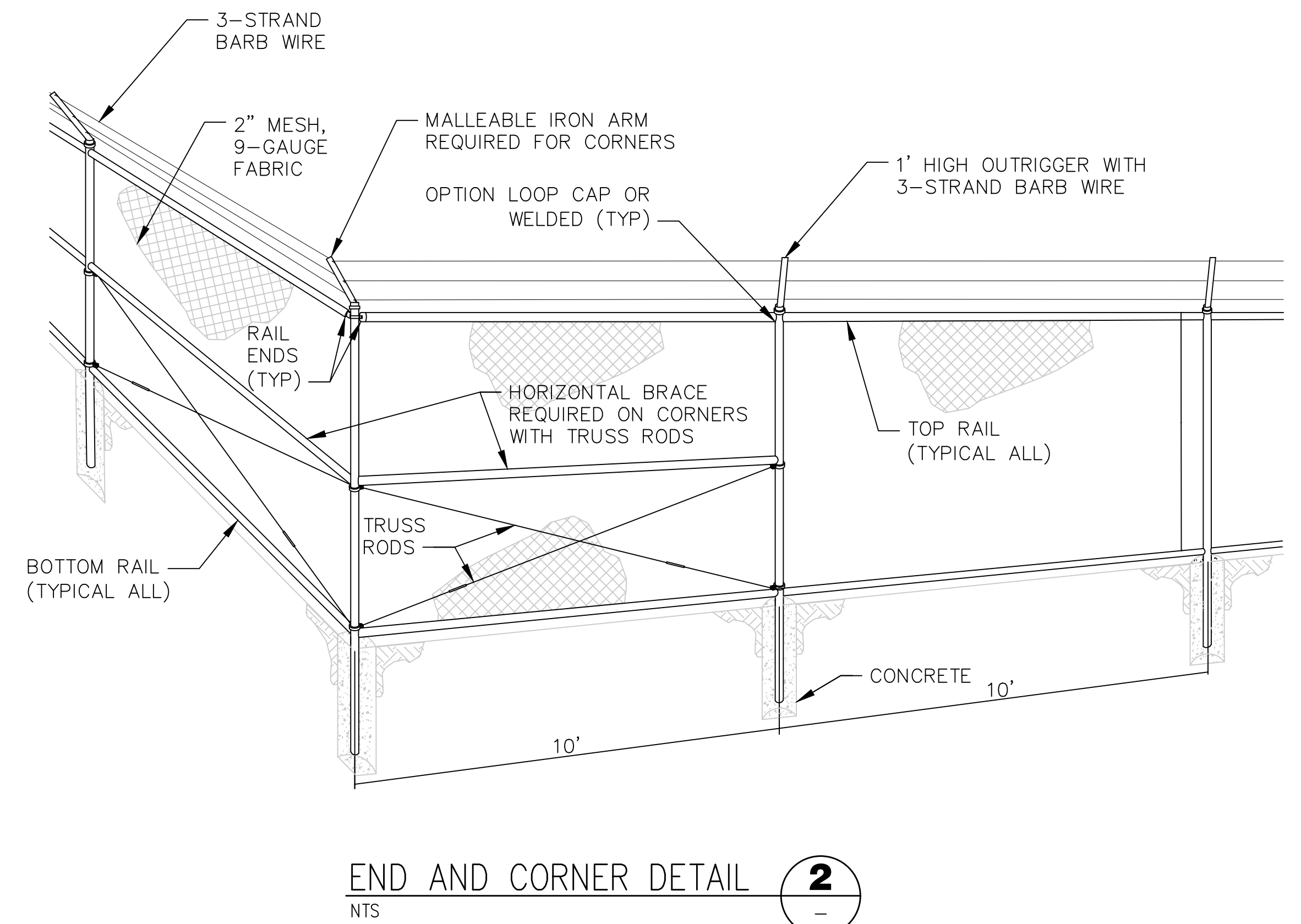
GENERAL NOTES:

- GATE POST SIZE SHALL BE MIN. 6" I.D. FOR GATE WIDTHS OF 6' TO 12'.
- LINE POST SIZE SHALL BE MIN. 2" I.D.
- END, LATCH AND CORNER POST SIZE SHALL BE MIN. 2.5" I.D.
- HORIZONTAL BRACE, BOTTOM RAIL, MIDDLE RAIL AND TOP RAIL SIZE SHALL BE 1-1/4" DIA. MINIMUM.
- COMPRESSIVE CONCRETE STRENGTH = 3,500 psi.
- GATE KEEPERS ARE REQUIRED.
- TRANSITION FROM VICTORY ARMS TO STRAIGHT UP SINGLE ARMS AT THE GATE POST WHEN EITHER GATE WILL OPEN MORE THEN 90°, OTHERWISE IF THE GATE WILL ONLY OPEN TO 90°, THEN THE TRANSITION FROM VICTORY ARMS WILL BE THE GATES ONLY. IF A SLIDE GATE, TRANSITION TO THE NEXT LINE POST BEYOND THE WIDTH OF THE SLIDE GATE.
- DISTANCE FROM BOTTOM RAIL TO FINISHED GRADE MUST BE NO GREATER THEN 1" MAXIMUM. GRADING MAY BE REQUIRED ALONG THE PROPOSED FENCE ALIGNMENT TO MAINTAIN THE 0 TO 1 INCH MAXIMUM DISTANCE. IF FILL IS REQUIRED, THE CONTRACTOR MUST HAVE APPROVAL FROM THE ENGINEER PRIOR TO THE USE OF FILL. THE ENGINEER MAY ALSO REQUIRE CLEARING, GRUBING, SPECIFIC TYPE OF FILL, THE MAXIMUM LIFTS AND COMPACTION REQUIREMENTS. WHERE THE SOIL HAS BEEN DISTURBED BY THE CONTRACTOR FOR GRADING PURPOSES, EROSION CONTROL MEASURES SUCH AS HYDROSEEDING SHALL BE APPROVED BY THE ENGINEER BEFORE THE COMPLETION OF THE FENCING PROJECT.

12"W x 12"L x 12"D CONCRETE BASE WITH 2" (SQ. TUBING) x 0.250" WALL TH. x 12"L, CUT ONE 3" x 2" HOLE IN TOP AND ANGLE CUT BOTH ENDS 45° FROM HORIZONTAL. REINFORCE WITH 2 EA./#5 BAR x 8"L WELDED @ EQUAL DISTANCES SEE DETAIL BELOW. BOTTOM INSIDE LIP OF SQUARE TUBING SHALL MATCH FINAL GRADE. "DO NOT BLOCK ENDS OF SQUARE TUBING WITH CONCRETE".



GATE ANTI-SWING FOOTING DETAIL 1
NTS



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DATE: JUNE 2023	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: AAS
DRAWN: NMVL/TMB
CHECKED: KBB

120 TOMA COURT,
SAN ANDREAS, CALIFORNIA 95249
PHONE (209) 754-3543

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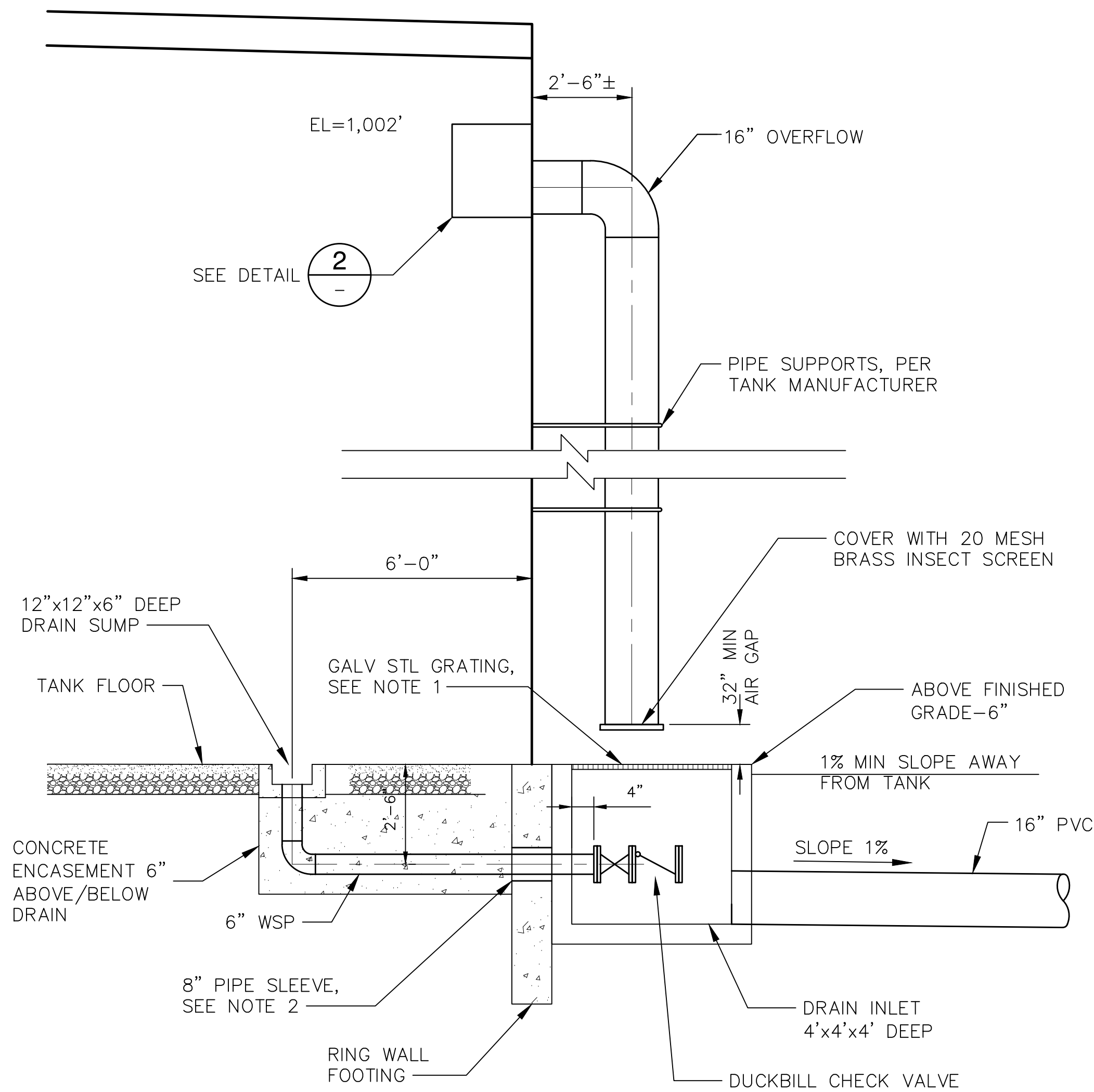
PAUL B. BRUCK
REGISTERED PROFESSIONAL ENGINEER
NO. 57869
Exp. 6/30/24
CIVIL
STATE OF CALIFORNIA
6/14/23

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

CHAIN LINK FENCE AND GATE DETAIL

DRAWING
C15
SHEET 23 OF 42

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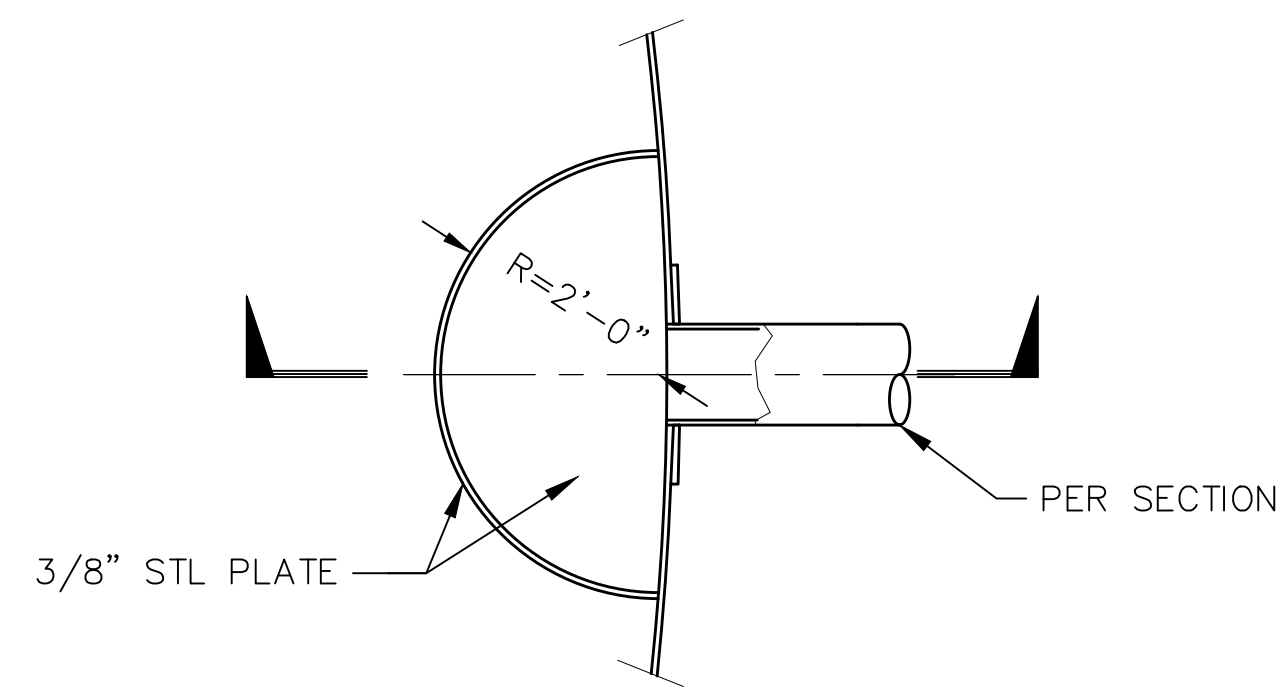


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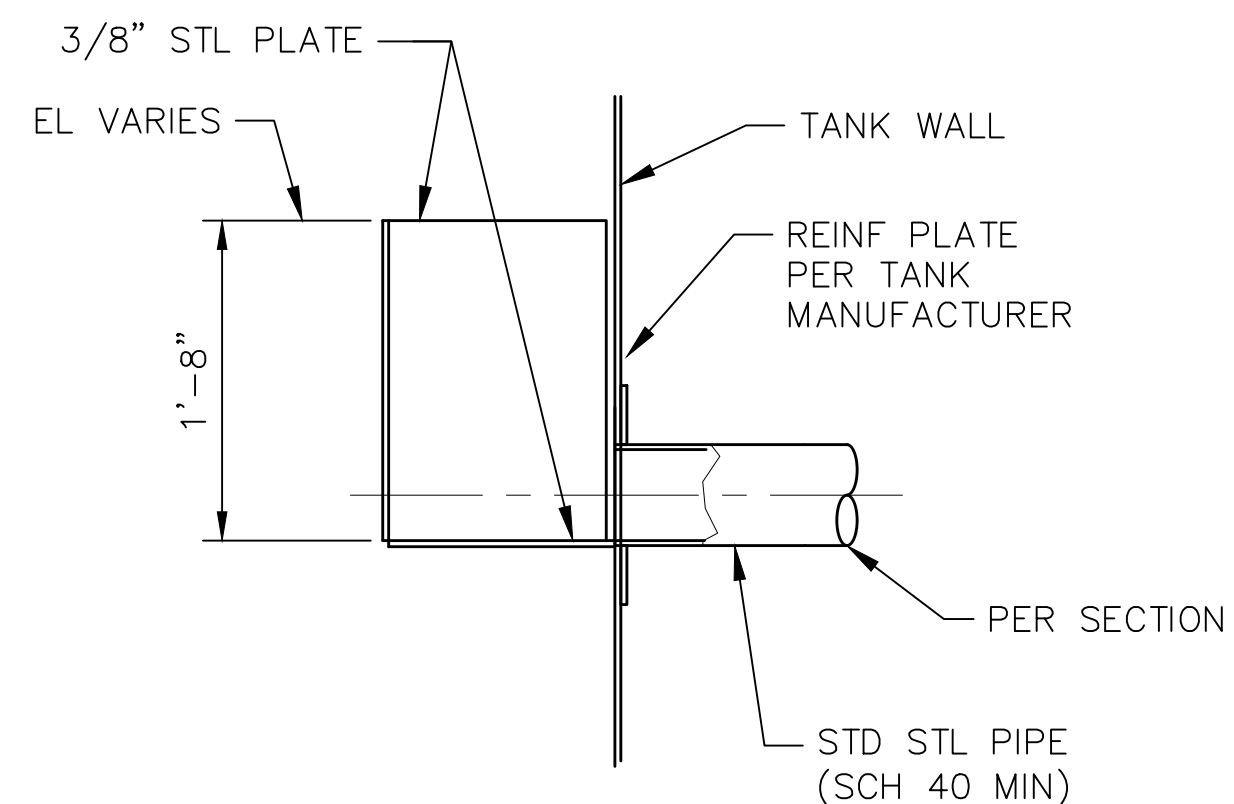
1. PROVIDE NOTCH IN GRATE FOR VALVE KEY.
2. PIPE SLEEVE SHALL BE STEEL ASTM A53, SCH 40, BLACK. SEAL SHALL BE FULL DEPTH COMPRESSION SEALANT W/FINISH SEALANT OR FULL DEPTH EXPANDING FOAM SEALANT.

NEW B TANK OVERFLOW/DRAIN DETAIL 1

SCALE: NTS



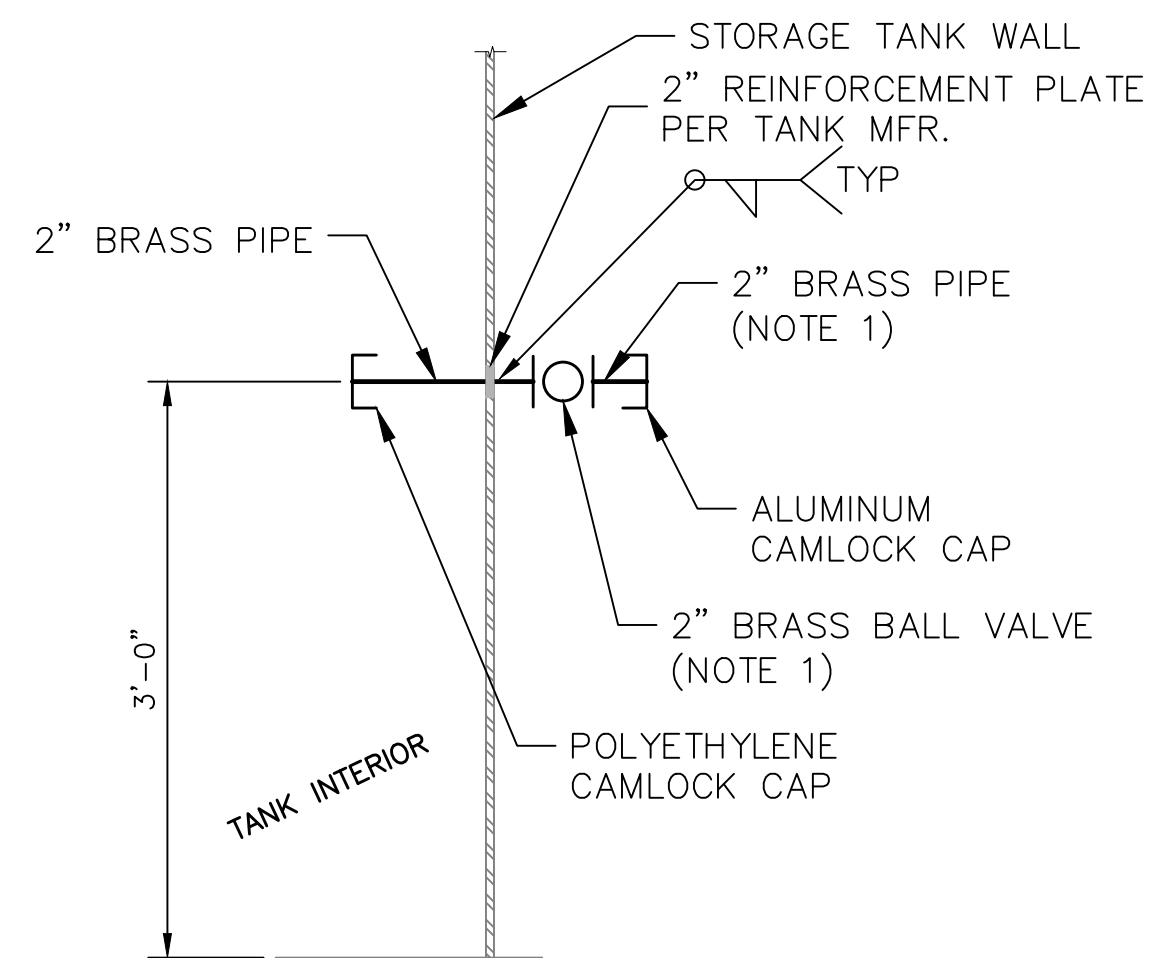
PLAN



SECTION

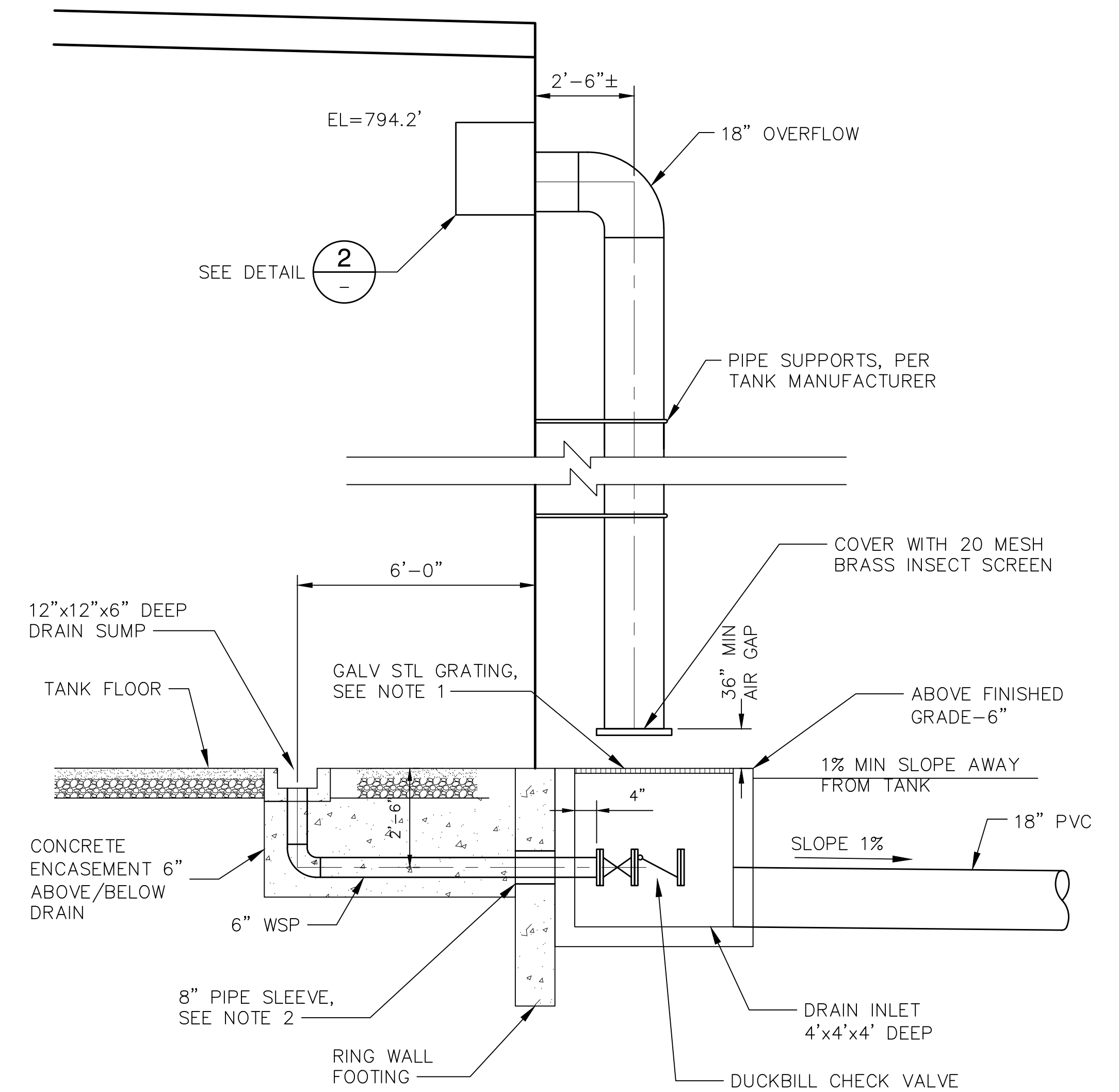
OVERFLOW DETAIL 2

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



MAINTENANCE PORT DETAIL 3

SCALE: NTS



NOTES:

1. PROVIDE NOTCH IN GRATE FOR VALVE KEY.
2. PIPE SLEEVE SHALL BE STEEL ASTM A53, SCH 40, BLACK. SEAL SHALL BE FULL DEPTH COMPRESSION SEALANT W/FINISH SEALANT OR FULL DEPTH EXPANDING FOAM SEALANT.

NEW CLEARWELL OVERFLOW/DRAIN DETAIL 4

SCALE: NTS

ISSUED FOR BID

REV	DATE	BY	DESCRIPTION

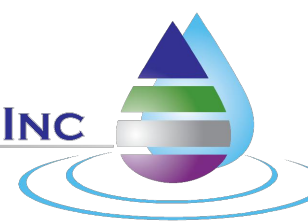
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JUNE 2023	

DESIGNED	AAS
DRAWN	NMVL/TMB
CHECKED	KBB



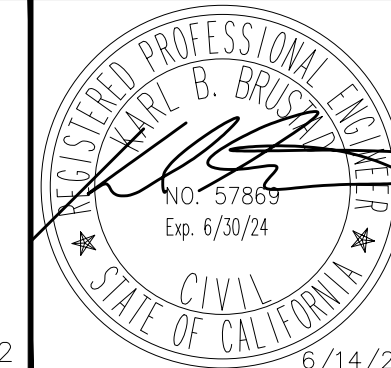
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COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

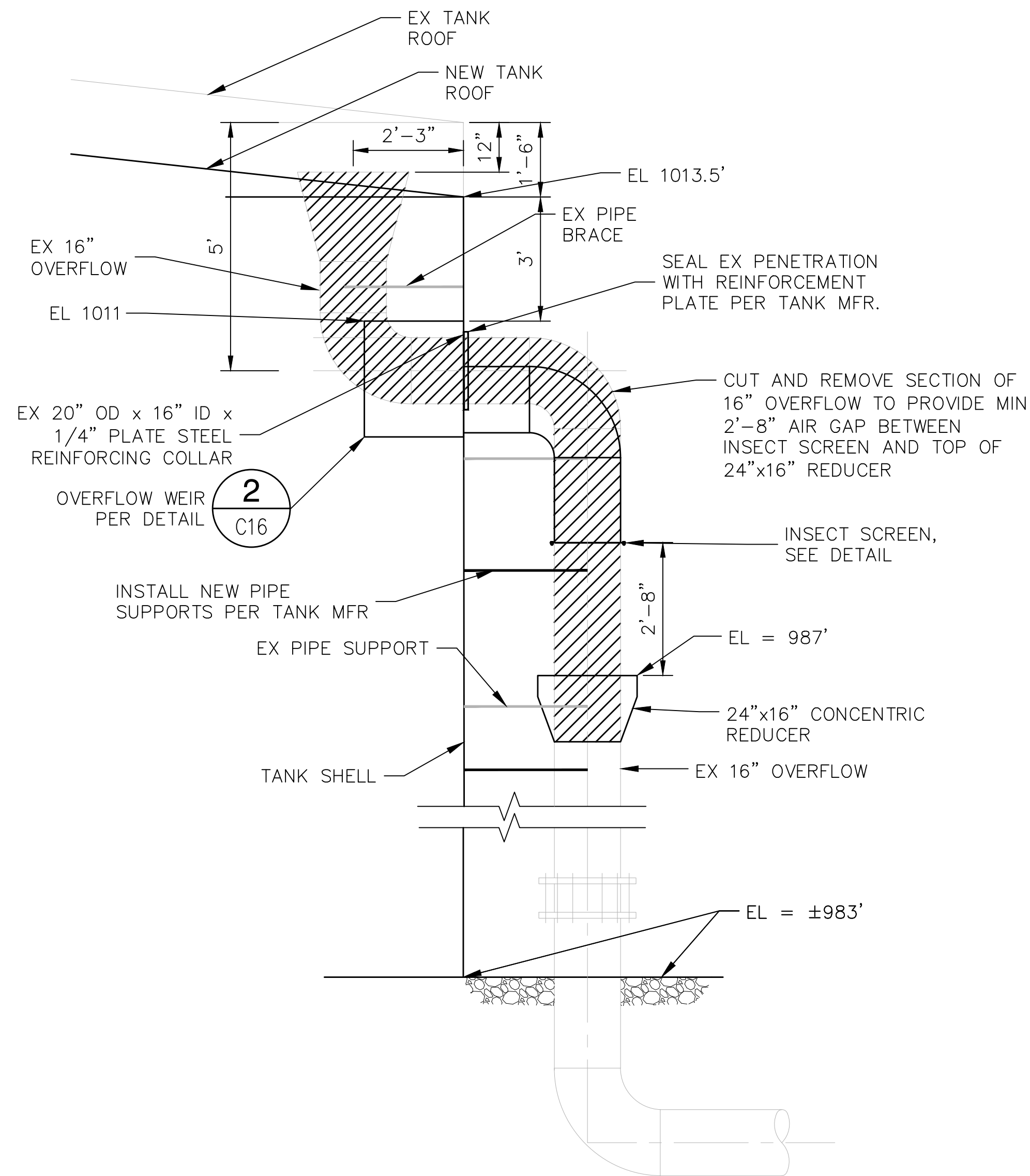
NEW TANK OVERFLOW AND DRAIN DETAILS

DRAWING

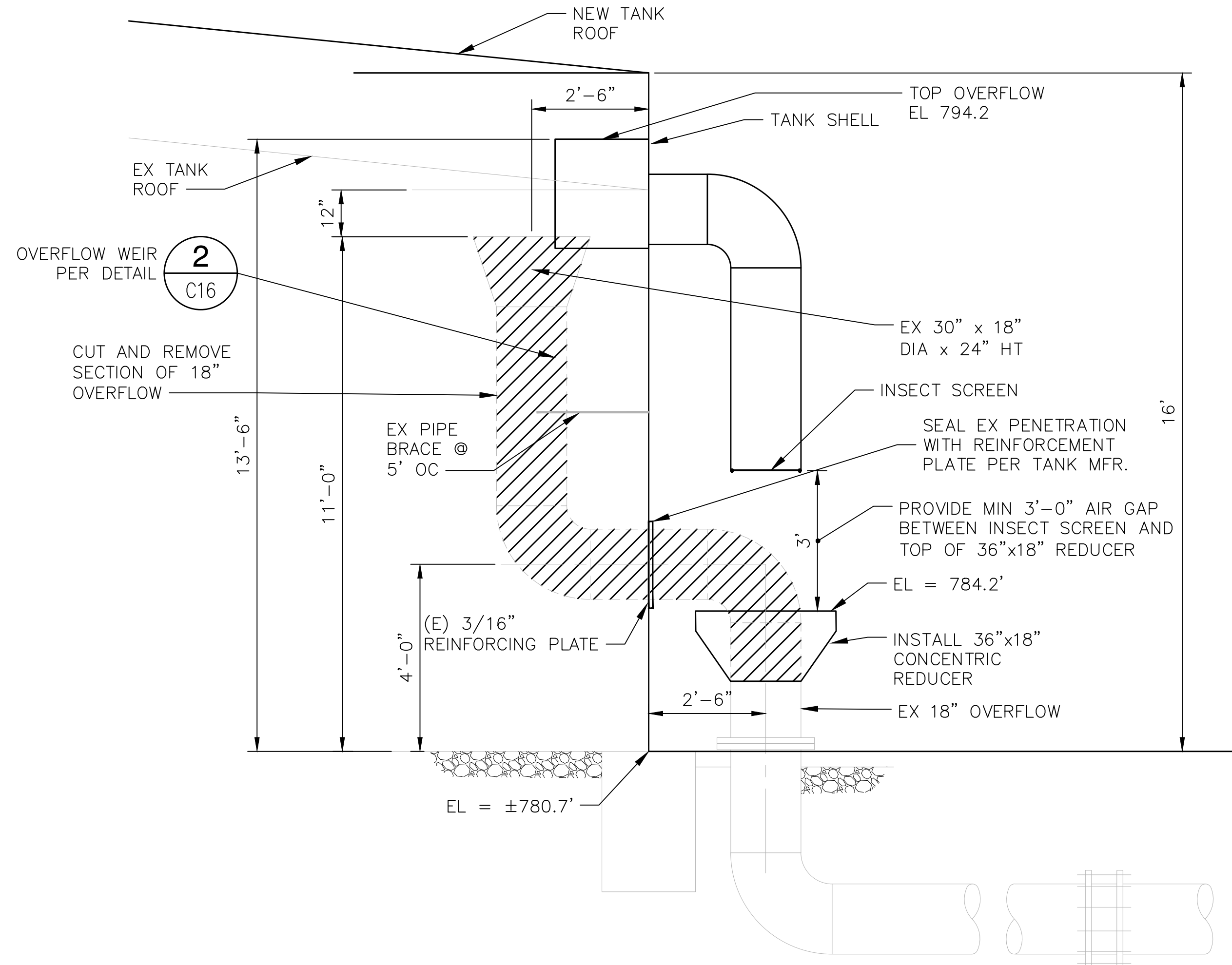
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SHEET 24 OF 42

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EXISTING B TANK STEEL OVERFLOW DETAIL **1**
SCALE: 1/2"=1' C9



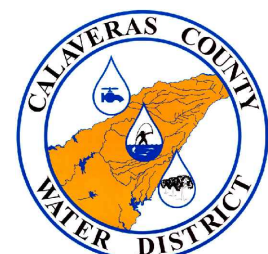
EXISTING CLEARWELL OVERFLOW DETAIL **2**
NTS C10

ISSUED FOR BID

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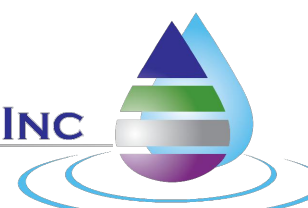
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JUNE 2023	

DESIGNED	AAS
DRAWN	NMVL/TMB
CHECKED	KBB



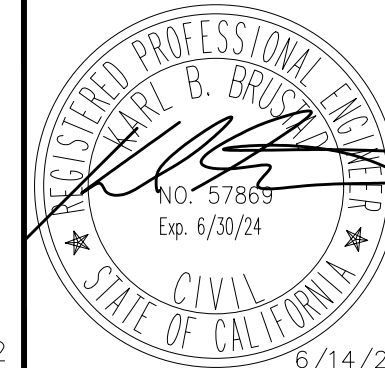
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COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

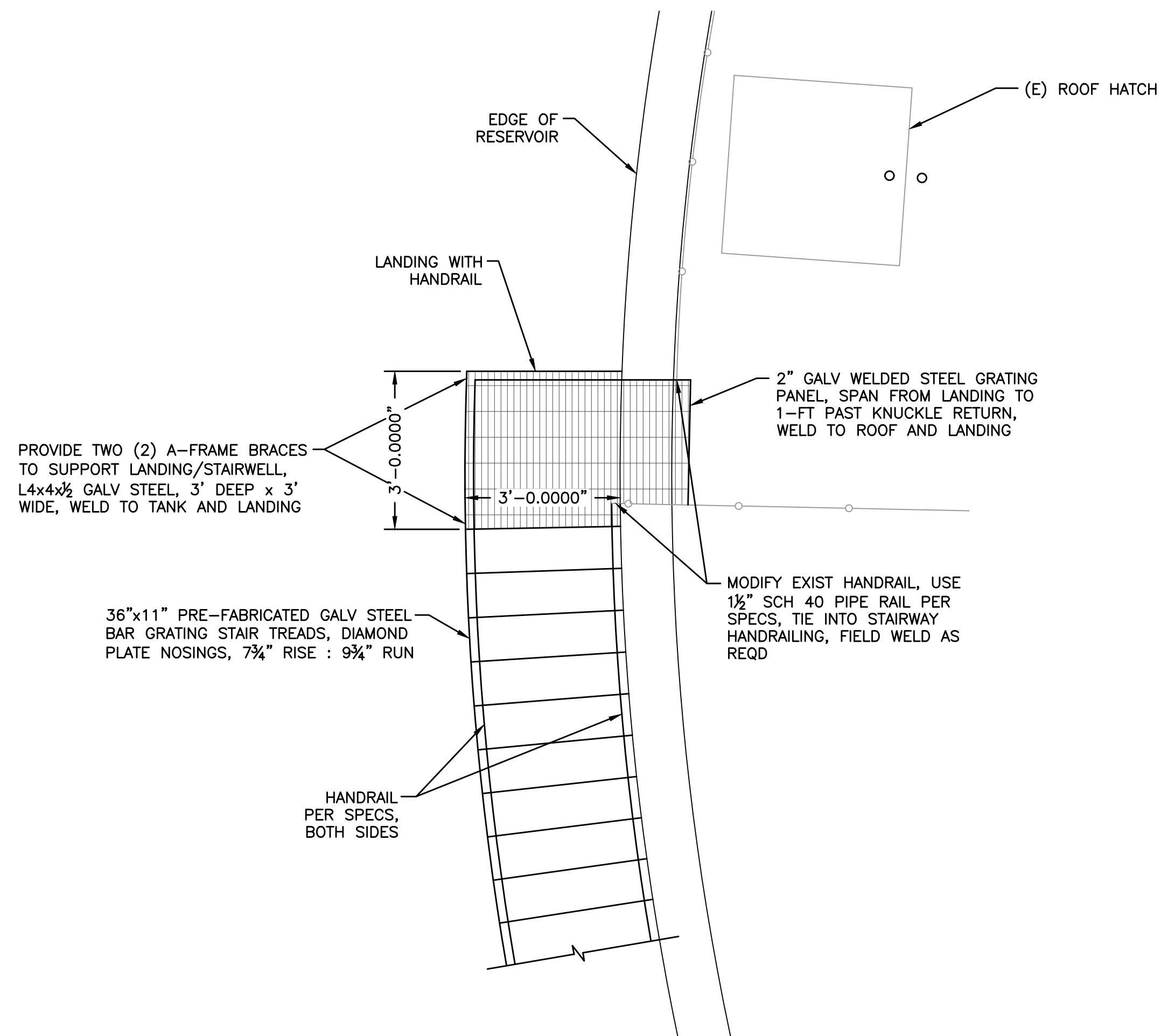
B TANK AND CLEARWELL REHABILITATION DETAILS

DRAWING

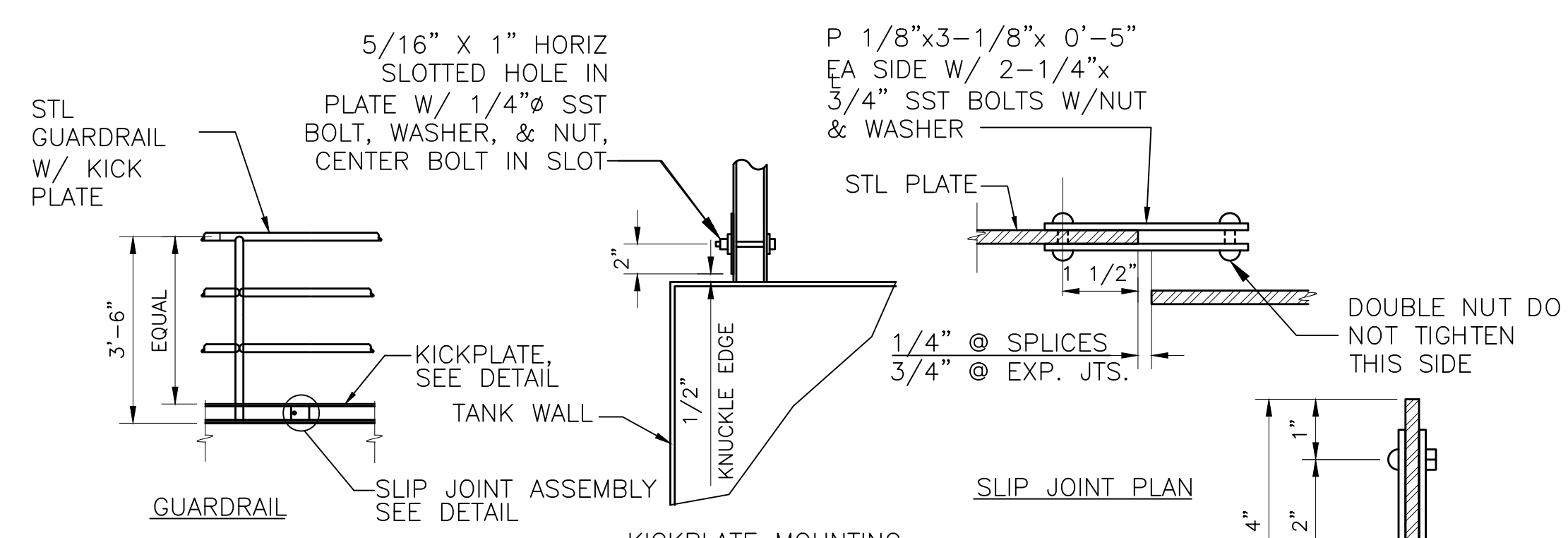
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SHEET 25 OF 42

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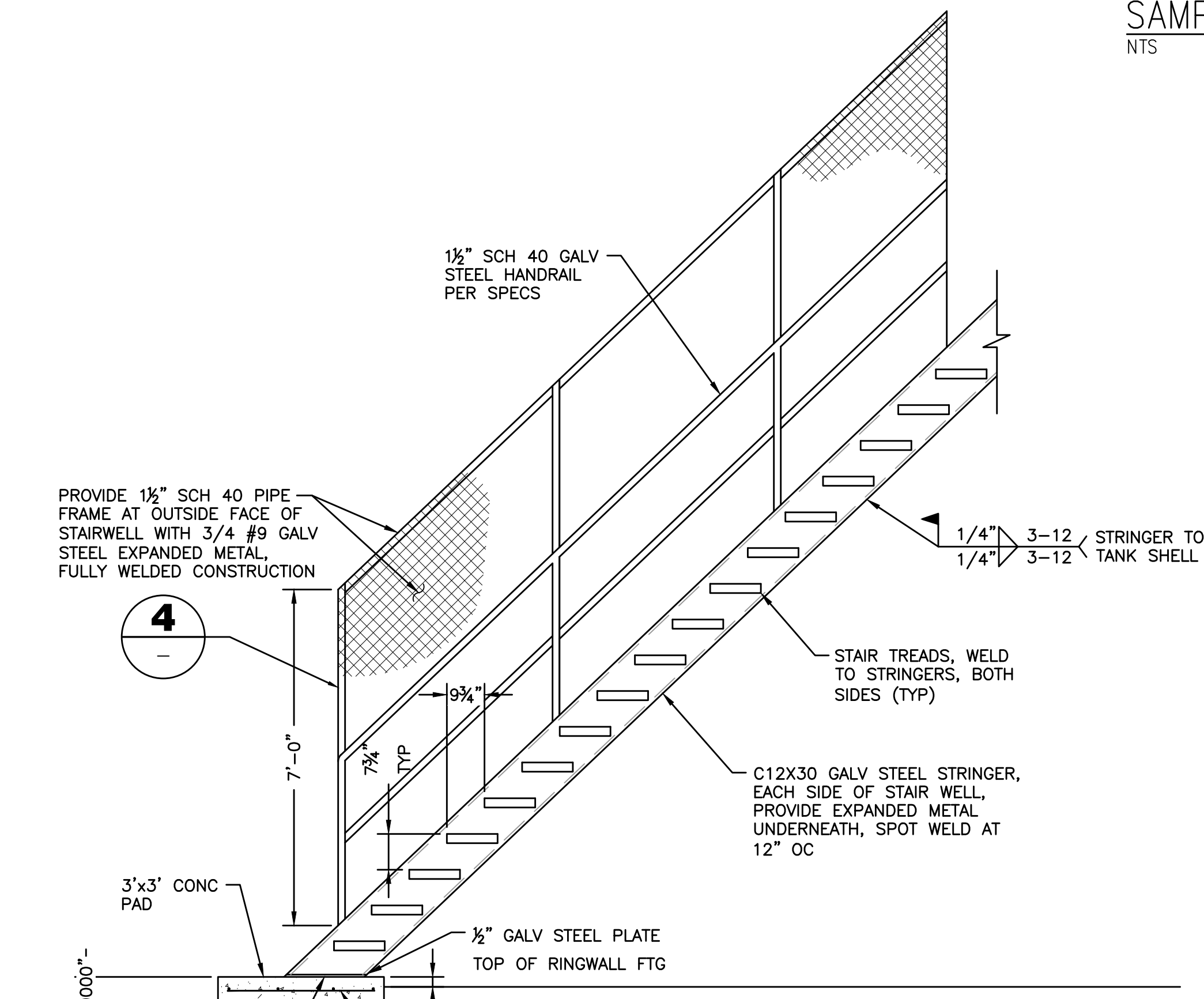


TANK STAIR DETAIL 1
1/2"=1'-0"

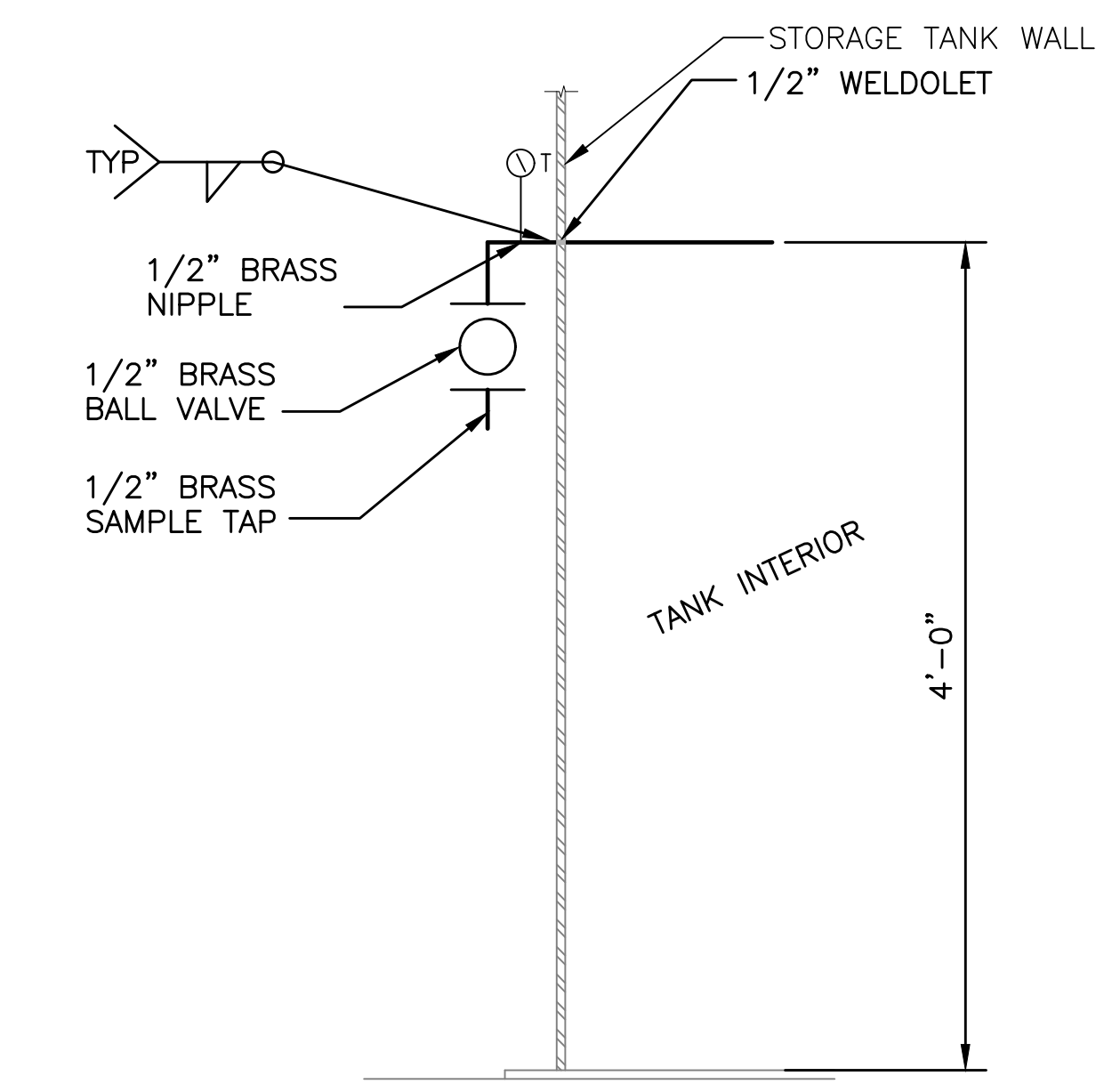


HANDRAIL DETAIL 2
SCALE: NTS

- NOTES:**
- ALL GUARDRAILS SHALL BE IN ACCORDANCE WITH CURRENT UBC AND OSHA SAFETY CODE REQUIREMENTS.
 - POST SPACING SHALL NOT EXCEED 5'-0".
 - ALL GUARDRAILS SHALL BE FIXED UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - COAT GUARDRAIL & KICK PLATE TO MATCH EXTERIOR TANK COATING.
 - KICKPLATE ONLY REQUIRED ON RAIL OVER TANK EDGE.



STAIRWAY DETAIL 3
NTS



SAMPLE SYSTEM DETAIL 5
NTS



STAIR SECURITY GATE DETAIL 4
NTS

REV	DATE	BY	DESCRIPTION

SCALE: AS NOTED	WARNING 0 1/2 1
DATE: JUNE 2023	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: AAS
DRAWN: NMVL/TMB
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COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

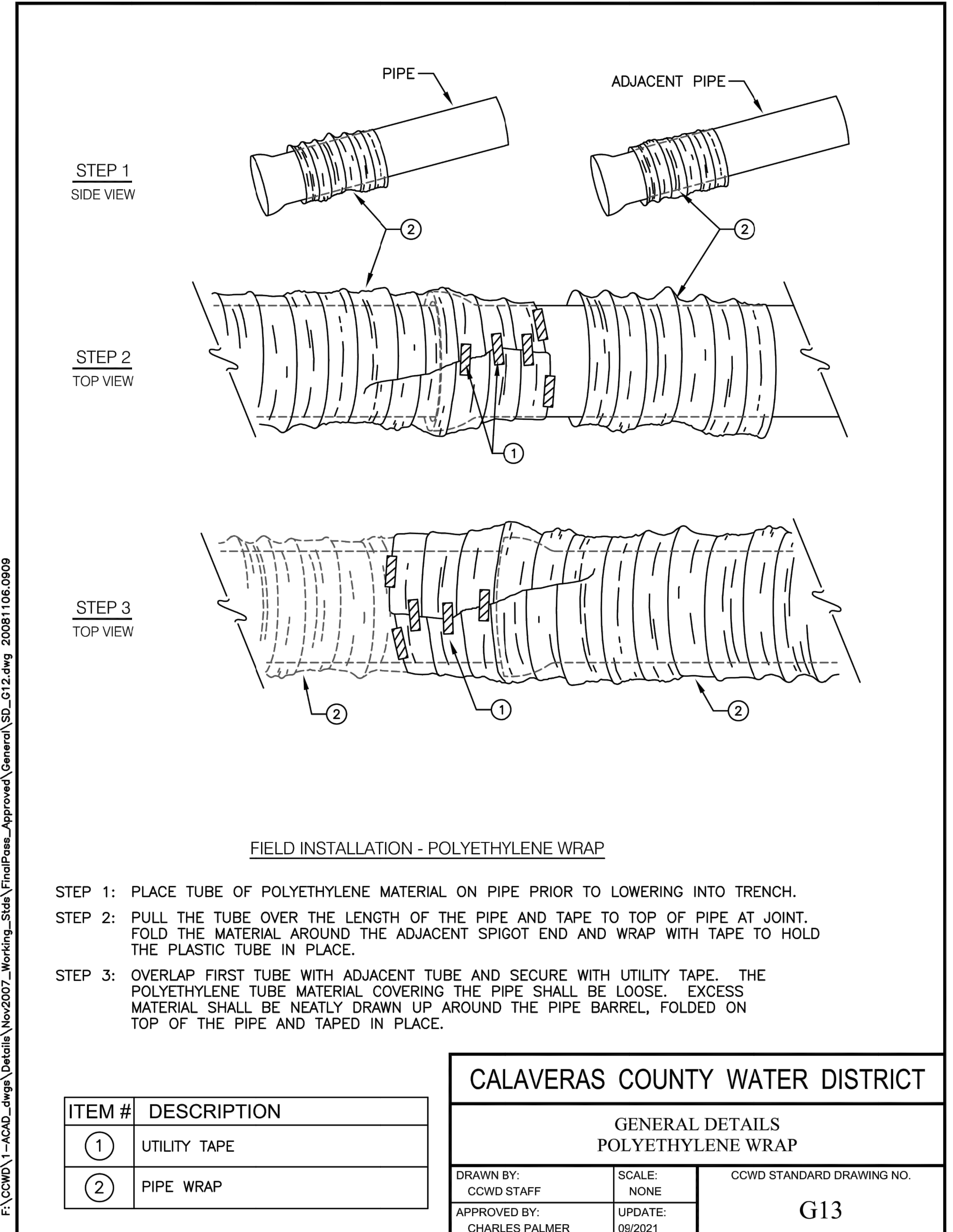
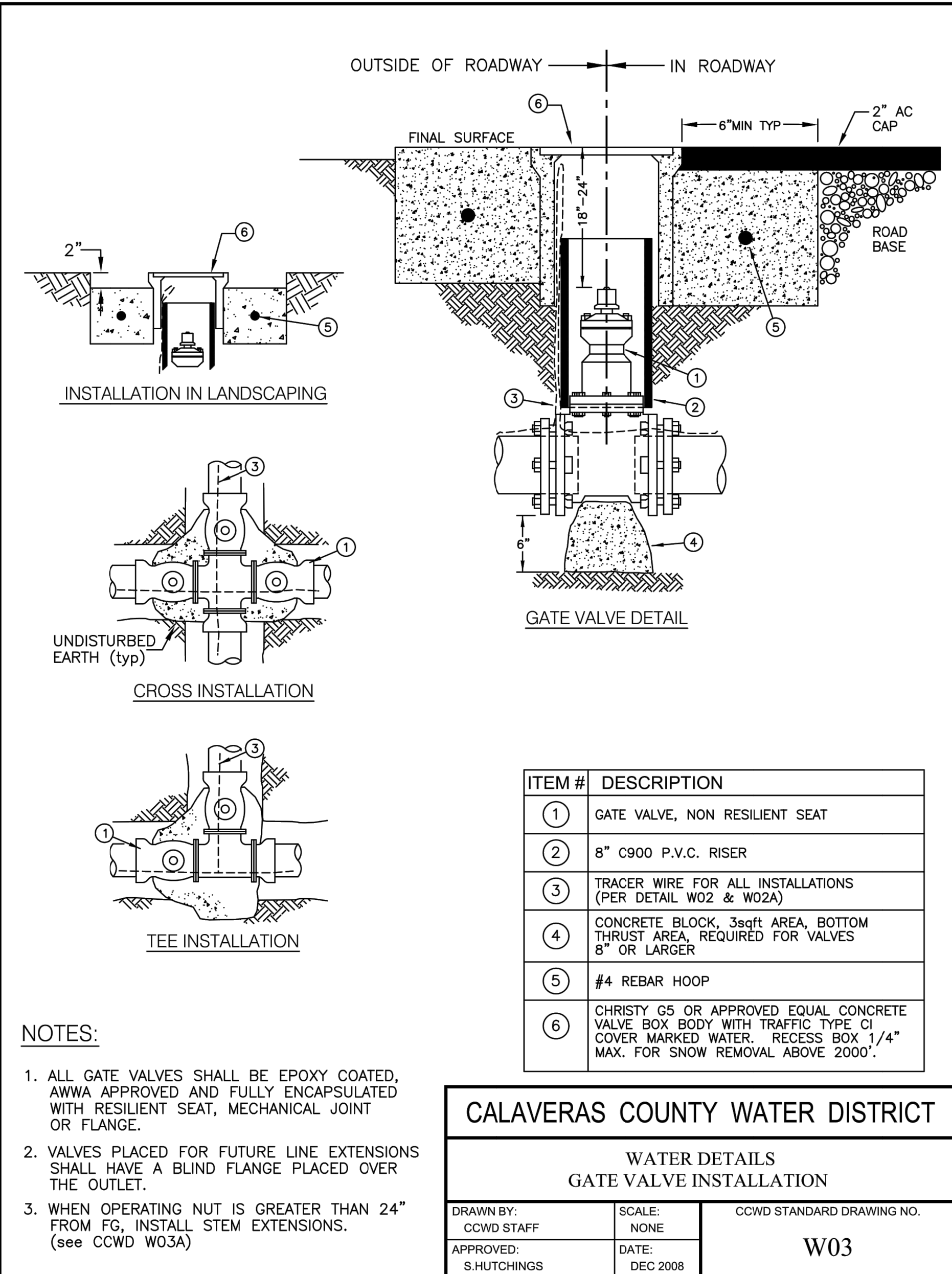
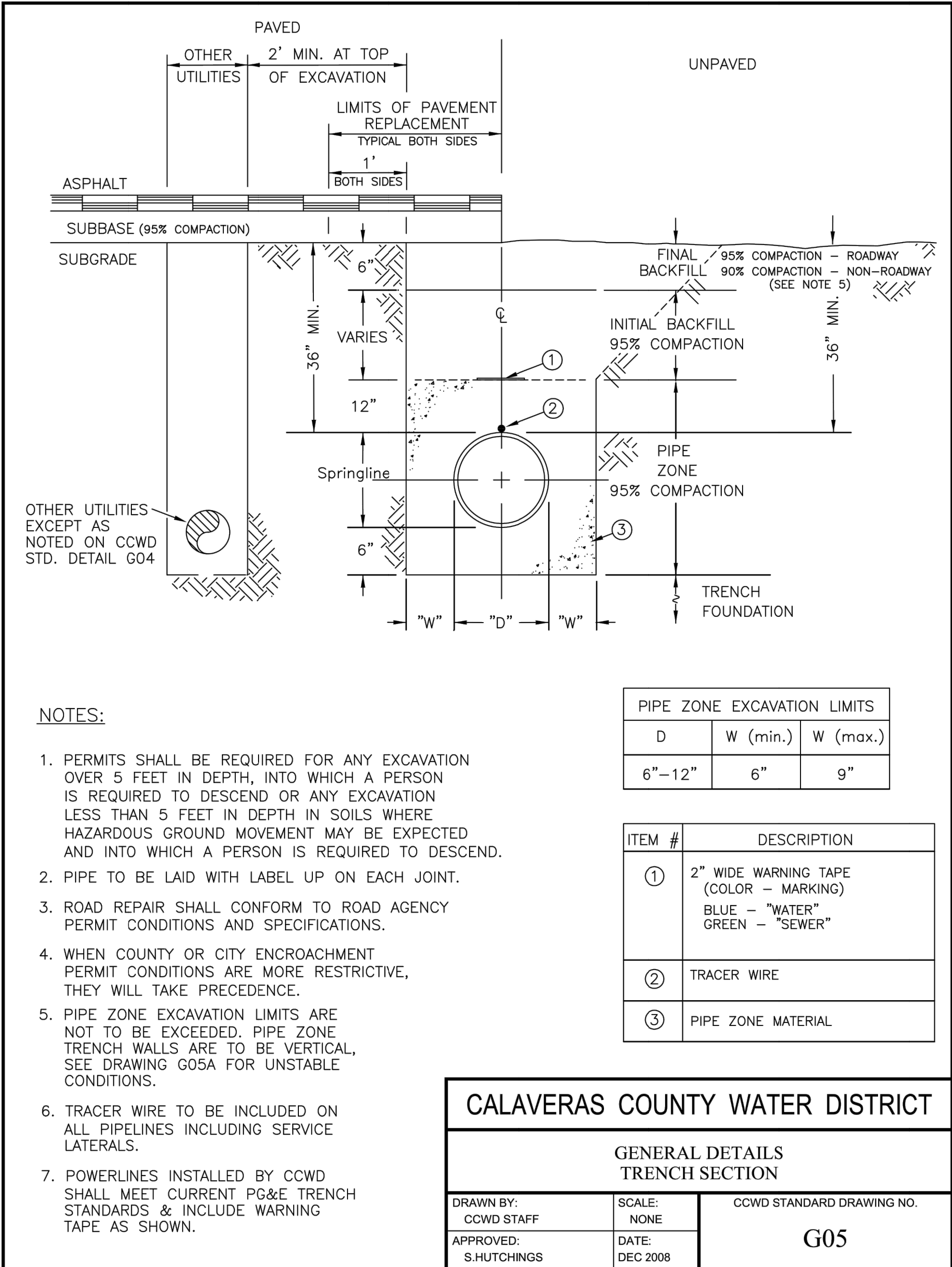
B TANK AND CLEARWELL DETAILS

ISSUED FOR BID

DRAWING
C18

SHEET 26 OF 42

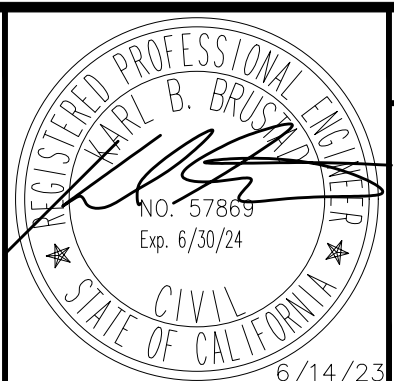
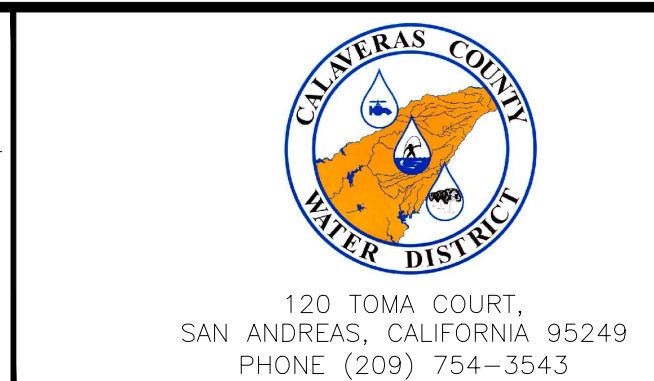
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REV	DATE	BY	DESCRIPTION

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AS NOTED	0 1/2 1
DATE:	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
JUNE 2023	

DESIGNED	AAS
DRAWN	NMVL/TMB
CHECKED	KBB



COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

STANDARD DETAILS

ISSUED FOR BID

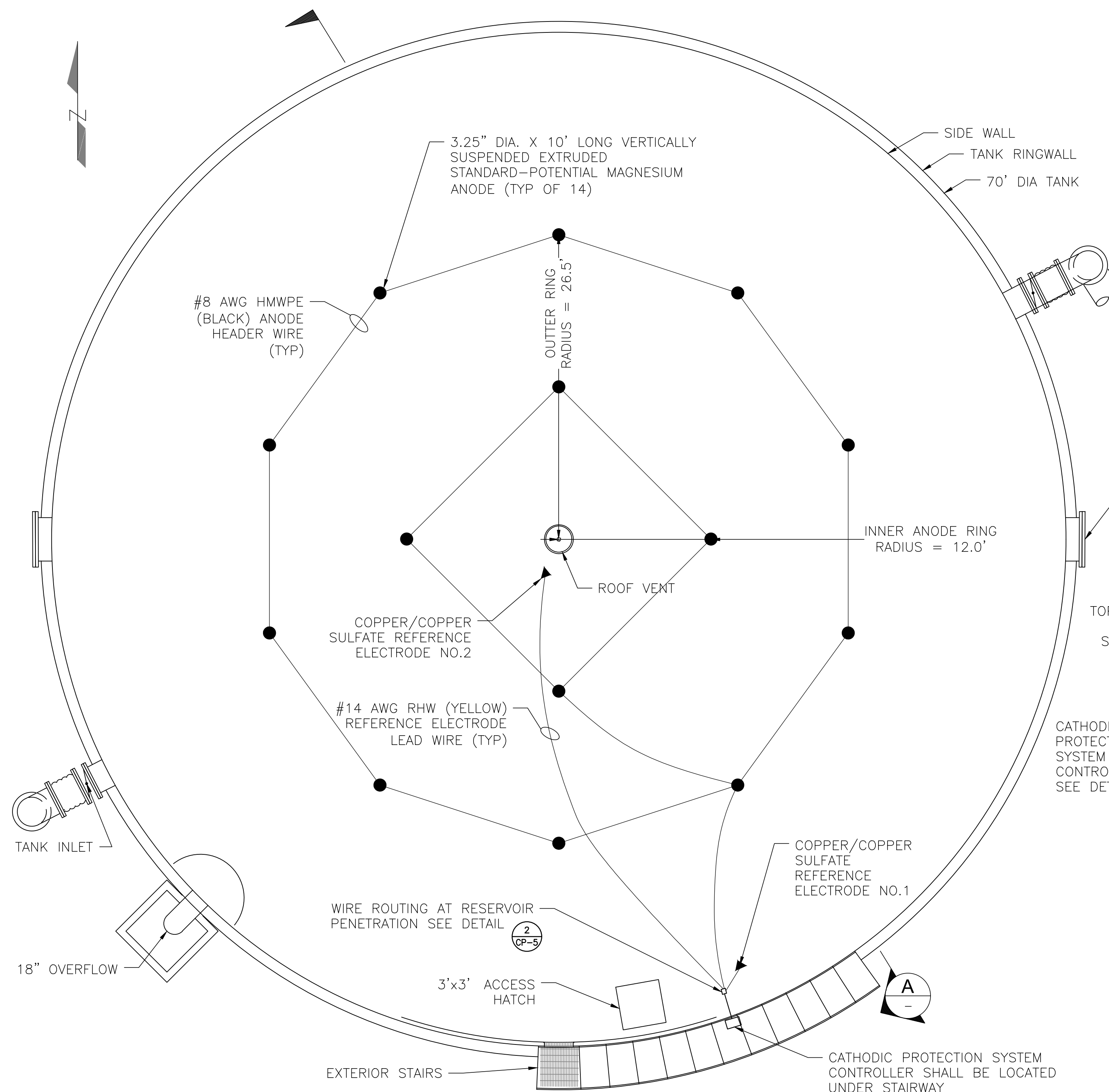
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C19

SHEET 27 OF 42

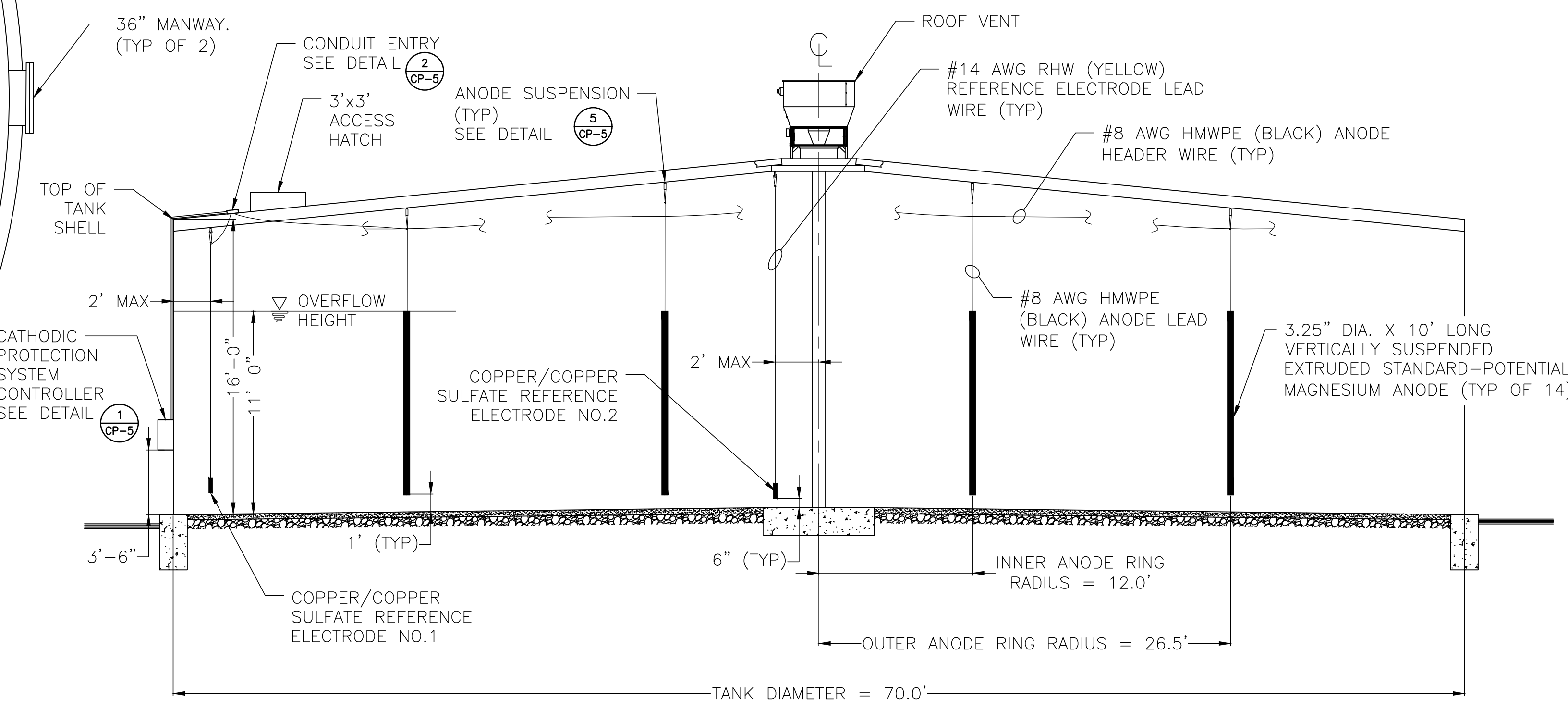
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NEW CLEARWELL TANK CATHODIC PROTECTION SCHEDULE										
TANK TYPE	TANK CONSTRUCTION	TANK DIAMETER (FT)	MAX SUBMERGED HEIGHT (FT)	NUMBER OF ANODES IN OUTER RING	NUMBER OF ANODES IN INNER RING	ANODE TYPE	ANODE DIMENSIONS	ANODE OUTER RING RADIUS (FT)	ANODE INNER RING RADIUS (FT)	STARTING RHEOSTAT SETTING (OHM)
GROUND STORAGE TANK	WELDED STEEL	70.0	11.0	10	4	VERTICALLY SUSPENDED EXTRUDED STANDARD POTENTIAL MAGNESIUM ROD	3.25" DIA. x 10' LONG	26.5	12.0	0.250



- NOTES:
1. ROOF SUPPORT COLUMNS, GIRDERS, AND RAFTERS NOT SHOWN.
 2. ANODE LOCATION PROVIDED IS APPROXIMATE AND FINAL ANODE LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR. ANODES SHALL BE SUSPENDED FROM RAFTERS. ANODES SHALL BE EQUALLY SPACED IN A RING TO THE EXTENT THAT THE RAFTER LOCATIONS ALLOW.
 3. HANDHOLES SHALL BE LOCATED WITHIN 1 FOOT OF ANODE HEADER WIRE AND REFERENCE ELECTRODE WIRE SUSPENSION LOCATIONS.

NEW CLEARWELL TANK PLAN 1
SCALE: NTS



- NOTES:
1. STAIRWAY AND EXTERNAL APPURTENANCES NOT SHOWN FOR CLARITY.
 2. CATHODIC PROTECTION SYSTEM WILL ONLY PROVIDE PROTECTION BELOW THE WATER LINE. ABOVE THE WATER LINE, THE COATING IS RELIED UPON TO PROVIDE CORROSION PROTECTION.
 3. HANDHOLES SHALL BE LOCATED WITHIN 1 FOOT OF ANODE HEADER WIRE AND REFERENCE ELECTRODE WIRE SUSPENSION LOCATIONS.

NEW CLEARWELL TANK SECTION A
SCALE: NTS

ISSUED FOR BID

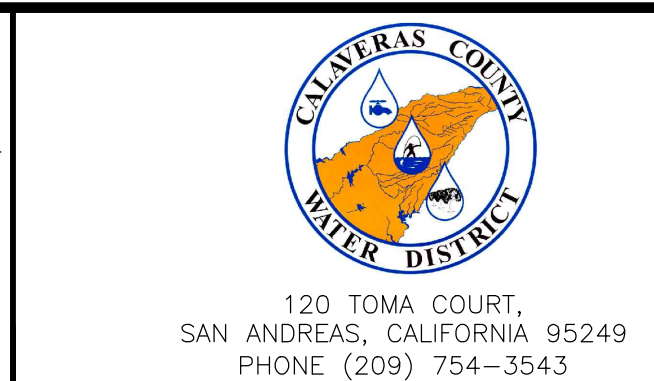
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1/2
1

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

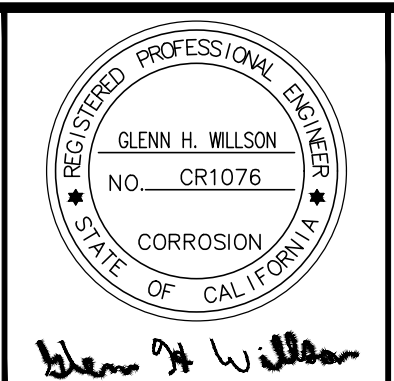
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DRAWN: RC
CHECKED: GHW

DATE: JUNE 2023



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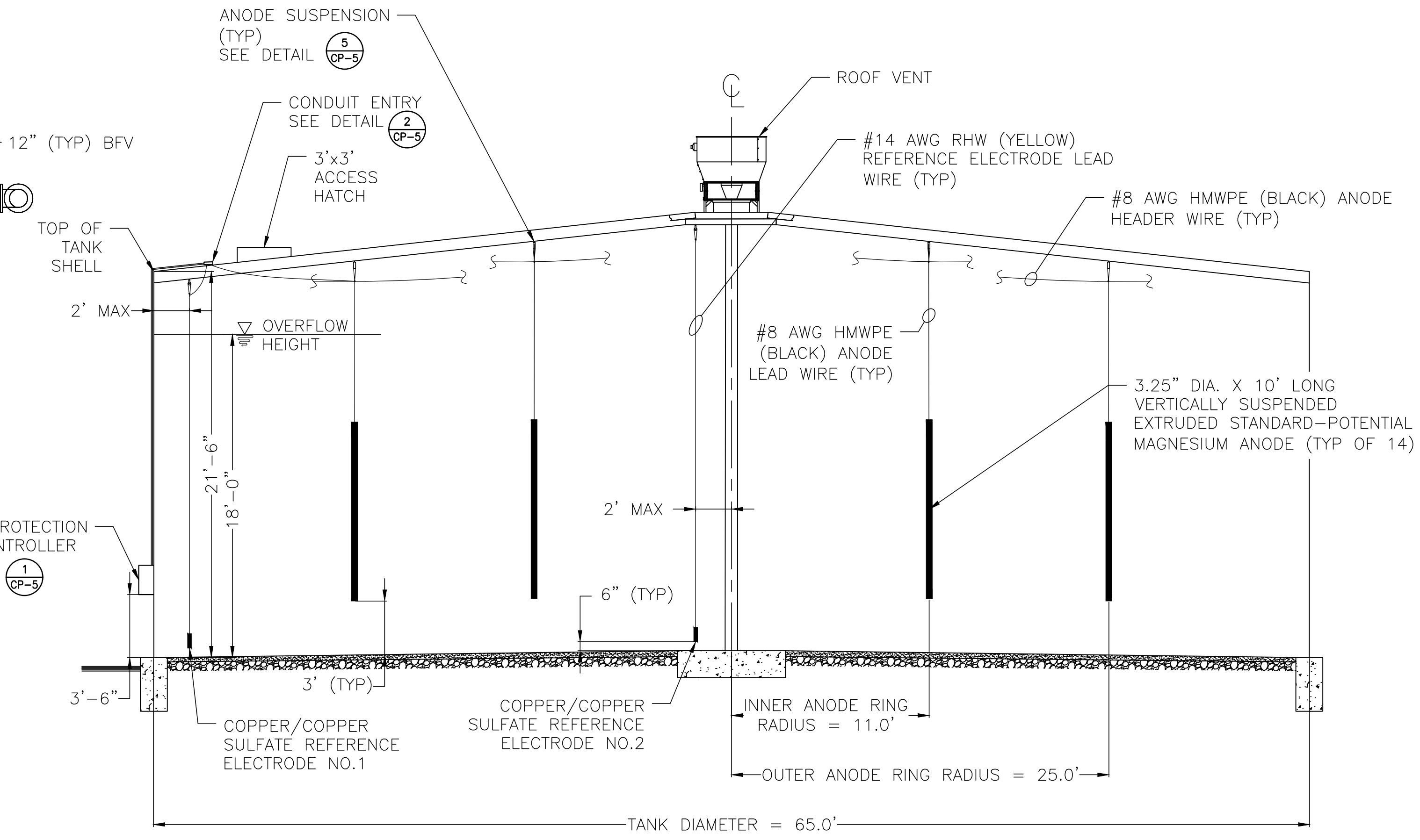
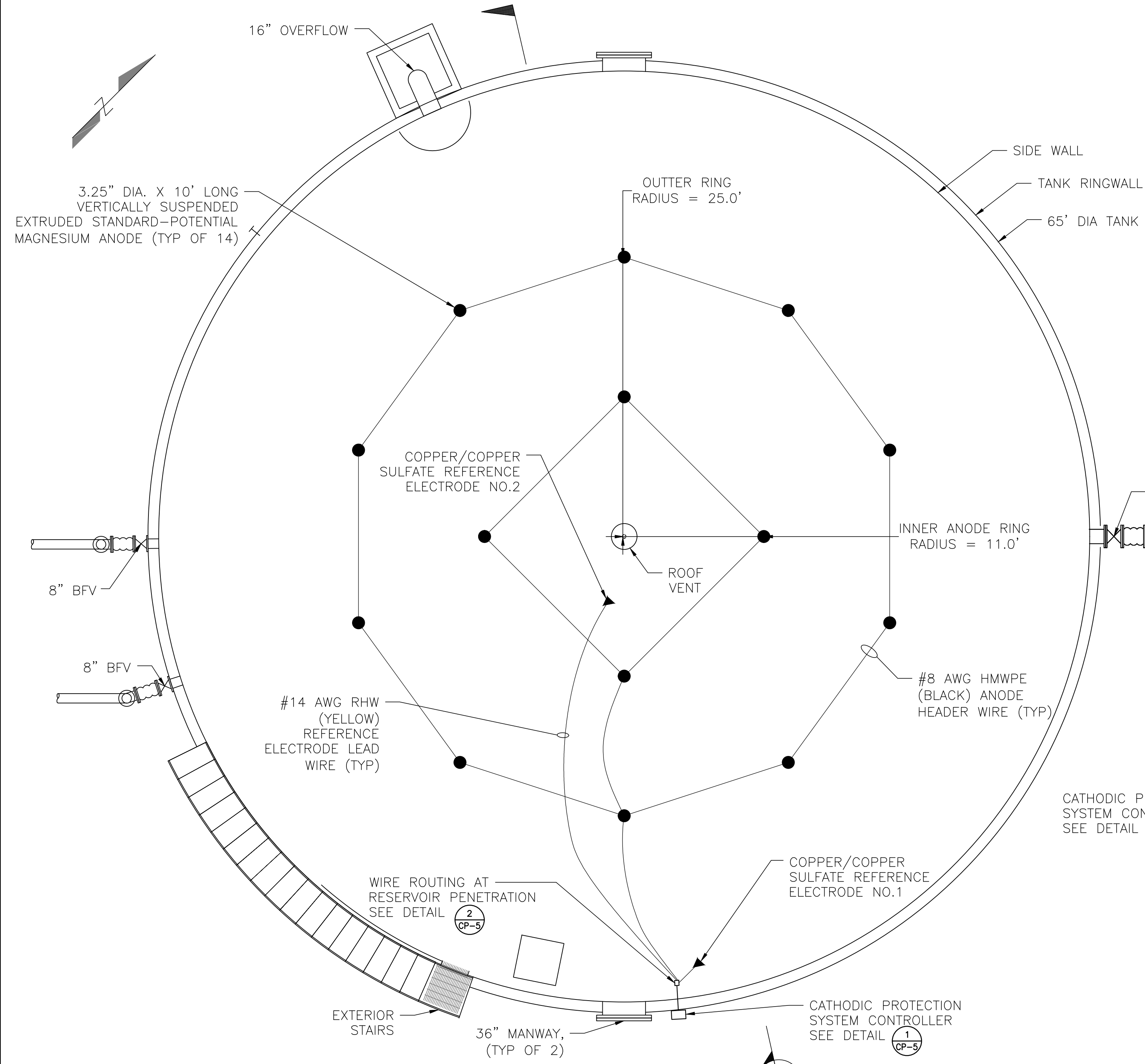
COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

CATHODIC PROTECTION NEW CLEARWELL TANK PLAN & SECTION

DRAWING
CP-1
SHEET 28 OF 42

E:\Projects\2022\0001 thru 0099\22-0044 Var. CCWD Copper Cove\500 Drawings\2. Final\CCWD Copper Cove\100% CP Details (22-0044)_20230614.dwg 6-14-23 09:29:59 AM RChiem

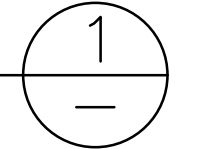
NEW B TANK CATHODIC PROTECTION SCHEDULE										
TANK TYPE	TANK CONSTRUCTION	TANK DIAMETER (FT)	MAX SUBMERGED HEIGHT (FT)	NUMBER OF ANODES IN OUTER RING	NUMBER OF ANODES IN INNER RING	ANODE TYPE	ANODE DIMENSIONS	ANODE OUTER RING RADIUS (FT)	ANODE INNER RING RADIUS (FT)	STARTING RHEOSTAT SETTING (OHM)
GROUND STORAGE TANK	WELDED STEEL	65.0	18.0	10	4	VERTICALLY SUSPENDED EXTRUDED STANDARD POTENTIAL MAGNESIUM ROD	3.25" DIA. x 10' LONG	25.0	11.0	0.250



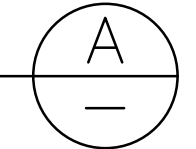
- NOTES:
1. ROOF SUPPORT COLUMNS, GIRDERS, AND RAFTERS NOT SHOWN.
 2. ANODE LOCATION PROVIDED IS APPROXIMATE AND FINAL ANODE LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR. ANODES SHALL BE SUSPENDED FROM RAFTERS. ANODES SHALL BE EQUALLY SPACED IN A RING TO THE EXTENT THAT THE RAFTER LOCATIONS ALLOW.
 3. HANDHOLES SHALL BE LOCATED WITHIN 1 FOOT OF ANODE HEADER WIRE AND REFERENCE ELECTRODE WIRE SUSPENSION LOCATIONS.

- NOTES:
1. STAIRWAY AND EXTERNAL APPURTENANCES NOT SHOWN FOR CLARITY.
 2. CATHODIC PROTECTION SYSTEM WILL ONLY PROVIDE PROTECTION BELOW THE WATER LINE. ABOVE THE WATER LINE, THE COATING IS RELIED UPON TO PROVIDE CORROSION PROTECTION.
 3. HANDHOLES SHALL BE LOCATED WITHIN 1 FOOT OF ANODE HEADER WIRE AND REFERENCE ELECTRODE WIRE SUSPENSION LOCATIONS.

NEW B TANK PLAN
SCALE: NTS



NEW B TANK SECTION
SCALE: NTS



ISSUED FOR BID

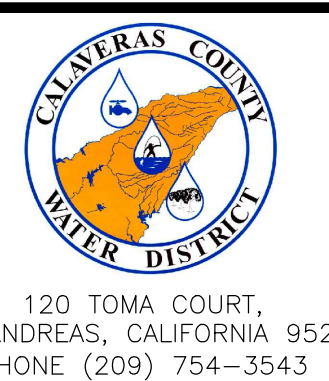
REV	DATE	BY	DESCRIPTION

SCALE: 0 1/2 1

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

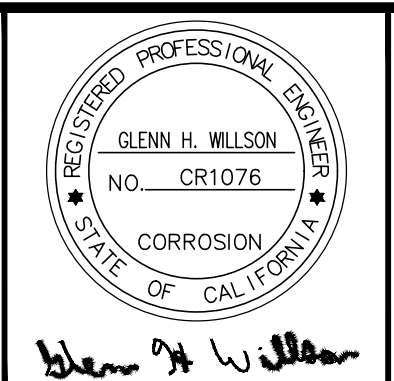
DESIGNED: RC
DRAWN: RC
CHECKED: GHW

DATE: JUNE 2023



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COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

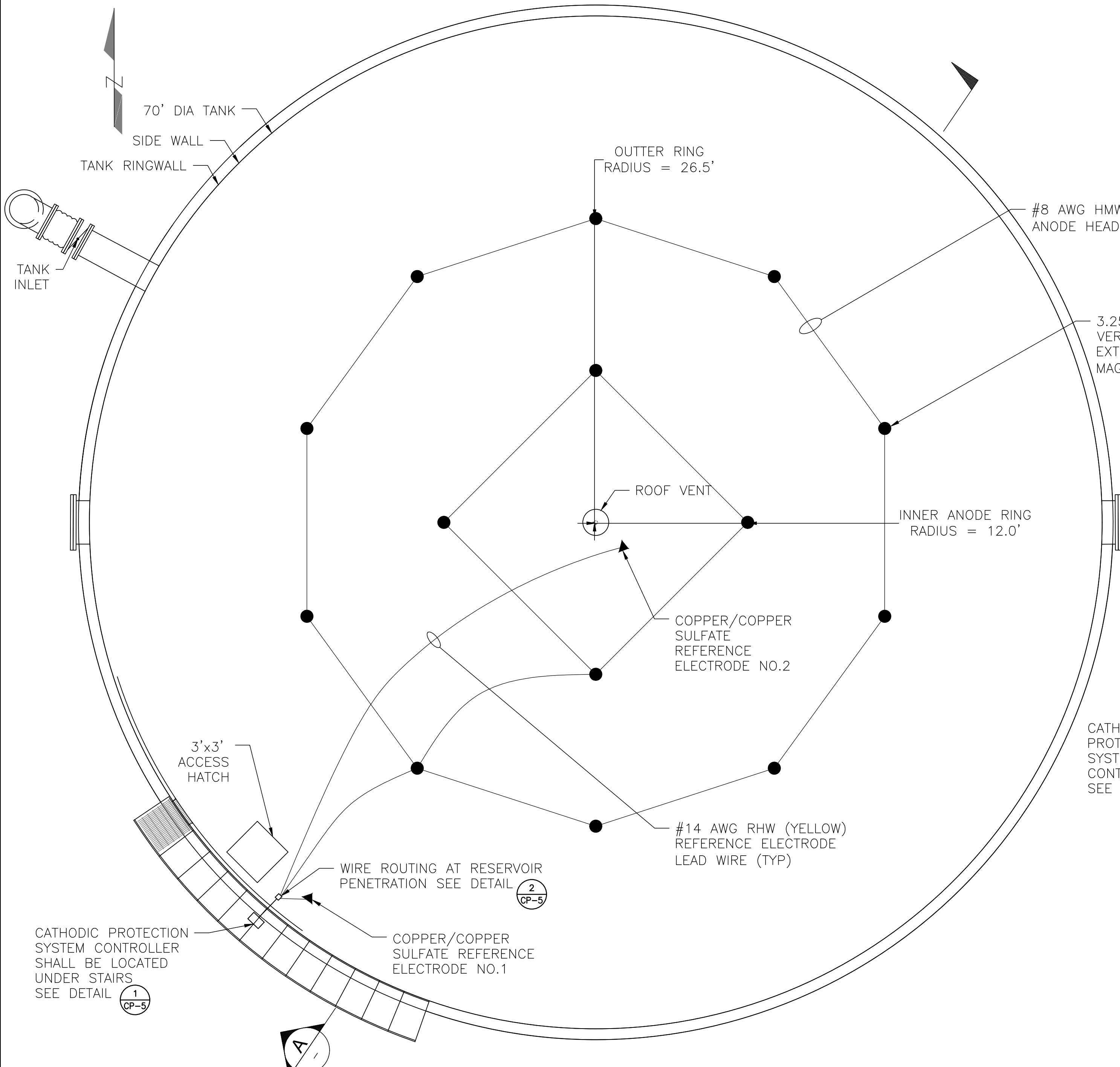
CATHODIC PROTECTION NEW B TANK PLAN & SECTION

DRAWING

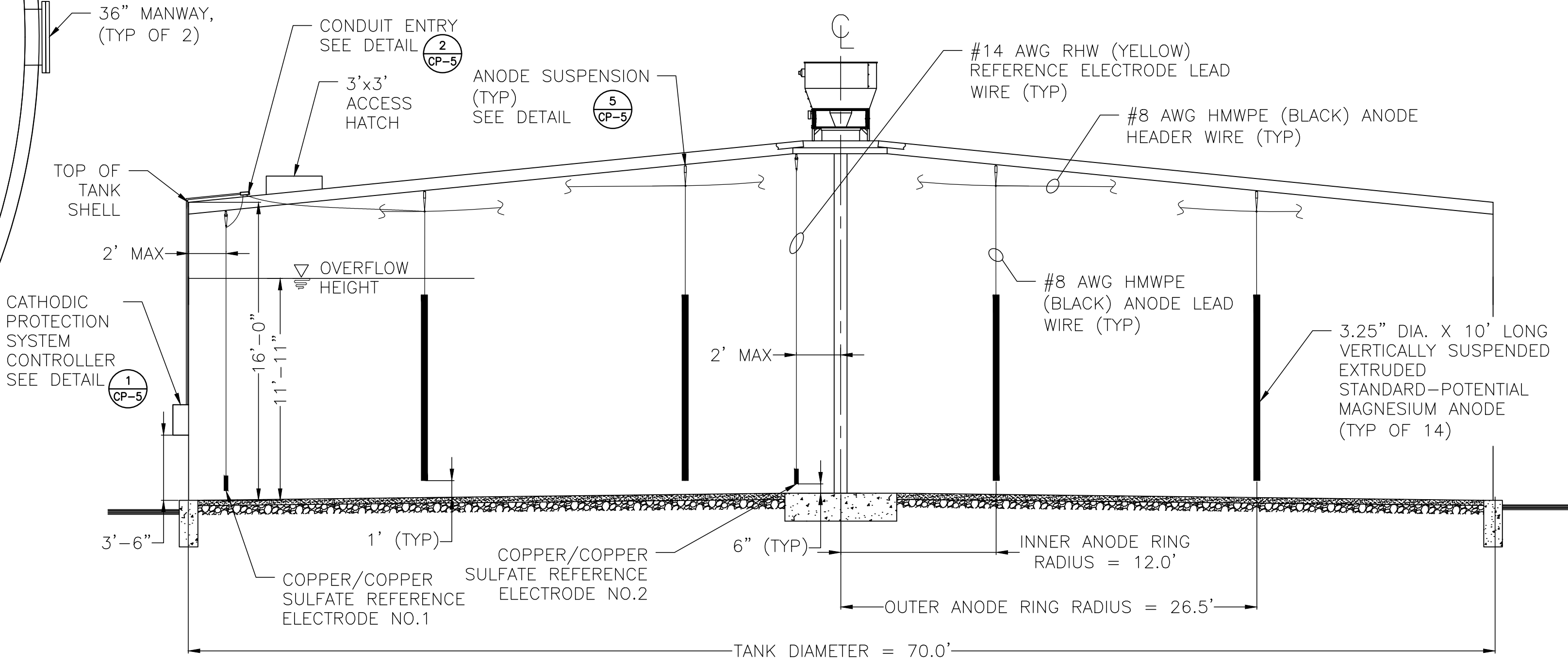
CP-2

SHEET 29 OF 42

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CLEARWELL REHABILITATION TANK CATHODIC PROTECTION SCHEDULE										
TANK TYPE	TANK CONSTRUCTION	TANK DIAMETER (FT)	MAX SUBMERGED HEIGHT (FT)	NUMBER OF ANODES IN OUTER RING	NUMBER OF ANODES IN INNER RING	ANODE TYPE	ANODE DIMENSIONS	ANODE OUTER RING RADIUS (FT)	ANODE INNER RING RADIUS (FT)	STARTING RHEOSTAT SETTING (OHM)
GROUND STORAGE TANK	WELDED STEEL	70.0	11.92	10	4	VERTICALLY SUSPENDED EXTRUDED STANDARD POTENTIAL MAGNESIUM ROD	3.25" DIA. x 10' LONG	26.5	12.0	0.250



- NOTES:
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 2. ANODE LOCATION PROVIDED IS APPROXIMATE AND FINAL ANODE LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR. ANODES SHALL BE SUSPENDED FROM RAFTERS. ANODES SHALL BE EQUALLY SPACED IN A RING TO THE EXTENT THAT THE RAFTER LOCATIONS ALLOW.
 3. HANDHOLES SHALL BE LOCATED WITHIN 1 FOOT OF ANODE HEADER WIRE AND REFERENCE ELECTRODE WIRE SUSPENSION LOCATIONS.

- NOTES:
1. STAIRWAY AND EXTERNAL APPURTENANCES NOT SHOWN FOR CLARITY.
 2. CATHODIC PROTECTION SYSTEM WILL ONLY PROVIDE PROTECTION BELOW THE WATER LINE. ABOVE THE WATER LINE, THE COATING IS RELIED UPON TO PROVIDE CORROSION PROTECTION.
 3. HANDHOLES SHALL BE LOCATED WITHIN 1 FOOT OF ANODE HEADER WIRE AND REFERENCE ELECTRODE WIRE SUSPENSION LOCATIONS.

CLEARWELL REHABILITATION TANK PLAN (1)
SCALE: NTS

CLEARWELL REHABILITATION TANK SECTION (A)
SCALE: NTS

ISSUED FOR BID

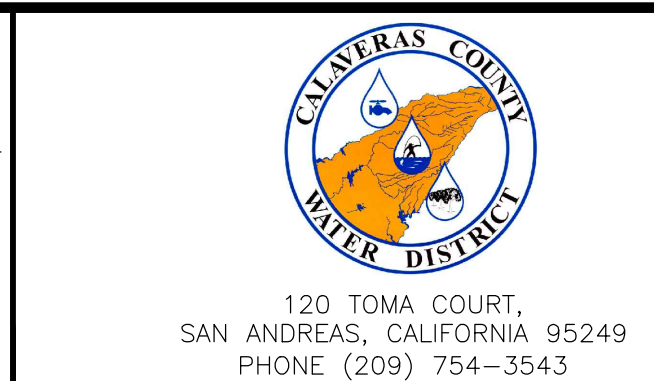
REV	DATE	BY	DESCRIPTION

SCALE: 0 1/2 1

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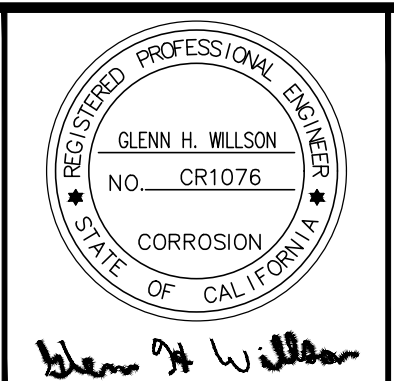
DESIGNED: RC
DRAWN: RC
CHECKED: GHW

DATE: JUNE 2023



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COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

CATHODIC PROTECTION CLEARWELL REHABILITATION TANK PLAN & SECTION

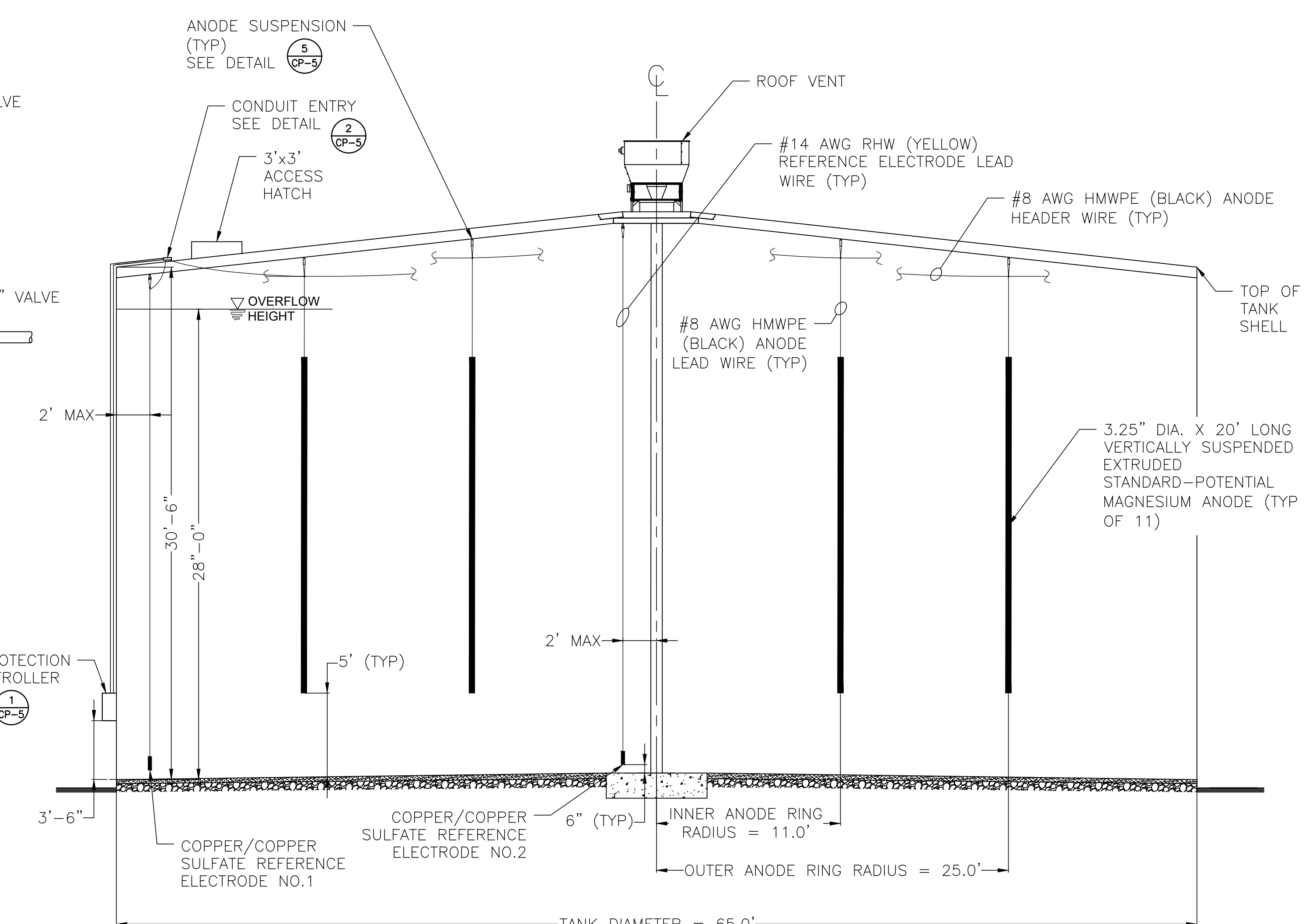
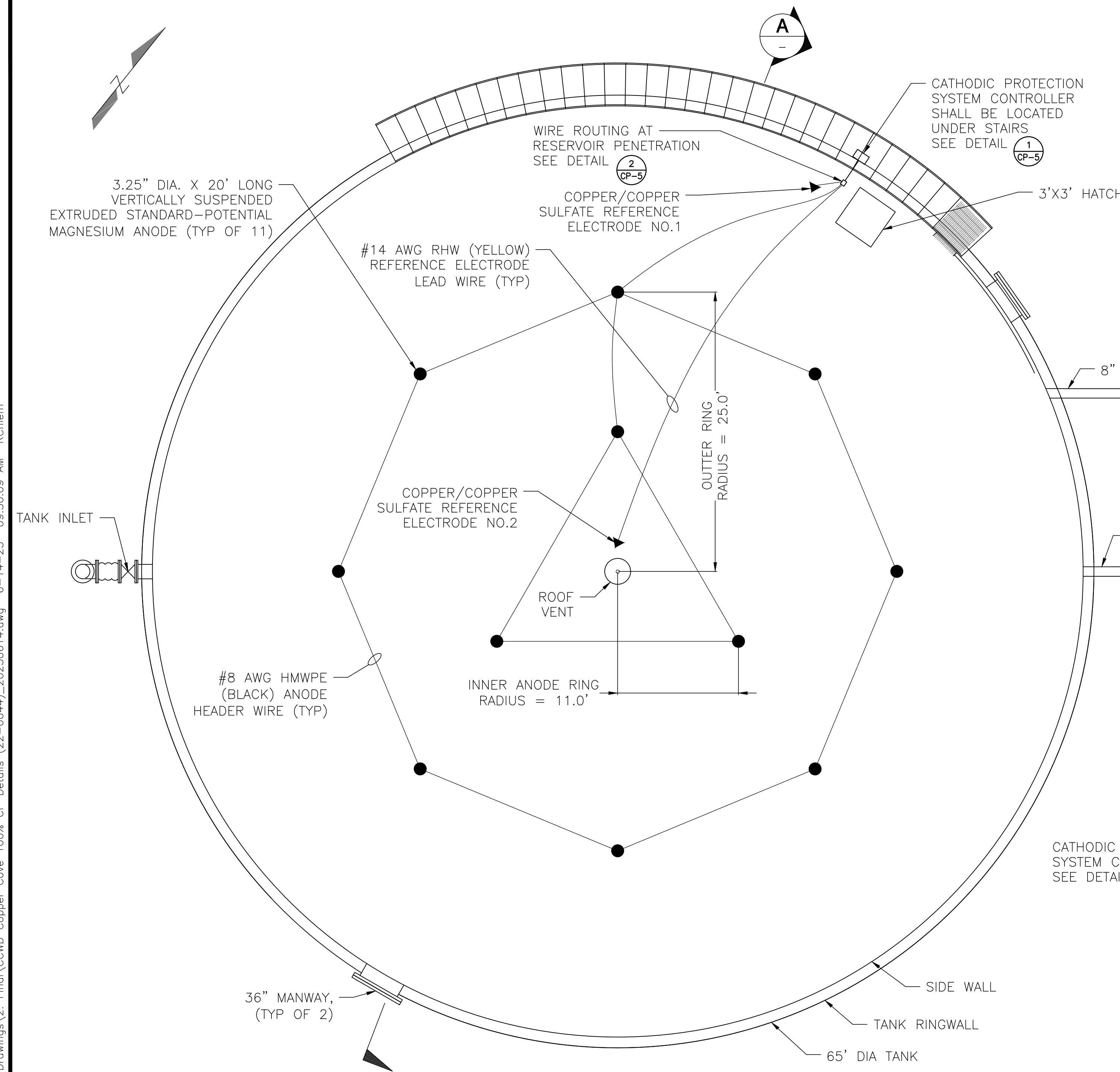
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CP-3

SHEET 30 OF 42

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B TANK REHABILITATION CATHODIC PROTECTION SCHEDULE										
TANK TYPE	TANK CONSTRUCTION	TANK DIAMETER (FT)	MAX SUBMERGED HEIGHT (FT)	NUMBER OF ANODES IN OUTER RING	NUMBER OF ANODES IN INNER RING	ANODE TYPE	ANODE DIMENSIONS	ANODE OUTER RING RADIUS (FT)	ANODE INNER RING RADIUS (FT)	STARTING RHEOSTAT SETTING (OHM)
GROUND STORAGE TANK	WELDED STEEL	65.0	28.0	8	3	VERTICALLY SUSPENDED EXTRUDED STANDARD POTENTIAL MAGNESIUM ROD	3.25" DIA. x 20' LONG	25.0	11.0	0.250



- NOTES:
1. ROOF SUPPORT COLUMNS, GIRDERS, AND RAFTERS NOT SHOWN.
 2. ANODE LOCATION PROVIDED IS APPROXIMATE AND FINAL ANODE LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR. ANODES SHALL BE SUSPENDED FROM RAFTERS. ANODES SHALL BE EQUALLY SPACED IN A RING TO THE EXTENT THAT THE RAFTER LOCATIONS ALLOW.
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- NOTES:
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B TANK REHABILITATION PLAN 1
SCALE: NTS

B TANK REHABILITATION SECTION A
SCALE: NTS

ISSUED FOR BID

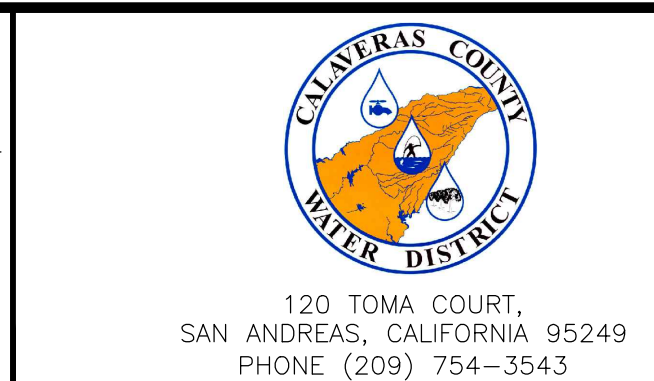
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WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

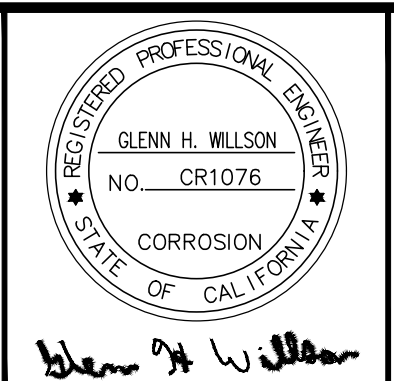
DESIGNED: RC
DRAWN: RC
CHECKED: GHW

DATE: JUNE 2023



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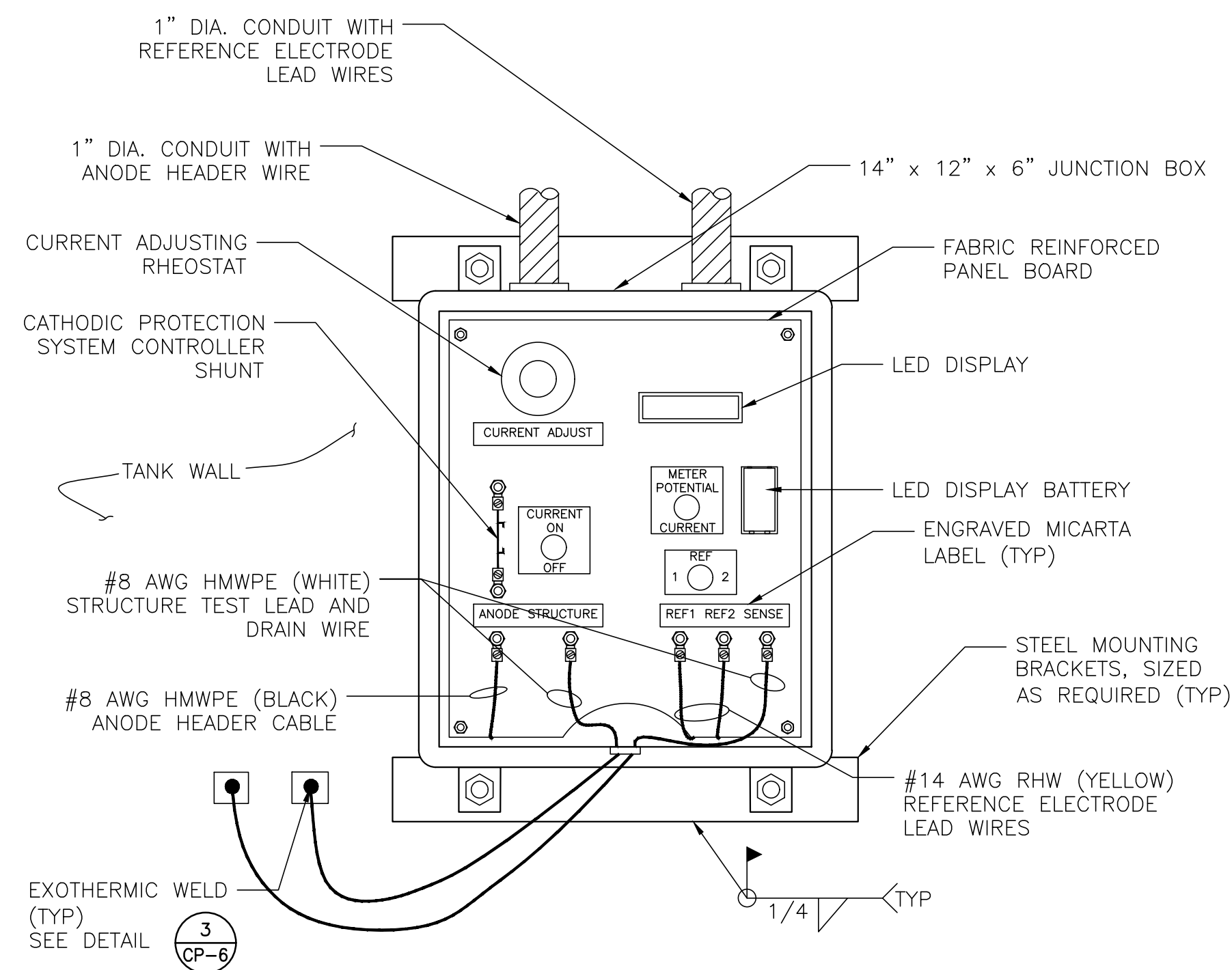


COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

CATHODIC PROTECTION B TANK REHABILITATION PLAN & SECTION

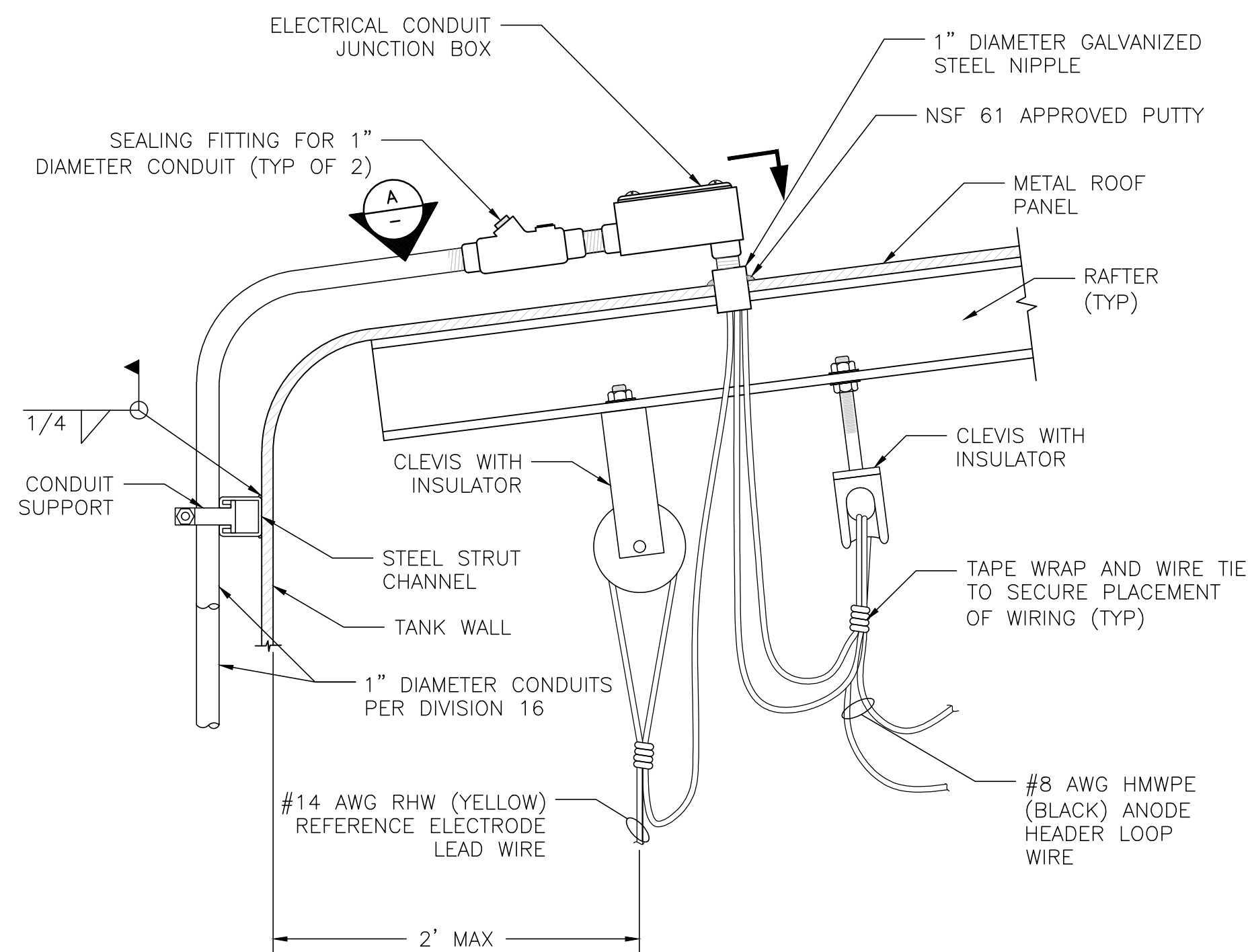
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SHEET 31 OF 42

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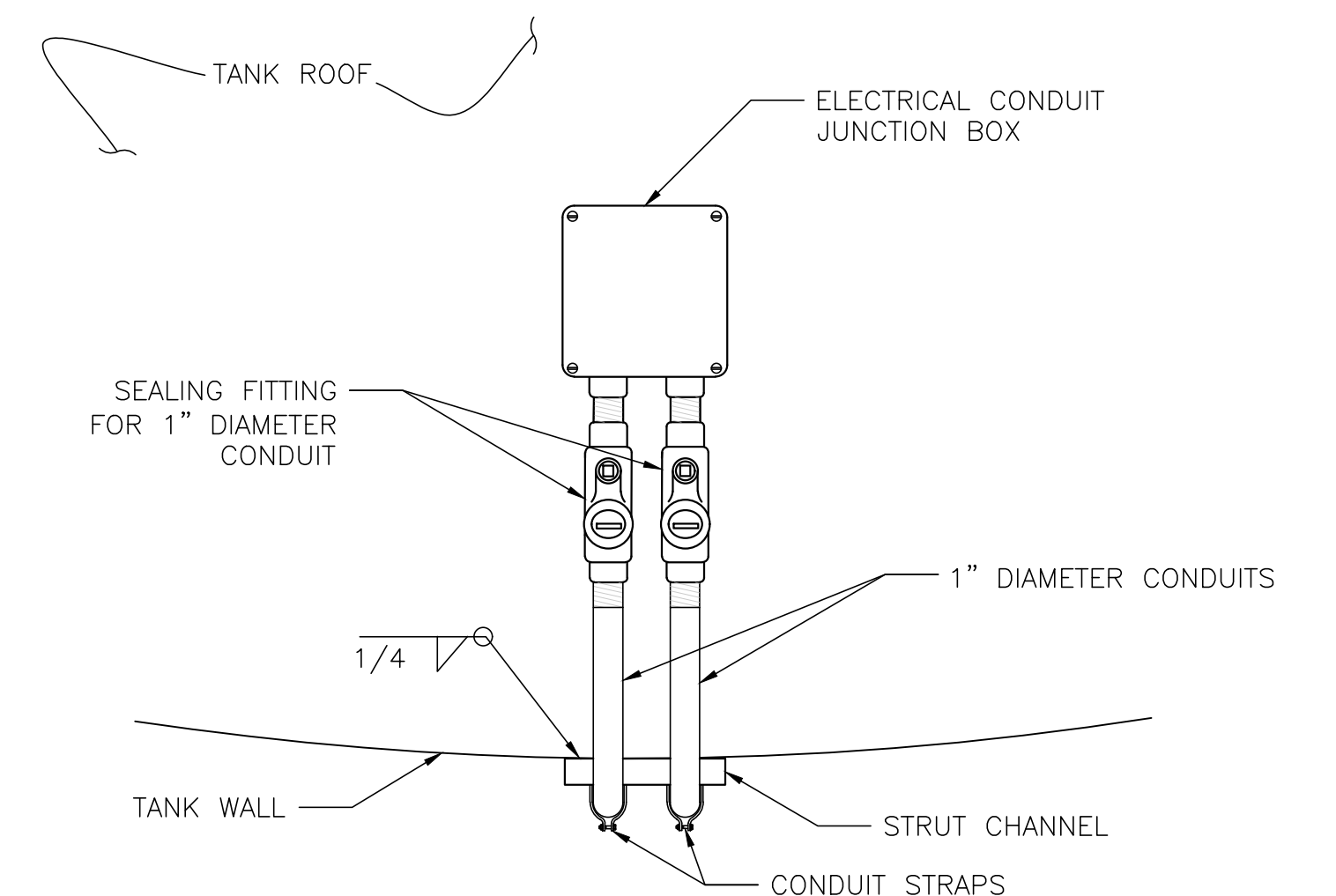
CATHODIC PROTECTION SYSTEM CONTROLLER JUNCTION BOX DETAIL
SCALE: NTS

1



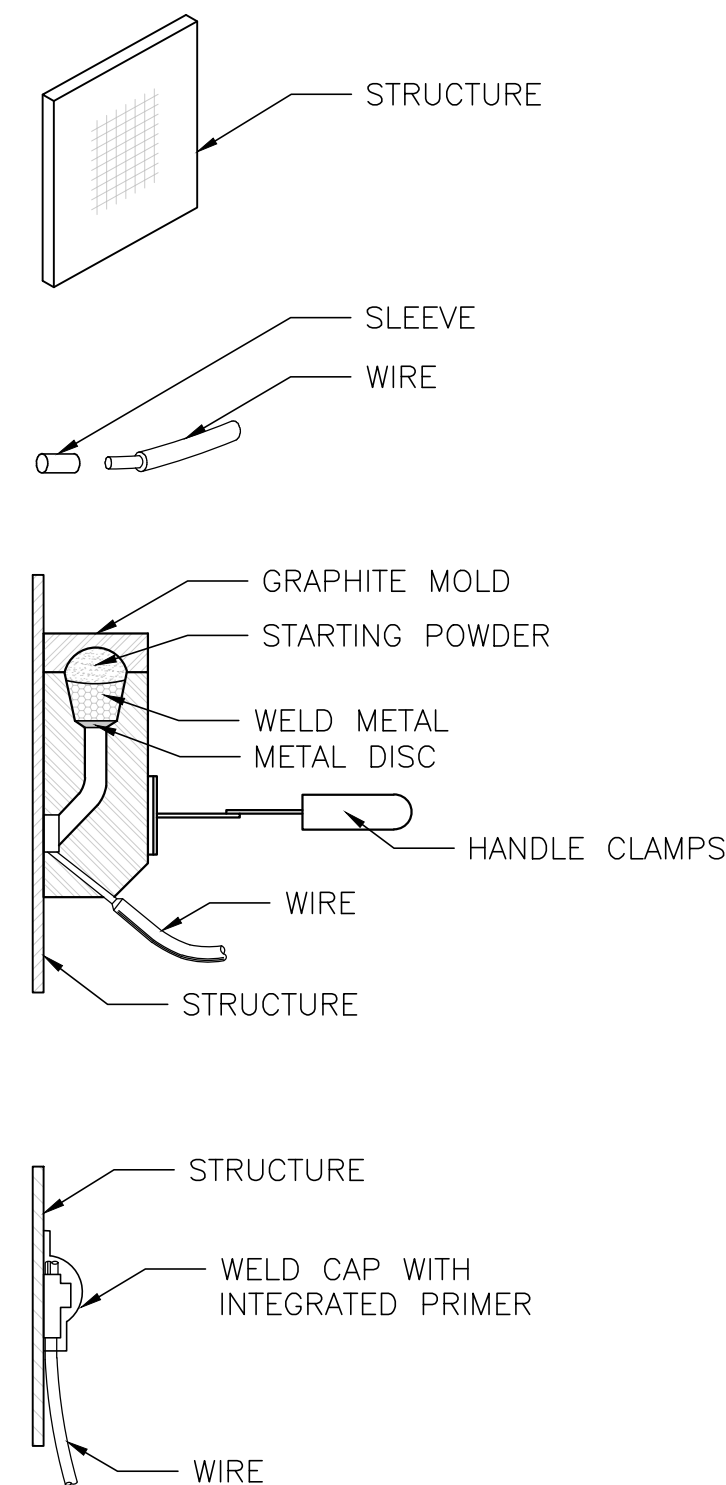
WIRE ROUTING RESERVOIR PENETRATION DETAIL
SCALE: NTS

2



WIRE ROUTING AT RESERVOIR PENETRATION SECTION
SCALE: NTS

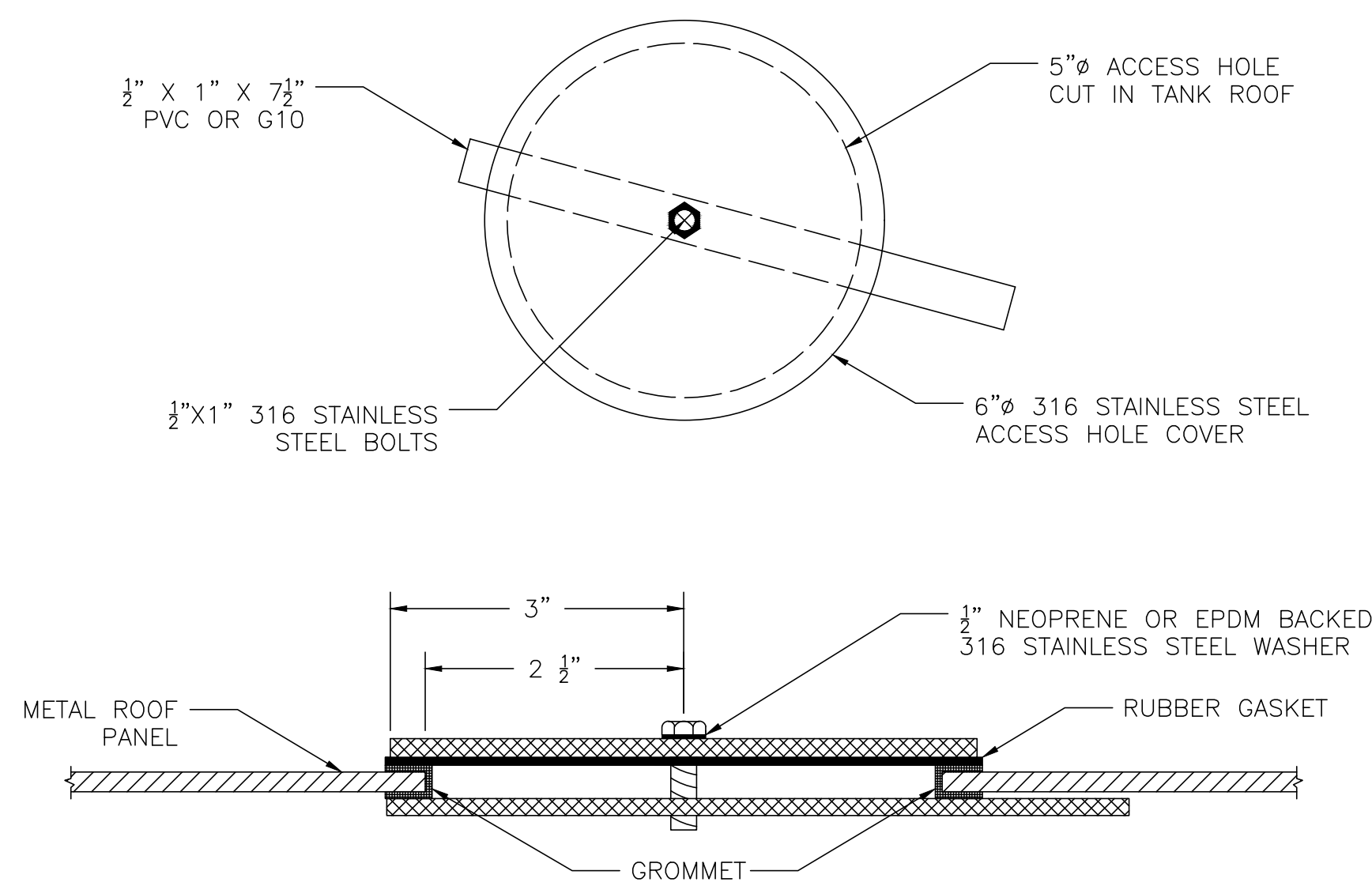
A



1. ALL WELDS SHALL BE 6" APART AT MINIMUM.
2. GRIND STRUCTURE TO BARE METAL AND CLEAN SURFACE. GROUND AREA SHALL BE LARGE ENOUGH FOR EXOTHERMIC WELD AND SMALL ENOUGH TO BE COMPLETELY COVERED BY WELD CAP.
3. STRIP INSULATION FROM WIRE AND ATTACH SLEEVE.
4. HOLD MOLD FIRMLY WITH OPENING AWAY FROM OPERATOR. IGNITE WITH FLINT GUN. REMOVE SLAG FROM CONNECTION WITH CHIPPING HAMMER. TEST WELD WITH 22 OZ HAMMER.
5. COVER CONNECTION WITH WELD CAP WITH INTEGRATED PRIMER. REPAIR ALL DAMAGE TO COATING AND LINING IN ACCORDANCE WITH COATING AND LINING MANUFACTURER'S RECOMMENDATIONS.

EXOTHERMIC WELD DETAIL FOR DUCTILE IRON AND STEEL PIPE
SCALE: NTS

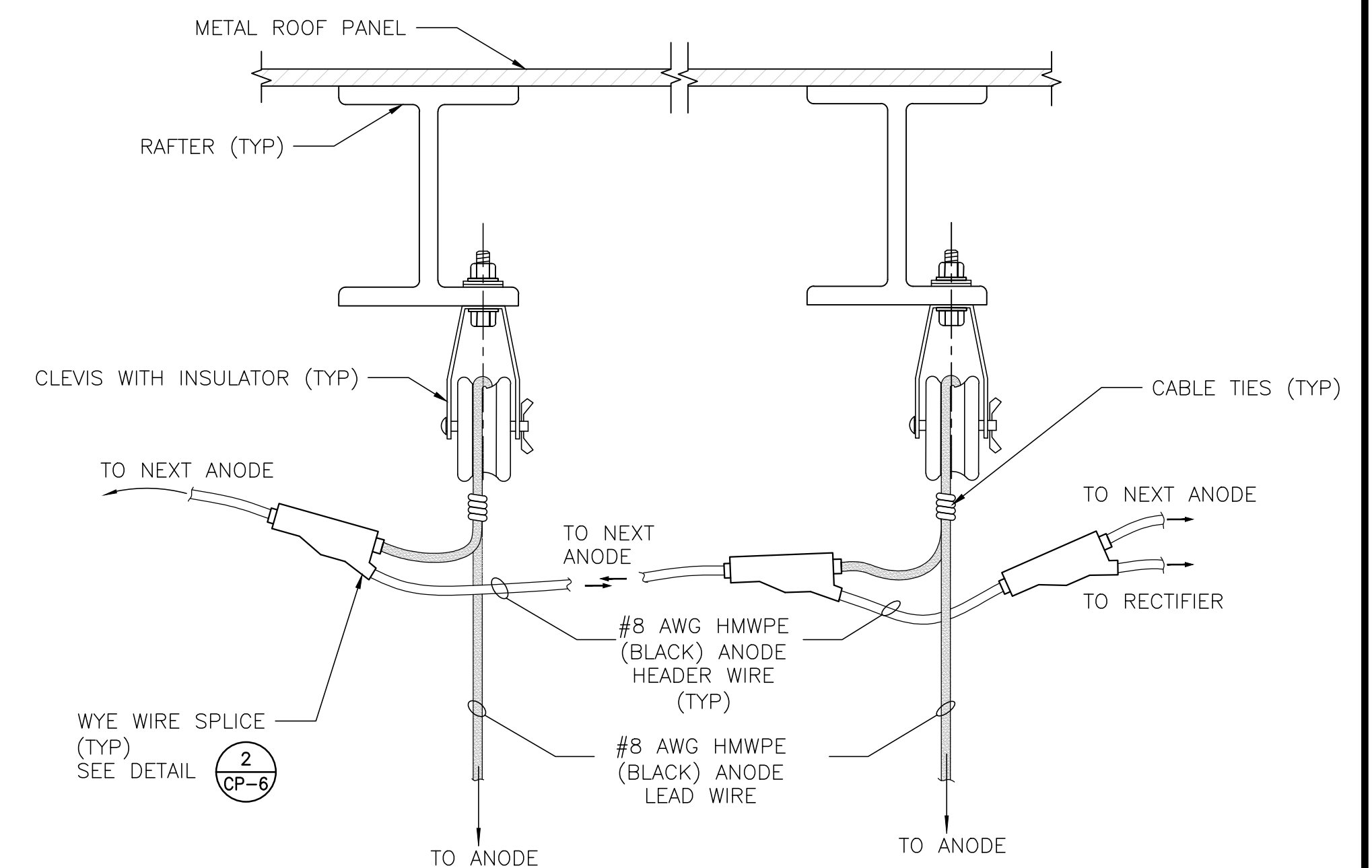
3



NOTE:
PRE-DRILL ACCESS HOLES PRIOR TO COATING.

HANDHOLE DETAIL
SCALE: NTS

4



ANODE SUSPENSION DETAIL
SCALE: NTS

5

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REV	DATE	BY	DESCRIPTION

SCALE:	WARNING
DATE:	JUNE 2023
DESIGNED:	RC
DRAWN:	RC
CHECKED:	GHW

120 TOMA COURT,
SAN ANDREAS, CALIFORNIA 95249
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Glenn H. Willson

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

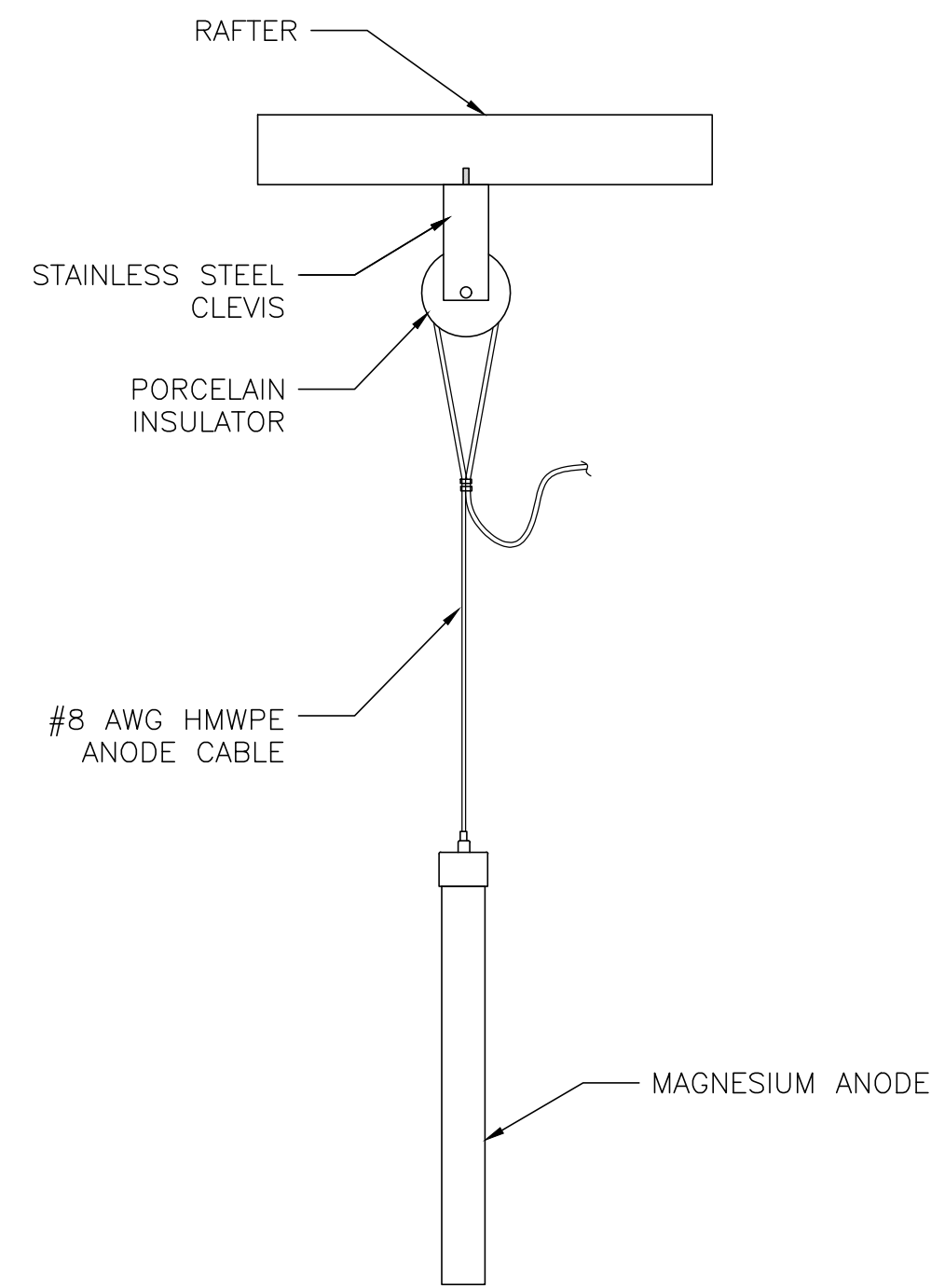
CATHODIC PROTECTION DETAILS I

DRAWING

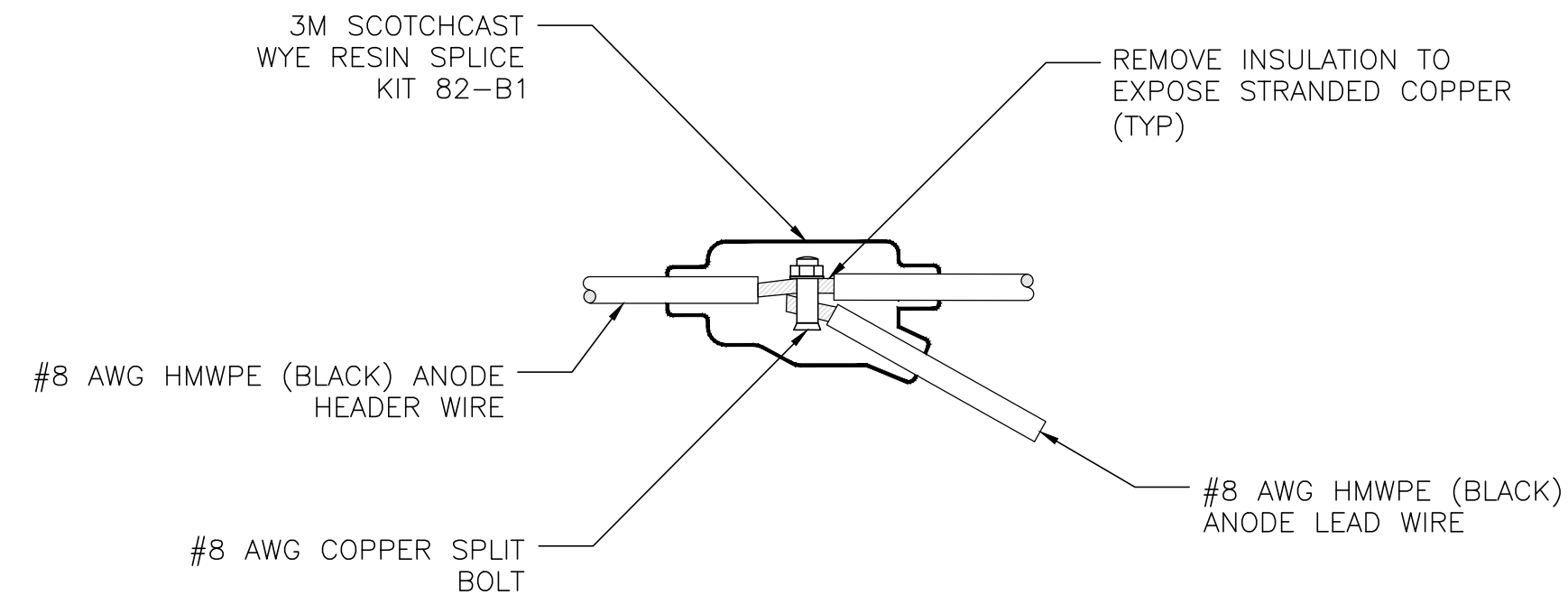
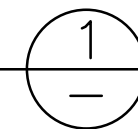
CP-5

SHEET 32 OF 42

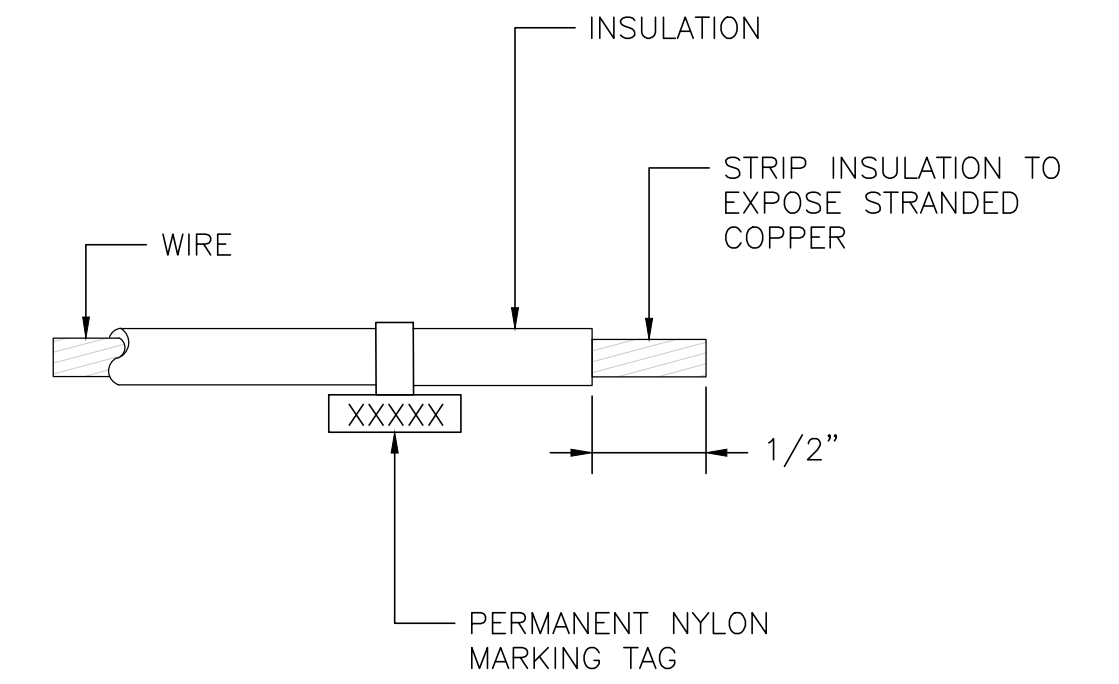
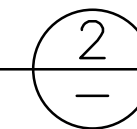
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STANDARD-POTENTIAL EXTRUDED ROD
MAGNESIUM ANODE DETAIL
SCALE: NTS

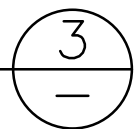


WYE WIRE SPLICE DETAIL
SCALE: NTS



WIRE IDENTIFIER SCHEDULE	
STRUCTURE	LABEL
STRUCTURE	STRUCTURE
GALVANIC ANODE	ANODE
REFERENCE ELECTRODE #	REF #

WIRE IDENTIFIER DETAIL
SCALE: NTS

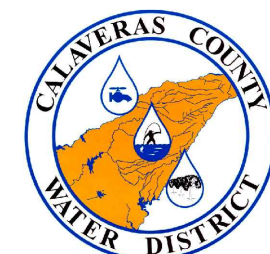


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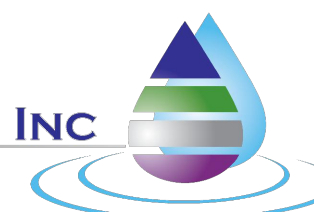
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DATE:	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
JUNE 2023	

DESIGNED	RC
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Glenn H. Willson

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

CATHODIC PROTECTION DETAILS II

DRAWING

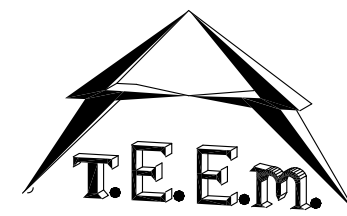
CP-6

SHEET 33 OF 42

MISCELLANEOUS ELECTRICAL & INSTRUMENTATION ABBREVIATIONS					
&	AND	HOR	HAND-OFF-REMOTE	PRESS	PRESSURE
@	AT	HP	HORSEPOWER	PRI	PRIMARY
A	AMBER, AMPERES	HPS	HIGH PRESSURE SODIUM	PROVIDE	FURNISH, INSTALL & CONNECT
AC	ALTERNATING CURRENT	HS	HAND SWITCH	PRR	POWER RELAY
AF	AMP FRAME	HTR	HEATER	PS	PRESSURE SWITCH, POWER SUPPLY
AFF	ABOVE FINISHED FLOOR	HZ	HERTZ (CYCLES PER SECOND)	PT	POTENTIAL TRANSFORMER
AI	ANALOG INPUT	HZD	HAZARDOUS AREA, EXPLOSION PROOF	PTT	PUSH TO TEST
AIC	AMP INTERRUPTING CAPACITY SYMMETRICAL	I	INTERLOCK	PV	PROCESS VARIABLE
AL	RIGID ALUMINUM CONDUIT	I/O	INPUT/OUTPUT	PVC	POLY VINYL CHLORIDE
ALT	ALTERNATOR	ICR	INSTRUMENTATION CONTROL RELAY	PWR	POWER
AM	AMMETER	INST	INSTANTANEOUS	R	RED
ARMS	ARC FLASH REDUCTION MAINTENANCE SYS	ISC	SHORT CKT INTERRUPTING CURRENT (SYMM)	RCT	REPEAT CYCLE TIMER
AO	ANALOG OUTPUT	ISR	INTRINSICALLY SAFE RELAY	REF	REFERENCE
AT	AMP TRIP	J	JUNCTION BOX	RIO	REMOTE I/O
ATS	AUTOMATIC TRANSFER SWITCH	K	KILO, PREFIX	RTD	RESISTANCE TEMPERATURE DETECTOR
AWG	AMERICAN WIRE GAUGE	KAIC	KILO-AMPERE INTERRUPTING CAPACITY	RTM	RUN TIME METER
B	BLUE	L	LINE	RTU	REMOTE TELEMETRY UNIT
BC	BARE COPPER	LA	LIGHTNING ARRESTOR	RVNR	REDUCED VOLTAGE NON-REVERSING
BFC	BELOW FINISHED CEILING	LC	LIGHTING CONTACTOR	(R)	REWIRE, RELOCATE, REVISE, REUSE, REPLACE
BOD	BIOCHEMICAL OXYGEN DEMAND	LCD	LIQUID CRYSTAL DISPLAY	SC	SHORTING CONTACTOR
BLK	BLANK	LED	LIGHT EMITTING DIODE	SCH	SCHEDULE
BKR	BREAKER	LEL	LOWER EXPLOSIVE LIMIT	SEC	SECONDARY
C	CONDUIT	LGT	LIGHT	SECS	SECONDS
CAP	CAPACITOR	LO	LOW	SEL	SELECTOR
CB	CIRCUIT BREAKER	LOR	LOCAL-OFF-REMOTE	SFA	SERVICE FACTOR AMPS
CBL	CABLE	LOS	LOCK-OUT STOP SWITCH	SP	SETPOINT
CH	CHANNEL	LP	LIGHTING PANELBOARD	SPD	SURGE PROTECTIVE DEVICE
CKT	CIRCUIT	LPU	LINE PROTECTION UNIT	SPEC	SPECIFICATION
COAX	COAXIAL CABLE	LS	LEVEL SWITCH	SS	STAINLESS STEEL
COMM	COMMUNICATION PORT	LSI	LONG, SHORT, INSTANTANOUS	SSS	SOLID STATE SOFT STARTER
CP	CONTROL PANEL	M	MOTOR CONTRACTOR	STT	START
CPT	CONTROL POWER TRANSFORMER	MAX	MAXIMUM	STP	STOP
CR	CONTROL RELAY	MCC	MOTOR CONTROL CENTER	SV	SOLENOID VALVE
CT	CURRENT TRANSFORMER	MCM	THOUSAND CIRCULAR MILS	SW	SWITCH
CTQ	CONSTANT TORQUE	MCP	MOTOR CIRCUIT PROTECTOR	SWBD	SWITCHBOARD
CU	COPPER, CONDENSING UNIT	MH	MANHOLE	SWGR	SWITCHGEAR
DC	DIRECT CURRENT	MHD	METAL HALIDE	SYMM	SYMMETRICAL
DET	DETAIL	MIN	MINIMUM	T	TRIP
DI	DIGITAL INPUT	MIN	MINUTES	TB	TERMINAL BLOCK
DIA	DIAGRAM	MISC	MISCELLANEOUS	TC	TIME CLOCK
DISC	DISCONNECT	MNFR	MANUFACTURER	TDOD	TIME DELAY ON DE-ENERGIZATION
DIV	DIVISION	MOV	MOTOR OPERATED VALVE	TDOE	TIME DELAY ON ENERGIZATION
DO	DIGITAL OUTPUT	MPS	MOTOR PROTECTION SYSTEM	TEL	TELEMETRY
DPDT	DOUBLE POLE DOUBLE THROW	MS	MOISTURE SENSOR/SWITCH	TELCO	TELEPHONE COMPANY
DWG	DRAWING	MTR	MOTOR	TEMP	TEMPERATURE
ELEV	ELEVATION	MTS	MANUAL TRANSFER SWITCH	TM	THERMAL MAGNETIC
EMT	ELECTRICAL METALLIC TUBING	MV	MEDIUM VOLTAGE	TOC	TOTAL ORGANIC CARBON
ETM	ELAPSED TIME METER	N	NEUTRAL	TR	TIME DELAY RELAY
(E)	EXISTING	NC	NORMALLY CLOSED	TRIAD	TWISTED & SHIELDED 3 CONDUCTOR
F	FRAME	NEC	NATIONAL ELECTRICAL CODE	TS	TEMPERATURE SWITCH
FC	FAIL CLOSED, FAN COIL	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	TSPR	TWISTED & SHIELDED PAIR
FCS	FIELD CONTROL STATION	NIC	NOT IN CONTRACT	TYP	TYPICAL
FLA	FULL LOAD AMPS	NO	NORMALLY OPEN	UG	UNDERGROUND
FO	FAIL OPEN	NP	NAMEPLATE	UL	UNDERWRITERS LABORATORIES
FLEX	FLEXIBLE, METAL LIQUID TIGHT CONDUIT	NTS	NOT TO SCALE	UON	UNLESS OTHERWISE NOTED
FROA	FORWARD-REVERSE-OFF-AUTO	(N)	NEW	UPS	UNINTERRUPTIBLE POWER SUPPLIES
FS	FLOW SWITCH OR FULL SPEED	OC	ON CENTER	V	VOLTAGE
FV, FVNR	FULL VOLTAGE NON-REVERSING	OI	OPERATOR INTERFACE	VA	VOLT AMPS
FVR	FULL VOLTAGE REVERSING	OL	OVERLOAD	VAR	VOLT AMP REACTIVE
FWD	FORWARD	ORP	OXIDATION REDUCTION POTENTIAL	VFD	VARIABLE FREQUENCY DRIVE
(F)	FUTURE	P	PHASE, POLE	VLV	VALVE
G	GREEN	PB	PULL BOX	VM	VOLTMETER
GALV	GALVANIZED	PBI	PULL BOX INSTRUMENT	VTQ	VARIABLE TORQUE
GEN	GENERATOR	PBP	PULL BOX POWER	W	WHITE, WATTS
GFI	GROUND FAULT CIRCUIT INTERRUPTER	PE	PHOTOCELL	WHM	WATT-HOUR METER
GND	GROUND	PF	POWER FAIL	WM	WATTMETER
GRS	GALVANIZED RIGID STEEL CONDUIT	PFR	POWER (PHASE) FAIL RELAY	WP	WATERPROOF, WEATHER PROOF
GRS-PVC	PVC COATED GRS CONDUIT	PH	HYDROGEN ION CONCENTRATION	WS	TORQUE SWITCH, WATER SURFACE
HC	PUSHBUTTON	PLC	PROGRAMMABLE LOGIC CONTROLLER	XFMR	TRANSFORMER
HI	HIGH	PM	POWER MONITOR	XS	MISCELLANEOUS SWITCH
HID	HIGH INTENSITY DISCHARGE	PMP	PUMP	Y	YELLOW
HMI	HUMAN MACHINE INTERFACE	PNL	PANEL	Z	IMPEDANCE
HOA	HAND-OFF-AUTO	PR	PAIR, TWISTED & SHIELDED CABLE	ZS	LIMIT SWITCH

SWITCHES - PROCESS		DEVICES - RELAY		COMPONENTS		WIRING - CONNECTIONS	
	FLOW SWITCH - CLOSURES UPON INCREASING FLOW		CONTROL RELAY CR1 WITH NORMALLY OPEN CONTACT ON LINE 28 & NORMALLY CLOSED CONTACT ON LINE 111		RESISTOR		PANEL OR EQUIPMENT WIRING
	FLOW SWITCH - OPENS UPON INCREASING FLOW		TIME DELAY RELAY TR2 - ADJUSTABLE TIME DELAY RANGE & SETTING AS SHOWN		POTENTIOMETER		FIELD WIRING
	LEVEL SWITCH - CLOSURES UPON INCREASING LEVEL		TIME DELAY ON ENERGIZATION		CAPACITOR, FIXED		CONDUCTORS - NOT CONNECTED
	LEVEL SWITCH - OPENS UPON INCREASING LEVEL		TIME DELAY ON DE-ENERGIZATION		CAPACITOR, ADJUSTABLE		CONDUCTORS - CONNECTED
	PRESSURE SWITCH - CLOSURES UPON INCREASING PRESSURE (INCREASING VACUUM)		CONTACTOR OR STARTER M1		DIODE		GROUND
	PRESSURE SWITCH - OPENS UPON INCREASING PRESSURE (INCREASING VACUUM)		SOLENOID		DIODE, ZENER		CHASSIS OR FRAME GROUND
	TEMPERATURE SWITCH - CLOSURES UPON INCREASING TEMPERATURE		NORMALLY OPEN, RELAY CONTACT - ACTUATED BY RELAY CR1 COIL LOCATED ON LINE 105		VARIATOR TRANSIENT VOLTAGE SUPPRESSOR		PLUG AND RECEPTACLE
	TEMPERATURE SWITCH - OPENS UPON INCREASING TEMPERATURE		NORMALLY CLOSED, RELAY CONTACT - ACTUATED BY RELAY CR1		RESISTANCE TEMPERATURE DETECTOR (RTD)		INCOMING LINE
	LIMIT SWITCH - CLOSURES AT SET LIMIT		NORMALLY OPEN, TIME DELAY RELAY CONTACT - CONTACT CLOSURES AFTER TR2 IS ENERGIZED		THERMOCOUPLE (T/C)		TERMINAL BLOCKS
	LIMIT SWITCH - OPENS AT SET LIMIT		NORMALLY CLOSED, TIME DELAY RELAY CONTACT - CONTACT OPENS AFTER TR2 IS ENERGIZED		AUDIBLE ALARM		TERMINALS
	PROXIMITY SWITCH - CLOSURES UPON DECREASING DISTANCE		NORMALLY OPEN, TIME DELAY RELAY CONTACT - CONTACT OPENS AFTER TR2 IS DE-ENERGIZED		BATTERY		SHIELDED CABLE
	PROXIMITY SWITCH - OPENS UPON DECREASING DISTANCE		NORMALLY CLOSED, TIME DELAY RELAY CONTACT - CONTACT CLOSURES AFTER TR2 IS DE-ENERGIZED		HEATER	PLAN - SYMBOLS	
	TORQUE SWITCH - CLOSURES UPON INCREASING TORQUE		NORMALLY OPEN, TIME DELAY RELAY CONTACT - CONTACT OPENS AND CLOSURES IN A TIMED REPEAT CYCLE		3 PHASE HEATER		
	TORQUE SWITCH - OPENS UPON INCREASING TORQUE		CONTACT OPENS AND CLOSURES IN A TIMED REPEAT CYCLE		GENERATOR		CONDUIT, EXPOSED CONDUIT, IN SLAB OR BELOW GRADE CONDUIT STUBBED OUT & CAPPED CONDUIT BENDS TOWARD OBSERVER CONDUIT BENDS AWAY FROM OBSERVER CONDUIT ENDS CONDUIT CHANGE IN ELEVATION BARE COPPER GROUND WIRE GROUND CONNECTION BOLTED TYPE GROUND CONNECTION EXOTHERMIC WELD TYPE PULL BOX DISCONNECT SWITCH FIELD CONTROL STATION WITH JUNCTION BOX FIELD CONTROL STATION WITH #AMP DISCONNECT SWITCH SPECIAL RECEPTACLE JUNCTION BOX THERMOSTAT LIGHTING, FANS, HEATERS # - CIRCUIT BREAKER NUMBER A - FIXTURE SCHEDULE REF. o - CONTROL SWITCH REFERENCE DUPLIX RECEPTACLE # - CIRCUIT BREAKER NUMBER TOGGLE SWITCH # - CIRCUIT BREAKER NUMBER SUBSCRIPT - CIRCUIT CONTROLLED SUPERSCRIPT - BLANK = 1 POLE 2 = 2 POLE 3 = 3 WAY CONDUIT # EQUIPMENT NUMBER
SWITCHES - OPERATOR		DEVICES - FRONT PANEL		DEVICES - PROTECTIVE			
	TOGGLE OR DISCONNECT SWITCH		INDICATING LIGHT, LETTER "X" INDICATES COLOR: R=RED G=GREEN, A=AMBER, W=WHITE Y=YELLOW, B=BLUE		DISCONNECT, 3 POLE		
	PUSHBUTTON - NORMALLY OPEN, MOMENTARY ACTION		INDICATING LIGHT, PUSH TO TEST		CIRCUIT BREAKER, 3 POLE THERMAL MAGNETIC (TM) OR MOTOR CIRCUIT PROTECT (MCP)		
	PUSHBUTTON - NORMALLY CLOSED, MOMENTARY ACTION		AMP METER		THERMAL OVERLOAD CONTACT		
	PUSHBUTTON, MECHANICALLY INTERLOCKED, DOUBLE CIRCUIT - NORMALLY CLOSED AND NORMALLY OPEN, MAINTAINED ACTION		VOLT METER		THERMAL OVERLOAD ELEMENT		
	SELECTOR SWITCH, 3 POSITION - CONTACT STATUS SHOWN EXISTS AT POSITION OF H-HAND, O-OFF, OR A-AUTO		ELAPSED TIME METER		FUSE WITH BLOWN FUSE INDICATING LIGHT		
	SELECTOR SWITCH, 2 POSITION - CONTACT STATUS SHOWN EXISTS AT POSITION AS SHOWN		RUN TIME METER		FUSE		
			MULTI-POSITION SWITCH WHERE LETTER "X" IS FUNCTION: A=AMP, V=VOLT		MEDIUM VOLTAGE DRAWOUT BREAKER		
					LOW VOLTAGE DRAWOUT CIRCUIT BREAKER		

DWG File: \\ateem\is\ATEEM_Files\ACAD\DWG\2022\2206G\2206G001.dwg; Last Edit: 6/22/17; ATEEM



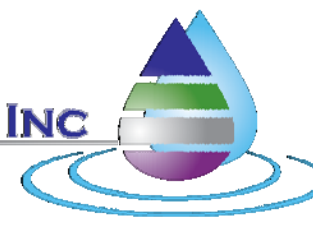
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SCALE:	NONE	WARNING	
DATE:	JUNE 2023	DESIGNED	XML
		DRAWN	ZKV
		CHECKED	SMK



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6/14/2023

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

**ELECTRICAL SYMBOLS
& ABBREVIATIONS**

DRAWING

E1

SHEET 34 OF 42

ISSUED FOR BID

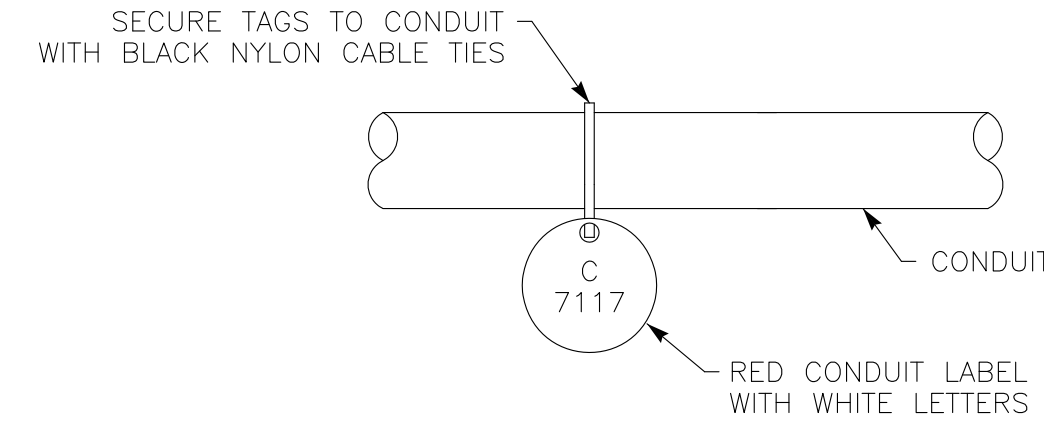
NOTES:

- ① CONDUIT SIZE & TYPE; WIRE FILL FOR CONDUITS TO BE DESIGNATED NEXT TO CONDUIT NUMBER ELLIPSE.
- ② THESE ARE THE CONTRACTOR DESIGNATED DRAWING NUMBERS.
- ③ NOT MORE THAN TWO WIRES PER TERMINAL BLOCK.
- ④ ALL TERMINAL BLOCKS TO BE PLACED IN NUMERICAL ORDER.
- ⑤ ALL NEUTRALS SHALL BE WHITE WIRE COLOR.
- ⑥ #12 GND TO DEVICES SHALL BE BONDED TO #8 GND LUG.

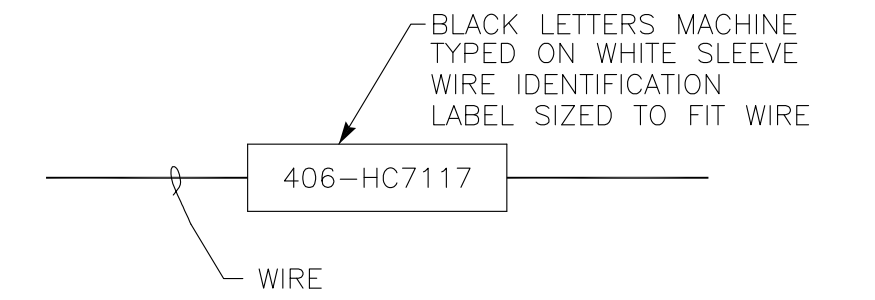
REFERENCE DOCUMENTS

DRAWING #	DESCRIPTION	MANUFACTURER
P712	P&ID DIAGRAM	DESIGN
E717	ELECTRICAL SITE PLAN	DESIGN
PAGE 32, 36	CONDUIT AND CABLE SCHEDULE	DESIGN
② 1354-11	LOOP DIAGRAM	CONTRACTOR
② 1354-68	ELEMENTARY DIAGRAM	CONTRACTOR

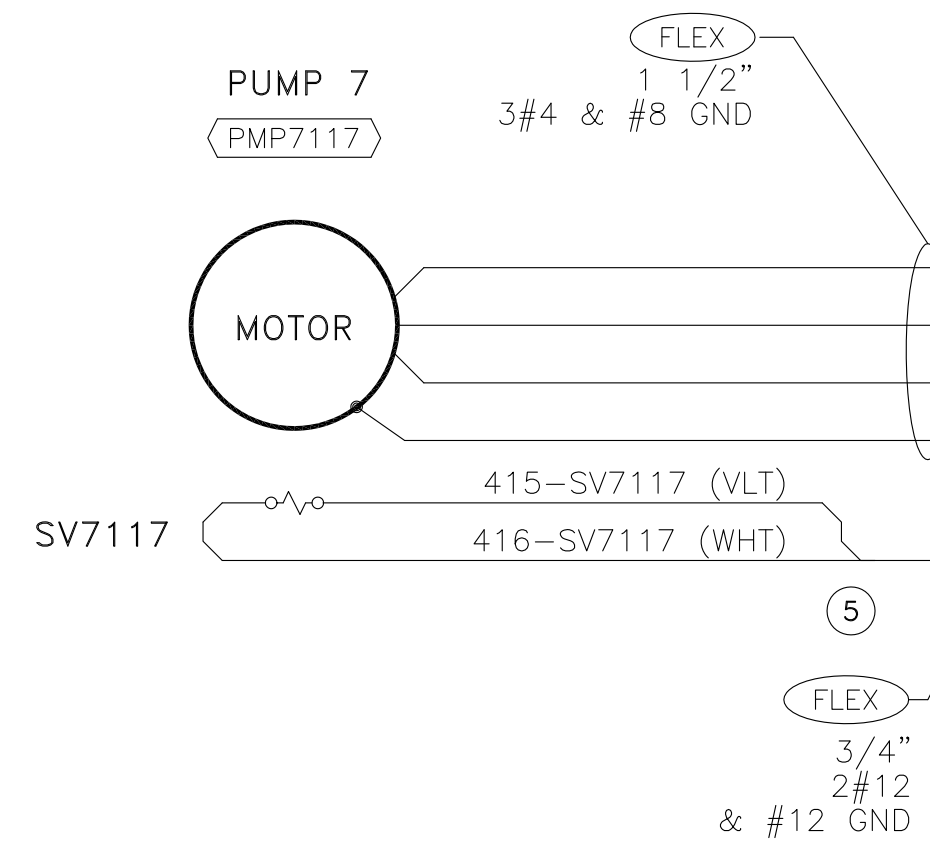
TYPICAL CONDUIT MARKING SYSTEM



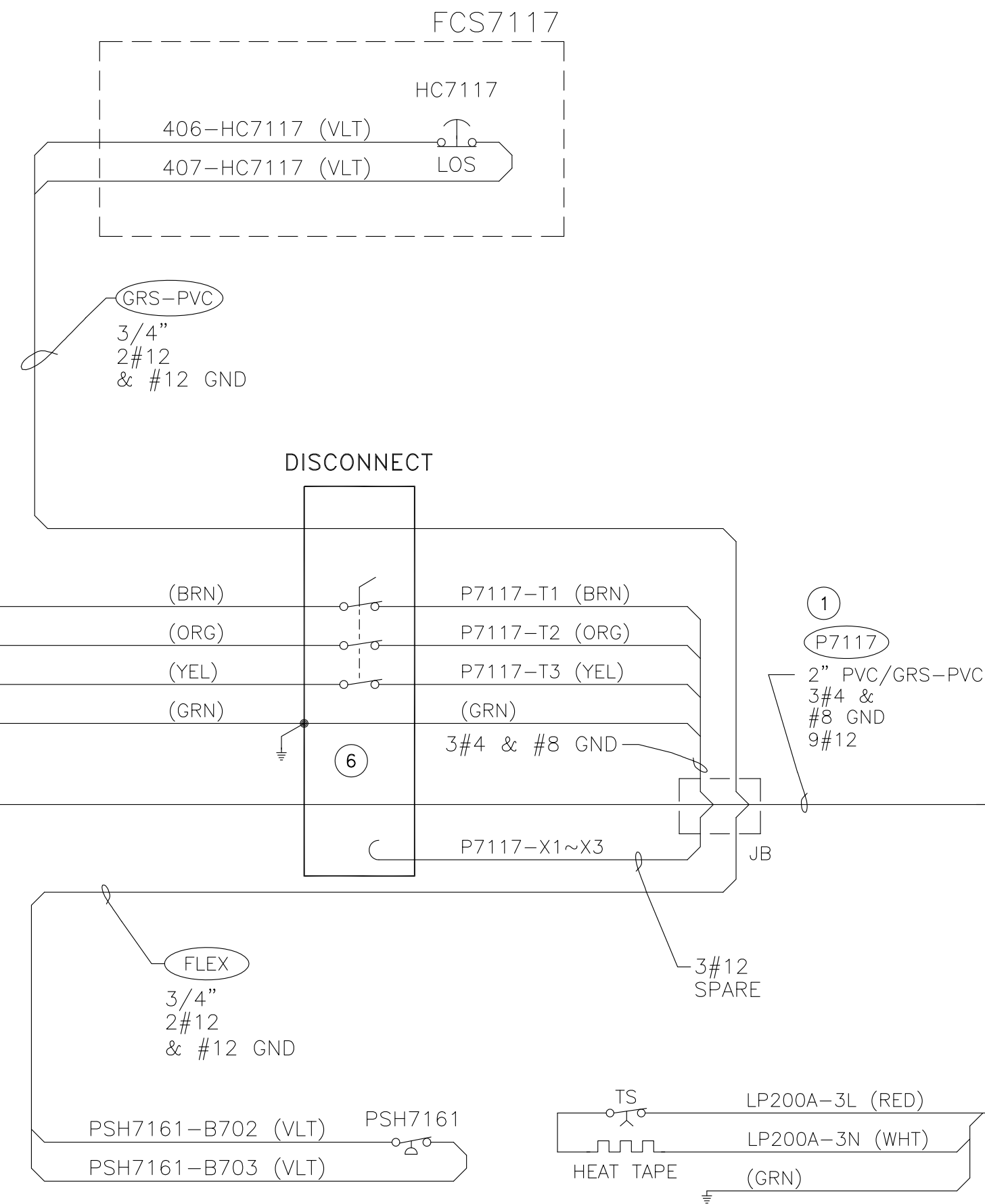
TYPICAL WIRE LABEL



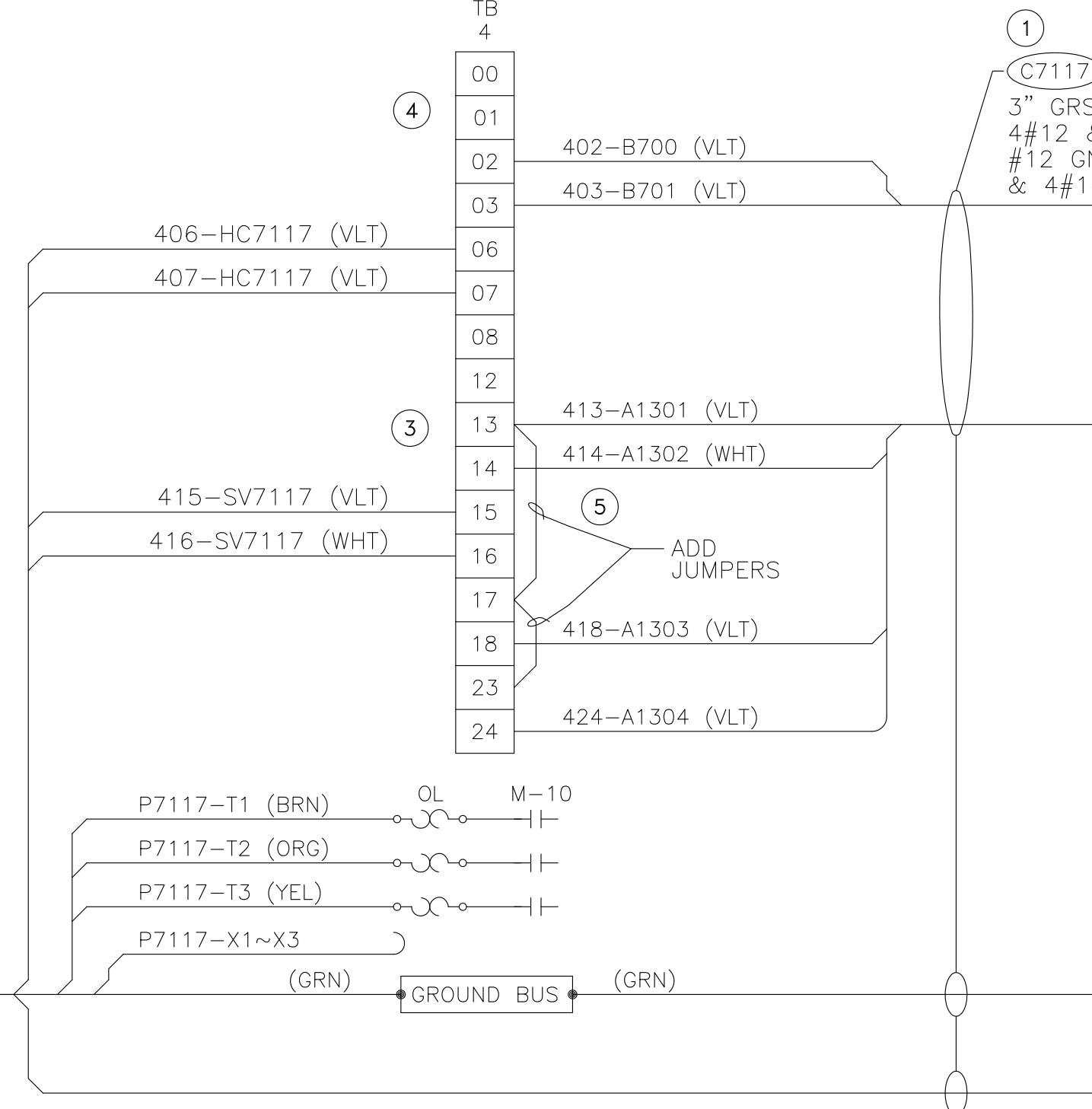
EQUIPMENT



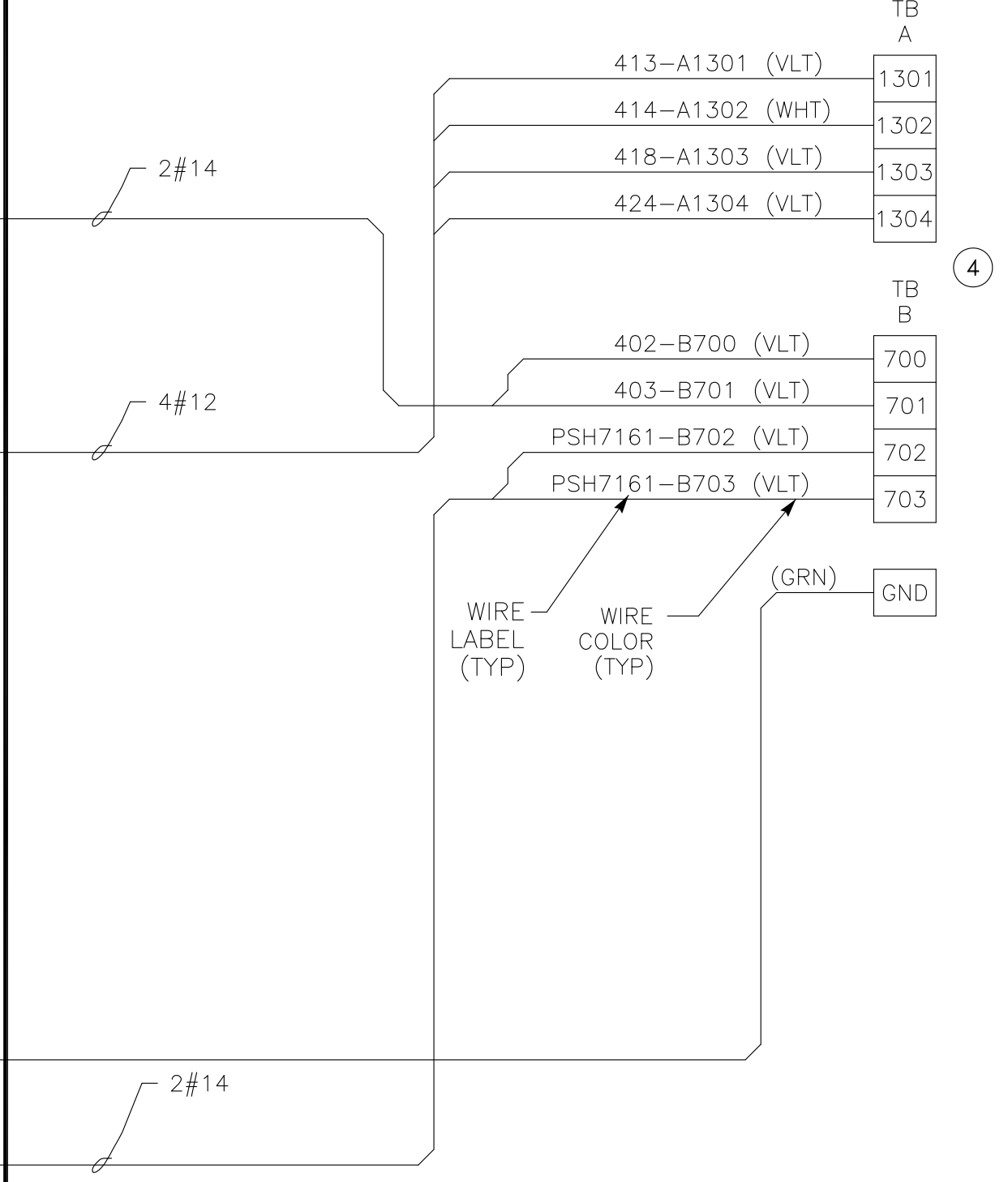
FIELD



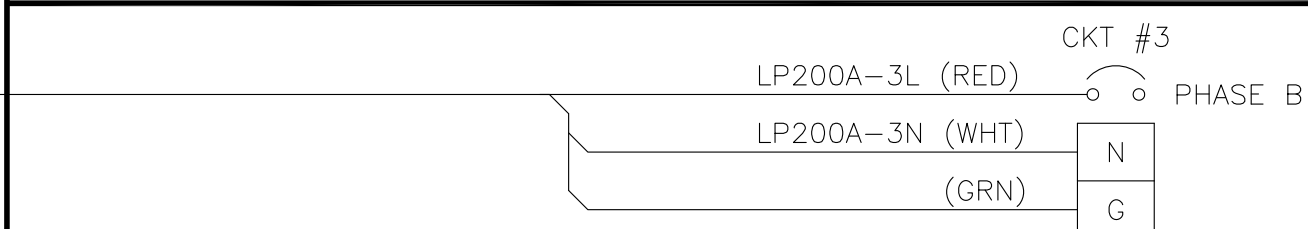
MCC-4 SECTION 1 CUBICLE A~E



CONTROL PANEL NO.2

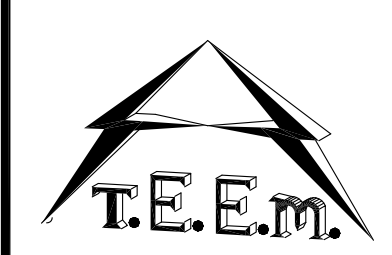


PANELBOARD LP200A



EXAMPLE INTERCONNECTION DIAGRAM

(THIS DRAWING ILLUSTRATES THE FORMAT THAT SHALL BE FOLLOWED IN PREPARATION OF ALL INTERCONNECT DWGS)



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0 1/2 1

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REGISTERED PROFESSIONAL ENGINEER
M. KIM
NO. 13698
Exp. 6-30-2024
ELECTRICAL
STATE OF CALIFORNIA
6/14/2023

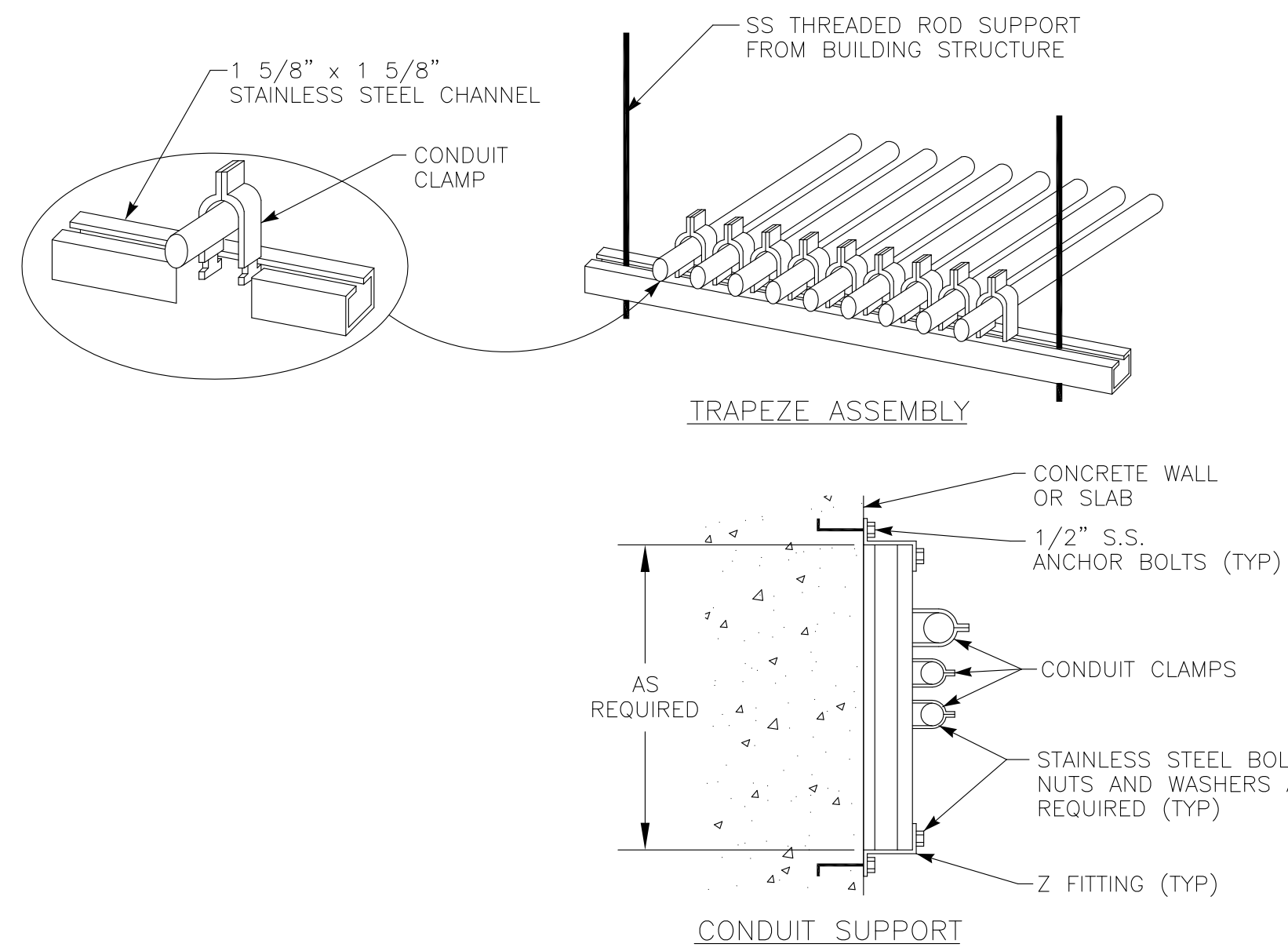
COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

EXAMPLE INTERCONNECT DIAGRAM

DRAWING

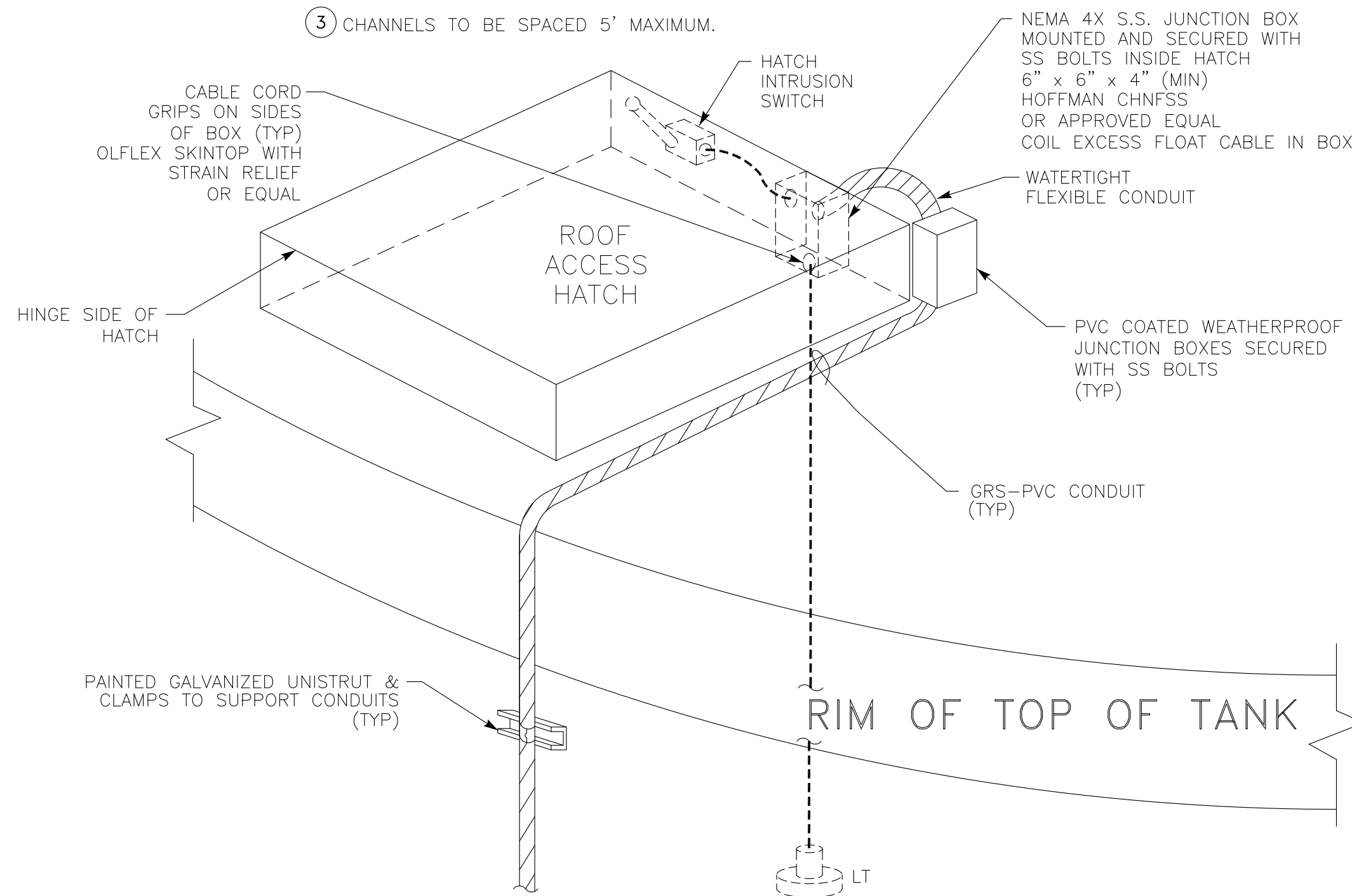
E2

SHEET 35 OF 42



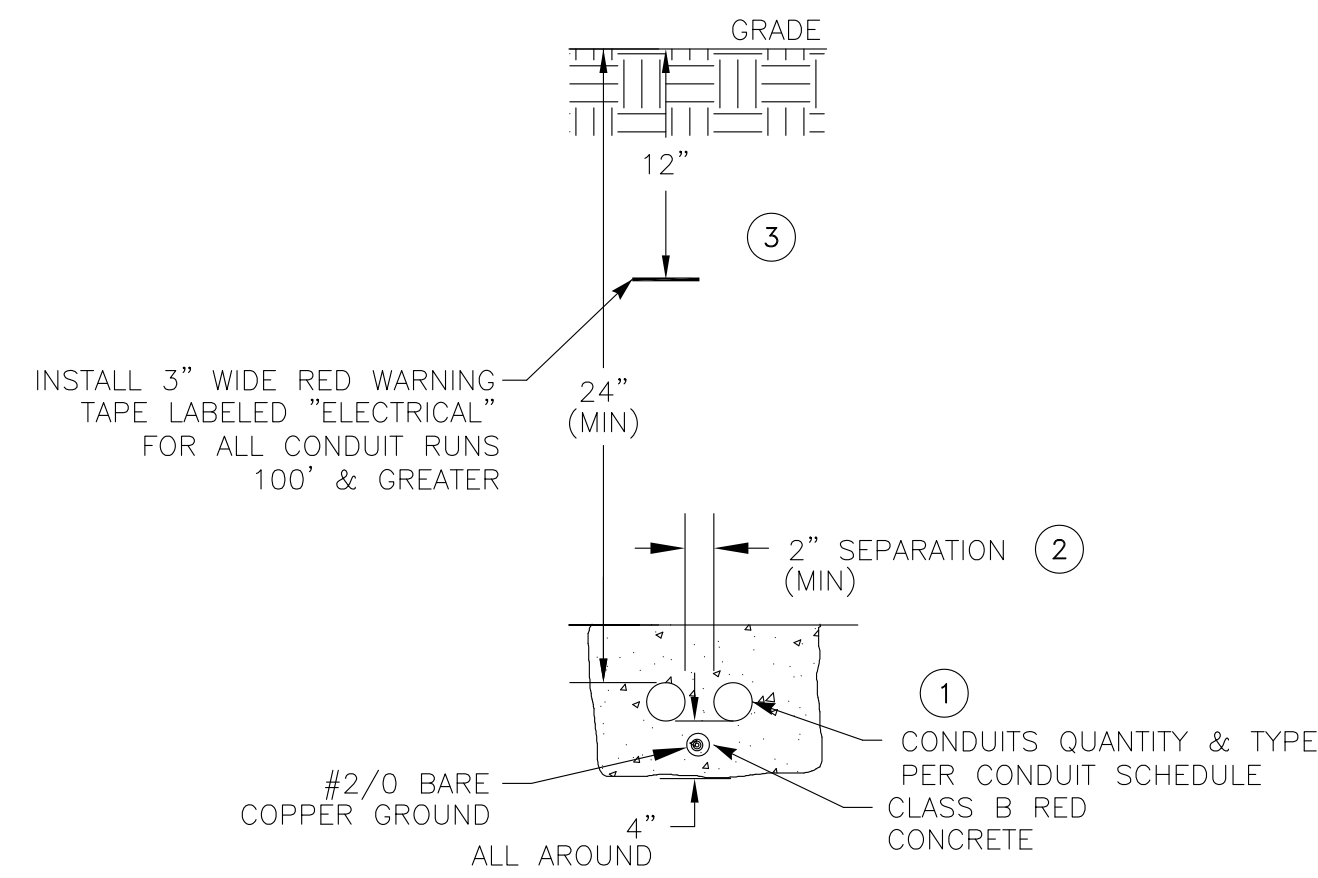
CONDUIT UNISTRUT MOUNTING (A)
NOT TO SCALE DETAIL (E3)

- NOTES: ① THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
② CHANNEL AND ALL SUPPORT DEVICES TO BE NEMA RATED PER AREA CLASSIFICATION. FIELD COAT ALL CUTS, ETC. TO MATCH.
③ CHANNELS TO BE SPACED 5' MAXIMUM.



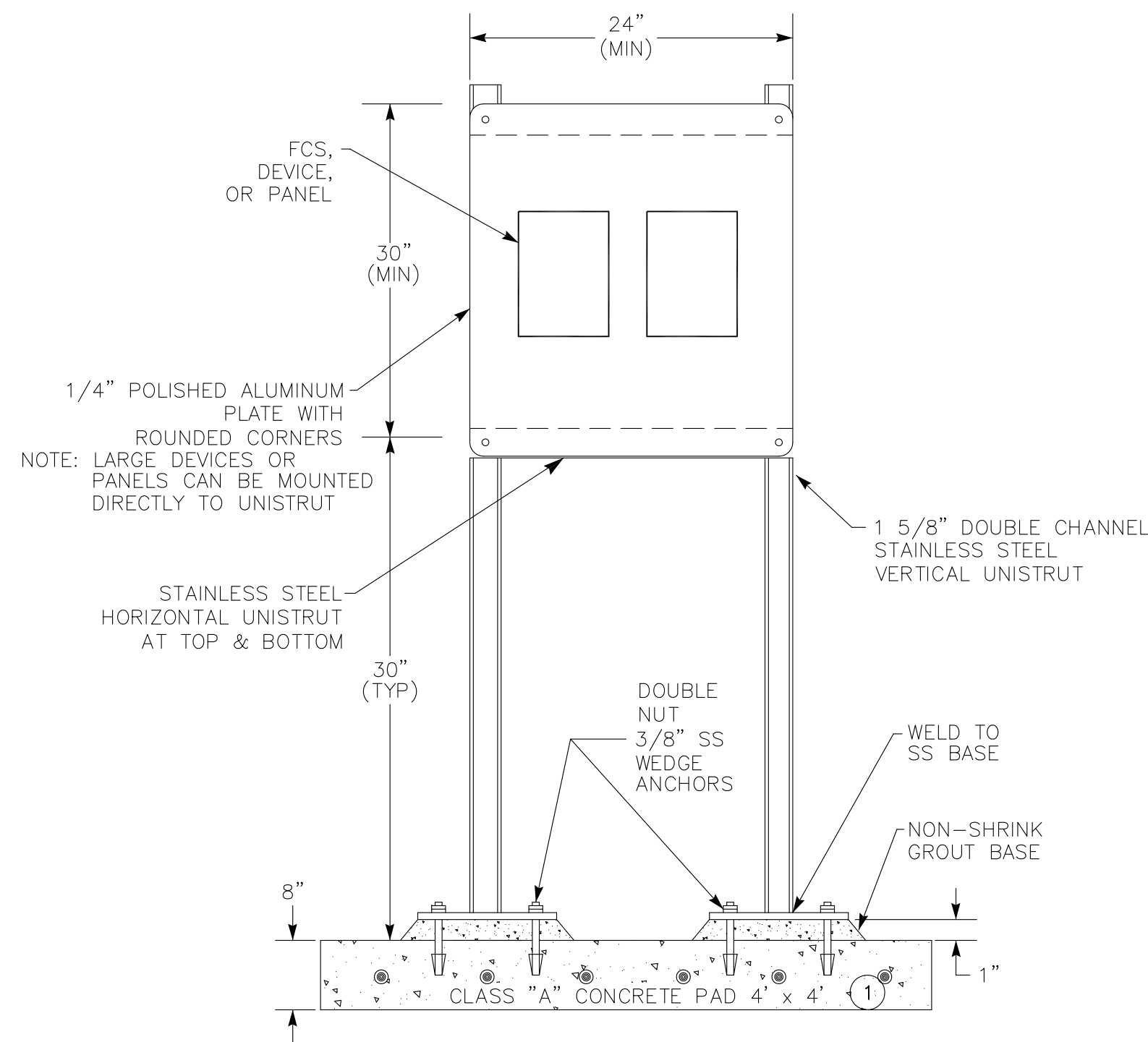
TANK HATCH (D)
NOT TO SCALE DETAIL (E3)

- NOTES: ① LAYOUT SHOWN ILLUSTRATES GENERAL INSTALLATION REQUIREMENTS. SEE CIVIL DRAWINGS FOR DETAILS OF HATCH & LADDER.
② PAINT CONDUITS, JUNCTION BOX & CONDUIT SUPPORTS TO MATCH COLOR OF TANK.



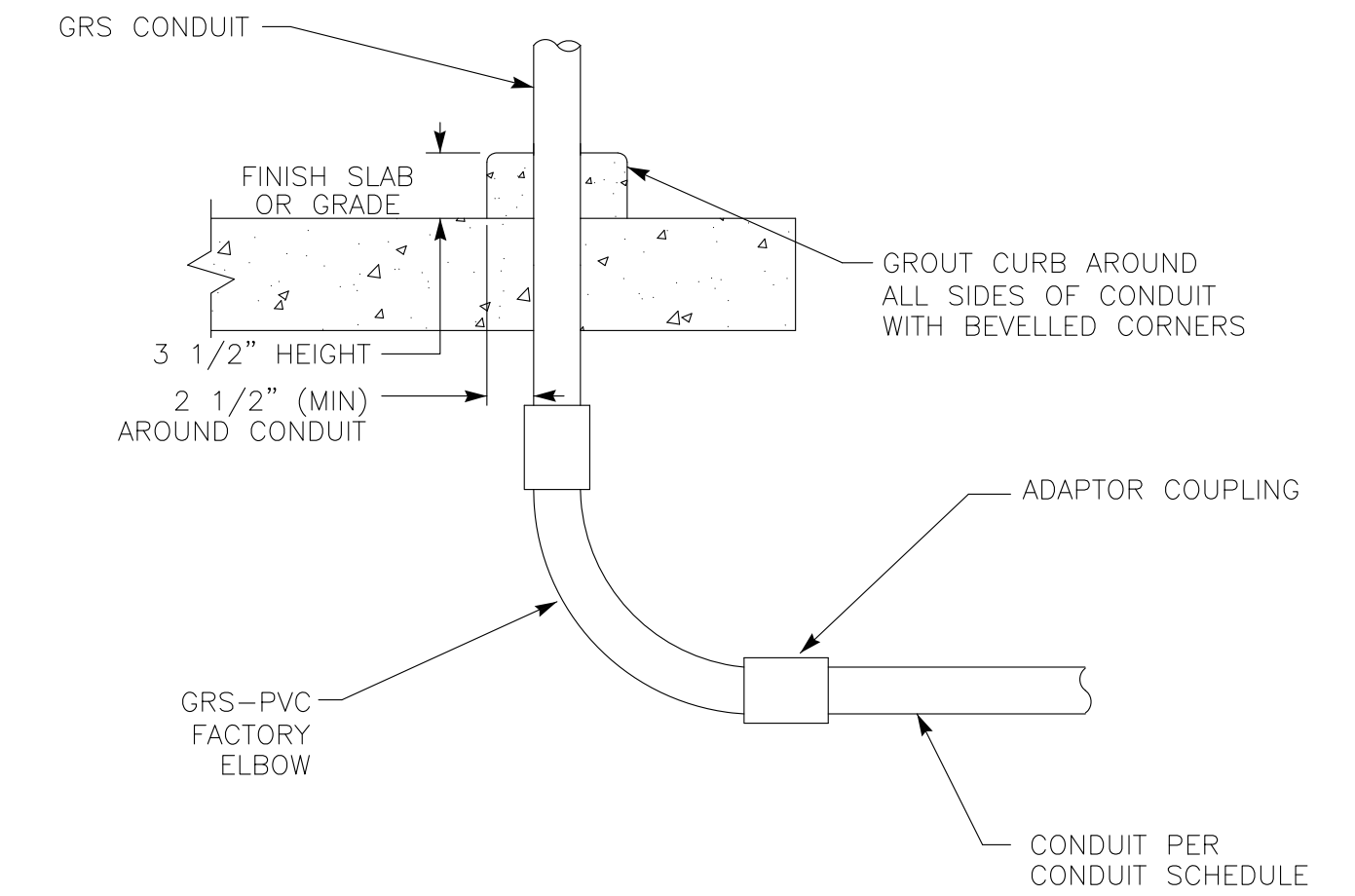
ENCASED CONDUITS (B)
NOT TO SCALE DETAIL (E3)

- NOTES: ① PLACE CONDUIT RUNS OF 4 CONDUITS OR GREATER IN PLASTIC SPACERS (RATED FOR DIRECT BURIAL) EVERY 5' ALONG LENGTH OF RUN.
② PROVIDE 12" (MIN) SEPARATION BETWEEN "A, C & D" TYPE GROUP AND "L & P" TYPE GROUP CONDUITS.
③ TRENCHING & COMPACTED BACKFILL PER CIVIL SPECIFICATIONS.

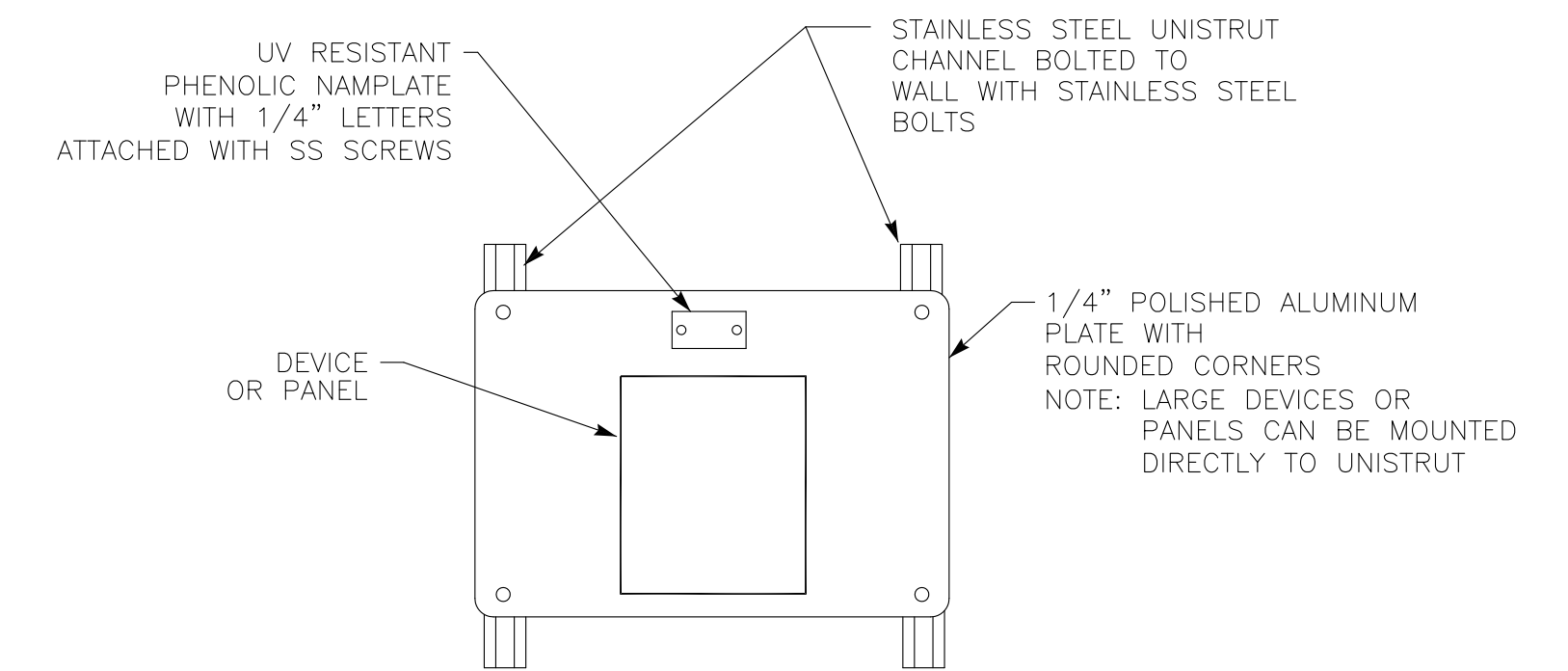


PANEL SUPPORT (E)
NOT TO SCALE DETAIL (E3)

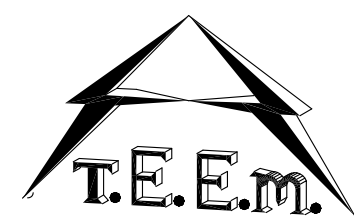
- NOTES: ① #3 REBAR CROSSWAYS AT 12" INTERVALS INSIDE PAD.



EXPOSED CONDUIT TRANSITION (C)
NOT TO SCALE DETAIL (E3)



WALL PLATE SUPPORT (F)
NOT TO SCALE DETAIL (E3)



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DATE: JUNE 2023	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.	DRAWN ZKV
		CHECKED SMK

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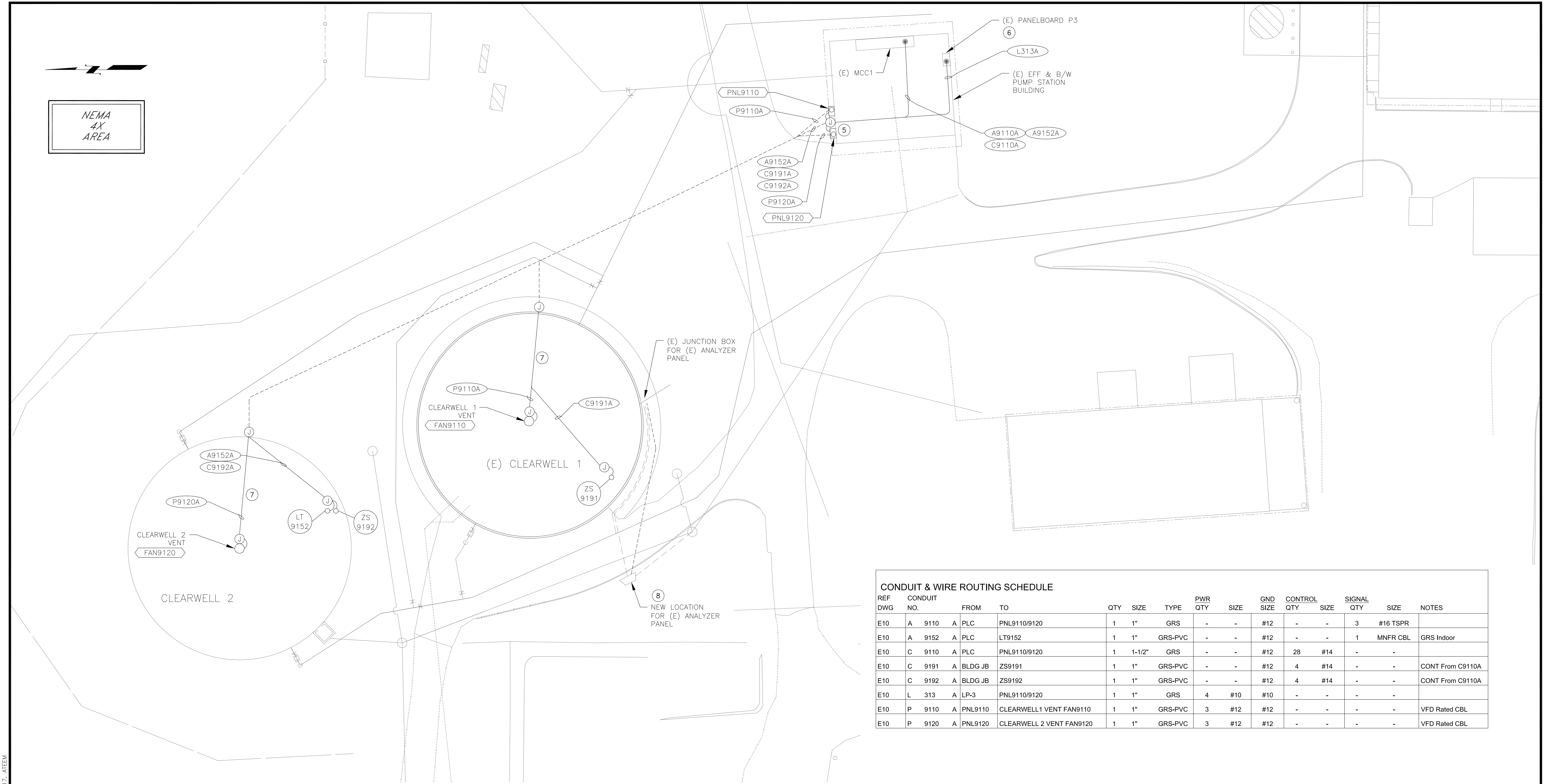
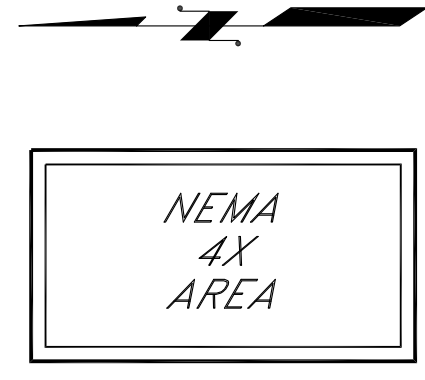
REGISTERED PROFESSIONAL ENGINEER
M. KIM
NO. 12698
Exp. 6-30-2024
ELECTRICAL
STATE OF CALIFORNIA
6/14/2023

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

TYPICAL ELECTRICAL DETAILS NO.1

DRAWING
E3
SHEET 36 OF 42

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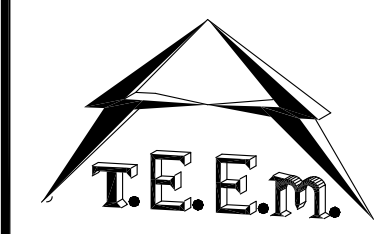


CONDUIT & WIRE ROUTING SCHEDULE														
REF DWG	CONDUIT NO.	FROM	TO	QTY	SIZE	TYPE	PWR QTY	SIZE	GND SIZE	CONTROL QTY	SIZE	SIGNAL QTY	SIZE	NOTES
E10	A 9110	A PLC	PNL9110/9120	1	1"	GRS	-	-	#12	-	-	3	#16 TSPR	
E10	A 9152	A PLC	LT9152	1	1"	GRS-PVC	-	-	#12	-	-	1	MNFR CBL	GRS Indoor
E10	C 9110	A PLC	PNL9110/9120	1	1-1/2"	GRS	-	-	#12	28	#14	-	-	
E10	C 9191	A BLDG JB	ZS9191	1	1"	GRS-PVC	-	-	#12	4	#14	-	-	CONT From C9110A
E10	C 9192	A BLDG JB	ZS9192	1	1"	GRS-PVC	-	-	#12	4	#14	-	-	CONT From C9110A
E10	L 313	A LP-3	PNL9110/9120	1	1"	GRS	4	#10	#10	-	-	-	-	
E10	P 9110	A PNL9110	CLEARWELL1 VENT FAN9110	1	1"	GRS-PVC	3	#12	#12	-	-	-	-	VFD Rated CBL
E10	P 9120	A PNL9120	CLEARWELL 2 VENT FAN9120	1	1"	GRS-PVC	3	#12	#12	-	-	-	-	VFD Rated CBL

COPPER COVER WTP ELECTRICAL SITE PLAN ①②③④

SCALE: 1" = 15'

- NOTES:
- ① HAND DIG TRENCH ROUTE IN EXISTING AREA, EXISTING UNDERGROUND SERVICE ARE NOT SHOWN & SHALL BE PROTECTED FROM DAMAGE. UG CONDUIT PER DWG E3, DETAIL "B".
 - ② EXPOSED CONDUIT TRANSITION PER DWG E3, DETAIL "C".
 - ③ EXPOSED CONDUIT PER DWG E3, DETAIL "A".
 - ④ ALL JUNCTION BOXES TO BE WEATHERPROOF (WP) TYPE.
 - ⑤ CORE DRILL TO PROVIDE CONDUITS OPENING, PATCH, SEAL AND PAINT TO MATCH EXISTING WALL. COORDINATE WITH CCWD TO INSTALL CONDUITS TO (E) PLC AND EXISTING LP. SEAL CONDUITS OPENING AND PAINT TO MATCH EXISTING SURFACE AS REQUIRED.
 - ⑥ UPDATE PANELBOARD SCHEDULE AS SHOWN ON DWG E11.
 - ⑦ ATTACH CONDUIT WITH STAINLESS STEEL UNISTRUTS MINIMUM 1" ABOVE TANK SURFACE.
 - ⑧ RELOCATE (E) ANALYZER AND EXTEND (E) CONDUIT & WIRE TO NEW LOCATION.



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6/14/2023

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

COPPER COVER WTP ELECTRICAL SITE PLAN

DRAWING
E10
SHEET 37 OF 42

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LOAD DESCRIPTION		LOAD VA	LINE AMPS	BKR AMP/ POLE	BKR NO.	PHASE	BKR AMP/ POLE	LINE AMPS	LOAD VA	LOAD DESCRIPTION	BKR NO.
1	MCC - HEATERS	400	3	20/1	1	A	2	20/1	400	LTG - CKT 1	2
3	MCC - PLC / CONTROLS	800	7	20/1	3	B	4	20/1	320	LTG - CKT 2	4
5	RECEPTACLES	720	6	20/1	5	C	6	20/1	600	LTG - EXT WALL PACK	6
7	EXHAUST CONTROLLER	600	5	30/1	7	A	8	20/1	800	LTG - EXT ROADWAY	8
9	RESID CHLOR XFR PUMP	600	5	20/1	9	B	10	20/1	200	SMOKE ALARM	10
11	FLOW ANALYZER	200	2	20/1	11	C	12	20/1	0		12
13	SPARE CLEARWELL 1 VENT PNL9110	1,200	10	20/1	13	A	14	20/1	0		14
15	SPARE CLEARWELL 2 VENT PNL9120	1,200	10	20/1	15	B	16	20/1	0		16
17	SPARE	0	0	20/1	17	C	18	20/1	0		18

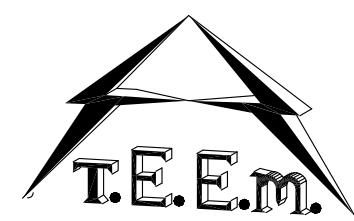
NEW WORK

PHASE	A	B	C
LEFT SIDE AMPS	18	22	8
LEFT SIDE KVA	2.20	2.60	0.92
TOTAL KVA	8.04		
TOTAL AMPS @ 208V, 3P	22.3		
DIVERSITY FACTOR	0.70		
LOAD KVA	5.63		

NEUTRAL
GROUND

PHASE	A	B	C
RIGHT SIDE AMPS	10	4	5
RIGHT SIDE KVA	1.20	0.52	0.60
LEFT SIDE KVA	2.20	2.60	0.92
TOTAL PHASE KVA	3.40	3.12	1.52
TOTAL PHASE AMPS	28	26	13
% OF AVERAGE	127	116	57

- NOTES: 1. MEANS OF WIRE COLOR CODING SHALL BE POSTED ON PANELBOARD PER NEC 210.5
 2. (G) INDICATES GFI BREAKER REQUIRED WITH 30 MA SENSITIVITY.
 3. (H) INDICATES HACR RATED BREAKER.
 4. (L) PROVIDE PADLOCKING PROVISION IN ORDER TO LOCK BREAKER IN THE OFF POSITION.



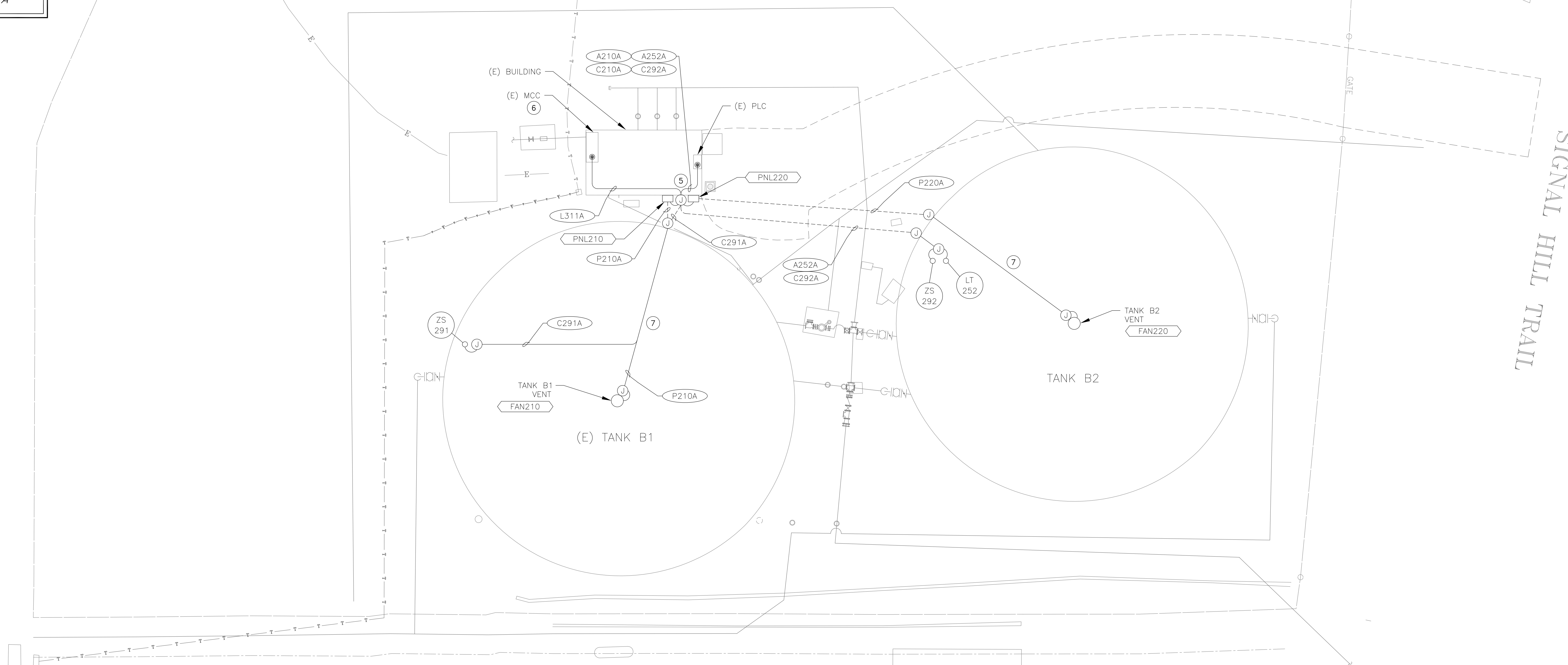
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REV	DATE	BY	DESCRIPTION	SCALE: NONE	WARNING 0 1/2 1 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.	DESIGNED XML	 120 TOMA COURT, SAN ANDREAS, CALIFORNIA 95249 PHONE (209) 754-3543	 80 Blue Ravine Rd. Suite 280 Folsom, CA 95630 PH. 916-608-2212	 6/14/2023	COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS	DRAWING
				DATE: JUNE 2023	DRAWN ZKV	CHECKED SMK				PANELBOARD SCHEDULE	E11

NEMA
4X
AREA

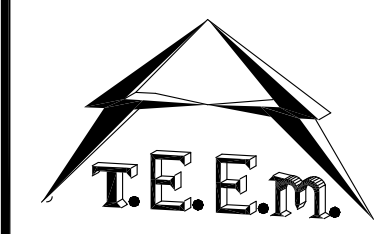
REF DWG	CONDUIT NO.	FROM	TO	QTY	SIZE	TYPE	PWR QTY	SIZE	GND SIZE	CONTROL QTY	SIZE	SIGNAL QTY	SIZE	NOTES
E20	A 210	A PLC	PNL210/220	1	1"	GRS	-	-	#12	-	-	3	#16 TSPR	
E20	A 252	A PLC	LT252	1	1"	GRS-PVC	-	-	#12	-	-	1	MNFR CBL	GRS Indoor
E20	C 210	A PLC	PNL210/220	1	1-1/2"	GRS	-	-	#12	28	#14	-	-	
E20	C 291	A BLDG JB	ZS291	1	1"	GRS-PVC	-	-	#12	4	#14	-	-	CONT From C210A
E20	C 292	A BLDG JB	ZS292	1	1"	GRS-PVC	-	-	#12	4	#14	-	-	CONT From C210A
E20	L 311	A LP	PNL210/220	1	1"	GRS	4	#10	#10	-	-	-	-	
E20	P 210	A PNL210	TNK B1 VENT FAN210	1	1"	GRS-PVC	3	#12	#12	-	-	-	-	VFD Rated CBL
E20	P 220	A PNL220	TNK B1 VENT FAN220	1	1"	GRS-PVC	3	#12	#12	-	-	-	-	VFD Rated CBL



B TANK ELECTRICAL SITE PLAN ①②③④

SCALE: 1" = 10'

- NOTES:
- ① HAND DIG TRENCH ROUTE IN EXISTING AREA, EXISTING UNDERGROUND SERVICE ARE NOT SHOWN & SHALL BE PROTECTED FROM DAMAGE. UG CONDUIT PER DWG E3, DETAIL "B".
 - ② EXPOSED CONDUIT TRANSITION PER DWG E3, DETAIL "C".
 - ③ EXPOSED CONDUIT PER DWG E3, DETAIL "A".
 - ④ ALL JUNCTION BOXES TO BE WEATHERPROOF (WP) TYPE.
 - ⑤ CORE DRILL TO PROVIDE CONDUITS OPENING, PATCH, SEAL AND PAINT TO MATCH EXISTING WALL. COORDINATE WITH CCWD TO INSTALL CONDUITS TO (E) PLC AND EXISTING LP. SEAL CONDUITS OPENING AND PAINT TO MATCH EXISTING SURFACE AS REQUIRED.
 - ⑥ COORDINATE WITH CCWD TO USE SPARE BREAKERS IN (E) LP FOR VENT FANS, UPDATE PANELBOARD SCHEDULE.
 - ⑦ ATTACH CONDUIT WITH STAINLESS STEEL UNISTRUTS MINIMUM 1" ABOVE TANK SURFACE.



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REV	DATE	BY	DESCRIPTION

SCALE: 1" = 10'

DATE: JUNE 2023

WARNING

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REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA
6/14/2023

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

B TANK
ELECTRICAL SITE PLAN

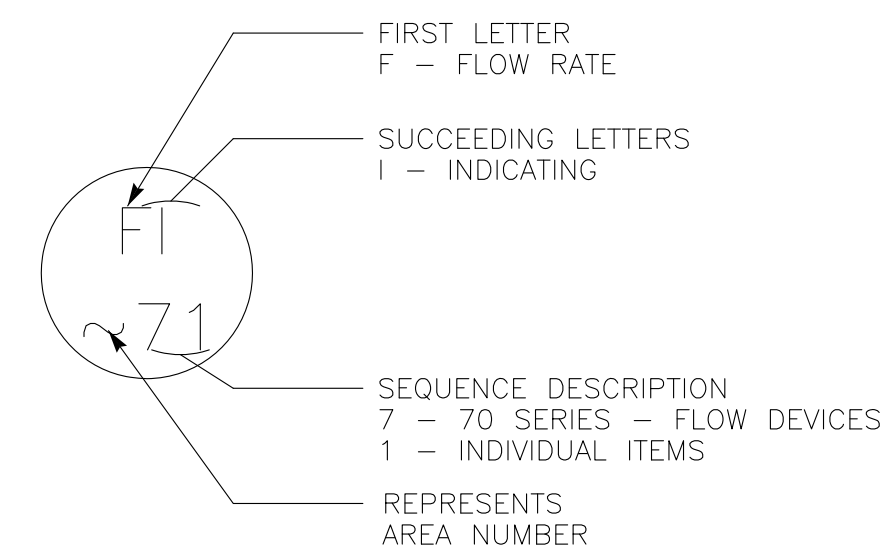
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E20
SHEET 39 OF 42

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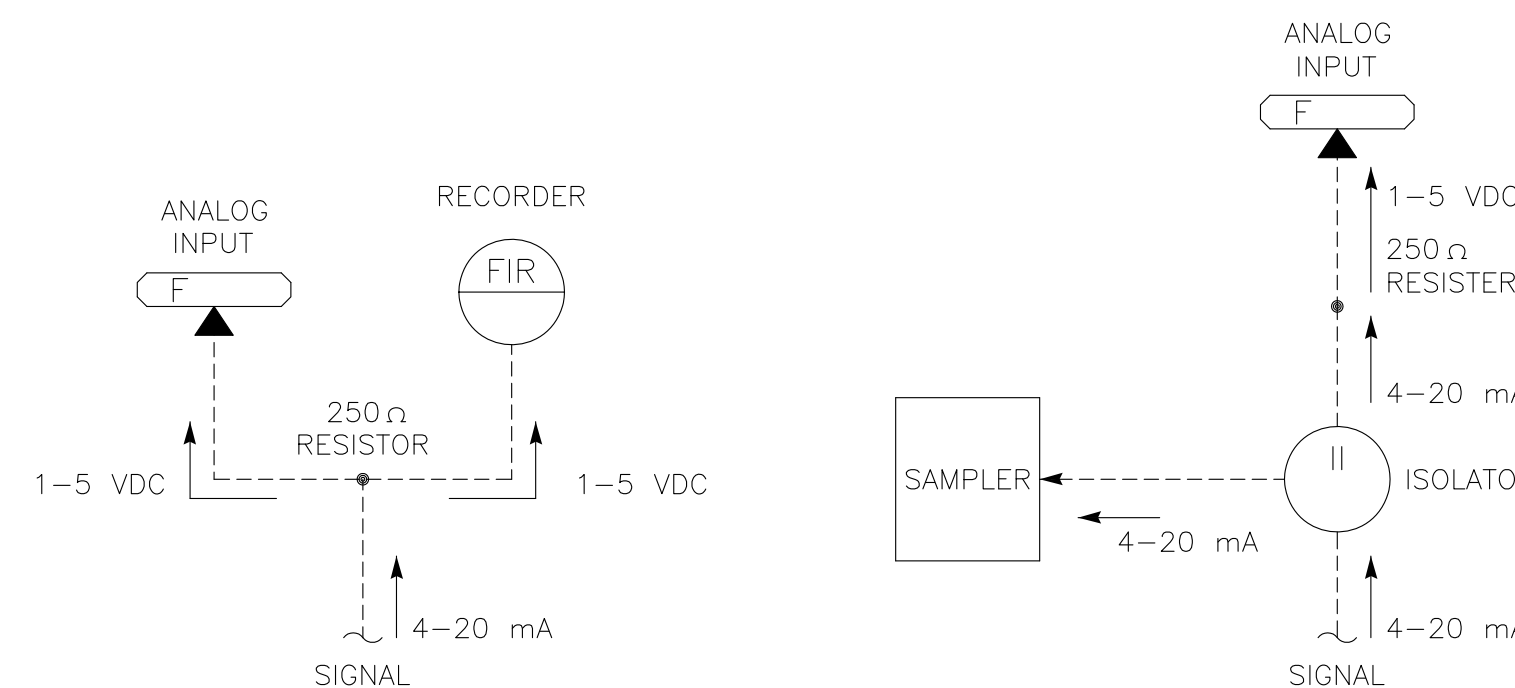
ISSUED FOR BID

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
P & I DIAGRAM SYMBOLS		P & I DIAGRAM SYMBOLS	
	FIELD MOUNTED INSTRUMENT		VALVE (GENERAL)
	FACE MOUNTED INSTRUMENT ON LOCAL PANEL, OPERATOR ACCESSIBLE		GATE (GENERAL)
	FACE MOUNTED INSTRUMENT ON FIELD PANEL, OPERATOR ACCESSIBLE		CHECK VALVE (GENERAL)
	INSTRUMENT MOUNTED IN LOCAL PANEL, OPERATOR INACCESSIBLE		PUMP (GENERAL)
	INSTRUMENT MOUNTED IN FIELD PANEL, OPERATOR INACCESSIBLE		
	OPERATION PERFORMED WITH LOGIC OR HARDWIRED DEVICES		VALVE/GATE NUMBER
DWG #	- REFERENCE ELEMENTARY DWG. #		EQUIPMENT NUMBER
	PLC OR COMPUTER FUNCTION PERFORMING OPERATION WITH VISUAL INDICATION	-----	ELECTRIC SIGNAL
	PLC OR COMPUTER FUNCTION PERFORMING OPERATION WITH VISUAL ALARM INDICATION	- - - -	LOGIC OR DATA SIGNAL
	PLC OR COMPUTER PERFORMING INTERNAL OPERATION	- - - -	PNEUMATIC SIGNAL
	PLC OR COMPUTER PERFORMING INTERNAL ALARM OPERATION		CAPILLARY TUBING (FILLED SYSTEM)
$\propto \int \partial_t$	PROPORTIONAL, INTEGRAL, AND DIFFERENTIAL PARAMETERS		HYDRAULIC SIGNAL
% +/-	RATIO AND BIAS PARAMETERS		SONIC OR ELECTROMAGNETIC SIGNAL
	AUDIBLE ALARM (BUZZER OR HORN)	E	ELECTRIC SUPPLY
	ANNUNCIATOR WINDOW R - ROW # C - COLUMN #	SA	SERVICE AIR
	LAMP INDICATION (STATUS OR ALARM)	IA	INSTRUMENT AIR
			DISCONNECT SWITCH
	DISCRETE INPUT		
	DISCRETE OUTPUT		
	ANALOG INPUT		
	ANALOG OUTPUT		
	JUMP TAG FROM ONE AREA TO ANOTHER AREA OF DRAWING		
	"a" TAG CONNECT POINT ON EACH DRAWING		
	CONTINUED ON DWG P-X		
	AUTODIALER PRIORITY # PC BASED SOFTWARE		

INSTRUMENT IDENTIFICATION LETTERS				
FIRST - LETTER	SUCCEEDING - LETTER			
MEASURED OF INITIATING VARIABLE	MODIFIER	READOUT PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A ANALYSIS		ALARM		
B BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C CONDUCTIVITY			CONTROLLER	
D DENSITY	DIFFERENTIAL			
E VOLTAGE		SENSOR, PRIMARY ELEMENT		
F FLOW RATE	RATIO (FRACTION)			
G GENERAL		GLASS VIEWING DEVICE		
H HAND				HIGH, OPENED
I CURRENT (ELEC.)		INDICATING, INDICATOR		
J POWER	SCAN			
K TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L LEVEL		LIGHT		LOW, CLOSED
M MOISTURE	MOMENTARY			MIDDLE
N STATUS		STATUS	USER'S CHOICE	USER'S CHOICE
O OPERATOR		ORIFICE, RESTRICTION POINT (TEST) CONNECTION		
P PRESSURE, VACUUM				
Q QUANTITY	INTEGRATE, TOTALIZE			
R RESET		RECORD		
S SPEED, FREQUENCY	SAFETY		SWITCH	
T TEMPERATURE			TRANSMITTER	TEST
U MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V VIBRATION, MECH. ANALYSIS			VALVE, DAMPER LOUVER	
W WEIGHT, FORCE		WELL		
X SWITCH	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTER, CONVERTOR	
Z DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	



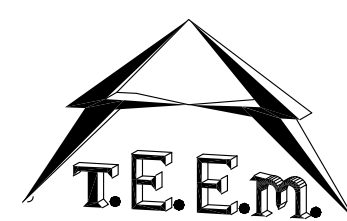
P&ID INSTRUMENT IDENTIFICATION EXAMPLE



TYPICAL SIGNAL FLOWS

NUMBERING SEQUENCE	
SEQUENCE NUMBER	DESCRIPTION
00	COMMON ALARM
01-09	INDIVIDUAL ITEMS
10	MECHANICAL
20	MECHANICAL
30	MECHANICAL
40	MECHANICAL
50	LEVEL DEVICES
60	PRESSURE DEVICES
70	FLOW DEVICES
80	ANALYTICAL DEVICES
90	SAFETY & SECURITY DEVICES

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REV	DATE	BY	DESCRIPTION

SCALE: NONE	WARNING
DATE: JUNE 2023	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: XML
DRAWN: ZKV
CHECKED: SMK

120 TOMA COURT,
SAN ANDREAS, CALIFORNIA 95249
PHONE (209) 754-3543

80 Blue Ravine Rd, Suite 280
Folsom, CA 95630
PH. 916-608-2212

6/14/2023

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT -
PHASE 1 AND PHASE 2 TANKS

**INSTRUMENTATION SYMBOLS
& ABBREVIATIONS**

DRAWING
11
SHEET 40 OF 42

SCADA DISPLAY

SCADA DISPLAY

COPPER COVE WTP PROGRAMMABLE LOGIC CONTROLLER (E)

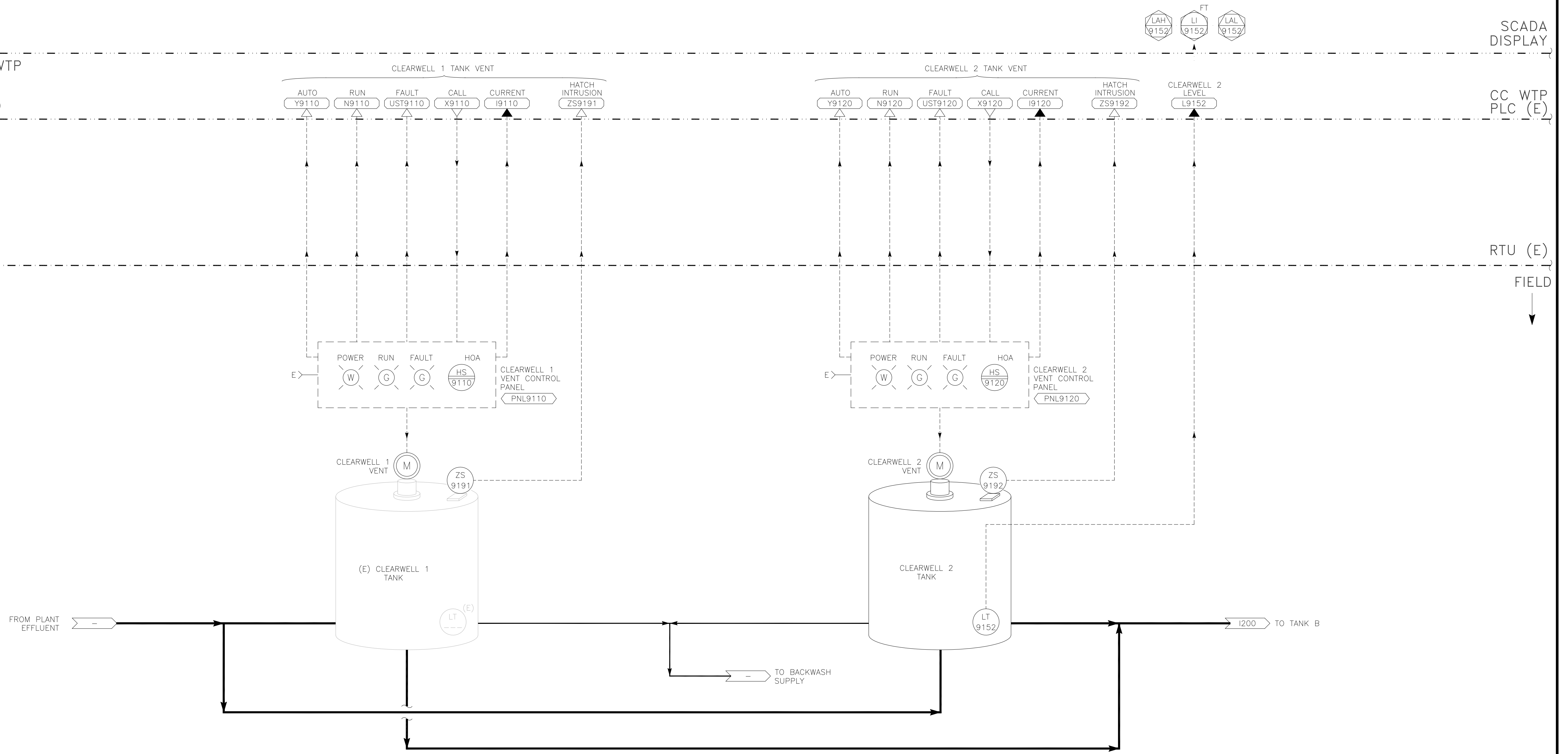
CC WTP PLC (E)

RTU (E)

RTU (E)

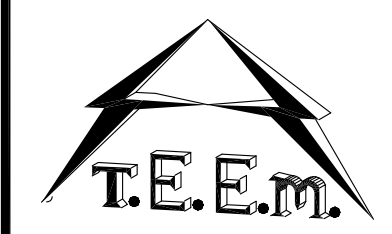
FIELD

FIELD



CLEARWELL TANKS ①②

- NOTES: ① NEW WORK IN BOLD.
 ② SCADA AND PLC PROGRAMMING BY OTHER.



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REV	DATE	BY	DESCRIPTION

SCALE: NONE	WARNING 0 1/2 1 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
DATE: JUNE 2023	DESIGNED XML DRAWN ZKV CHECKED SMK

120 TOMA COURT,
 SAN ANDREAS, CALIFORNIA 95249
 PHONE (209) 754-3543

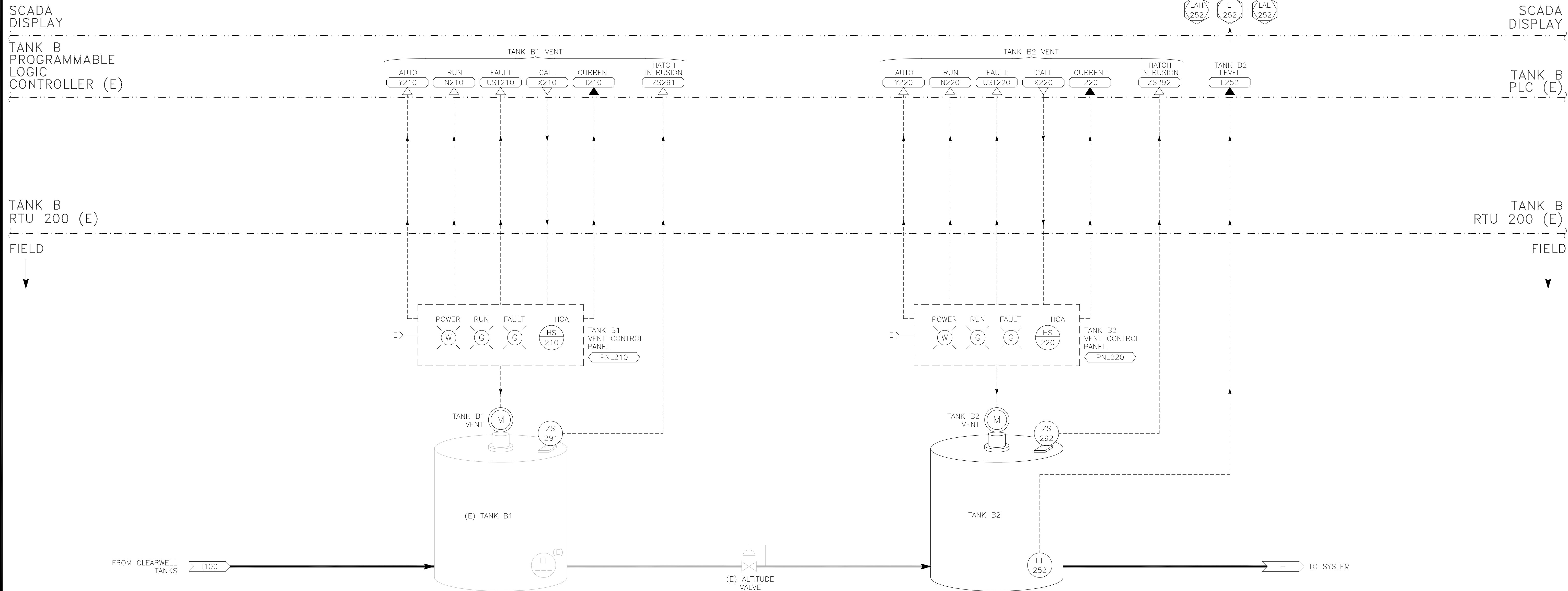
80 Blue Ravine Rd. Suite 280
 Folsom, CA 95630
 PH. 916-608-2212

REGISTERED PROFESSIONAL ENGINEER
 M. KIM
 NO. 12638
 Exp. 6-30-2024
 STATE OF CALIFORNIA
 6/14/2023

COPPER COVE WATER SYSTEM IMPROVEMENTS PROJECT - PHASE 1 AND PHASE 2 TANKS

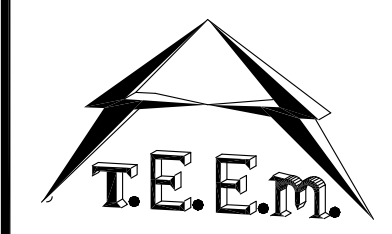
CLEARWELL TANKS P&ID

DRAWING
 I100
 SHEET 41 OF 42



TANK B1 & 2 ②③

- NOTES:
- ① REPLACE EXISTING STEEL TANK 2 AND LEVEL TRANSMITTER WITH NEW TANK AND ASSOCIATED INSTRUMENTS AFTER DISTRICT ACCEPTANCE OF TANK 2.
 - ② NEW WORK IN BOLD. ALL INSTRUMENTS SHOWN ARE NEW.
 - ③ SCADA AND PLC PROGRAMMING BY OTHER.



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SCALE:	NONE	<p>IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.</p>	DESIGNED: XML																					
DATE:	JUNE 2023		DRAWN: ZKV																					
REV	DATE	BY	DESCRIPTION																					

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