

GENERAL NOTES:

- CONTRACTOR SHALL IMMEDIATELY NOTIFY THE THORNTON REPRESENTATIVE OF ANY DISCREPANCIES BETWEEN THE PLANS FOR THIS PROJECT AND ACTUAL FIELD CONDITIONS WHICH MAY INTERFERE WITH THIS PROJECT.
- NO BELOW GRADE SPLICING OF WIRES IS ALLOWED WITHOUT PRIOR APPROVAL FROM THE THORNTON REPRESENTATIVE. CONTRACTOR SHALL ENSURE ALL WIRES ARE OF SUFFICIENT LENGTH FOR EACH INTENDED APPLICATION.
- REMOVE ANODES AND REFERENCE ELECTRODES FROM PLASTIC OR OTHER SHIPPING BAG AND POSITION ACCORDING TO DETAIL DRAWINGS. DO NOT REMOVE CLOTH SACK. DO NOT PLACE IN PIPE BEDDING.
- INSTALL REFERENCE ELECTRODES AND COUPONS IN NATIVE SOILS AND PLACE PARALLEL TO THE PIPE. DO NOT PLACE IN PIPE BEDDING. COUPONS SHALL CONSIST OF THE SAME MATERIAL AS THE PIPE AT THE LOCATION OF INSTALLATION.
- INSTALL ANODES IN NATIVE SOILS A MINIMUM OF 3 FEET FROM EDGE OF PIPE OR ANY OTHER METALLIC OBJECT AND PLACE AT OR BELOW THE INVERT OF THE PIPE.
- BACKFILL WITH NATIVE SOIL A MINIMUM OF 12 INCHES AROUND ANY REFERENCE ELECTRODES, COUPONS, OR ANODES THEN FLOOD EACH WITH A MINIMUM OF 5 GALLONS OF FRESH WATER. AFTER WATER ABSORPTION, CONTINUE BACKFILLING AS PER SPECIFICATIONS.
- ROUTE ALL TEST LEADS AND ANODE WIRES IN 1 1/2 INCH CONDUIT BETWEEN THE PIPE AND THE TEST STATION BASE. THE CONDUIT WILL ALSO AID THE INSTALLER AS THE PIPELINE IS PADDED AND BACKFILLED BY PROVIDING MEANS TO LEAN THE TEST STATION AGAINST THE TRENCH WALL.
- IF POSSIBLE, INSTALL TEST STATIONS OVER CENTERLINE OF PIPE. PLACE TEST STATIONS IN PROTECTED LOCATIONS (NEXT TO FENCES, APPURTENANCES, OUT OF ROADWAYS, ETC.) OR OTHER EASILY ACCESSIBLE AREAS.
- PIPELINE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ELECTRICAL ISOLATION OF THE NEW PIPELINE FROM EXISTING PIPELINES, CONCRETE REBAR, ELECTRICAL GROUNDING, TUNNEL LININGS, PIPE SUPPORTS, OR OTHER METALLIC STRUCTURES.
- PIPELINE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ELECTRICAL ISOLATION OF THE NEW PIPELINE FROM EXISTING PIPELINES, CONCRETE REBAR, ELECTRICAL GROUNDING, TUNNEL LININGS, PIPE SUPPORTS, OR OTHER METALLIC STRUCTURES.
- DURING BACKFILL, INSTALL NON-DETECTABLE CATHODIC PROTECTION WARNING TAPE 12-18 INCHES ABOVE ANY CATHODIC PROTECTION WIRES OR DEVICES.
- TYPICAL CATHODIC PROTECTION WIRE INSULATION COLORS:

BLUE = INTAKE / DISCHARGE PIPE, FIELD PIPE	GREEN = METALLIC COUPON
WHITE = TANK PIPE	YELLOW = REFERENCE ELECTRODE
BLACK = ANODE LEADS, JOINT/CONTINUITY BONDS	
- SEE PROJECT SPECIFICATIONS FOR FURTHER INFORMATION.

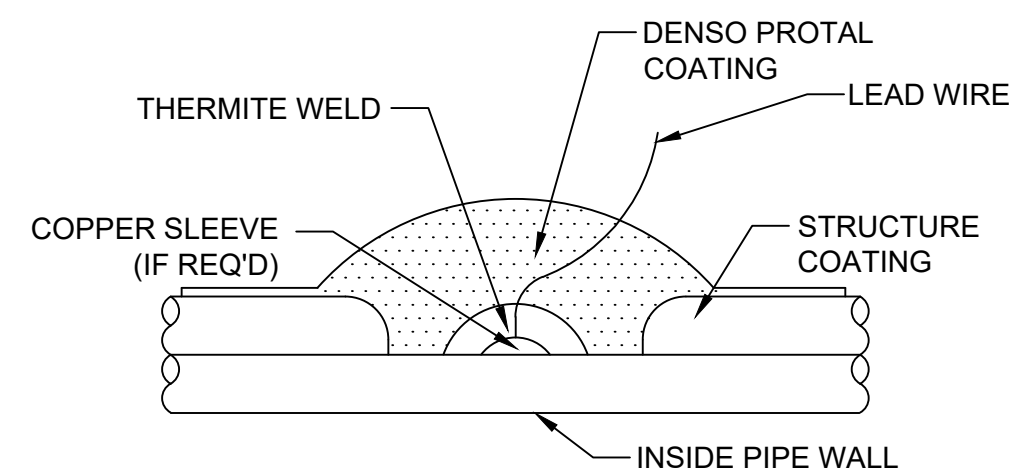
REV		DATE	BY	DESCRIPTION
1		6/26	JK	ADDENDUM NO. 1

BID SET	DESIGNED MMV
	DRAWN MTJ
	CHECKED VWJ
	DATE MAY 2026



CITY OF THORNTON
 THORNTON WATER PROJECT SOURCE
 WATER PUMP STATION ACCESS ROAD
 CATHODIC PROTECTION
TEST STATION DETAILS

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING	JOB NO. 203505
0 1"	DRAWING NO. 30CP01
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. 23 OF 169



THERMITE WELDING INSTRUCTIONS

1. REMOVE APPROXIMATELY 4" DIAMETER CIRCLE OF PIPELINE COATING AT STRUCTURE CONNECTION LOCATION.
2. CLEAN AREA APPROXIMATELY 2" DIAMETER TO BRIGHT METAL.
3. REMOVE 2" OF INSULATION FROM END OF WIRE.
4. WELD CONDUCTOR TO PIPE. USE APPROPRIATE GRAPHITE MOLD AND CARTRIDGE CHARGE SIZE. COPPER SLEEVES ARE REQUIRED FOR #8 AWG OR SMALLER WIRES.
5. TEST THE THERMITE WELD CONNECTION BY STRIKING THE COMMON SEVERAL BLOWS ON THE SIDE USING A ONE POUND HAMMER. TOP OF WELD MAY BE HAMMERED FLAT IF REQUIRED.
6. APPLY DENSO PROTAL 7125 OR 7200 COATING REPAIR MATERIAL TO ALL EXPOSED METAL AT THERMITE WELD ATTACHMENT SITE PER MANUFACTURER INSTRUCTIONS..

THERMITE WELDING DETAILS
NOT TO SCALE

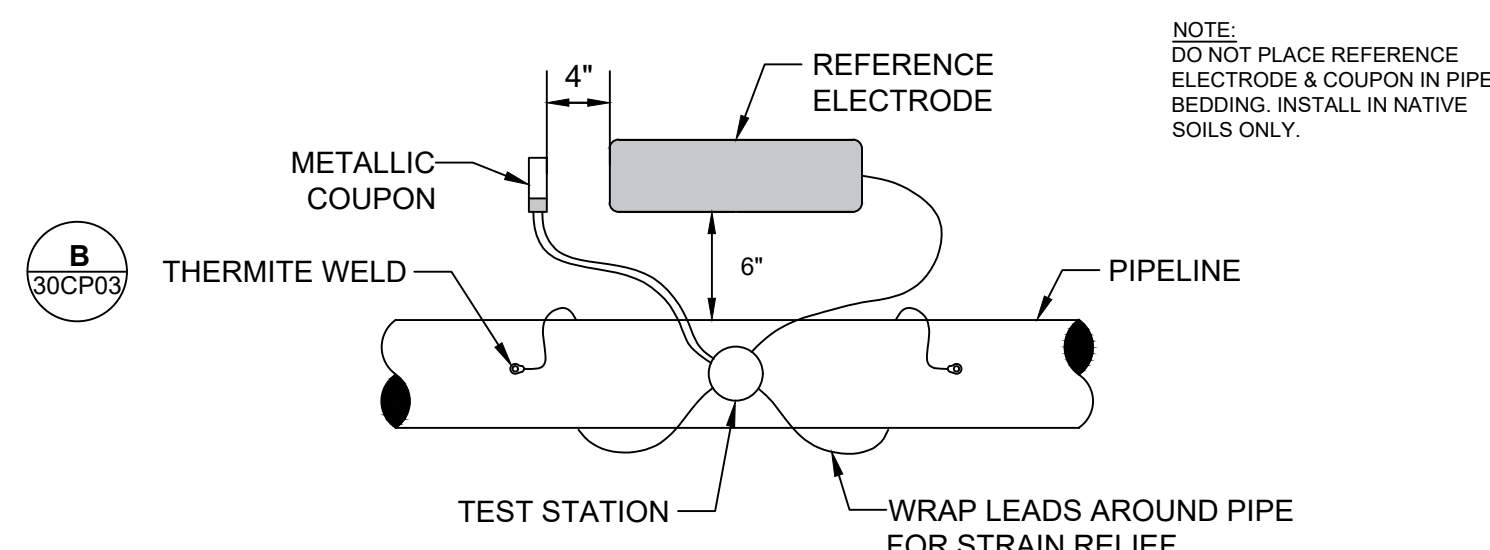


TWP SOURCE WATER PUMP STATION - 54" WSP CATHODIC PROTECTION SCHEDULE							
STATION	TEST STATION NO.	DRAWING NUMBER	DRAWING DETAIL	TEST STATION TYPE	48LB HP MAGNESIUM ANODE QTY	COUPON & REFERENCE ELECTRODE	NOTES/COMMENTS
0+00	SP-01	30M02 / 30C05	A/30CP01	ANODE	2	-	INSTALL FLANGE ISOLATION KIT ON 64" KNIFE GATE VALVE PER DETAIL C. 30CP02 AND ENSURE ALL PIPING IS ELECTRICALLY ISOLATED FROM BUILDING REBAR, GROUNDING, ETC. PRIOR TO POURING CONCRETE OR BACKFILL.
1+35	SP-02	30C05	A/30CP01	ANODE IR-FREE	6	YES	
3+74	SP-03	30C05	D/30CP01	INTAKE	6	YES	INSTALL ANODES, COUPON, REFERENCE ELECTRODE, AND TEST LEADS AT STATIONING LISTED 3+74 BUT TEST STATION POST TO BE INSTALLED AT 1+60. ALSO INSTALL TEST LEADS TO 54" RISER AT INTAKE STRUCTURE #1 AT STA 2+88.

PLACE TEST STATIONS IN PROTECTED AND ACCESSIBLE LOCATIONS (I.E. NEXT TO FENCE/BUILDINGS, OUTSIDE OF ROADWAYS, ETC.)

TWP SOURCE WATER PUMP STATION - 42" WSP CATHODIC PROTECTION SCHEDULE							
STATION	TEST STATION NO.	DRAWING NUMBER	DRAWING DETAIL	TEST STATION TYPE	48LB HP MAGNESIUM ANODE QTY	COUPON & REFERENCE ELECTRODE	NOTES/COMMENTS
SURGE TANK 1	SP-04	30M07	B/30CP01	ISOLATION	6	-	INSTALL FLANGE ISOLATION KIT ON 18" PIPING CONNECTING TO TANK AND PLACE ANODES ACCORDINGLY. WHITE LEADS ON THE TANK SIDE AND BLUE LEADS ON THE PIPELINE SIDE.
SURGE TANK 2	SP-05	30M07	B/30CP01	ISOLATION	6	-	INSTALL FLANGE ISOLATION KIT ON 18" PIPING CONNECTING TO TANK AND PLACE ANODES ACCORDINGLY. WHITE LEADS ON THE TANK SIDE AND BLUE LEADS ON THE PIPELINE SIDE.
10+24	SP-06	30C06	A/30CP01	ANODE IR-FREE	6	YES	INSTALL TEST STATION AT TEE TO SURGE TANKS OUTSIDE THE PUMP STATION AND PER DESIGN DETAIL.

PLACE TEST STATIONS IN PROTECTED AND ACCESSIBLE LOCATIONS (I.E. NEXT TO FENCE/BUILDINGS, OUTSIDE OF ROADWAYS, ETC.)



REFERENCE ELECTRODE AND METALLIC COUPON INSTALLATION DETAIL
NOT TO SCALE



BID SET			
DESIGNED	MMV		
DRAWN	MTJ		
CHECKED	VWJ		
DATE	MAY 2026		
REV	DATE	BY	DESCRIPTION
	6/26	JK	ADDENDUM NO. 1

DESIGNED	MMV
DRAWN	MTJ
CHECKED	VWJ
DATE	MAY 2026

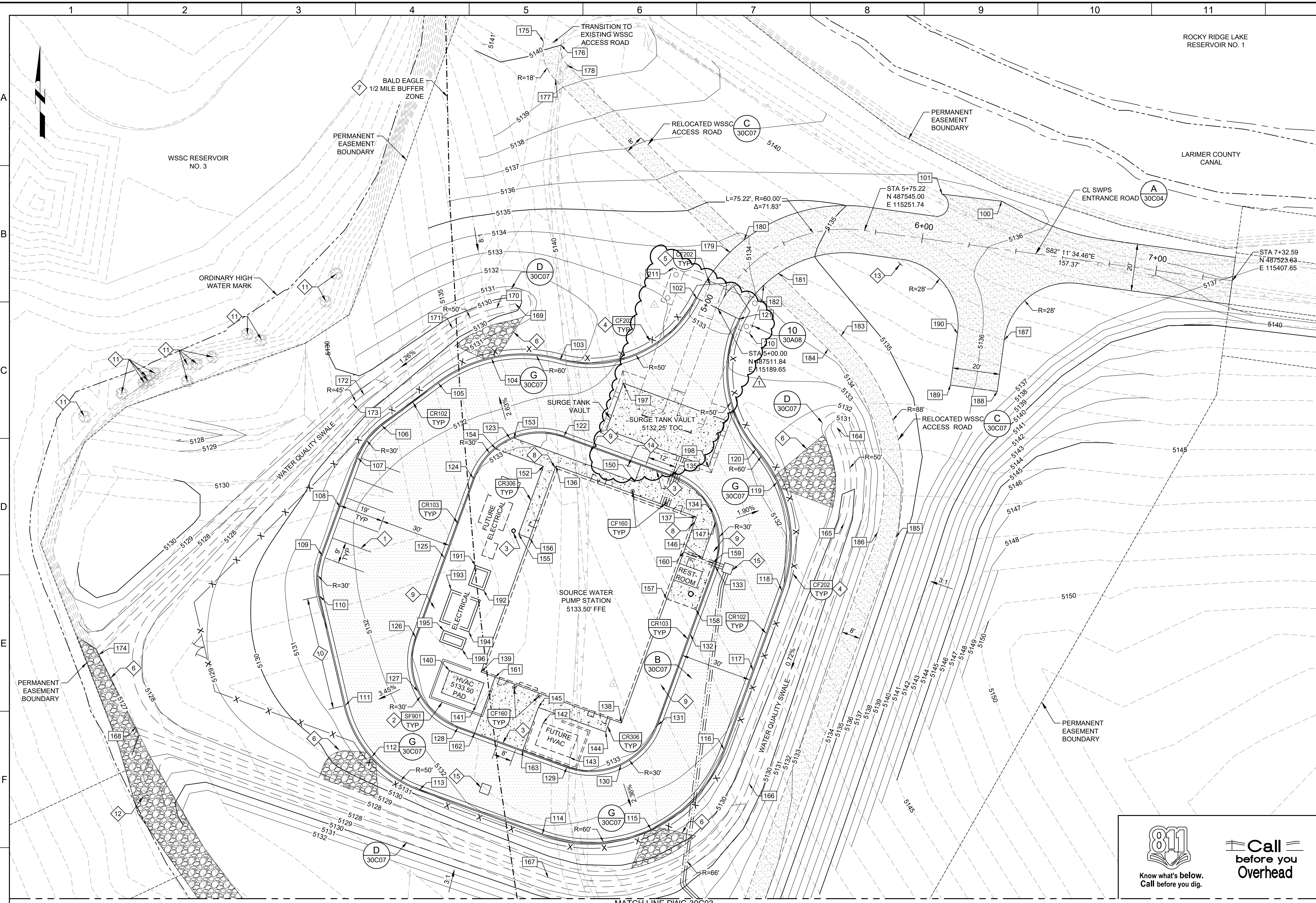


CITY OF THORNTON
THORNTON WATER PROJECT SOURCE
WATER PUMP STATION ACCESS ROAD
CATHODIC PROTECTION
TEST STATION SCHEDULE

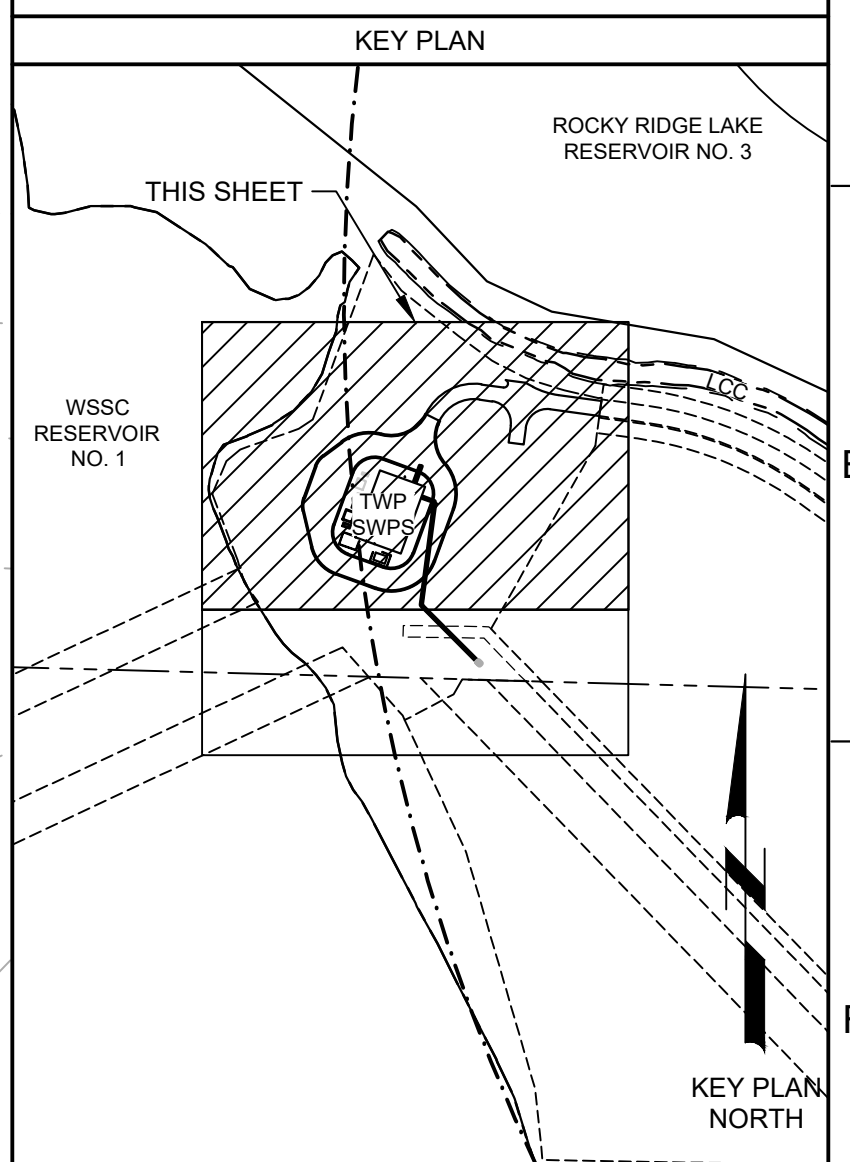
VERIFY SCALES	JOB NO. 203505
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. 30CP03
0 1"	SHEET NO. 25 OF 169

Plot Date: 6/22/2026 3:24 PM

LAST SAVED BY: CHUSTED

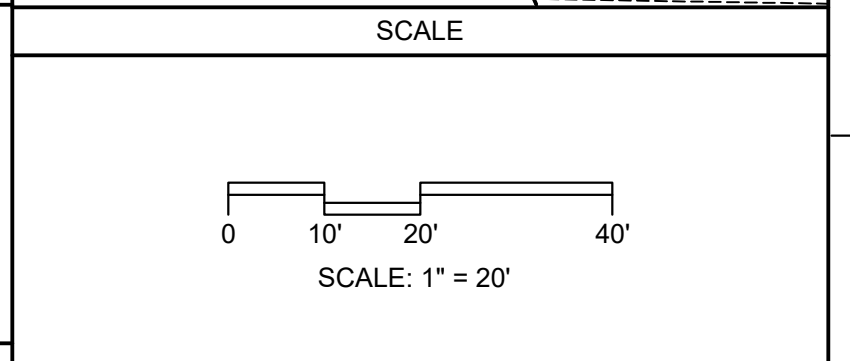


- GENERAL NOTES:**
- PROJECT COORDINATES ARE BASED ON COLORADO STATE PLANE NORTH ZONE 83/2011 AND ELEVATIONS ARE BASED ON VERTICAL DATUM NAVD88. SEE SHEET 30C03 FOR SURVEY CONTROL.
 - SEE SHEET 30C03 FOR GRADING COORDINATE CONTROL POINTS.
- KEY NOTES:**
- PARKING STALL STRIPING PER CDOT STANDARD PLAN NO. S-627-1.
 - HVAC SOUND WALL, SEE ARCHITECTURAL DRAWINGS.
 - DRYWELL, SEE HVAC DRAWINGS.
 - INSTALL 7-FT HIGH CHAIN LINK FENCE WITH BARBED WIRE OUTRIGGER.
 - INSTALL 25-FT WIDE DUAL LEAF CHAIN LINK FENCE GATE WITH BARBED WIRE OUTRIGGER AND KNOX BOX FOR FIRE DEPARTMENT ACCESS.
 - PLACE 3-FT OF RIP RAP OVER FILTER FABRIC TO EXTENTS SHOWN, D50=12-IN. FENCE POSTS NOT TO BE INSTALLED WITHIN RIP RAP.
 - SEE SPECIFICATION SECTION 01.11.00 SUMMARY OF WORK FOR WORK RESTRICTIONS RELATED TO RAPTOR NEST BUFFER ZONES.
 - INSTALL CONCRETE SIDEWALK CHASE DRAIN PER CITY OF THORNTON STANDARD DETAIL 500-17 AT ROOF DRAIN OUTLET. SEE ARCHITECTURAL DRAWINGS FOR DRAIN LOCATION.
 - INSTALL 4" OF 1.5" LANDSCAPE ROCK OVER NON-WOVEN WEED BARRIER FABRIC. LANDSCAPE ROCK TO BE INSTALLED BETWEEN BUILDING AND BACK OF CURB, OUTSIDE OF CONCRETE SIDEWALK AND PAD EXTENTS. LANDSCAPE ROCK HATCH NOT SHOWN FOR CLARITY.
 - CONSTRUCT MOUNTABLE CURB PER CITY OF THORNTON STANDARD DETAIL 500-8, PROVIDE 3-LF TRANSITION ON EITHER SIDE.
 - PROTECT IN PLACE EXISTING TREE.
 - EXISTING TREE TO BE REMOVED.
 - INSTALL TUBULAR STEEL WAYFINDING "SOURCE WATER PUMP STATION" SIGN WITH ARROW POINTING TOWARDS PUMP STATION SITE. SIGN SHALL BE CDOT PLAN S-614-8, AS MODIFIED IN THIS PLAN SET. SIGN SHALL BE ALUMINUM WITH WHITE BACKGROUND AND BLACK LETTERS. MAXIMIZE LETTER HEIGHT WITHIN SIGN DIMENSIONS.
 - INSTALL TUBULAR STEEL WARNING "MAXIMUM ALLOWABLE INDIVIDUAL WHEEL LOADING OF 16,000 POUNDS" SIGN ADJACENT TO SURGE TANK VAULT. SIGN SHALL BE CDOT PLAN S-614-8, AS MODIFIED IN THIS PLAN SET. SIGN SHALL BE ALUMINUM WITH WHITE BACKGROUND AND BLACK LETTERS. MAXIMIZE LETTER HEIGHT WITHIN SIGN DIMENSIONS.
 - ELECTRICAL HANDHOLE, SEE ELECTRICAL PLANS.



811
Know what's below.
Call before you dig.

Call before you Overhead



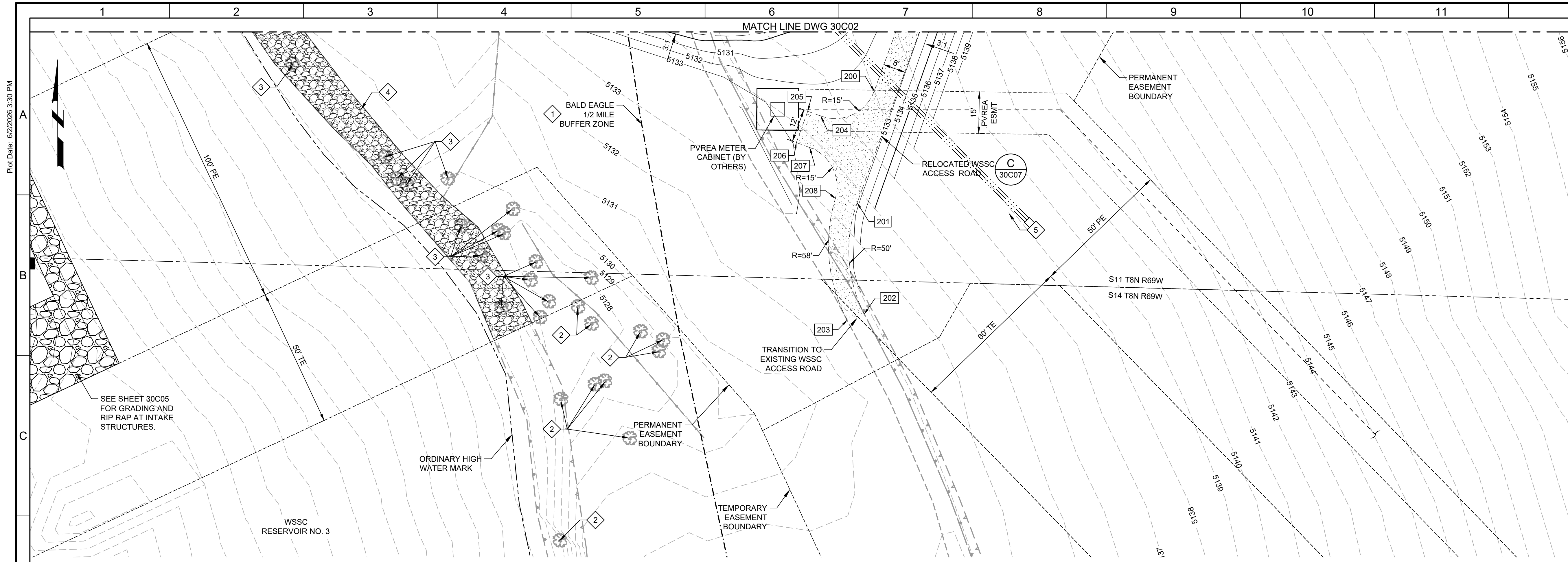
REV		DATE	BY	DESCRIPTION
1		6/2026	JK	ADDENDUM NO. 1

BID SET

DESIGNED DES
DRAWN DWN
CHECKED CHK
DATE MAY 2026

CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
CIVIL
PAVING, GRADING, AND DRAINAGE PLAN 1

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 203505 DRAWING NO. 30C02 SHEET NO. 27 OF 169
---	---



GENERAL NOTES:

- PROJECT COORDINATES ARE BASED ON COLORADO STATE PLANE NORTH ZONE 83/2011 AND ELEVATIONS ARE BASED ON VERTICAL DATUM NAVD88. SEE SHEET 30GC03 FOR SURVEY CONTROL.

KEY NOTES:

- SEE SPECIFICATION SECTION 01.11.00 SUMMARY OF WORK FOR WORK RESTRICTIONS RELATED TO RAPTOR NEST BUFFER ZONES.
- PROTECT IN PLACE EXISTING TREE.
- EXISTING TREE TO BE REMOVED.
- PLACE 3-FT OF RIP RAP OVER FILTER FABRIC TO EXTENTS SHOWN. D50=12-IN.
- ELECTRICAL HANDHOLE, SEE ELECTRICAL PLANS.



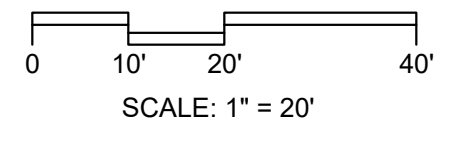
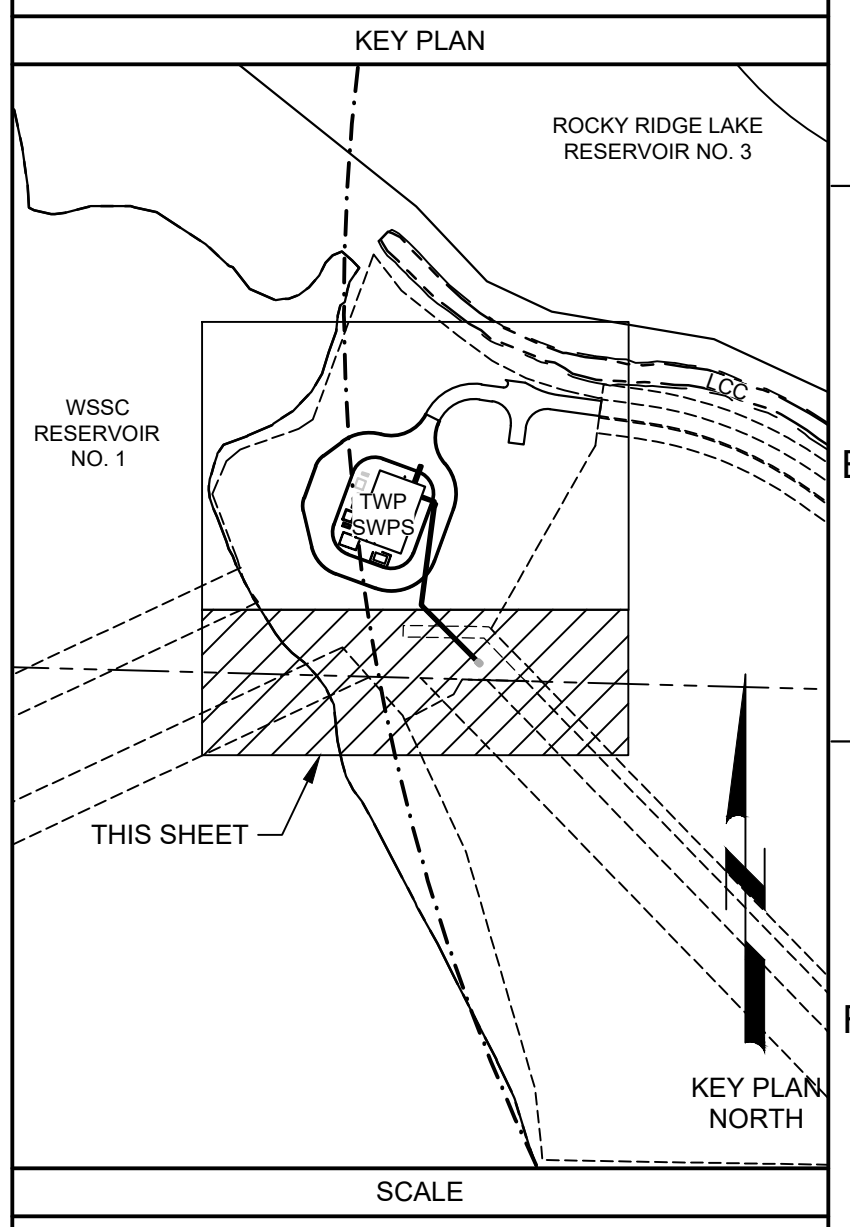
COORDINATE CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	487557.38	115309.94	5135.97	ROAD
101	487560.41	115284.61	5135.91	ROAD
102	487516.26	115180.68	5133.08	FL
103	487490.08	115122.76	5131.49	FL
104	487490.65	115093.72	5131.34	FL
105	487480.20	115071.15	5131.46	FL
106	487462.26	115047.17	5131.65	FL
107	487448.50	115036.96	5131.74	FL
108	487427.80	115029.42	5131.85	FL
109	487407.09	115021.89	5131.71	FL
110	487389.99	115020.87	5131.60	FL
111	487343.58	115031.75	5131.27	FL
112	487321.79	115043.04	5131.12	FL
113	487308.00	115063.33	5131.53	FL
114	487289.08	115115.32	5131.83	FL
115	487291.08	115161.20	5131.55	FL
116	487324.94	115192.23	5131.83	FL
117	487358.60	115204.48	5132.15	FL
118	487392.26	115216.73	5132.02	FL
119	487438.13	115214.72	5131.73	FL
120	487452.14	115205.63	5131.82	FL
121	487507.43	115198.62	5133.08	FL

COORDINATE CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
122	487457.78	115124.41	5132.56	FL
123	487456.78	115101.47	5132.38	FL
124	487439.85	115085.95	5132.55	FL
125	487406.19	115073.70	5132.74	FL
126	487372.54	115061.45	5132.54	FL
127	487349.60	115062.45	5132.41	FL
128	487334.08	115079.38	5132.58	FL
129	487317.27	115125.58	5132.58	FL
130	487318.27	115148.52	5132.41	FL
131	487335.20	115164.04	5132.55	FL
132	487373.70	115178.05	5132.80	FL
133	487402.52	115188.54	5132.62	FL
134	487425.46	115187.54	5132.47	FL
135	487440.97	115170.61	5132.61	FL
136	487445.17	115121.06	5133.50	BLDG
137	487423.51	115180.57	5133.50	BLDG
138	487336.12	115148.76	5133.50	BLDG
139	487357.78	115089.25	5133.50	BLDG
140	487358.41	115075.82	5133.50	PAD
141	487343.66	115087.12	5133.50	PAD
142	487336.25	115115.64	5133.33	PAD
143	487321.50	115126.95	5133.15	PAD

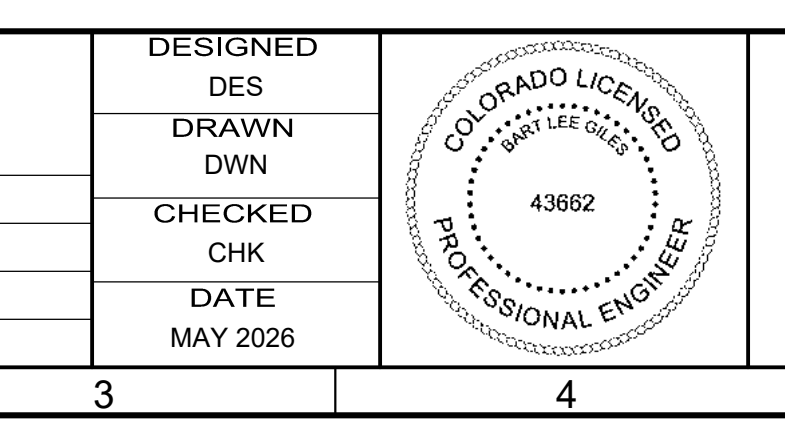
COORDINATE CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
144	487332.34	115142.07	5133.40	SWLK
145	487342.72	115113.56	5133.40	SWLK
146	487405.82	115182.91	5133.42	SWLK
147	487421.36	115188.57	5133.00	SWLK
150	487438.35	115154.40	5133.40	SWLK
152	487445.00	115115.67	5133.30	SWLK
153	487456.99	115103.20	5132.89	SWLK
154	487452.38	115095.41	5132.93	SWLK
155	487416.18	115105.18	5133.45	SWLK
156	487414.47	115109.88	5133.50	SWLK
157	487388.75	115167.92	5133.50	PAD
158	487384.25	115180.29	5133.37	PAD
159	487404.14	115187.53	5133.37	PAD
160	487408.64	115175.16	5133.50	PAD
161	487355.61	115095.20	5133.50	SWLK
162	487331.99	115086.60	5133.13	SWLK
163	487324.58	115106.96	5133.22	SWLK
164	487461.36	115240.11	5130.25	FL
165	487420.65	115243.02	5129.90	FL
166	487310.41	115202.90	5129.07	FL
167	487270.67	115117.67	5128.33	FL
168	487334.30	114942.83	5127.00	FL

COORDINATE CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
169	487513.93	115103.79	5129.84	FL
170	487512.14	115095.97	5129.74	FL
171	487503.43	115077.16	5129.48	FL
172	487475.36	115039.65	5128.88	FL
173	487471.37	115035.01	5128.81	FL
174	487365.16	114927.31	5127.00	FL
175	487625.04	115115.75	5140.19	ROAD
176	487623.59	115123.17	5140.00	ROAD
177	487608.88	115120.78	5139.24	ROAD
178	487614.95	115126.02	5139.49	ROAD
179	487535.74	115194.78	5133.75	ROAD
180	487541.00	115200.85	5133.94	ROAD
181	487526.76	115215.25	5134.43	ROAD
182	487521.68	115209.01	5134.16	ROAD
183	487500.37	115241.95	5134.34	ROAD
184	487494.68	115236.33	5134.18	ROAD
185	487414.90	115265.06	5133.79	ROAD
186	487416.98	115257.34	5133.63	ROAD
187	487498.52	115311.02	5136.26	ROAD
188	487476.73	115308.03	5136.03	ROAD
189	487479.44	115288.21	5135.93	ROAD
190	487501.24	115291.20	5135.72	ROAD

COORDINATE CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
191	487402.94	115086.86	5133.50	PAD
192	487392.32	115090.46	5133.50	PAD
193	487392.72	115076.56	5133.50	PAD
194	487374.77	115084.09	5133.50	PAD
195	487375.45	115073.35	5133.50	PAD
196	487367.22	115081.35	5133.50	PAD
197	487480.20	115149.59	5132.25	TOC
198	487444.73	115185.63	5132.25	TOC
200	487240.29	115193.34	5132.73	ROAD
201	487200.06	115187.21	5132.78	ROAD
202	487159.97	115189.79	5132.42	ROAD
203	487157.78	115183.59	5132.49	ROAD
204	487231.33	115174.12	5132.72	ROAD
205	487233.04	115169.42	5132.69	ROAD
206	487221.76	115165.31	5132.98	ROAD
207	487220.01	115170.12	5132.91	ROAD
208	487201.59	115179.35	5132.62	ROAD
210	487501.36	115203.05	-	TOC
211	487529.13	115170.59	-	TOC



BID SET			
DESIGNED DES	DRAWN DWN	CHECKED CHK	DATE MAY 2026
6/2026	JK	ADDENDUM NO. 1	
REV	DATE	BY	DESCRIPTION
1			

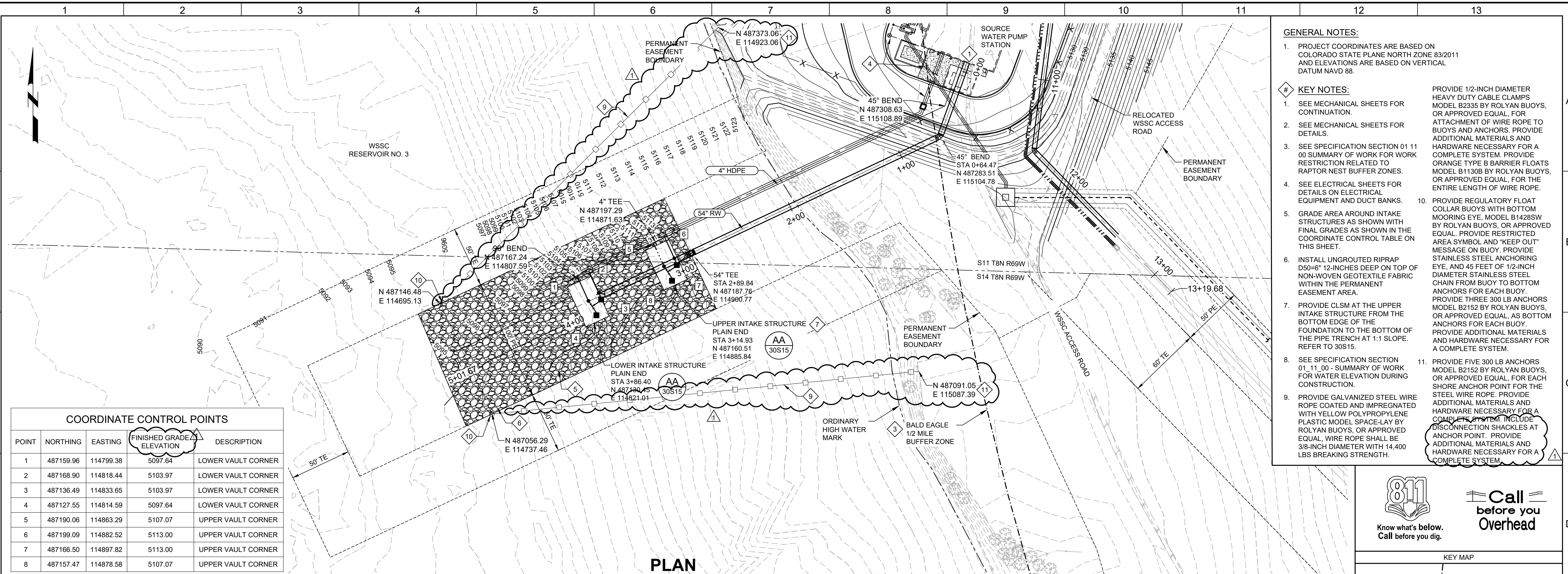


CITY OF THORNTON
THORNTON WATER PROJECT
 CIVIL
PAVING, GRADING, AND DRAINAGE PLAN 2

VERIFY SCALES	JOB NO. 203505
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. 30C03
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. 28 OF 169

LAST SAVED BY: CHUSTED

Plot Date: 6/20/2026 3:25 PM

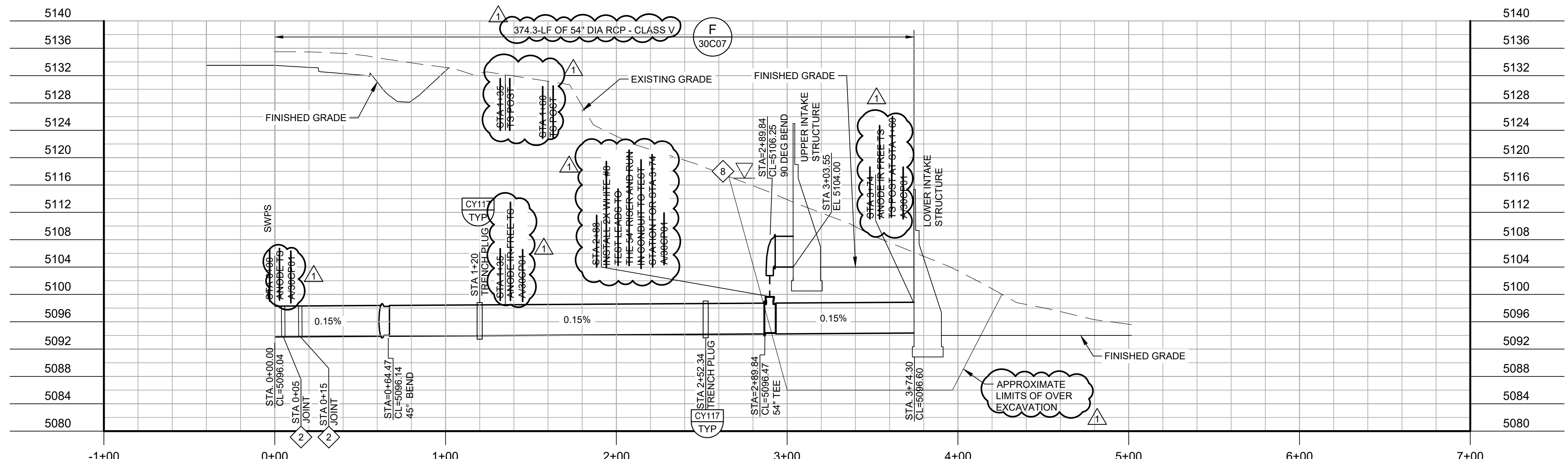


COORDINATE CONTROL POINTS

POINT	NORTHING	EASTING	FINISHED GRADE ELEVATION	DESCRIPTION
1	487159.96	114799.38	5097.64	LOWER VAULT CORNER
2	487168.90	114818.44	5103.97	LOWER VAULT CORNER
3	487136.49	114833.65	5103.97	LOWER VAULT CORNER
4	487127.55	114814.59	5097.64	LOWER VAULT CORNER
5	487190.06	114863.29	5107.07	UPPER VAULT CORNER
6	487199.09	114882.52	5113.00	UPPER VAULT CORNER
7	487166.50	114897.82	5113.00	UPPER VAULT CORNER
8	487157.47	114878.58	5107.07	UPPER VAULT CORNER

- GENERAL NOTES:**
- PROJECT COORDINATES ARE BASED ON COLORADO STATE PLANE NORTH ZONE 83/2011 AND ELEVATIONS ARE BASED ON VERTICAL DATUM NAVD 88.
 - SEE MECHANICAL SHEETS FOR CONTINUATION.
 - SEE MECHANICAL SHEETS FOR DETAILS.
 - SEE SPECIFICATION SECTION 01 11 00 SUMMARY OF WORK FOR WORK RESTRICTION RELATED TO RAPTOR NEST BUFFER ZONES.
 - SEE ELECTRICAL SHEETS FOR DETAILS ON ELECTRICAL EQUIPMENT AND DUCT BANKS.
 - GRADE AREA AROUND INTAKE STRUCTURES AS SHOWN WITH FINAL GRADES AS SHOWN IN THE COORDINATE CONTROL TABLE ON THIS SHEET.
 - INSTALL UNGROUTED RIPRAP D50=6" 12-INCHES DEEP ON TOP OF NON-WOVEN GEOTEXTILE FABRIC WITHIN THE PERMANENT EASEMENT AREA.
 - PROVIDE CLSM AT THE UPPER INTAKE STRUCTURE FROM THE BOTTOM EDGE OF THE FOUNDATION TO THE BOTTOM OF THE PIPE TRENCH AT 1:1 SLOPE. REFER TO 30S15.
 - SEE SPECIFICATION SECTION 01 11 00 - SUMMARY OF WORK FOR WATER ELEVATION DURING CONSTRUCTION.
 - PROVIDE GALVANIZED STEEL WIRE ROPE COATED AND IMPREGNATED WITH YELLOW POLYPROPYLENE PLASTIC MODEL SPACE-LAY BY ROLYAN BUOYS, OR APPROVED EQUAL. WIRE ROPE SHALL BE 3/8-INCH DIAMETER WITH 14,400 LBS BREAKING STRENGTH.
 - PROVIDE 1/2-INCH DIAMETER HEAVY DUTY CABLE CLAMPS MODEL B2335 BY ROLYAN BUOYS, OR APPROVED EQUAL, FOR ATTACHMENT OF WIRE ROPE TO BUOYS AND ANCHORS. PROVIDE ADDITIONAL MATERIALS AND HARDWARE NECESSARY FOR A COMPLETE SYSTEM. PROVIDE ORANGE TYPER BARRIER FLOATS MODEL B1130B BY ROLYAN BUOYS, OR APPROVED EQUAL, FOR THE ENTIRE LENGTH OF WIRE ROPE.
 - PROVIDE REGULATORY FLOAT COLLAR BUOYS WITH BOTTOM MOORING EYE, MODEL B1428SW BY ROLYAN BUOYS, OR APPROVED EQUAL. PROVIDE RESTRICTED AREA SYMBOL AND "KEEP OUT" MESSAGE ON BUOY. PROVIDE STAINLESS STEEL ANCHORING EYE, AND 45 FEET OF 1/2-INCH DIAMETER STAINLESS STEEL CHAIN FROM BUOY TO BOTTOM ANCHORS FOR EACH BUOY. PROVIDE THREE 300 LB ANCHORS MODEL B2152 BY ROLYAN BUOYS, OR APPROVED EQUAL, AS BOTTOM ANCHORS FOR EACH BUOY. PROVIDE ADDITIONAL MATERIALS AND HARDWARE NECESSARY FOR A COMPLETE SYSTEM.
 - PROVIDE FIVE 300 LB ANCHORS MODEL B2152 BY ROLYAN BUOYS, OR APPROVED EQUAL, FOR EACH SHORE ANCHOR POINT FOR THE STEEL WIRE ROPE. PROVIDE ADDITIONAL MATERIALS AND HARDWARE NECESSARY FOR A COMPLETE SYSTEM. INCLUDE DISCONNECTION SHACKLES AT ANCHOR POINT. PROVIDE ADDITIONAL MATERIALS AND HARDWARE NECESSARY FOR A COMPLETE SYSTEM.

PLAN
FILE: 20350530C101



PROFILE
FILE: 20350530C101

811
Know what's below. Call before you dig.

Call before you Overhead

KEY MAP

ROCKY RIDGE LAKE RESERVOIR NO. 3

THIS SHEET

SCALE

0 20' 40' 80'
SCALE: 1" = 40' (HORIZ)

0 5' 10' 20'
SCALE: 1" = 10' (VERT)

LAST SAVED BY: CHLUSTED

BID SET

REV	DATE	BY	DESCRIPTION
1	6/2026	JK	ADDENDUM NO. 1

DESIGNED CH
DRAWN CH
CHECKED JK
DATE MAY 2026

COLORADO LICENSED PROFESSIONAL ENGINEER
43662



CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
CIVIL
INTAKE PIPING PLAN AND PROFILE

VERIFY SCALES

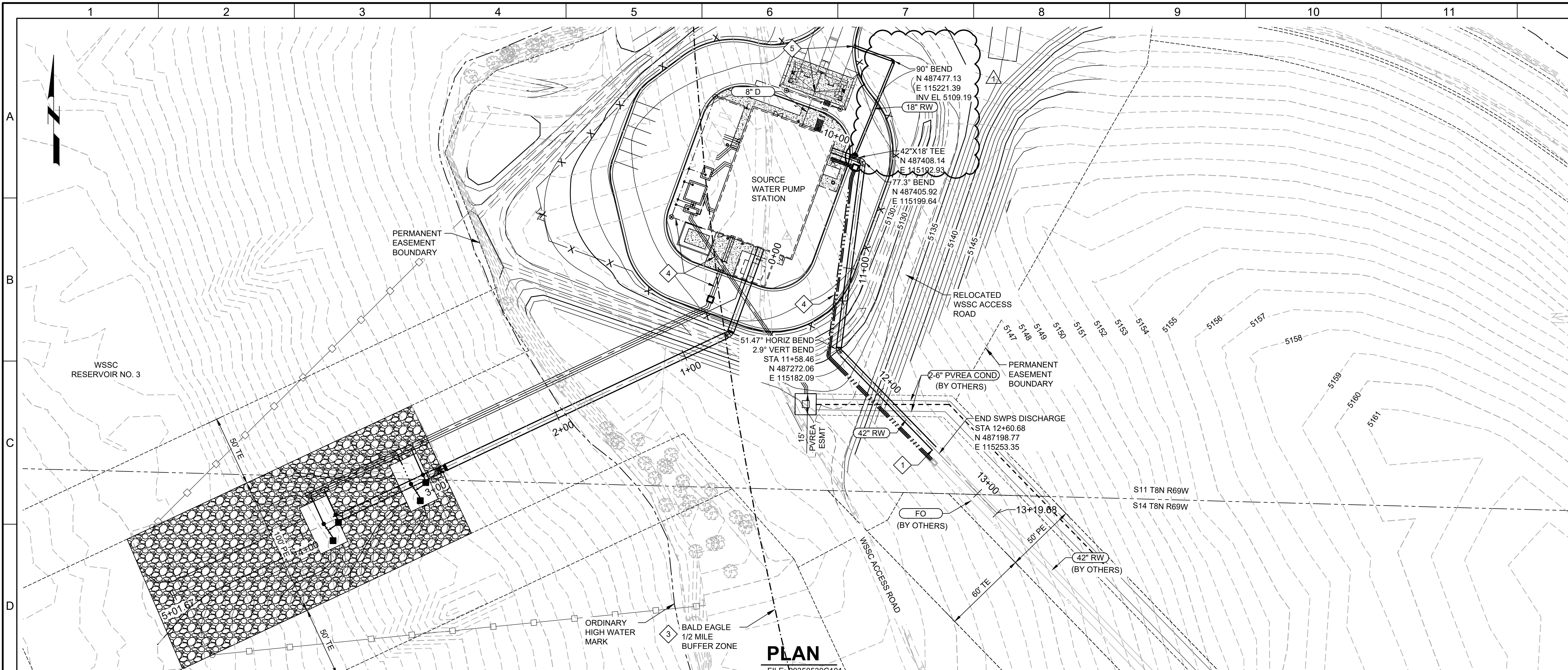
BAR IS ONE INCH ON ORIGINAL DRAWING

0 1" 1'

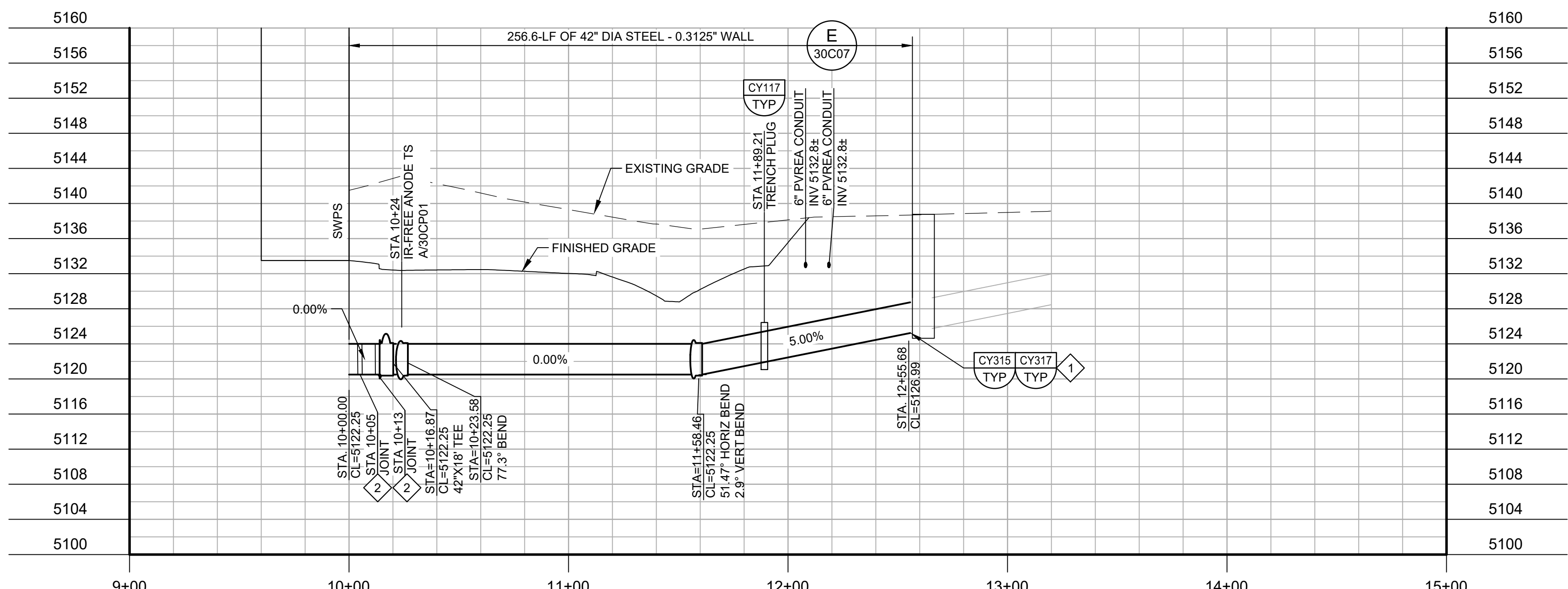
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203505
DRAWING NO. 30C05
SHEET NO. 30 OF 169

Plot Date: 6/22/2026 3:25 PM



PLAN
FILE: 20350530C101



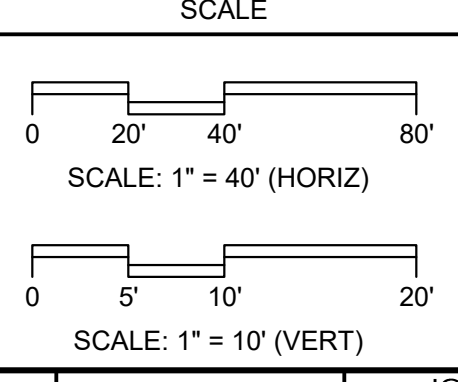
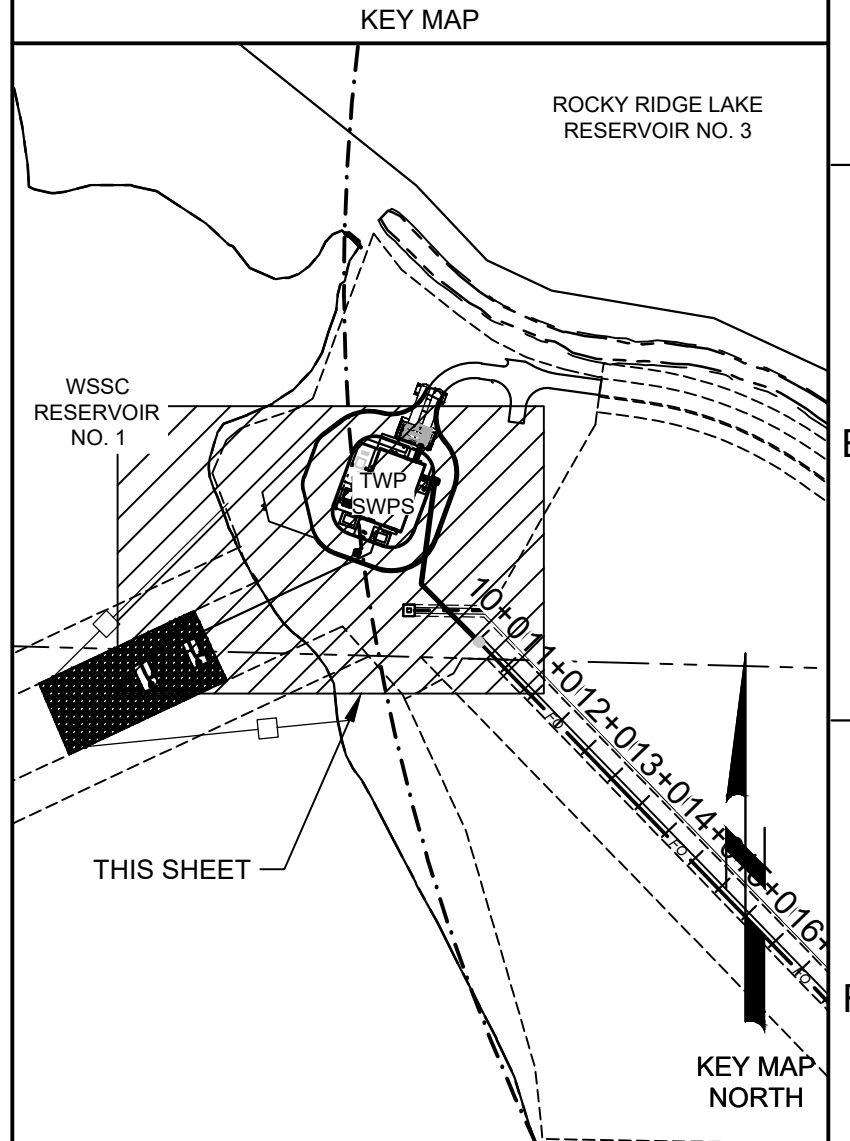
PROFILE
FILE: 20350530C101

GENERAL NOTES:

- PROJECT COORDINATES ARE BASED ON COLORADO STATE PLANE NORTH ZONE 83/2011 AND ELEVATIONS ARE BASED ON VERTICAL DATUM NAVD 88.

KEY NOTES:

- INSTALL TEST BULKHEAD PER DETAIL CY315 TO TEST PIPE SEGMENT PRIOR TO CONNECTING TO 42\"/>



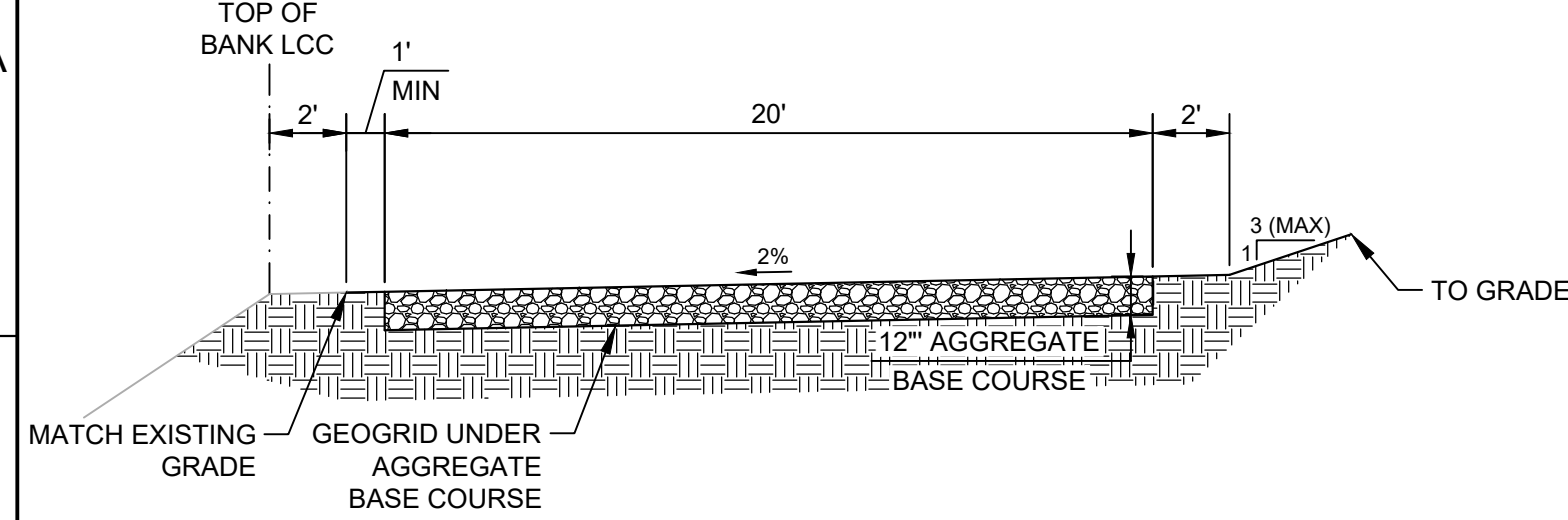
1		2		3		4		5		6		7		8		9		10		11		12		13	
REV	DATE	BY	DESCRIPTION	DESIGNED	CH	DRAWN	CH	CHECKED	JK	DATE	MAY 2026							CITY OF THORNTON THORNTON WATER PROJECT CIVIL DISCHARGE PIPING PLAN AND PROFILE		VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 	JOB NO. 203505 DRAWING NO. 30C06 SHEET NO. 31 OF 169				

LAST SAVED BY: CHUJSTED

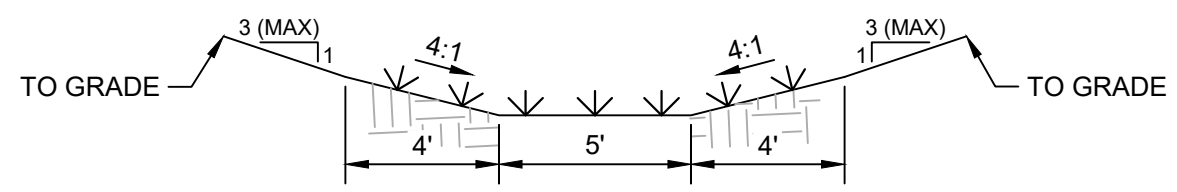
Plot Date: 6/22/2026 3:25 PM

1 2 3 4 5 6 7 8 9 10 11 12 13

A B C D E F G



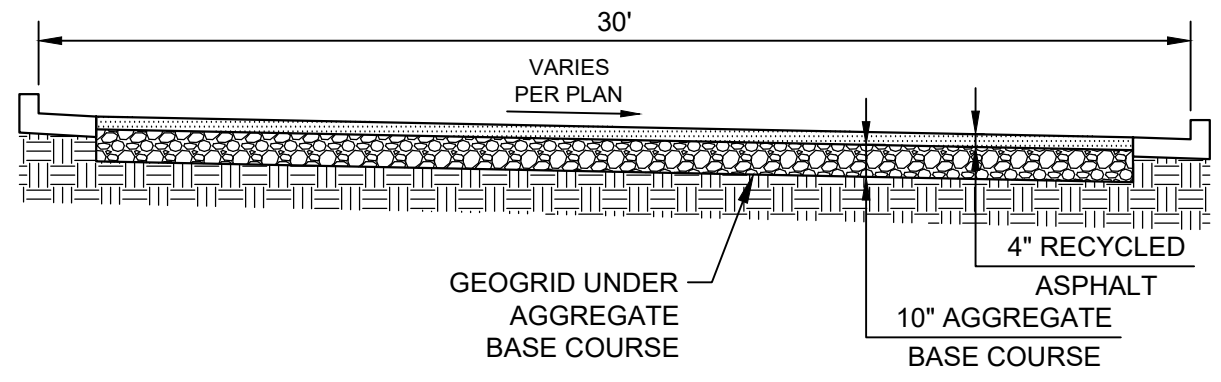
A DETAIL
SCALE: 1" = 5'
FILE: 203505_30C05



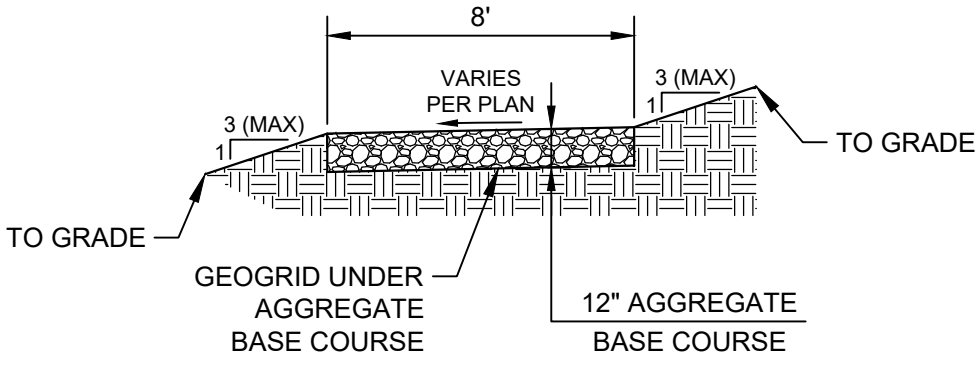
NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ON-SITE INFILTRATION TESTING WITHIN THE PROPOSED STORMWATER CONTROL MEASURE (SCM) AREA TO VERIFY THE EXISTING AND FINAL INFILTRATION RATES. TESTING SHALL BE CONDUCTED IN ACCORDANCE LARIMER COUNTY AND MHFD STANDARDS AND GUIDELINES. VERIFIED INFILTRATION RATES MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FINALIZING THE SCM DESIGN AND PROCEEDING WITH CONSTRUCTION ACTIVITIES IN THE AFFECTED AREA.
2. CONTRACTOR TO AVOID OVERCOMPACTION IN THE PROPOSED SCM AREA.
3. GRASS SWALES MUST REACH 80% VEGETATIVE DENSITY PRIOR TO PROJECT CLOSEOUT AND ACCEPTANCE.

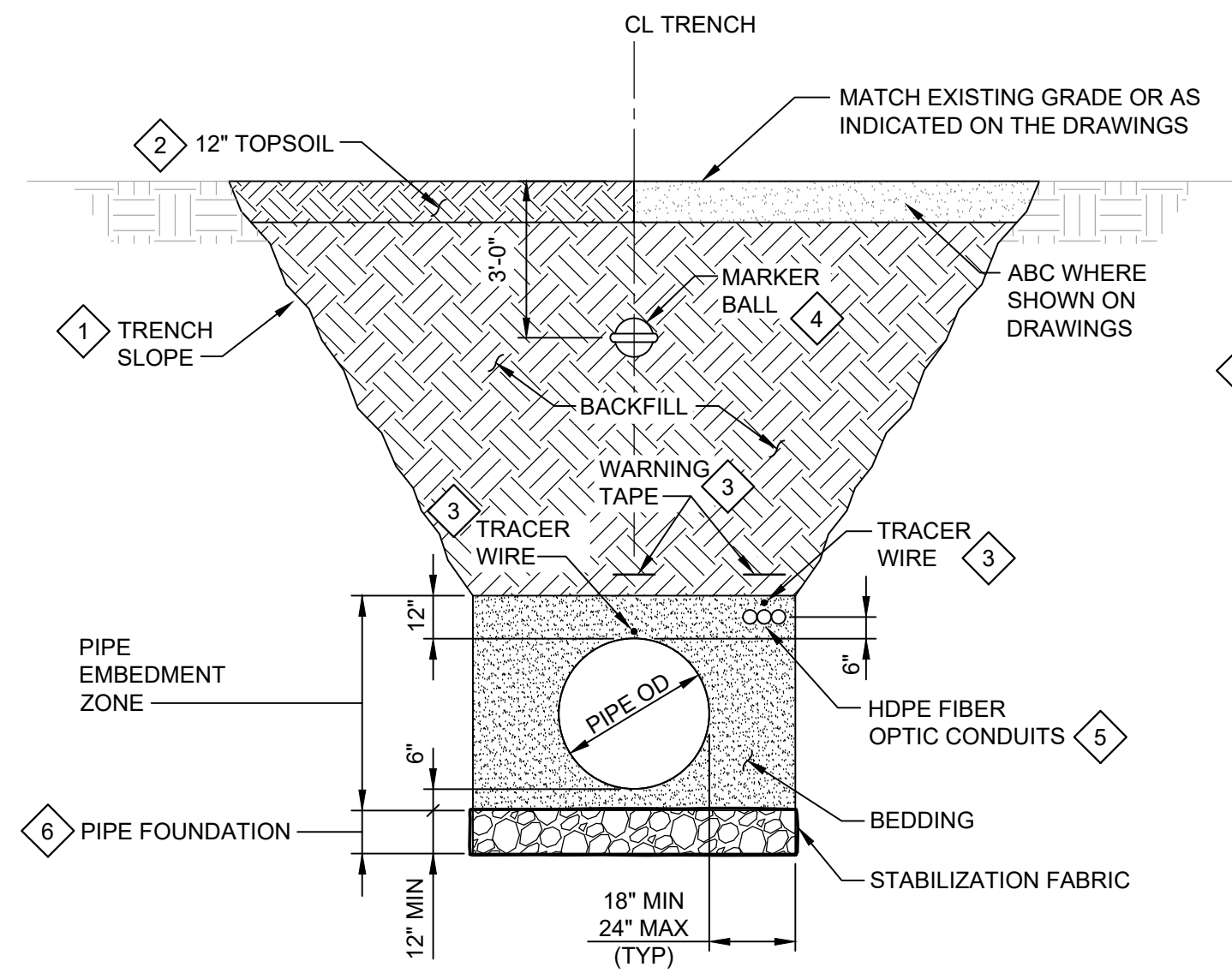
D DETAIL
SCALE: 1" = 5'
FILE: 20350530C0800



B DETAIL
SCALE: 1" = 5'
FILE: 203505_30C05



C DETAIL
SCALE: 1" = 5'
FILE: 203505_30C05



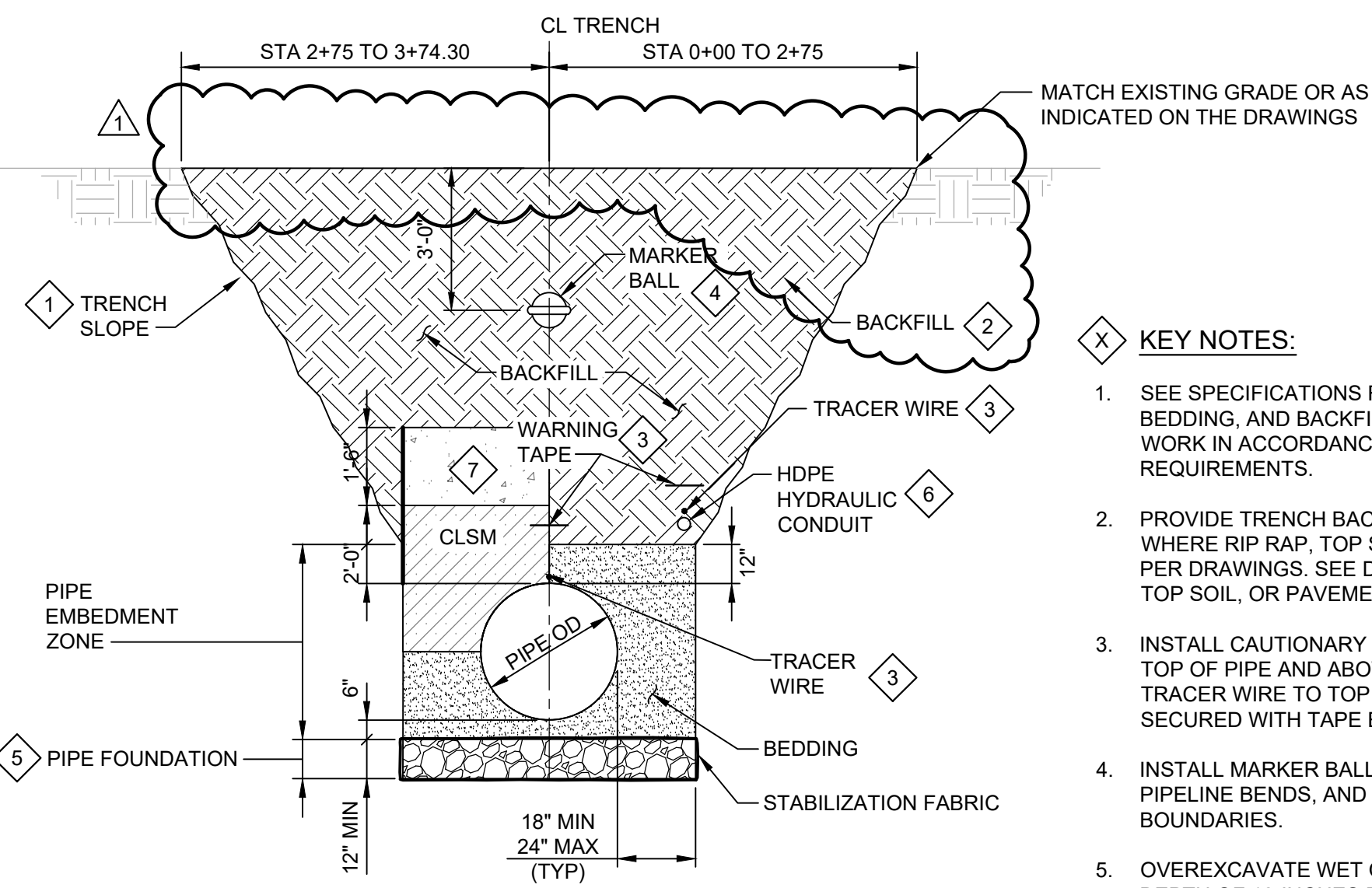
NOTES:

1. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

E DETAIL
SCALE: NTS
FILE: NA

KEY NOTES:

1. SEE SPECIFICATIONS FOR TRENCHING, SHORING, BEDDING, AND BACKFILL REQUIREMENTS. PERFORM WORK IN ACCORDANCE WITH CURRENT OSHA REQUIREMENTS.
2. CONTRACTOR SHALL SEGREGATE 12-INCHES OF TOPSOIL AND STOCKPILE SEPARATELY FROM OTHER EXCAVATED MATERIAL. FOLLOWING BACKFILLING OF THE TRENCH, THE TOPSOIL WILL BE REPLACED TO MATCH PRE-CONSTRUCTION GRADE.
3. INSTALL CAUTIONARY MARKER TAPE 12-INCHES ABOVE TOP OF PIPE AND ABOVE HDPE CONDUITS. ATTACH TRACER WIRE TO TOP OF PIPE AND HDPE CONDUIT SECURED WITH TAPE EVERY 10-FEET.
4. INSTALL MARKER BALLS AT 250-FOOT INTERVALS, AT PIPELINE BENDS, AND AT ROADWAY RIGHT-OF-WAY BOUNDARIES.
5. INSTALL THREE (3) 2-INCH INSIDE DIAMETER HDPE SDR-11 ASTM F2180 RIBBED INTERIOR, SMOOTH EXTERIOR CONDUITS.
6. OVEREXCAVATE WET OR UNSTABLE MATERIAL AND REPLACE WITH TRENCH STABILIZATION MATERIAL WHERE UNSUITABLE TRENCH CONDITIONS ARE ENCOUNTERED. COORDINATE WITH CONSTRUCTION MANAGER FOR DETERMINATION OF CONDITIONS REQUIRING OVEREXCAVATION.



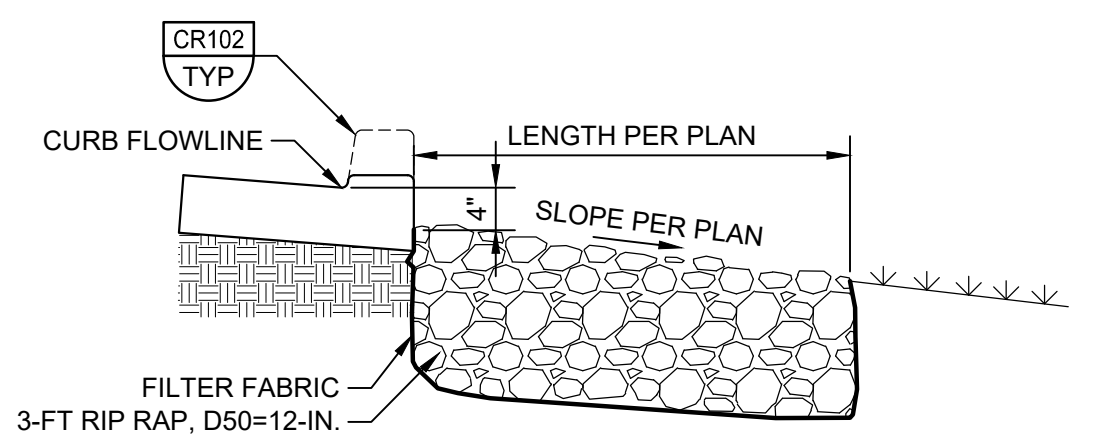
NOTES:

1. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

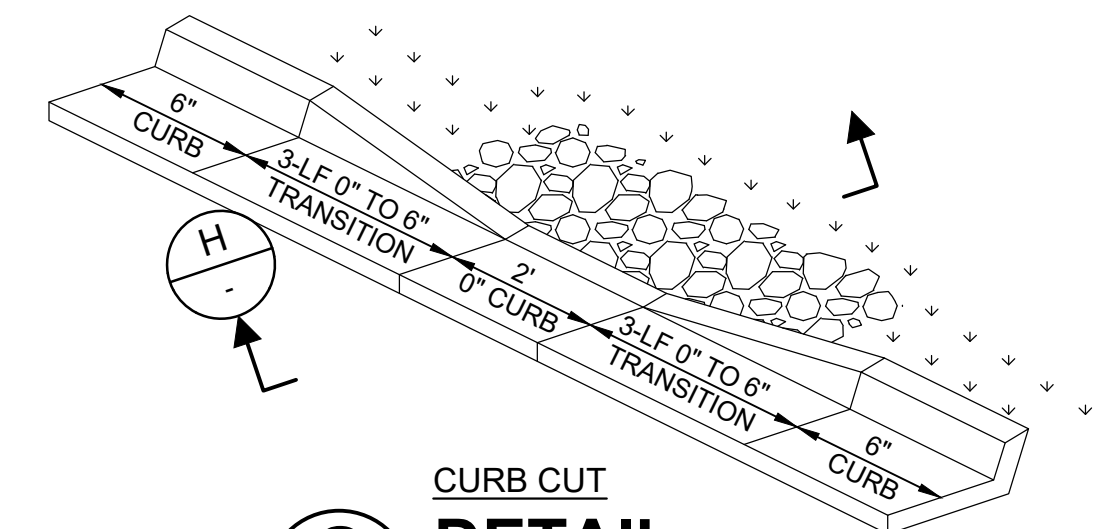
F DETAIL
SCALE: NTS
FILE: NA

KEY NOTES:

1. SEE SPECIFICATIONS FOR TRENCHING, SHORING, BEDDING, AND BACKFILL REQUIREMENTS. PERFORM WORK IN ACCORDANCE WITH CURRENT OSHA REQUIREMENTS.
2. PROVIDE TRENCH BACKFILL TO SURFACE EXCEPT WHERE RIP RAP, TOP SOIL, OR PAVEMENT IS REQUIRED PER DRAWINGS. SEE DRAWING FOR EXTENT OF RIP RAP, TOP SOIL, OR PAVEMENT.
3. INSTALL CAUTIONARY MARKER TAPE 12-INCHES ABOVE TOP OF PIPE AND ABOVE HDPE CONDUITS. ATTACH TRACER WIRE TO TOP OF PIPE AND HDPE CONDUIT SECURED WITH TAPE EVERY 10-FEET.
4. INSTALL MARKER BALLS AT 250-FOOT INTERVALS, AT PIPELINE BENDS, AND AT ROADWAY RIGHT-OF-WAY BOUNDARIES.
5. OVEREXCAVATE WET OR UNSTABLE MATERIAL TO A DEPTH OF 12-INCHES BELOW THE PIPE EMBEDMENT ZONE AND REPLACE WITH TRENCH STABILIZATION MATERIAL WHERE UNSUITABLE TRENCH CONDITIONS ARE ENCOUNTERED. COORDINATE WITH CONSTRUCTION MANAGER FOR DETERMINATION OF CONDITIONS REQUIRING OVEREXCAVATION.
6. INSTALL 4-INCH INSIDE DIAMETER HDPE SDR-11 CONDUITS FOR HYDRAULIC LINES TO INTAKE STRUCTURE AS SHOWN ON 30C06. ROUTING OF CONDUIT VARIES BETWEEN PIPE TRENCH AND DUCT BANK. SEE DRAWING 30C05.
7. INTAKE STRUCTURE FOUNDATION.



H SECTION
SCALE: NTS
FILE: NA



G DETAIL
SCALE: NTS
FILE: NA

LAST SAVED BY: CHLUSTED

BID SET			
REV	DATE	BY	DESCRIPTION
1	6/2026	JK	ADDENDUM NO. 01

DESIGNED	RJF
DRAWN	RJF
CHECKED	JKK
DATE	MAY 2026

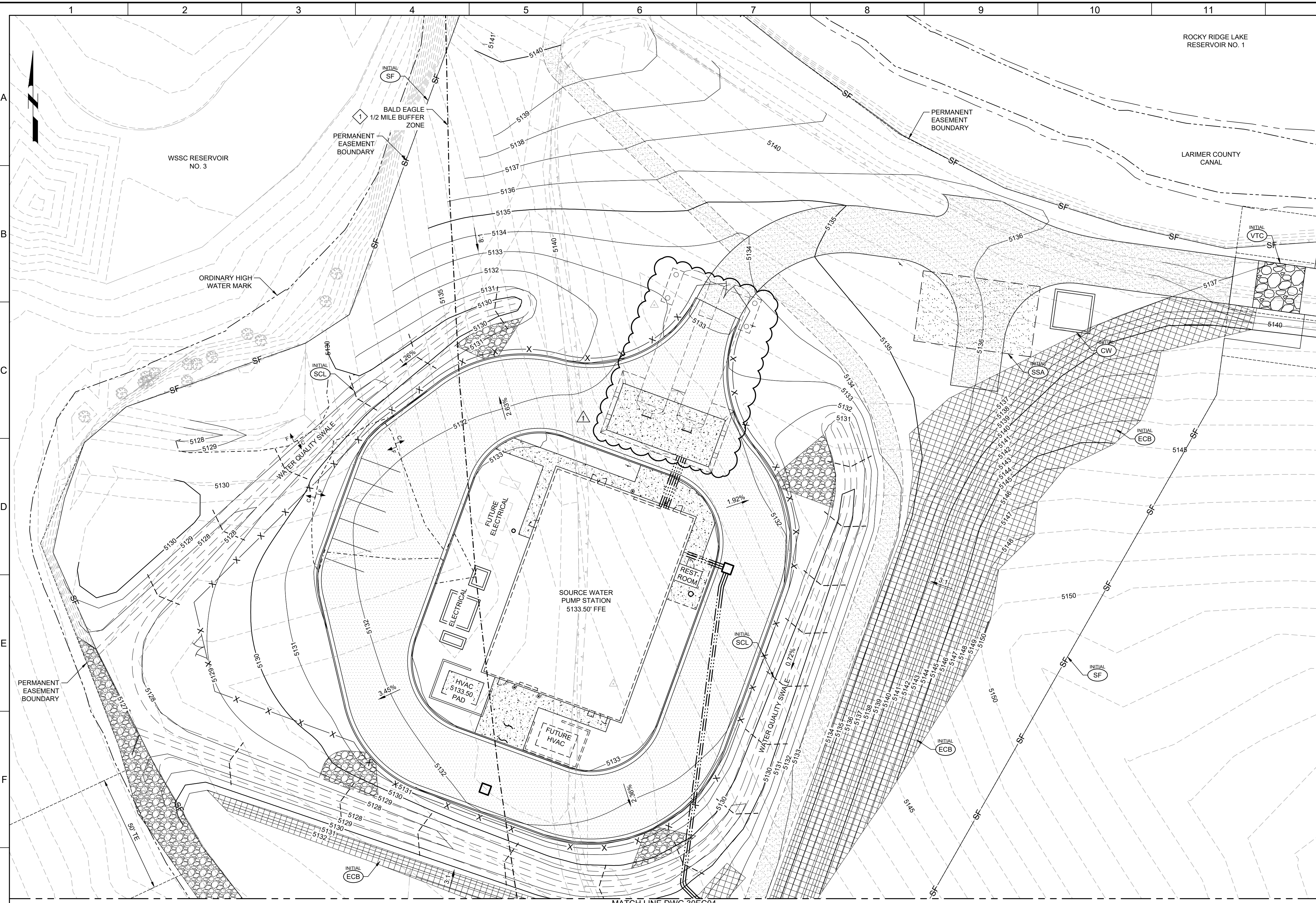


CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
CIVIL
DETAILS 1

VERIFY SCALES	JOB NO. 203505
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. 30C07
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. 32 OF 169

Plot Date: 6/22/2026 3:26 PM

LAST SAVED BY: CHUJSTED

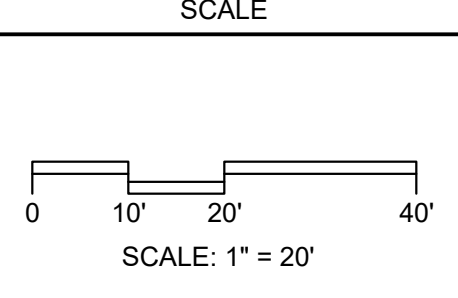
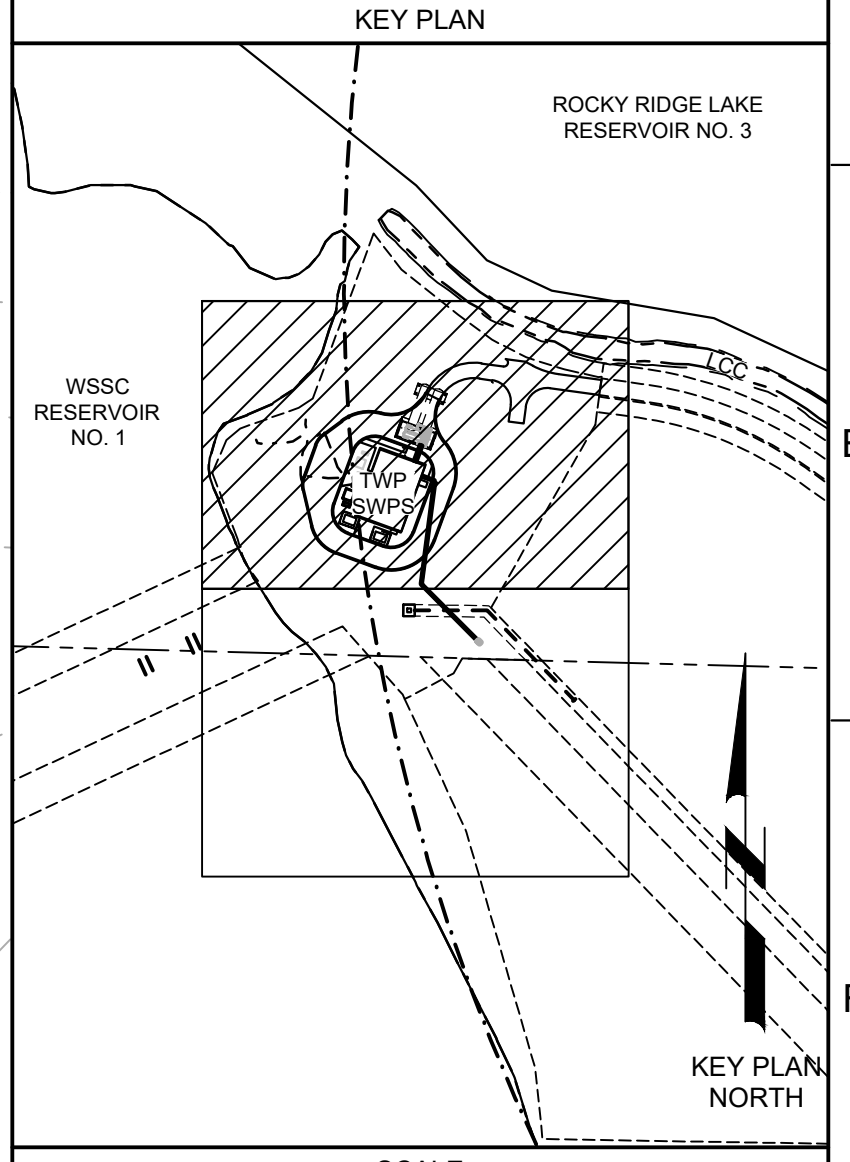


GENERAL NOTES:

- PROJECT COORDINATES ARE BASED ON COLORADO STATE PLANE NORTH ZONE 83/2011 AND ELEVATIONS ARE BASED ON VERTICAL DATUM NAVD88. SEE SHEET 30GC03 FOR SURVEY CONTROL.

KEY NOTES:

- SEE SPECIFICATION SECTION 01.11.00 SUMMARY OF WORK FOR WORK RESTRICTIONS RELATED TO RAPTOR NEST BUFFER ZONES.



BID SET			
REV	DATE	BY	DESCRIPTION
1	6/2026	JK	ADDENDUM NO. 1

DESIGNED
R/JF
DRAWN
R/JF
CHECKED
J/K
DATE
MAY 2026



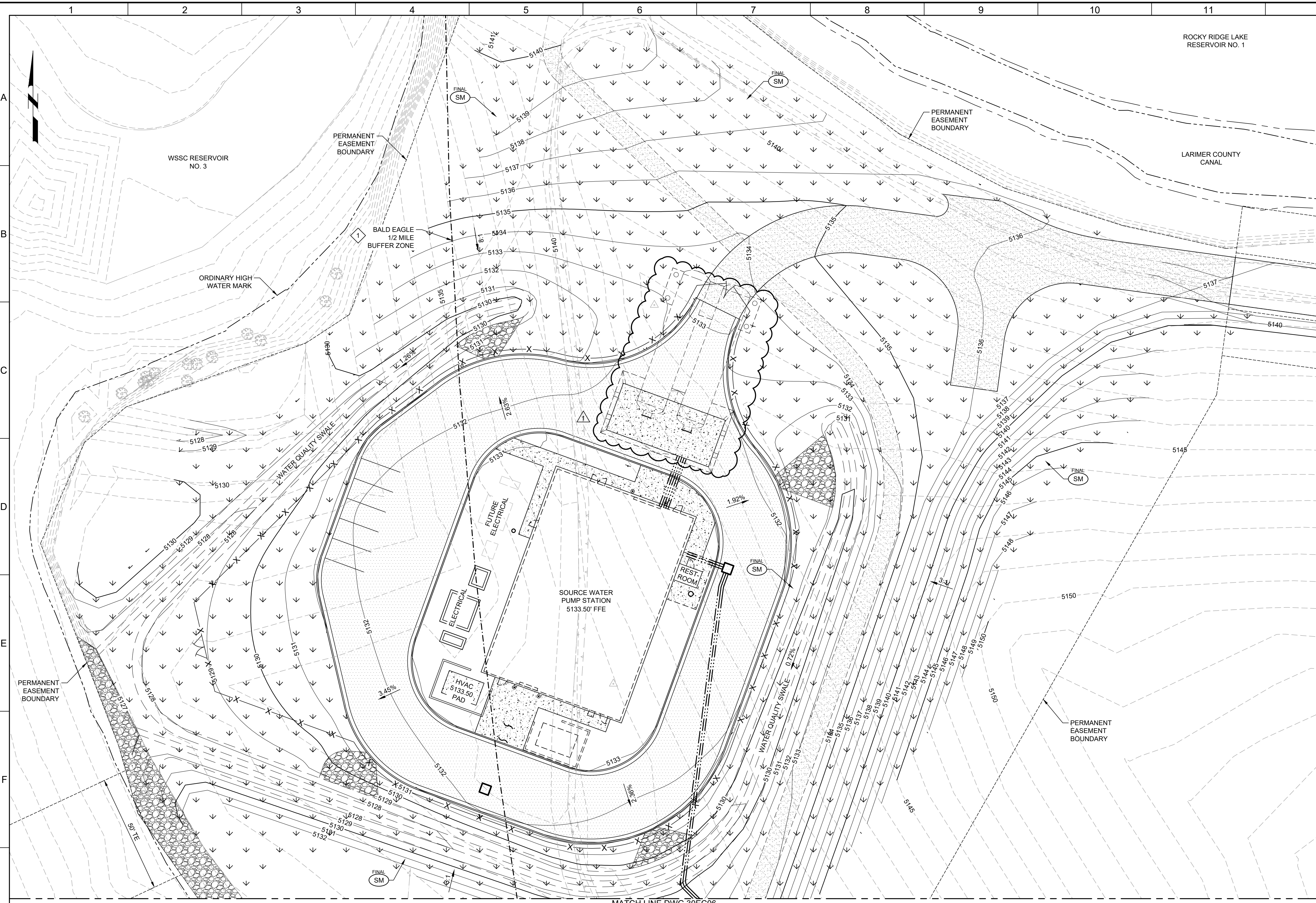
CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
EROSION CONTROL
EROSION CONTROL PLAN 1 - INITIAL

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
203505
DRAWING NO.
30EC03
SHEET NO.
35 OF 169

Plot Date: 6/22/2026 3:26 PM

LAST SAVED BY: CHUJSTED



GENERAL NOTES:

- PROJECT COORDINATES ARE BASED ON COLORADO STATE PLANE NORTH ZONE 83/2011 AND ELEVATIONS ARE BASED ON VERTICAL DATUM NAVD88. SEE SHEET 30GC03 FOR SURVEY CONTROL.

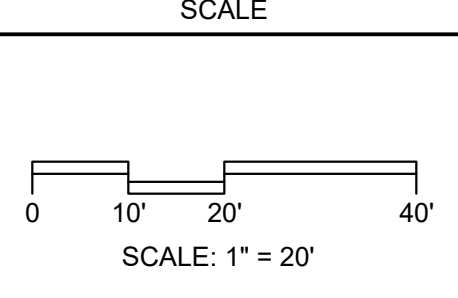
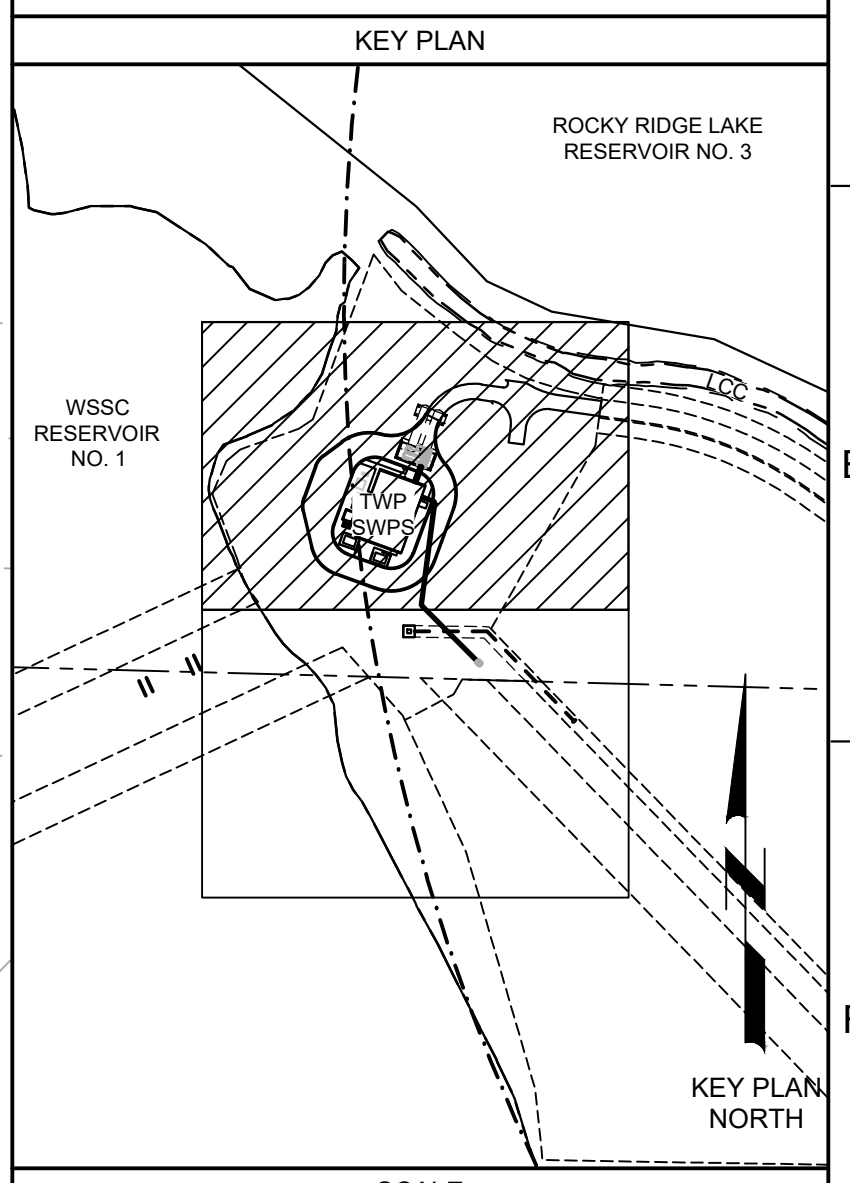
KEY NOTES:

- SEE SPECIFICATION SECTION 01.11.00 SUMMARY OF WORK FOR WORK RESTRICTIONS RELATED TO RAPTOR NEST BUFFER ZONES.



Know what's below. Call before you dig.

Call before you Overhead



BID SET			
REV	DATE	BY	DESCRIPTION
1	6/2026	JK	ADDENDUM NO. 1

DESIGNED RJF
DRAWN RJF
CHECKED JJK
DATE MAY 2026



CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
EROSION CONTROL
EROSION CONTROL PLAN 1 - FINAL

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203505
DRAWING NO. 30EC05
SHEET NO. 37 OF 169

BUILDING CODE ANALYSIS

AUTHORITY HAVING JURISDICTION: Poudre Fire Authority
Larimer County

BUILDING CODES: 2021 INTERNATIONAL BUILDING CODE (WITH LARIMER COUNTY AMENDMENTS)
2021 INTERNATIONAL MECHANICAL CODE
2021 INTERNATIONAL PLUMBING CODE
2021 INTERNATIONAL FUEL GAS CODE
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2023 NATIONAL ELECTRICAL CODE
2021 INTERNATIONAL FIRE CODE

OCCUPANCY: F-1 - FACTORY GROUP MODERATE HAZARD (306.2)

CONSTRUCTION TYPE: TYPE II-B (TABLE 601)

RISK CATEGORY: IV (TABLE 1604.5)

ALLOWABLE AREAS: F-1 15,500 SF (TABLE 506.2)
(LARIMER COUNTY AMENDMENTS: 903.2.4. AN AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED THROUGHOUT WHERE A GROUP F-1 FIRE AREA EXCEEDS 5,000 SQUARE FEET.)

ACTUAL AREAS: F-1 2,984 SF (FIRE AREA A)
F-1 2,740 SF (FIRE AREA B)
F-1 5,724 SF TOTAL

FIRE BARRIERS: 3 HOURS
(TABLE 707.3.10, FIRE-RESISTANCE RATING FOR FIRE BARRIERS BETWEEN FIRE AREAS)

ALLOWABLE HEIGHTS: F-1 2 STORIES, 55' (TABLE 504.3)

ACTUAL HEIGHT: F-1 1 STORY, 34' - 3"

FIRE RESISTANCE RATING FOR EXTERIOR WALLS: RATING FOR II-B CONSTRUCTION TYPE (TABLE 705.5)
X < 5 = 2 HR
5 < X < 10 = 1 HR
10 < X < 30 = 0 HR
X > 30' = 0 HR

FIRE PROTECTION SYSTEMS: PORTABLE FIRE EXTINGUISHERS (TABLE 906.3(1)):
MAX FLOOR AREA PER EXTINGUISHER = 11,250 SF
MAXIMUM TRAVEL DISTANCE TO EXTINGUISHER: 75 FT

FIRE ALARM AND DETECTION SYSTEMS (907.2):
AN APPROVED FIRE ALARM SYSTEM IN ACCORDANCE WITH NFPA 72 SHALL BE PROVIDED AND PROVIDE OCCUPANT NOTIFICATION IN ACCORDANCE WITH 907.5. A MINIMUM OF ONE MANUAL FIRE ALARM BOX SHALL BE PROVIDED TO INITIATE A FIRE ALARM SIGNAL FOR FIRE ALARM SYSTEM EMPLOYING AUTOMATIC FIRE DETECTORS.

MEANS OF EGRESS: OCCUPANT LOAD (TABLE 1004.5):
MECHANICAL EQPT RM = 300 GROSS SQUARE FEET PER OCCUPANT
5,724 SF / 300 = 20 OCCUPANTS (NOT NORMALLY OCCUPIED)

MINIMUM NUMBER OF EXITS (TABLE 1006.3.3):
2 EXITS REQUIRED PER STORY

STORIES WITH ONE EXIT (TABLE 1006.3.4(2)):
F OCC 75 MAX EXIT ACCESS TRAVEL DISTANCE

SPACES WITH ONE EXIT (TABLE 1006.2.1):
F OCC OCC LOAD < 30, NO SPRINKLERS = 75' MAX COMMON PATH

MAXIMUM EXIT TRAVEL DISTANCE (TABLE 1017.2):
F-1 WITHOUT SPRINKLER SYSTEM = 200 FT

DIRECTION OF SWING (1010.1.2.1):
PIVOT OR SIDE-HINGED SWINGING DOORS SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL WHERE SERVING A ROOM OR AREA CONTAINING AN OCCUPANT LOAD OF 50 OR MORE PERSONS OR A GROUP H OCCUPANCY.

BOLT LOCKS (1010.2.5):
MANUALLY OPERATED FLUSH BOLTS OR SURFACE BOLTS ARE NOT PERMITTED.
EXC 2. WHERE A PAIR OF DOORS SERVES A STORAGE OR EQUIPMENT ROOM, MANUALLY OPERATED EDGE- OR SURFACE-MOUNTED BOLTS ARE PERMITTED ON THE INACTIVE LEAF.

PANIC HARDWARE (1010.2.9.2):
ELECTRICAL ROOMS WITH EQUIPMENT RATED 800 AMPS OR MORE THAT CONTAIN OVERCURRENT DEVICES, SWITCHING DEVICES, OR CONTROL DEVICES AND WHERE THE EXIT OR EXIT ACCESS DOOR IS LESS THAN 26 FEET FROM THE EQUIPMENT WORKING SPACE SHALL BE EQUIPPED WITH PANIC HARDWARE OR FIRE EXIT HARDWARE. DOORS SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL.

LARGE EQUIPMENT (NEC 110.26(C)(2)):
AN ENTRANCE TO AND EGRESS FROM EACH END OF THE WORKING SPACE OF ELECTRICAL EQUIPMENT RATED 1,200 AMPS OR MORE THAT'S OVER 6 FT WIDE IS REQUIRED. THE OPENING MUST BE A MINIMUM OF 24 IN. WIDE AND 6-1/2 FT HIGH.

ACCESSIBILITY: EQUIPMENT SPACES: SPACES FREQUENTED ONLY BY SERVICE PERSONNEL FOR MAINTENANCE, REPAIR, OR OCCASIONAL MONITORING OF EQUIPMENT ARE NOT REQUIRED TO BE ACCESSIBLE (IBC 1103.2.9).

ENERGY CODE COMPLIANCE

ENERGY CODE: 2021 IECC

CLIMATE ZONE: 5B

LOCATION: LARIMER COUNTY, COLORADO

PROJECT TYPE: NEW CONSTRUCTION

COMPLIANCE METHOD: COMMERCIAL PRESCRIPTIVE PATH - COMPONENT PERFORMANCE ALTERNATIVE

VERTICAL GLAZING/ WALL AREA: 6%

BUILDING AREA: 5,724 SF

ROOF ASSEMBLY: INSULATION ENTIRELY ABOVE DECK
R-30 CONTINUOUS INSULATION

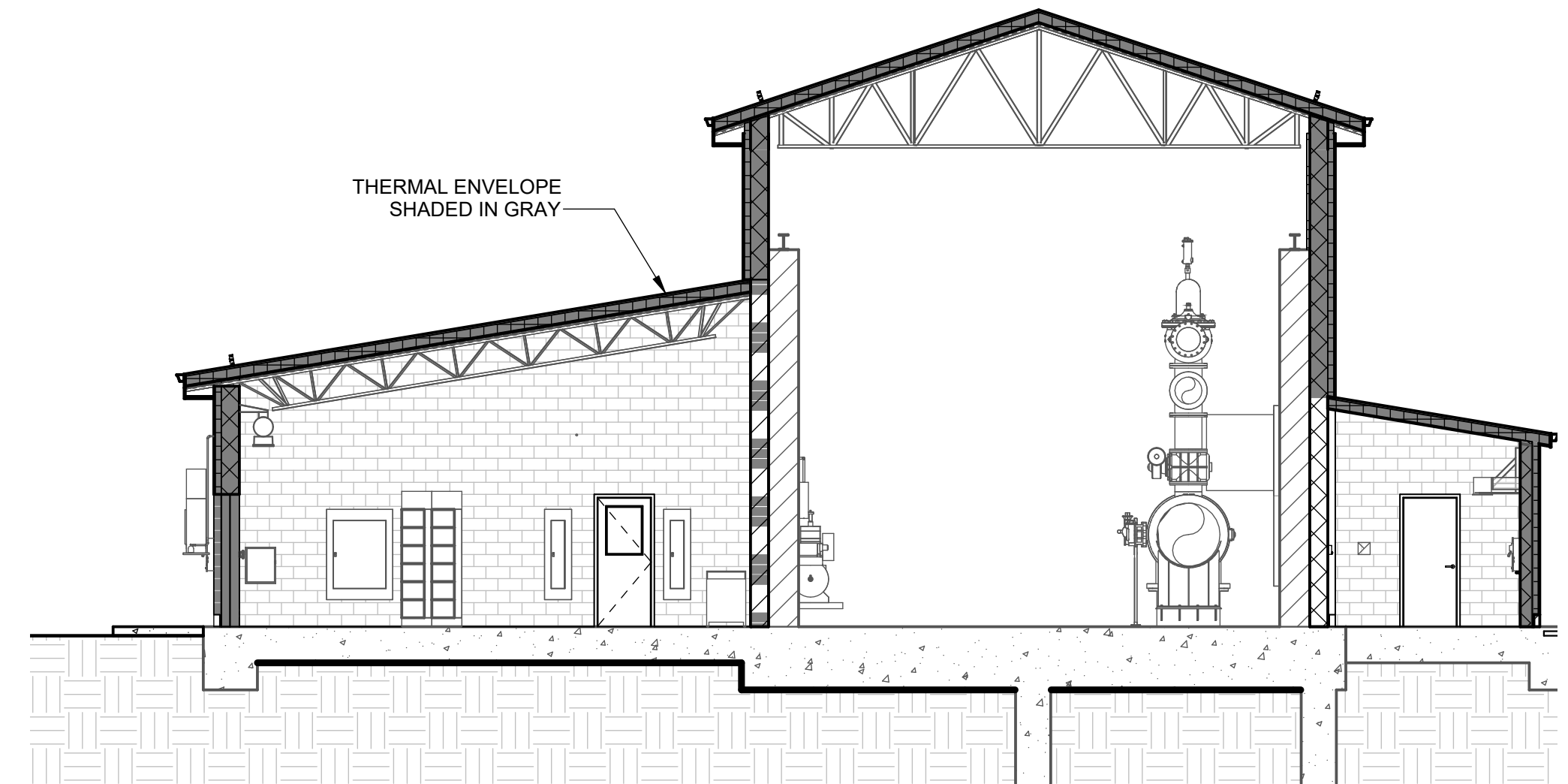
FLOOR ASSEMBLY: CONCRETE FLOOR OVER UNCONDITIONED SPACE

WALL ASSEMBLY: 12" CONC MASONRY, FULLY GROUTED
4" NAIL BASE INSULATION R-26
WATER RESISTIVE BARRIER (WRB)
METAL WALL PANEL, PER ELEVATIONS

WINDOWS: TRANSLUCENT WALL PANELS
SHGC: 0.38
U-FACTOR: 0.45

DOORS: OVERHEAD DOORS
U-FACTOR: 0.31

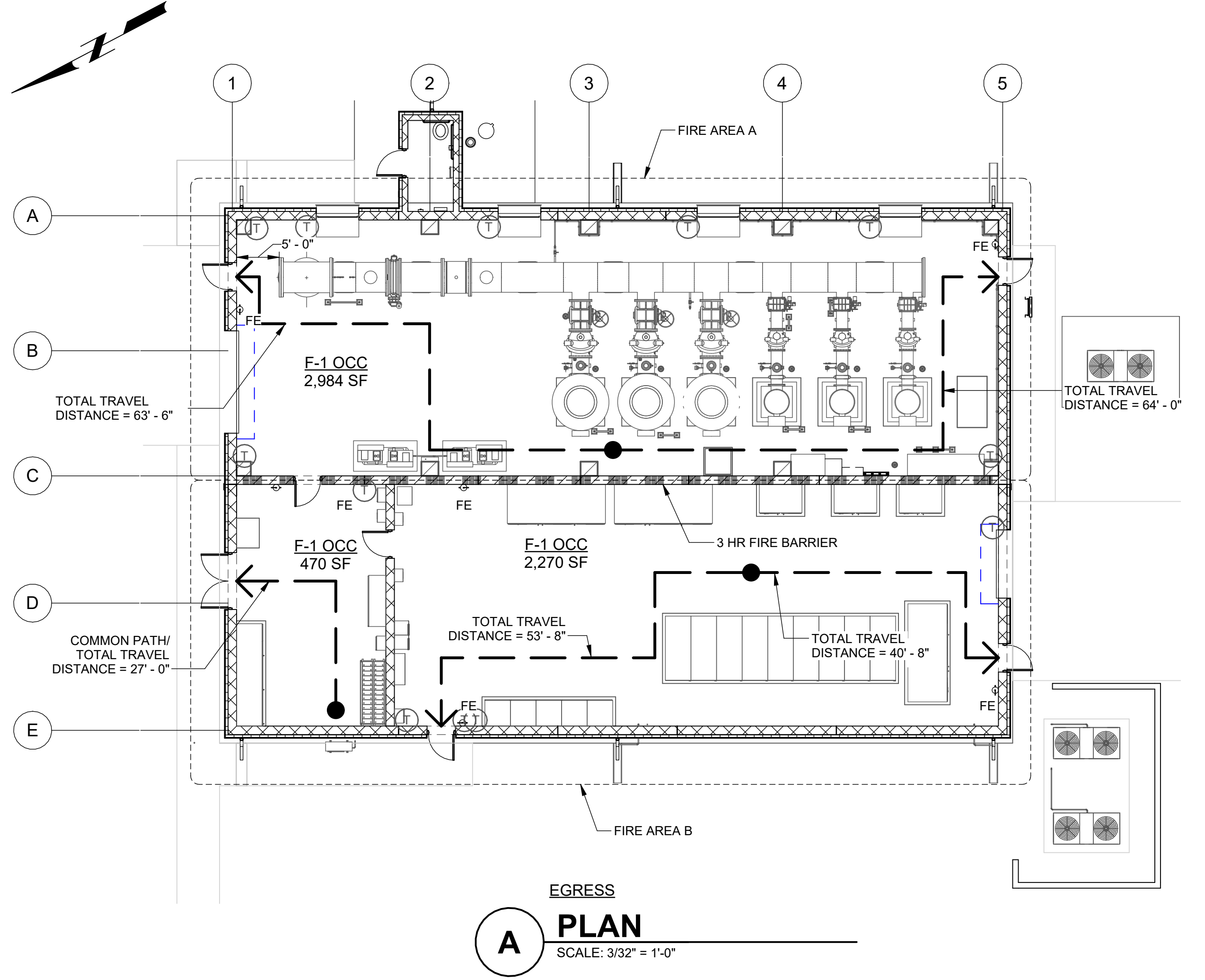
HOLLOW METAL DOORS
U-FACTOR: 0.37



THERMAL ENVELOPE
1 SECTION
30A02 SCALE: 1/8" = 1'-0"

GENERAL NOTES

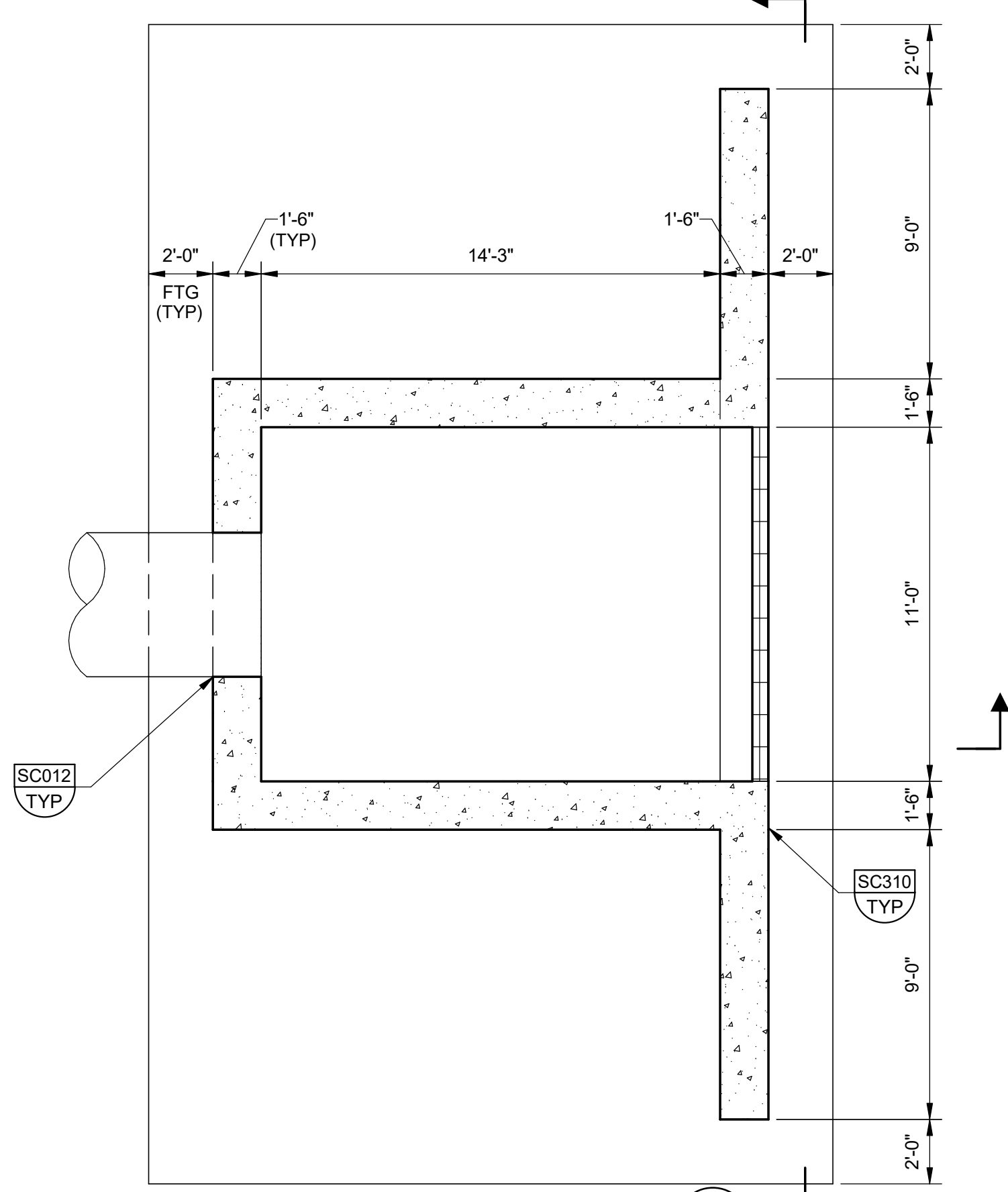
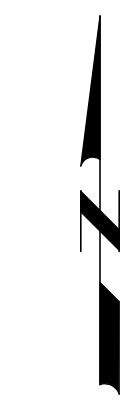
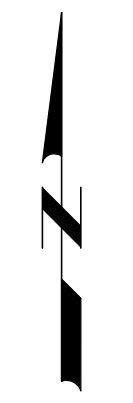
- UNLESS OTHERWISE NOTED, PLAN DIMENSIONS ARE TO NOMINAL SURFACE OF MASONRY AND CONCRETE.
- DIMENSIONS OF DOORS, WINDOWS & OTHER ITEMS IN WALLS ARE BASED ON NOMINAL MASONRY COURSING OR ROUGH OPENING DIMENSIONS. FIELD VERIFY AND/OR COORDINATE DIMENSIONS OF ITEMS WITH MASONRY &/OR FRAMING CONSTRUCTION AS REQUIRED.
- "FINISH FLOOR" REFERS TO TOP OF CONCRETE SLABS. FOR DEPRESSED FLOOR, PADS AND CURBS, SEE STRUCT DRAWINGS. SEE BUILDING SECTIONS FOR VARYING CONDITIONS.
- REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
- VERIFY ACTUAL SIZES OF ALL EQUIPMENT TO BE PROVIDED IN THIS CONTRACT OR BY OTHERS & COORD ALL ROUGH-IN & SUBSTRATE DIMENSIONS TO DETERMINE ACTUAL REQUIRED SIZES OF & LOCATIONS OF PADS, CURBS, KNOCKOUTS, BLOCKOUTS, ETC.
- VERIFY AND COORD SIZE AND LOCATION OF ACCESS DOORS, CURBS, PADS, WALL MOUNTED EQUIPMENT AND ACCESSORIES TO PROVIDE ALL OPENINGS THROUGH FLOORS AND WALLS AND/OR ALL BASES, ANCHORS, INSERTS & BLOCKING.
- NOTES ON DRAWINGS INDICATE SOME OF THE ITEMS TO BE PAINTED. REFER TO SPECIFICATIONS FOR OTHER REQUIREMENTS FOR ITEMS TO BE PAINTED AND PAINT SYSTEMS FOR EACH SUBSTRATE AND/OR MATERIAL.
- REFER TO PROCESS, ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES OF DRAWINGS FOR ADDITIONAL NOTES.
- DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SHALL ESTABLISH LOCATION OF ALL PARTITIONS, OPENINGS, EQUIPMENT, ETC.
- LARGER SCALE DRAWINGS AND DETAILS HAVE PRIORITY OVER SMALLER SCALE DRAWINGS.
- CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS IN THE DRAWINGS AND/OR SPECIFICATIONS TO REQUEST AND RECEIVE AN INTERPRETATION OR CLARIFICATION BEFORE PROCEEDING WITH CONSTRUCTION.
- CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE PROCEEDING WITH CONSTRUCTION.



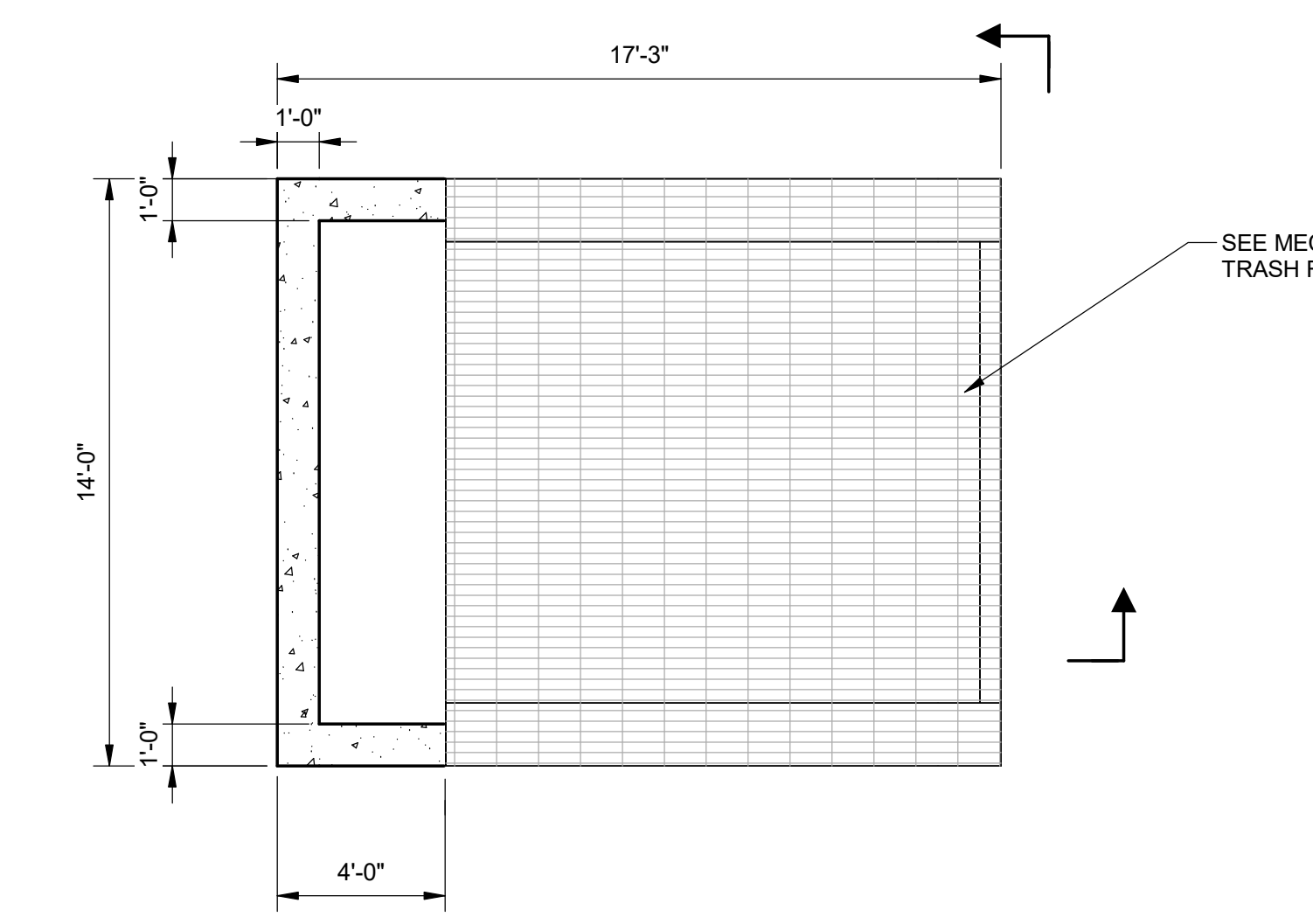
EGRESS
A PLAN
SCALE: 3/32" = 1'-0"

PLOT DATE: 4/23/2026 12:19:30 PM

BID SET		DESIGNED SBA			DRAWN CC	CITY OF THORNTON THORNTON WATER PROJECT SOURCE WATER PUMP STATION ARCHITECTURAL PUMP STATION CODE ANALYSIS	VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"	JOB NO. 203505	
		CHECKED GS			DATE MAY 2026	DRAWING NO. 30A01	SHEET NO. 42 OF 169		
REV	DATE	BY			DESCRIPTION				



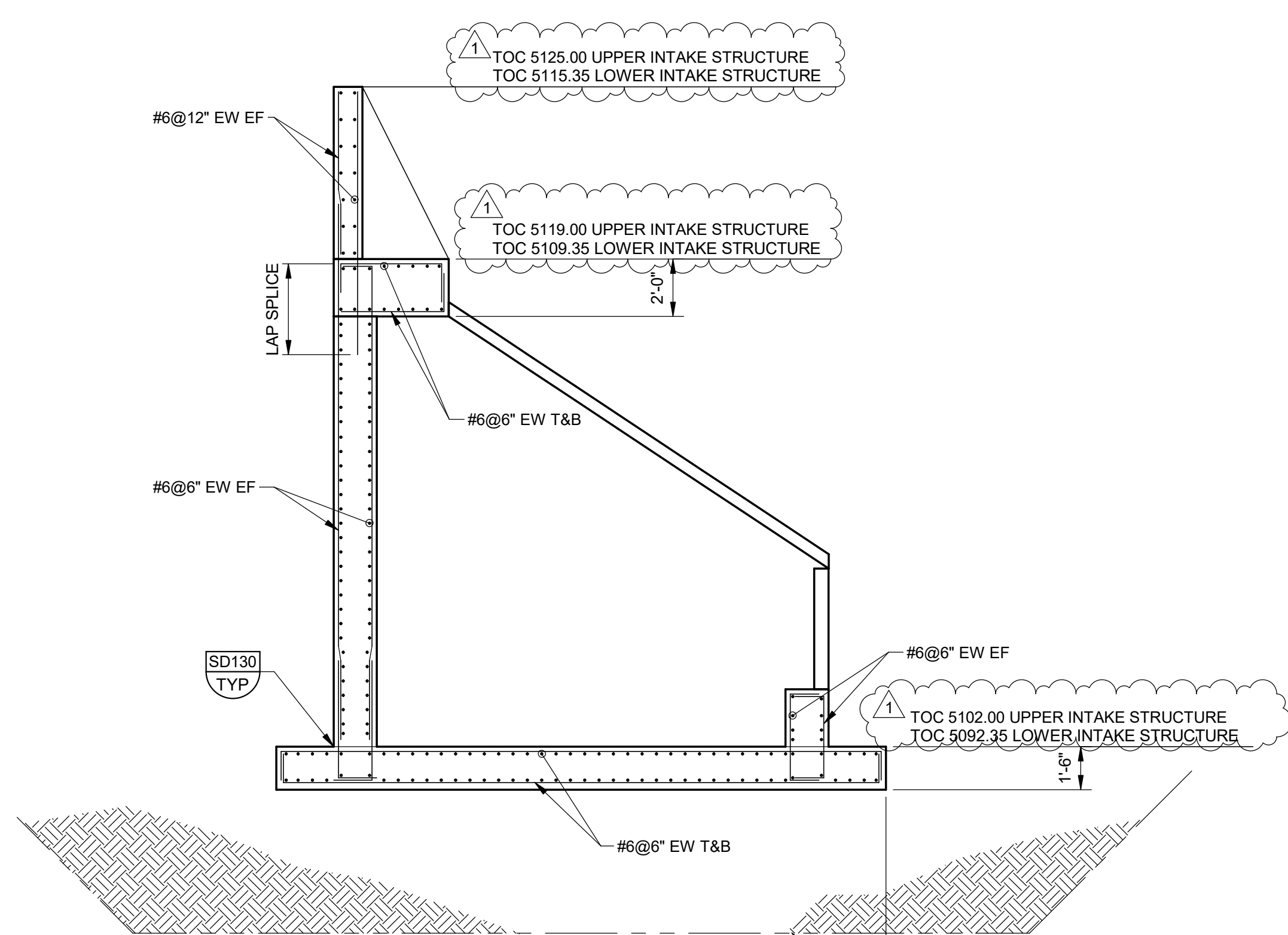
AA LOWER PLAN
SCALE: 1/4" = 1'-0"



AB UPPER PLAN
SCALE: 1/4" = 1'-0"

SEE MECH DWGS FOR TRASH RACK DETAILS

INV 5104.00 UPPER INTAKE STRUCTURE
INV 5094.35 LOWER INTAKE STRUCTURE



AC SECTION
SCALE: 1/4" = 1'-0"

FOR SLAB REINF SEE AC/

TOC 5125.00 UPPER INTAKE STRUCTURE
TOC 5115.35 LOWER INTAKE STRUCTURE

TOC 5119.00 UPPER INTAKE STRUCTURE
TOC 5109.35 LOWER INTAKE STRUCTURE

SEE MECH DWGS FOR TRASH RACK DETAILS

TOC 5108.50 UPPER INTAKE STRUCTURE
TOC 5098.85 LOWER INTAKE STRUCTURE

TOC 5102.00 UPPER INTAKE STRUCTURE
TOC 5092.35 LOWER INTAKE STRUCTURE

FOR SLAB REINF SEE AC/

EL 5087 ±

AD SECTION
SCALE: 1/4" = 1'-0"

5'-0" OVEREXCAVATION FOOTPRINT SHALL COVER BOTH UPPER AND LOWER INTAKE STRUCTURES. SEE DRAWING 30C05. REPLACE WITH SITE-DERIVED FILL OR WITH CDOT CLASS 1 STRUCTURAL BACKFILL

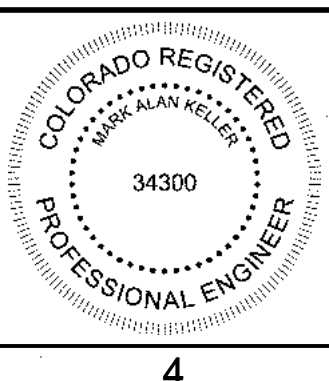
- STRUCTURAL DESIGN INFORMATION:**
- SEE SHEET 30GS01 FOR GENERAL BUILDING CODE AND LOADING CRITERIA. THE FOLLOWING NOTES INDICATE DESIGN CRITERIA SPECIFIC TO THIS STRUCTURE.
 - RISK CATEGORY: IV
 - DEAD LOAD
 - SELF WEIGHT
 - EARTHQUAKE:
 - SEISMIC IMPORTANCE FACTOR $I_e = 1.5$
 - SEISMIC DESIGN CATEGORY: C
 - BASIC SEISMIC FORCE RESISTING SYSTEM: ORDINARY REINFORCED CONCRETE SHEAR WALLS
 - SYSTEM RESPONSE MODIFICATION COEFFICIENT $R = 4$
 - SEISMIC RESPONSE COEFFICIENT $C_s = 0.129$
 - DESIGN BASE SHEAR $V = 36$ KIP (STRENGTH LEVEL)
 - ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE.
 - FOUNDATION:
 - TYPE: SHALLOW
 - MINIMUM REQUIRED SOIL BEARING CAPACITY: 3000 PSE (NET ALLOWABLE)
 - PROVIDE 5' OF OVEREXCAVATION IN ALL SIDES FOR UPPER INTAKE STRUCTURE AND 15' OF OVEREXCAVATION ON ALL SIDES FOR LOWER INTAKE STRUCTURE.

- KEY NOTES:**
- PROVIDE CLSM AT THE UPPER INTAKE STRUCTURE FROM THE BOTTOM EDGE OF THE FOUNDATION TO THE BOTTOM OF THE PIPE TRENCH AT 1:1 SLOPE. REFER TO 30C05.

PLOT DATE: 6/2/2026 3:03:46 PM

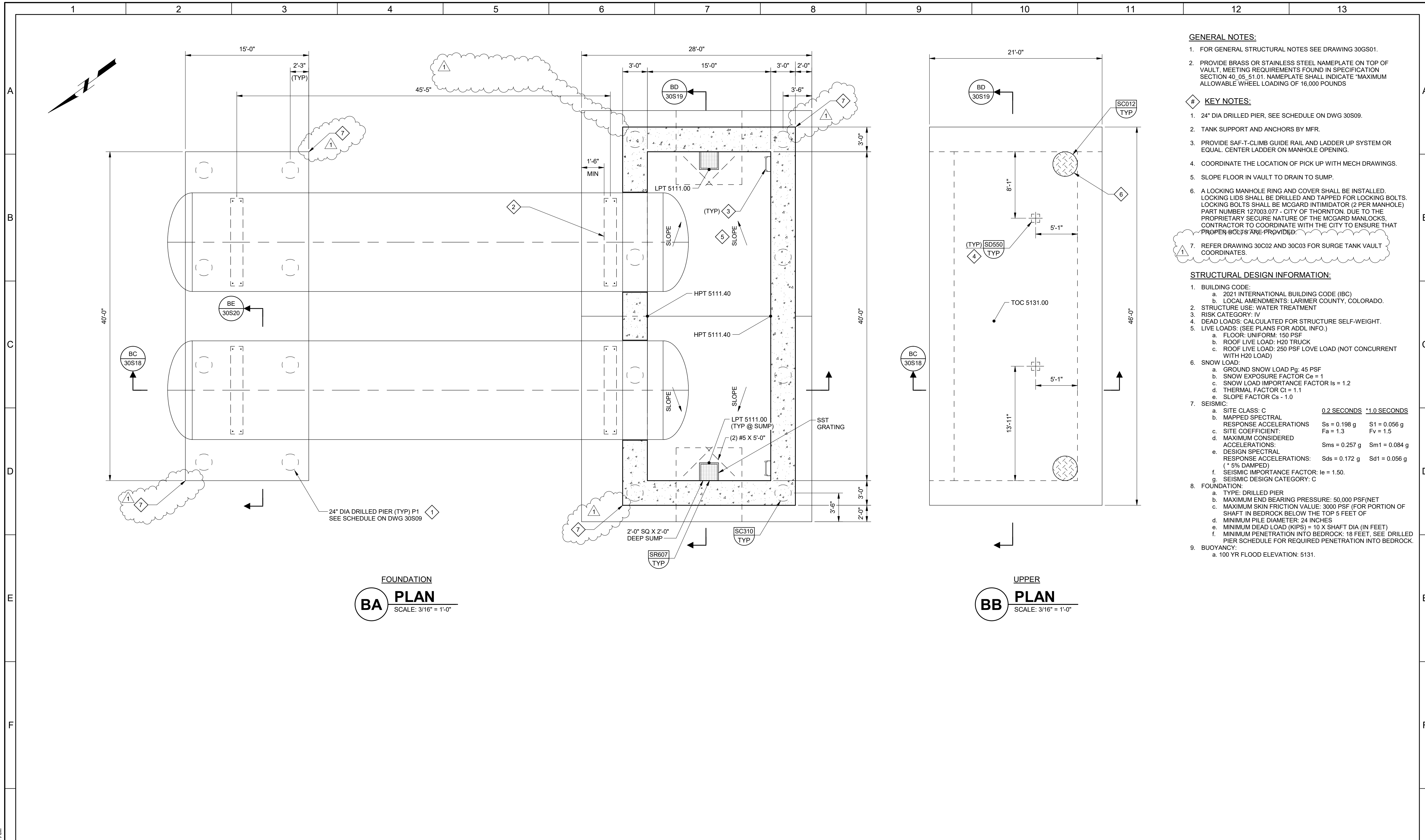
REV		DATE	BY	DESCRIPTION
1		6/26	JK	ADDENDUM NO. 1

DESIGNED	NV
DRAWN	JBB
CHECKED	MAK
DATE	MAY 2026



CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
STRUCTURAL
INTAKE STRUCTURE
PLANS AND SECTION

VERIFY SCALES	JOB NO.
BAR IS ONE INCH ON ORIGINAL DRAWING	203505
0 1"	DRAWING NO.
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	30S16
	SHEET NO.
	68 OF 169



- GENERAL NOTES:**
- FOR GENERAL STRUCTURAL NOTES SEE DRAWING 30GS01.
 - PROVIDE BRASS OR STAINLESS STEEL NAMEPLATE ON TOP OF VAULT. MEETING REQUIREMENTS FOUND IN SPECIFICATION SECTION 40.05.51.01. NAMEPLATE SHALL INDICATE "MAXIMUM ALLOWABLE WHEEL LOADING OF 16,000 POUNDS"
- KEY NOTES:**
- 24" DIA DRILLED PIER, SEE SCHEDULE ON DWG 30S09.
 - TANK SUPPORT AND ANCHORS BY MFR.
 - PROVIDE SAF-T-CLIMB GUIDE RAIL AND LADDER UP SYSTEM OR EQUAL. CENTER LADDER ON MANHOLE OPENING.
 - COORDINATE THE LOCATION OF PICK UP WITH MECH DRAWINGS.
 - SLOPE FLOOR IN VAULT TO DRAIN TO SUMP.
 - A LOCKING MANHOLE RING AND COVER SHALL BE INSTALLED. LOCKING LIDS SHALL BE DRILLED AND TAPPED FOR LOCKING BOLTS. LOCKING BOLTS SHALL BE MCGARD INTIMIDATOR (2 PER MANHOLE) PART NUMBER 127003.077 - CITY OF THORNTON. DUE TO THE PROPRIETARY SECURE NATURE OF THE MCGARD MANLOCKS, CONTRACTOR TO COORDINATE WITH THE CITY TO ENSURE THAT PROPER BOLTS ARE PROVIDED.
 - REFER DRAWING 30C02 AND 30C03 FOR SURGE TANK VAULT COORDINATES.

- STRUCTURAL DESIGN INFORMATION:**
- BUILDING CODE:
 - 2021 INTERNATIONAL BUILDING CODE (IBC)
 - LOCAL AMENDMENTS: LARIMER COUNTY, COLORADO.
 - STRUCTURE USE: WATER TREATMENT
 - RISK CATEGORY: IV
 - DEAD LOADS: CALCULATED FOR STRUCTURE SELF-WEIGHT.
 - LIVE LOADS: (SEE PLANS FOR ADDL INFO.)
 - FLOOR: UNIFORM: 150 PSF
 - ROOF LIVE LOAD: H20 TRUCK
 - ROOF LIVE LOAD: 250 PSF LOVE LOAD (NOT CONCURRENT WITH H20 LOAD)
 - SNOW LOAD:
 - GROUND SNOW LOAD P_g : 45 PSF
 - SNOW EXPOSURE FACTOR C_e : 1
 - SNOW LOAD IMPORTANCE FACTOR I_s : 1.2
 - THERMAL FACTOR C_t : 1.1
 - SLOPE FACTOR C_s : -1.0
 - SEISMIC:

a. SITE CLASS: C	0.2 SECONDS	*1.0 SECONDS
b. MAPPED SPECTRAL RESPONSE ACCELERATIONS	$S_s = 0.198 g$	$S_1 = 0.056 g$
c. SITE COEFFICIENT:	$F_a = 1.3$	$F_v = 1.5$
d. MAXIMUM CONSIDERED ACCELERATIONS:	$S_{ms} = 0.257 g$	$S_{m1} = 0.084 g$
e. DESIGN SPECTRAL RESPONSE ACCELERATIONS: (* 5% DAMPED)	$S_{ds} = 0.172 g$	$S_{d1} = 0.056 g$
f. SEISMIC IMPORTANCE FACTOR: $I_e = 1.50$		
g. SEISMIC DESIGN CATEGORY: C		
 - FOUNDATION:
 - TYPE: DRILLED PIER
 - MAXIMUM END BEARING PRESSURE: 50,000 PSF/NET
 - MAXIMUM SKIN FRICTION VALUE: 3000 PSF (FOR PORTION OF SHAFT IN BEDROCK BELOW THE TOP 5 FEET OF MINIMUM PILE DIAMETER: 24 INCHES)
 - MINIMUM DEAD LOAD (KIPS) = 10 X SHAFT DIA (IN FEET)
 - MINIMUM PENETRATION INTO BEDROCK: 18 FEET, SEE DRILLED PIER SCHEDULE FOR REQUIRED PENETRATION INTO BEDROCK.
 - BUOYANCY:
 - 100 YR FLOOD ELEVATION: 5131.

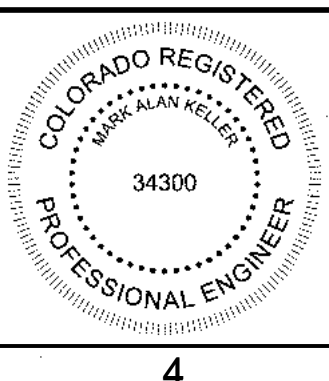
FOUNDATION
BA PLAN
 SCALE: 3/16" = 1'-0"

UPPER
BB PLAN
 SCALE: 3/16" = 1'-0"

PLOT DATE: 6/3/2026 9:59:54 AM

REV		DATE	BY	DESCRIPTION
1	6/26	JK	JK	ADDENDUM NO. 1

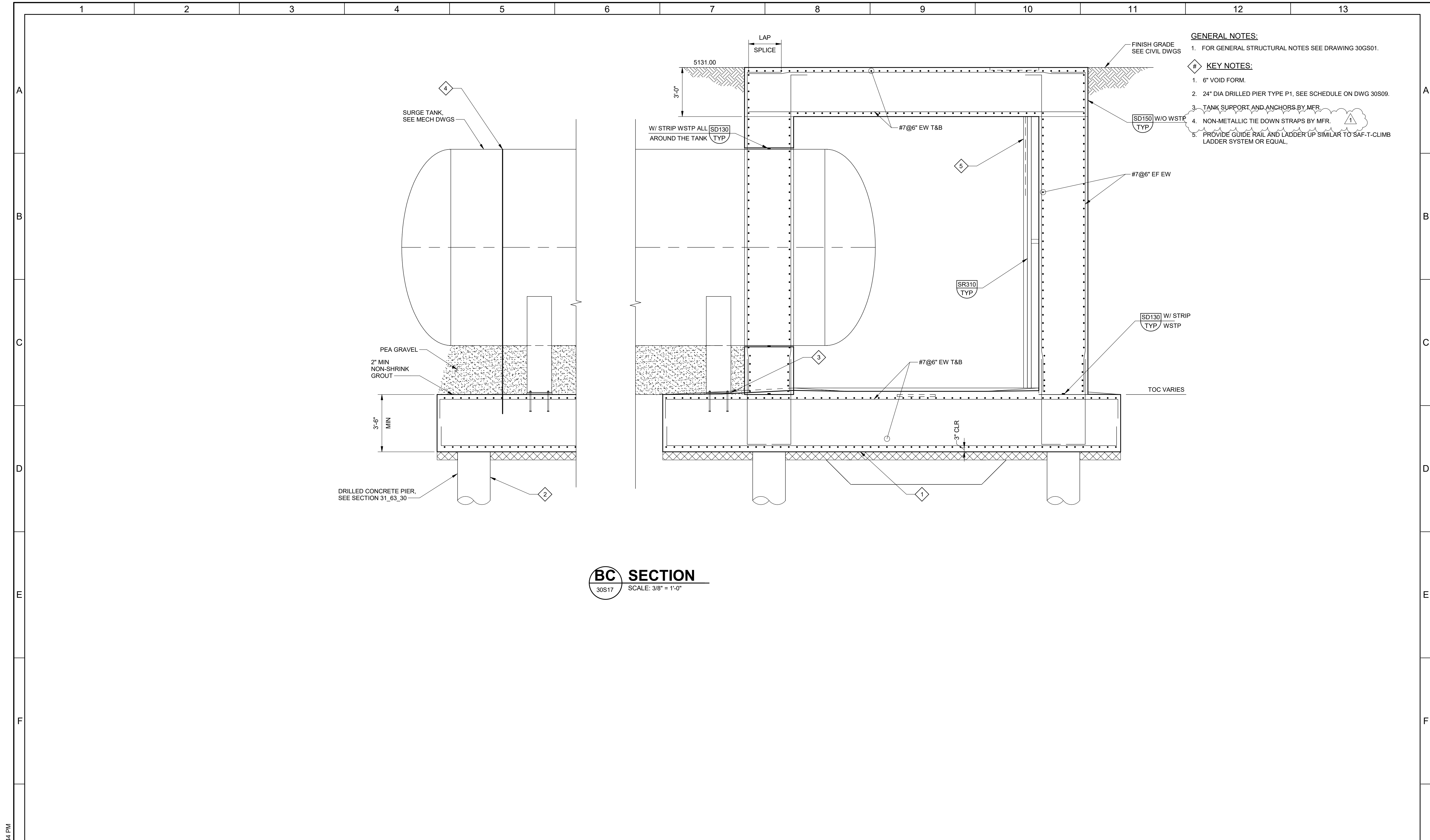
DESIGNED	NV
DRAWN	JBB
CHECKED	MAK
DATE	MAY 2026



CITY OF THORNTON
 THORNTON WATER PROJECT
 SOURCE WATER PUMP STATION
 STRUCTURAL
 SURGE TANK PLANS

VERIFY SCALES	JOB NO.
BAR IS ONE INCH ON ORIGINAL DRAWING	203505
0 1"	DRAWING NO.
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	30S17
	SHEET NO.
	69 OF 168

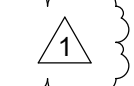
PLOT DATE: 6/2/2026 4:03:44 PM

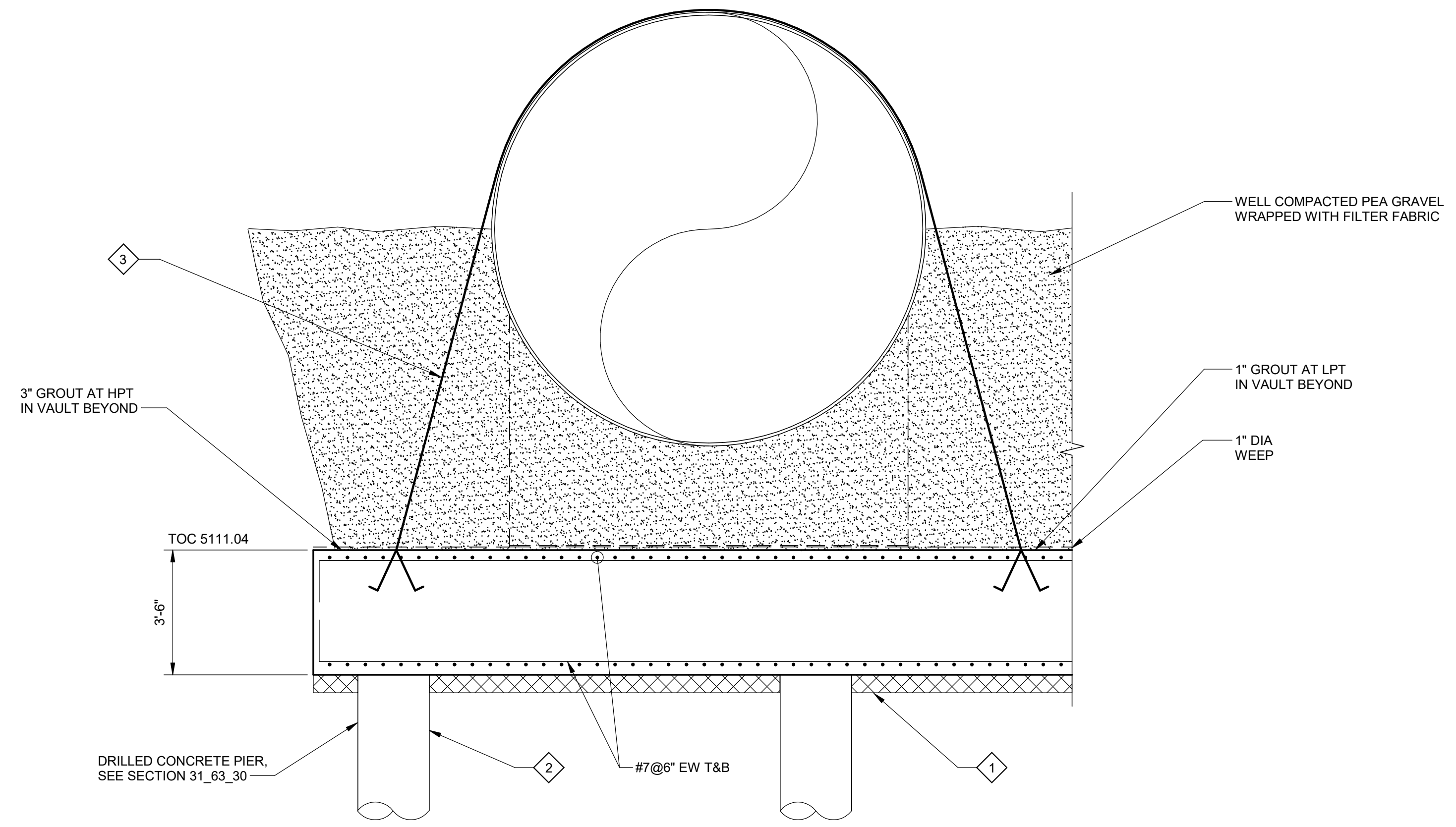


- GENERAL NOTES:**
- FOR GENERAL STRUCTURAL NOTES SEE DRAWING 30GS01.
- KEY NOTES:**
- 6" VOID FORM.
 - 24" DIA DRILLED PIER TYPE P1, SEE SCHEDULE ON DWG 30S09.
 - TANK SUPPORT AND ANCHORS BY MFR.
 - NON-METALLIC TIE DOWN STRAPS BY MFR.
 - PROVIDE GUIDE RAIL AND LADDER UP SIMILAR TO SAF-T-CLIMB LADDER SYSTEM OR EQUAL.

BC SECTION
 30S17 SCALE: 3/8" = 1'-0"

<p>BID SET</p>		<p>DESIGNED Designer</p> <p>DRAWN Author</p> <p>CHECKED Checker</p> <p>DATE MAY 2026</p>				<p>CITY OF THORNTON THORNTON WATER PROJECT SOURCE WATER PUMP STATION STRUCTURAL SURGE TANK SECTIONS 1</p>	<p>VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY</p>	<p>JOB NO. 203505</p> <p>DRAWING NO. 30S18</p> <p>SHEET NO. 70 OF 168</p>														
<table border="1"> <tr> <th>REV</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	REV	DATE	BY	DESCRIPTION					<p>ADDENDUM NO. 1</p>	<p>1</p>	<p>2</p>	<p>3</p>	<p>4</p>	<p>5</p>	<p>6</p>	<p>7</p>	<p>8</p>	<p>9</p>	<p>10</p>	<p>11</p>	<p>12</p>	<p>13</p>
REV	DATE	BY	DESCRIPTION																			

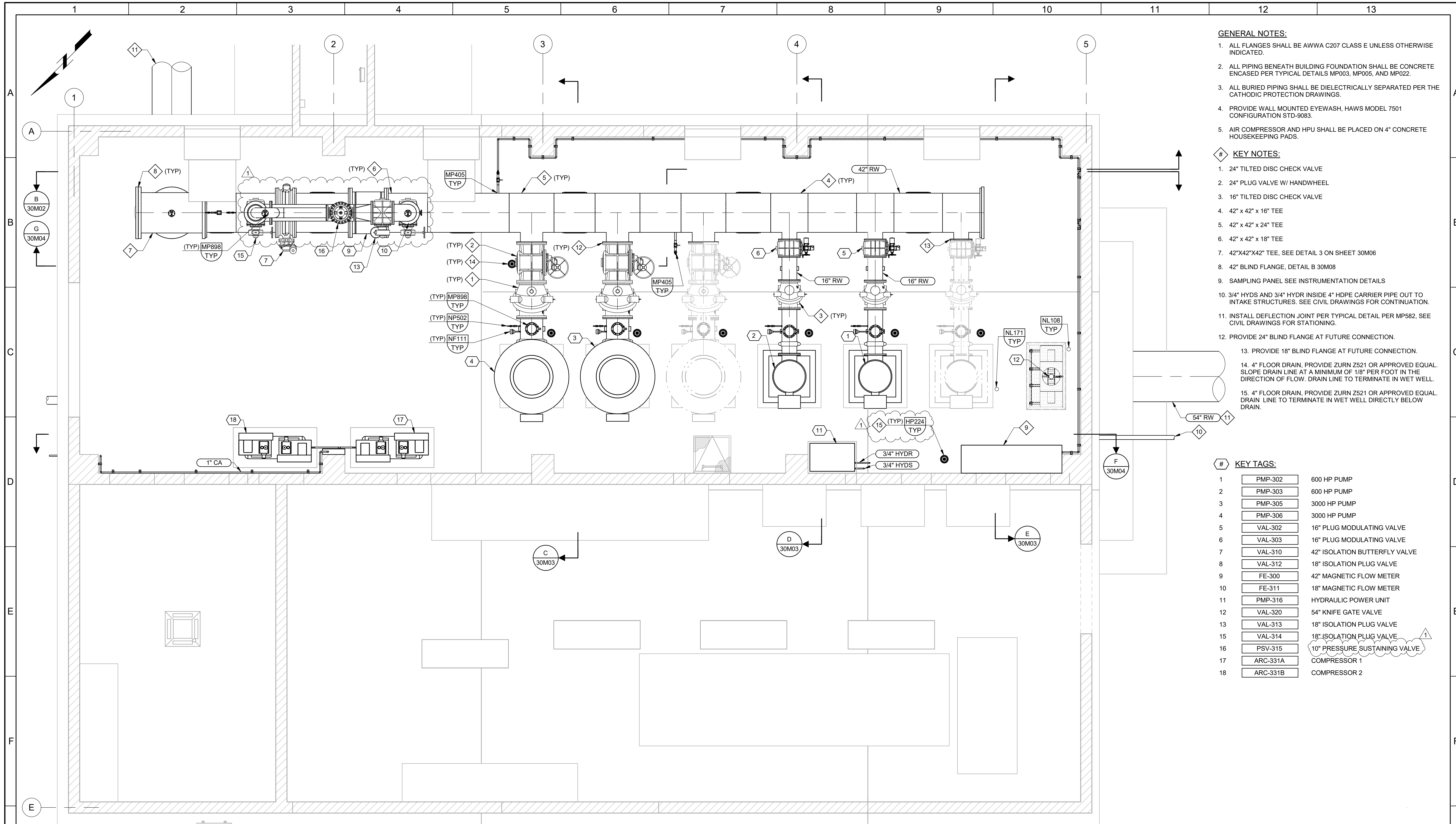
- GENERAL NOTES:**
- FOR GENERAL STRUCTURAL NOTES SEE DRAWING 30GS01.
- KEY NOTES:**
- 6" VOID FORM.
 - 24" DIA DRILLED PIER TYPE P1- SEE SCHEDULE ON DWG 30S09.
 - NON-METALLIC TIE DOWN STRAPS BY MFR. 



BE SECTION
30S17 SCALE: 3/8" = 1'-0"

PLOT DATE: 6/2/2026 4:03:44 PM

<p>BID SET</p>			<p>DESIGNED Designer</p>				<p>CITY OF THORNTON THORNTON WATER PROJECT SOURCE WATER PUMP STATION STRUCTURAL SURGE TANK SECTIONS 3</p>				<p>VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING</p>	<p>JOB NO. 203505</p>
<p>6/26</p>	<p>JK</p>	<p>ADDENDUM NO. 1</p>	<p>DRAWN Author</p>				<p>CHECKED Checker</p>	<p>DATE MAY 2026</p>	<p>0 1"</p>	<p>DRAWING NO. 30S20</p>		
<p>REV</p>	<p>DATE</p>	<p>BY</p>	<p>DESCRIPTION</p>				<p>DATE</p>	<p>DATE</p>	<p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY</p>	<p>SHEET NO. 72 OF 168</p>		



- GENERAL NOTES:**
1. ALL FLANGES SHALL BE AWWA C207 CLASS E UNLESS OTHERWISE INDICATED.
 2. ALL PIPING BENEATH BUILDING FOUNDATION SHALL BE CONCRETE ENCASED PER TYPICAL DETAILS MP003, MP005, AND MP022.
 3. ALL BURIED PIPING SHALL BE DIELECTRICALLY SEPARATED PER THE CATHODIC PROTECTION DRAWINGS.
 4. PROVIDE WALL MOUNTED EYEWASH, HAWS MODEL 7501 CONFIGURATION STD-9083.
 5. AIR COMPRESSOR AND HPU SHALL BE PLACED ON 4" CONCRETE HOUSEKEEPING PADS.
- KEY NOTES:**
1. 24" TILTED DISC CHECK VALVE
 2. 24" PLUG VALVE W/ HANDWHEEL
 3. 16" TILTED DISC CHECK VALVE
 4. 42" x 42" x 16" TEE
 5. 42" x 42" x 24" TEE
 6. 42" x 42" x 18" TEE
 7. 42"x42"x42" TEE, SEE DETAIL 3 ON SHEET 30M06
 8. 42" BLIND FLANGE, DETAIL B 30M06
 9. SAMPLING PANEL SEE INSTRUMENTATION DETAILS
 10. 3/4" HYDS AND 3/4" HYDR INSIDE 4" HDPE CARRIER PIPE OUT TO INTAKE STRUCTURES. SEE CIVIL DRAWINGS FOR CONTINUATION.
 11. INSTALL DEFLECTION JOINT PER TYPICAL DETAIL PER MP582, SEE CIVIL DRAWINGS FOR STATIONING.
 12. PROVIDE 24" BLIND FLANGE AT FUTURE CONNECTION.
 13. PROVIDE 18" BLIND FLANGE AT FUTURE CONNECTION.
 14. 4" FLOOR DRAIN, PROVIDE ZURN Z521 OR APPROVED EQUAL. SLOPE DRAIN LINE AT A MINIMUM OF 1/8" PER FOOT IN THE DIRECTION OF FLOW. DRAIN LINE TO TERMINATE IN WET WELL.
 15. 4" FLOOR DRAIN, PROVIDE ZURN Z521 OR APPROVED EQUAL. DRAIN LINE TO TERMINATE IN WET WELL DIRECTLY BELOW DRAIN.

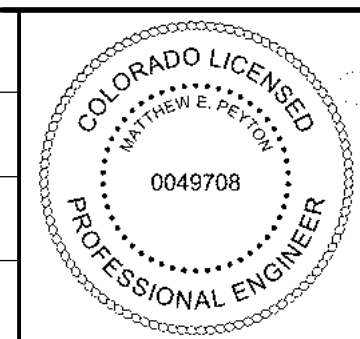
- KEY TAGS:**
- | | | |
|----|----------|-------------------------------|
| 1 | PMP-302 | 600 HP PUMP |
| 2 | PMP-303 | 600 HP PUMP |
| 3 | PMP-305 | 3000 HP PUMP |
| 4 | PMP-306 | 3000 HP PUMP |
| 5 | VAL-302 | 16" PLUG MODULATING VALVE |
| 6 | VAL-303 | 16" PLUG MODULATING VALVE |
| 7 | VAL-310 | 42" ISOLATION BUTTERFLY VALVE |
| 8 | VAL-312 | 18" ISOLATION PLUG VALVE |
| 9 | FE-300 | 42" MAGNETIC FLOW METER |
| 10 | FE-311 | 18" MAGNETIC FLOW METER |
| 11 | PMP-316 | HYDRAULIC POWER UNIT |
| 12 | VAL-320 | 54" KNIFE GATE VALVE |
| 13 | VAL-313 | 18" ISOLATION PLUG VALVE |
| 15 | VAL-314 | 18" ISOLATION PLUG VALVE |
| 16 | PSV-315 | 10" PRESSURE SUSTAINING VALVE |
| 17 | ARC-331A | COMPRESSOR 1 |
| 18 | ARC-331B | COMPRESSOR 2 |

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

PLOT DATE: 6/3/2026 4:11:21 PM

REV		DATE	BY	DESCRIPTION
1	6/26	JK		ADDENDUM NO. 1

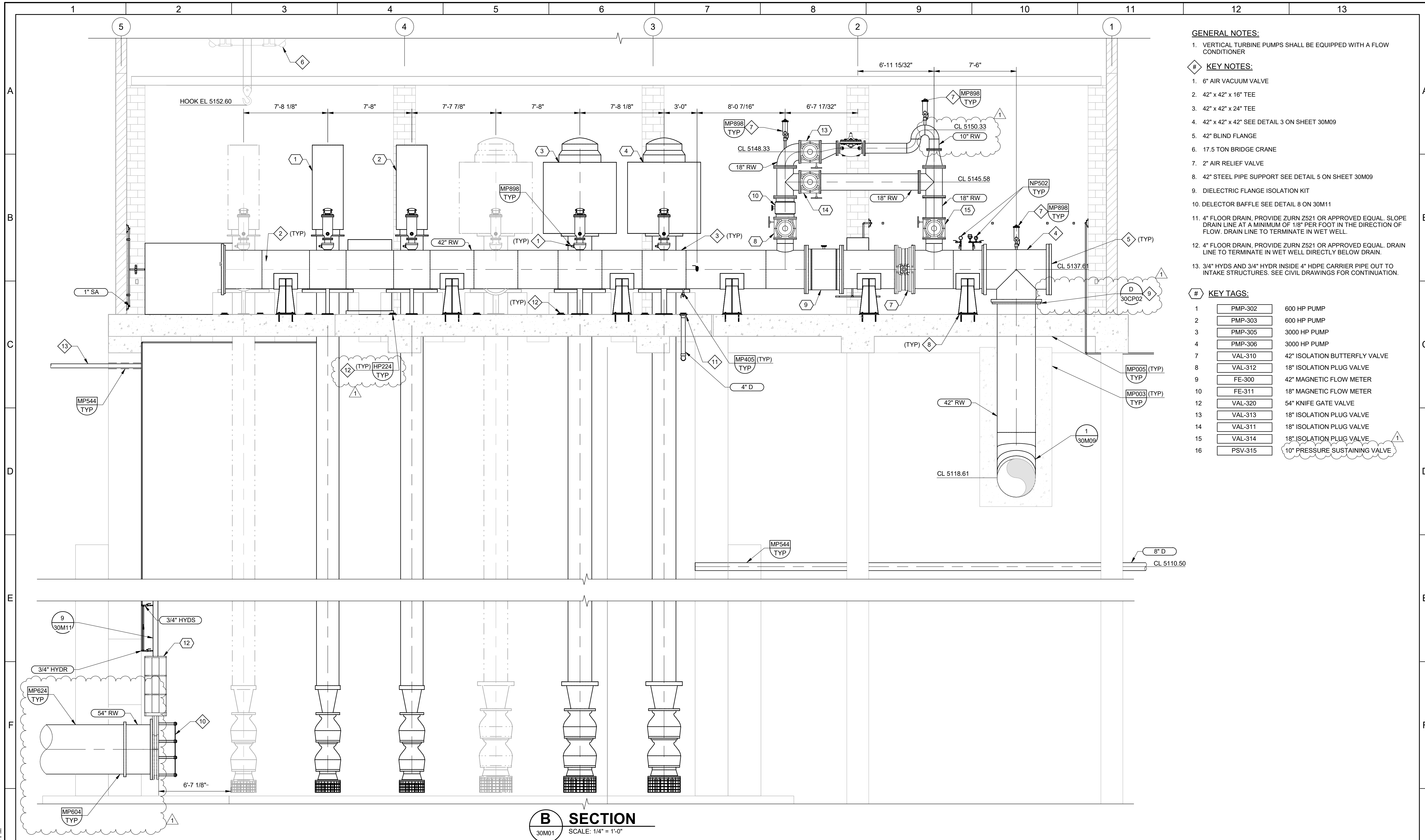
DESIGNED	MP
DRAWN	LRG
CHECKED	MZ
DATE	MAY 2026



CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
MECHANICAL
PUMP STATION
UPPER PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
203505
DRAWING NO.
30M01
SHEET NO.
73 OF 168



- GENERAL NOTES:**
- VERTICAL TURBINE PUMPS SHALL BE EQUIPPED WITH A FLOW CONDITIONER
- KEY NOTES:**
- AIR VACUUM VALVE
 - 42" x 42" x 16" TEE
 - 42" x 42" x 24" TEE
 - 42" x 42" x 42" SEE DETAIL 3 ON SHEET 30M09
 - 42" BLIND FLANGE
 - 17.5 TON BRIDGE CRANE
 - 2" AIR RELIEF VALVE
 - 42" STEEL PIPE SUPPORT SEE DETAIL 5 ON SHEET 30M09
 - DIELECTRIC FLANGE ISOLATION KIT
 - DELECTOR BAFFLE SEE DETAIL 8 ON 30M11
 - 4" FLOOR DRAIN, PROVIDE ZURN Z521 OR APPROVED EQUAL. SLOPE DRAIN LINE AT A MINIMUM OF 1/8" PER FOOT IN THE DIRECTION OF FLOW. DRAIN LINE TO TERMINATE IN WET WELL.
 - 4" FLOOR DRAIN, PROVIDE ZURN Z521 OR APPROVED EQUAL. DRAIN LINE TO TERMINATE IN WET WELL DIRECTLY BELOW DRAIN.
 - 3/4" HYDS AND 3/4" HYDR INSIDE 4" HDPE CARRIER PIPE OUT TO INTAKE STRUCTURES. SEE CIVIL DRAWINGS FOR CONTINUATION.

KEY TAGS:

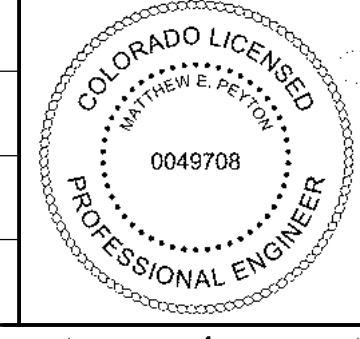
1	PMP-302	600 HP PUMP
2	PMP-303	600 HP PUMP
3	PMP-305	3000 HP PUMP
4	PMP-306	3000 HP PUMP
7	VAL-310	42" ISOLATION BUTTERFLY VALVE
8	VAL-312	18" ISOLATION PLUG VALVE
9	FE-300	42" MAGNETIC FLOW METER
10	FE-311	18" MAGNETIC FLOW METER
12	VAL-320	54" KNIFE GATE VALVE
13	VAL-313	18" ISOLATION PLUG VALVE
14	VAL-311	18" ISOLATION PLUG VALVE
15	VAL-314	18" ISOLATION PLUG VALVE
16	PSV-315	10" PRESSURE SUSTAINING VALVE

B SECTION
30M01 SCALE: 1/4" = 1'-0"

PLOT DATE: 6/3/2026 4:16:34 PM

REV		DATE	BY	DESCRIPTION
1		6/26	JK	ADDENDUM NO. 1
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				

DESIGNED	MP
DRAWN	LRG
CHECKED	MZ
DATE	MAY 2026



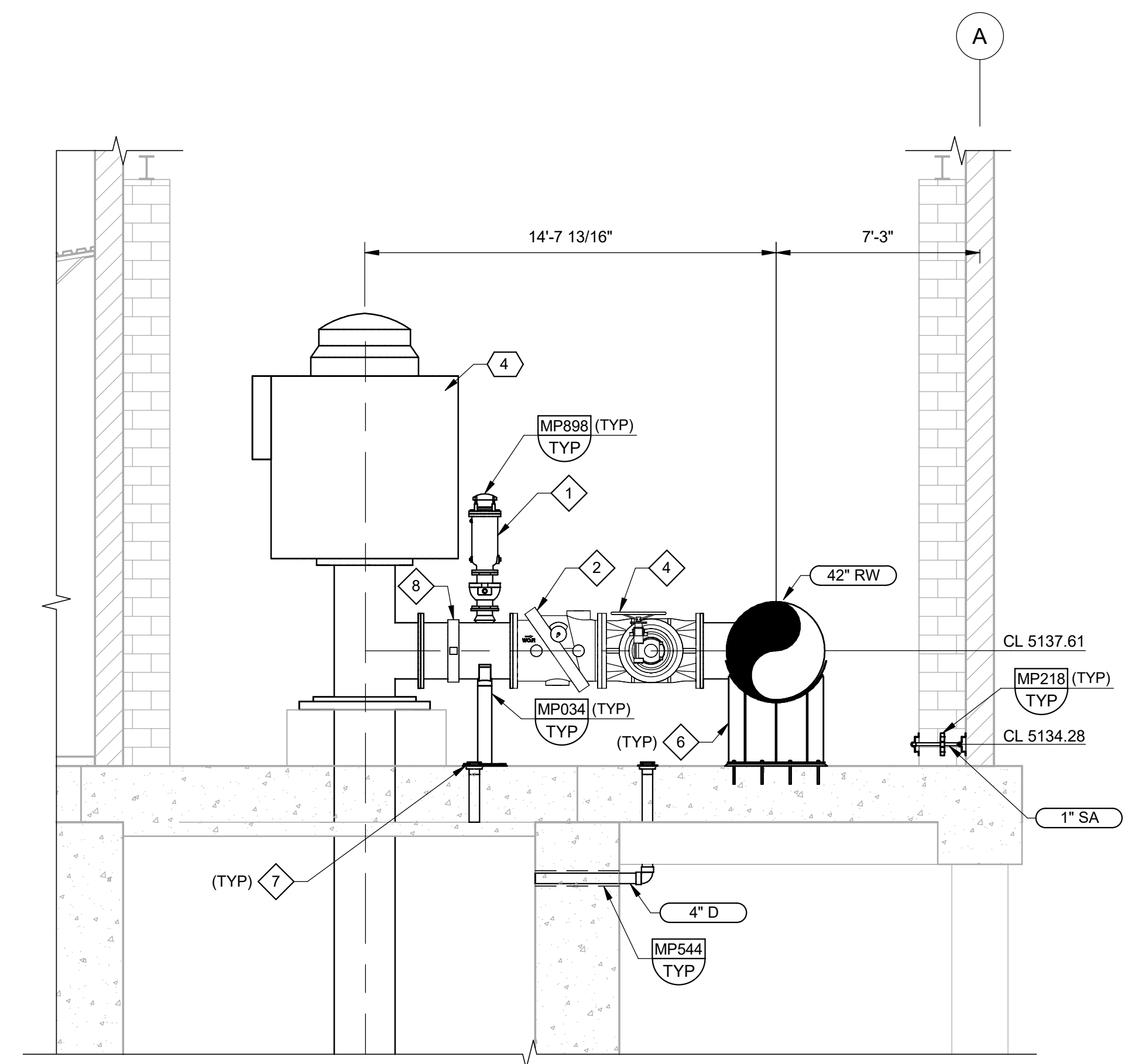
CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
MECHANICAL
PUMP STATION
SECTIONS 1

VERIFY SCALES	JOB NO.
BAR IS ONE INCH ON ORIGINAL DRAWING	203505
0 1"	DRAWING NO.
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	30M02
	SHEET NO.
	74 OF 168

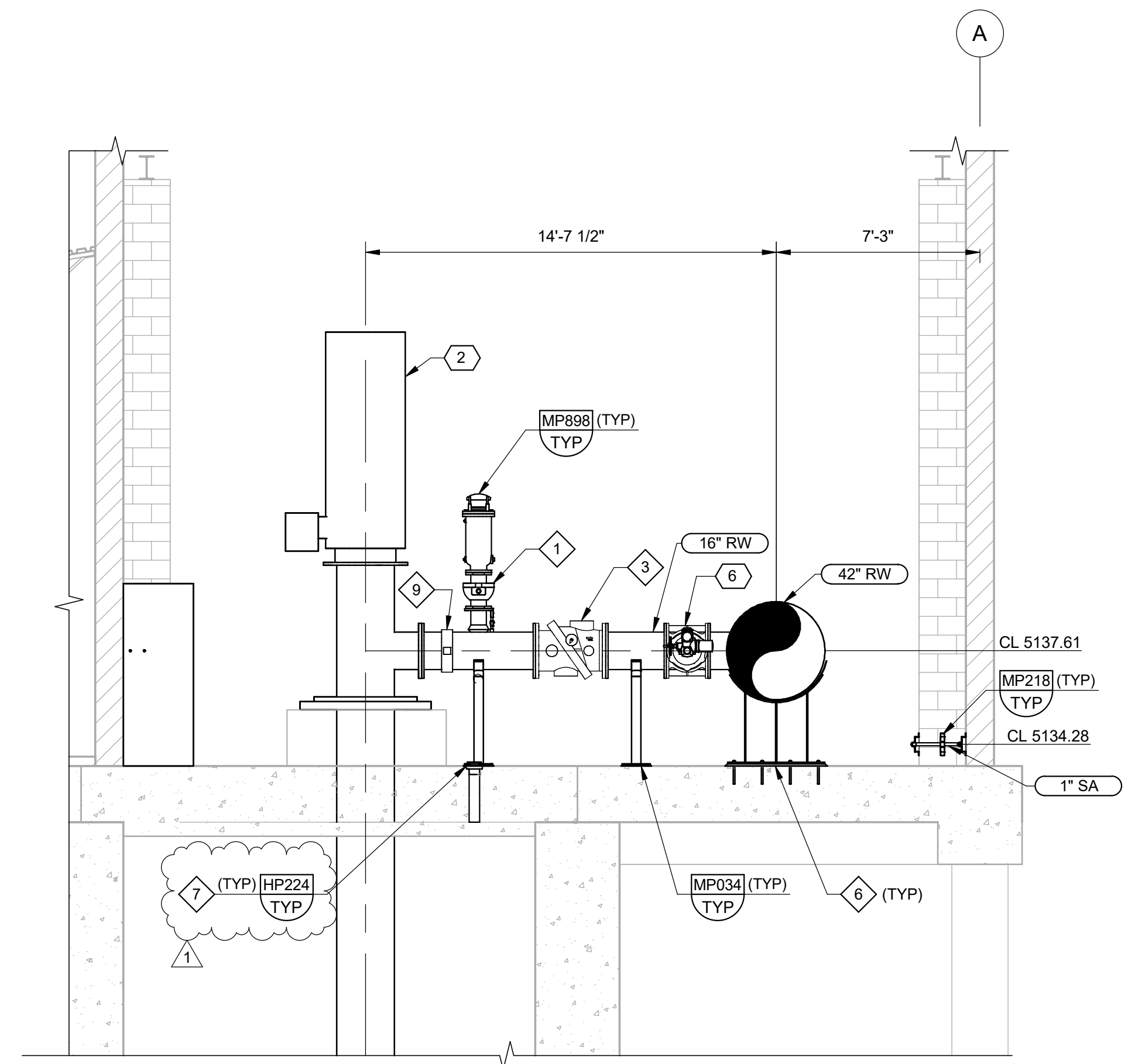
KEY TAGS:

2	PMP-303	600 HP PUMP
3	PMP-305	3000 HP PUMP
6	VAL-303	16" PLUG MODULATING VALVE
12	VAL-320	54" KNIFE GATE VALVE

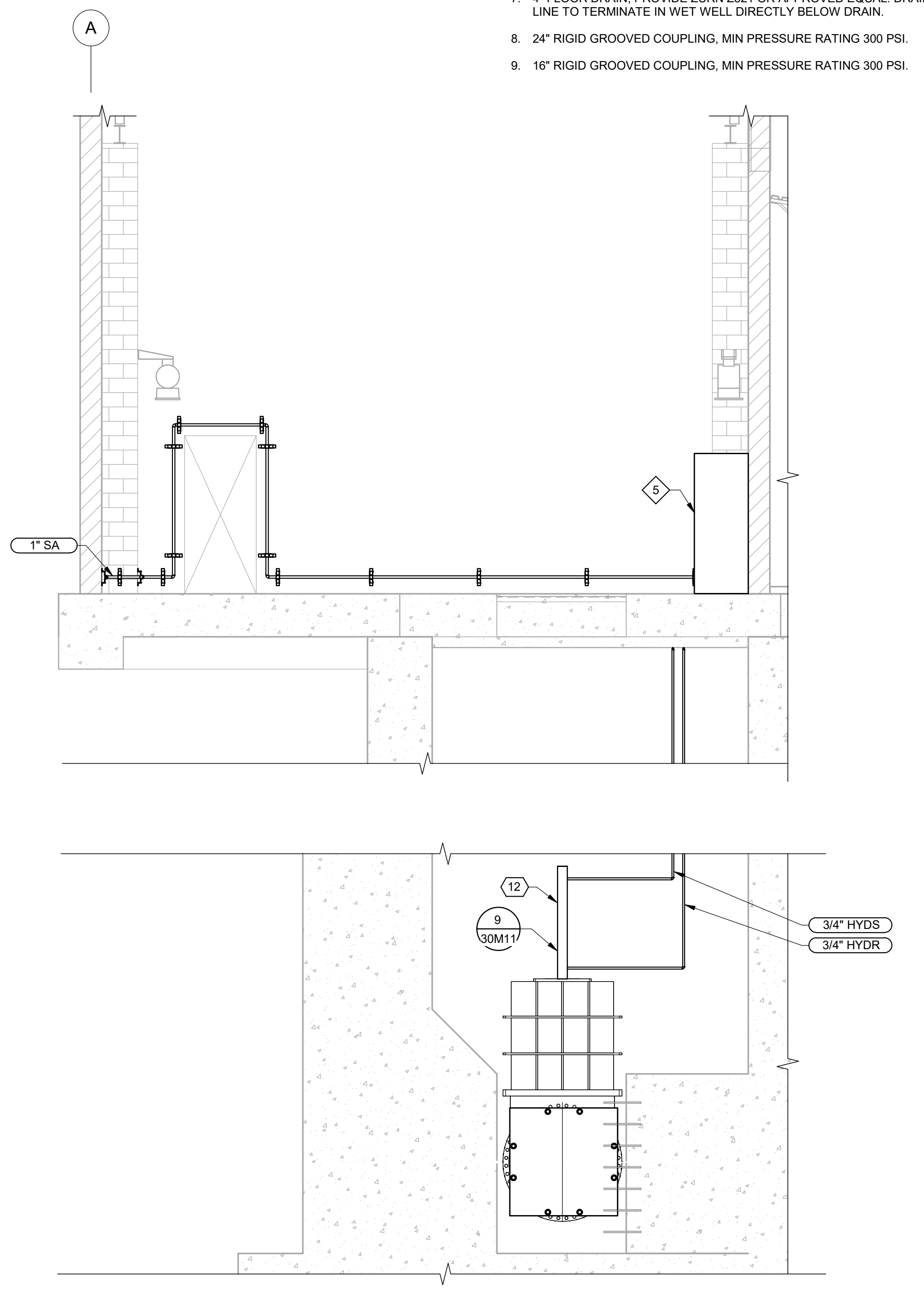
- ◆ KEY NOTES:
- 6" AIR VACUUM VALVE
 - 24" TILTED DISC CHECK VALVE
 - 16" TILTED DISC CHECK VALVE
 - 24" PLUG VALVE W/ HANDWHEEL
 - SAMPLING PANEL SEE INSTRUMENTATION DETAILS.
 - 42" STEEL PIPE SUPPORT SEE DETAIL 5 ON SHEET 30M09.
 - 4" FLOOR DRAIN, PROVIDE ZURN Z521 OR APPROVED EQUAL. DRAIN LINE TO TERMINATE IN WET WELL DIRECTLY BELOW DRAIN.
 - 24" RIGID GROOVED COUPLING, MIN PRESSURE RATING 300 PSI.
 - 16" RIGID GROOVED COUPLING, MIN PRESSURE RATING 300 PSI.



C SECTION
30M01 SCALE: 1/4" = 1'-0"



D SECTION
30M01 SCALE: 1/4" = 1'-0"

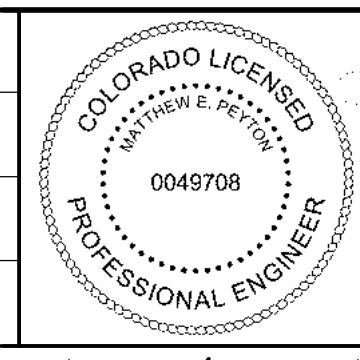


E SECTION
30M01 SCALE: 1/4" = 1'-0"

PLOT DATE: 6/2/2026 2:05:29 PM

REV		DATE	BY	DESCRIPTION
1	6/26	JK		ADDENDUM NO. 1

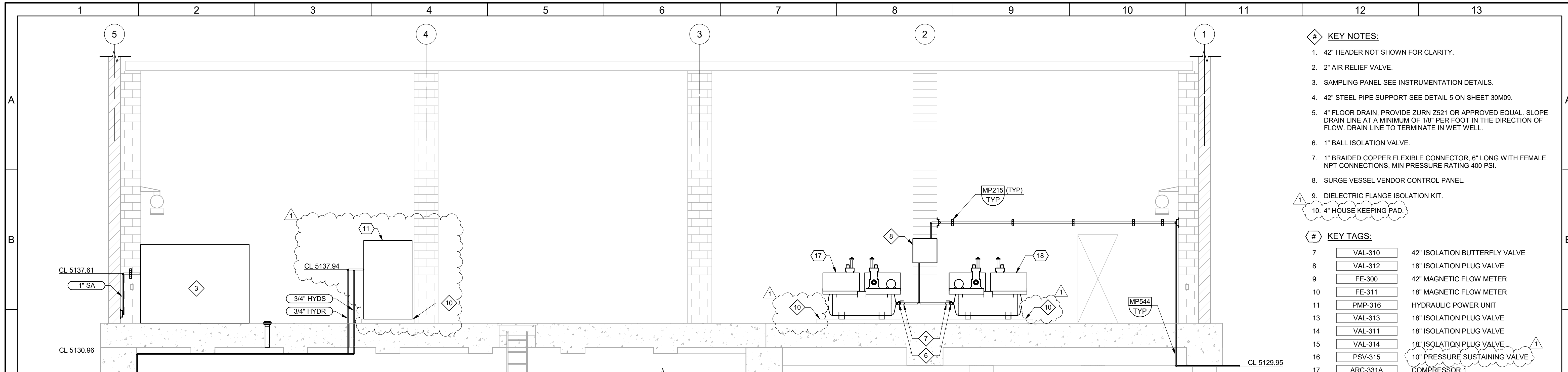
DESIGNED	MP
DRAWN	LRG
CHECKED	MZ
DATE	MAY 2026



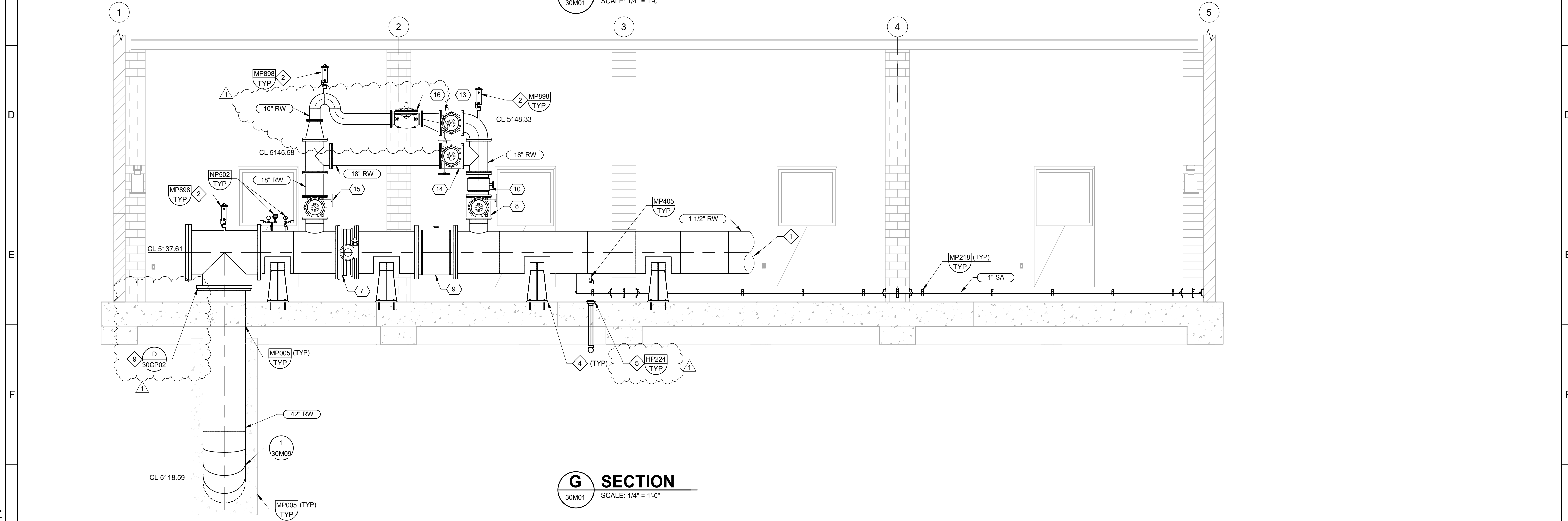
CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
MECHANICAL
PUMP STATION
SECTIONS 2

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203505
DRAWING NO. 30M03
SHEET NO. 75 OF 168



F SECTION
30M01 SCALE: 1/4" = 1'-0"

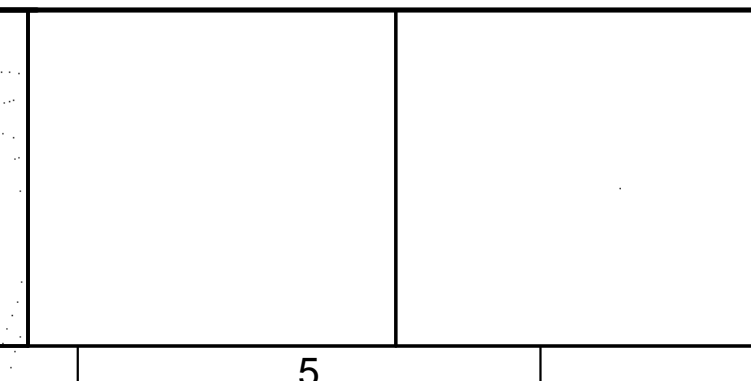


G SECTION
30M01 SCALE: 1/4" = 1'-0"

PLOT DATE: 6/3/2026 4:06:38 PM

REV		6/26	JK	ADDENDUM NO. 1
DATE		BY		DESCRIPTION
1				
2				
3				

DESIGNED	MP
DRAWN	LRG
CHECKED	MZ
DATE	MAY 2026



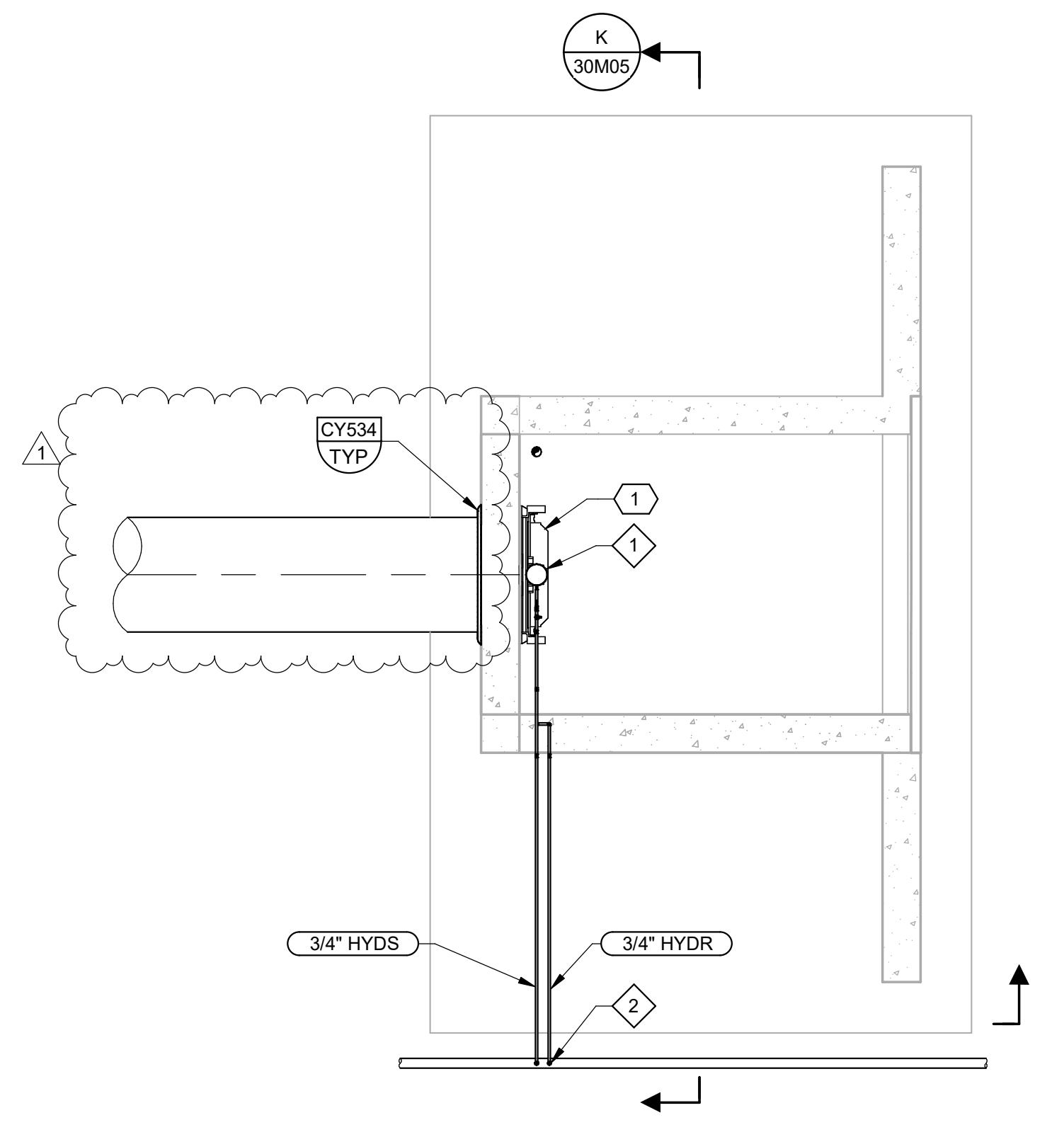
CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
MECHANICAL
PUMP STATION
SECTIONS 3

VERIFY SCALES	JOB NO.
BAR IS ONE INCH ON ORIGINAL DRAWING	203505
0 1"	DRAWING NO.
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	30M04
	SHEET NO.
	76 OF 168

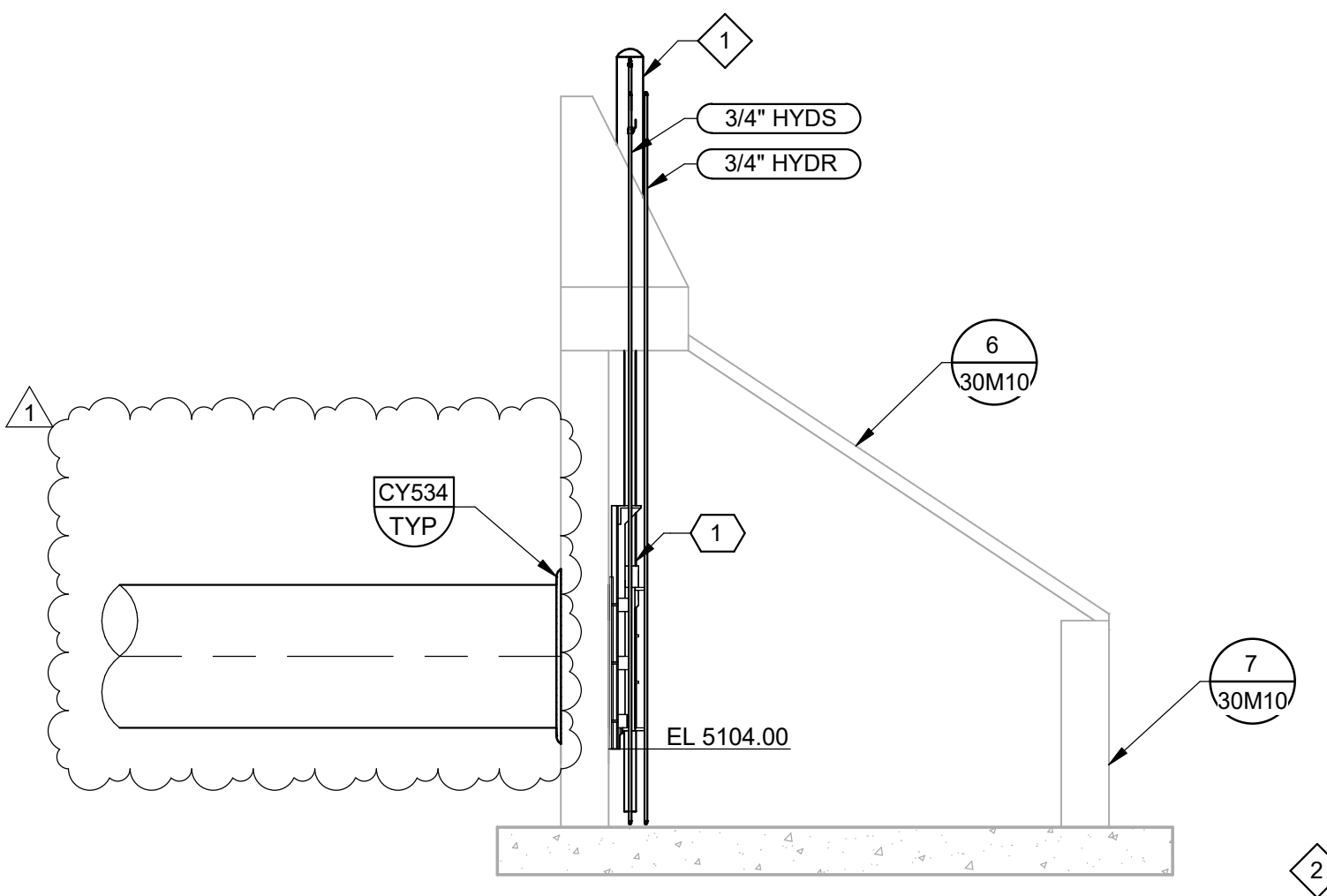
GENERAL NOTES:
 1. INSTALL GATE PER MANUFACTURER RECOMMENDATIONS.

KEY NOTES:
 1. HYDRAULIC CYLINDER GATE ACTUATOR
 2. DAYLIGHT HYDRAULIC LINES AND TRANSITION TO SST TUBING.

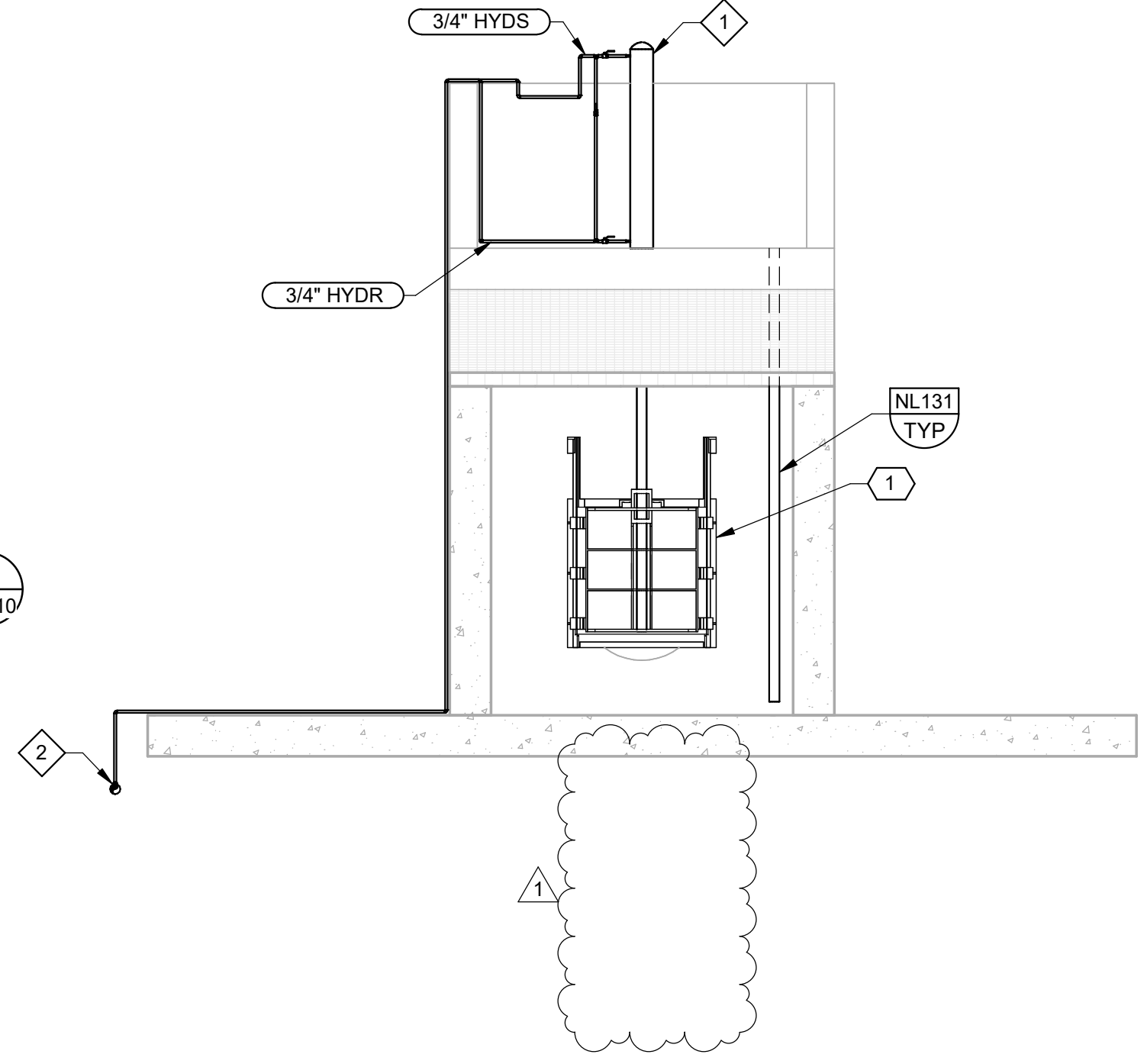
KEY TAGS:
 1. GAT-340 54" CAST IRON SLUICE GATE
 2. GAT-341 54" CAST IRON SLUICE GATE



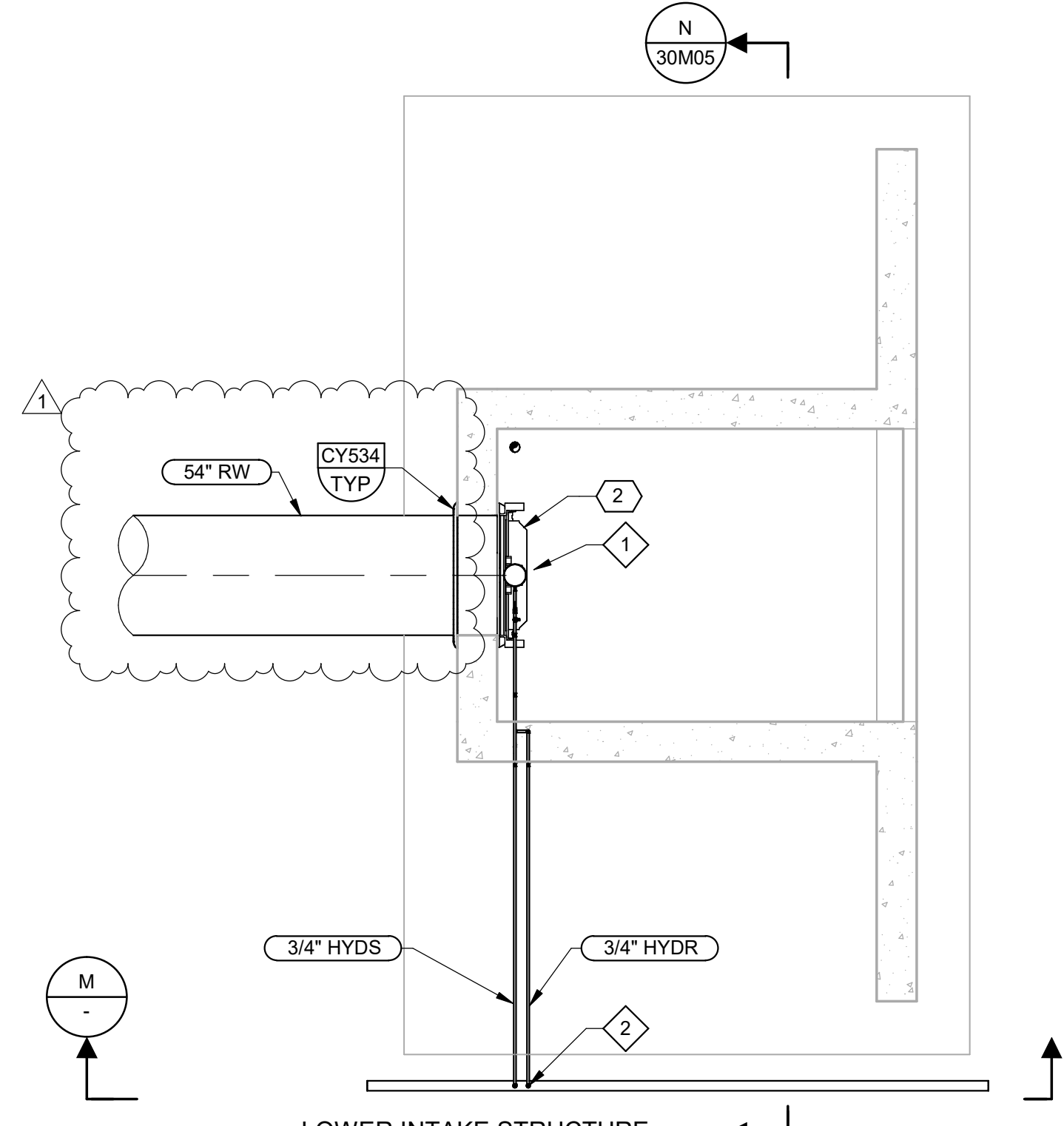
H PLAN
 UPPER INTAKE STRUCTURE
 SCALE: 3/16" = 1'-0"



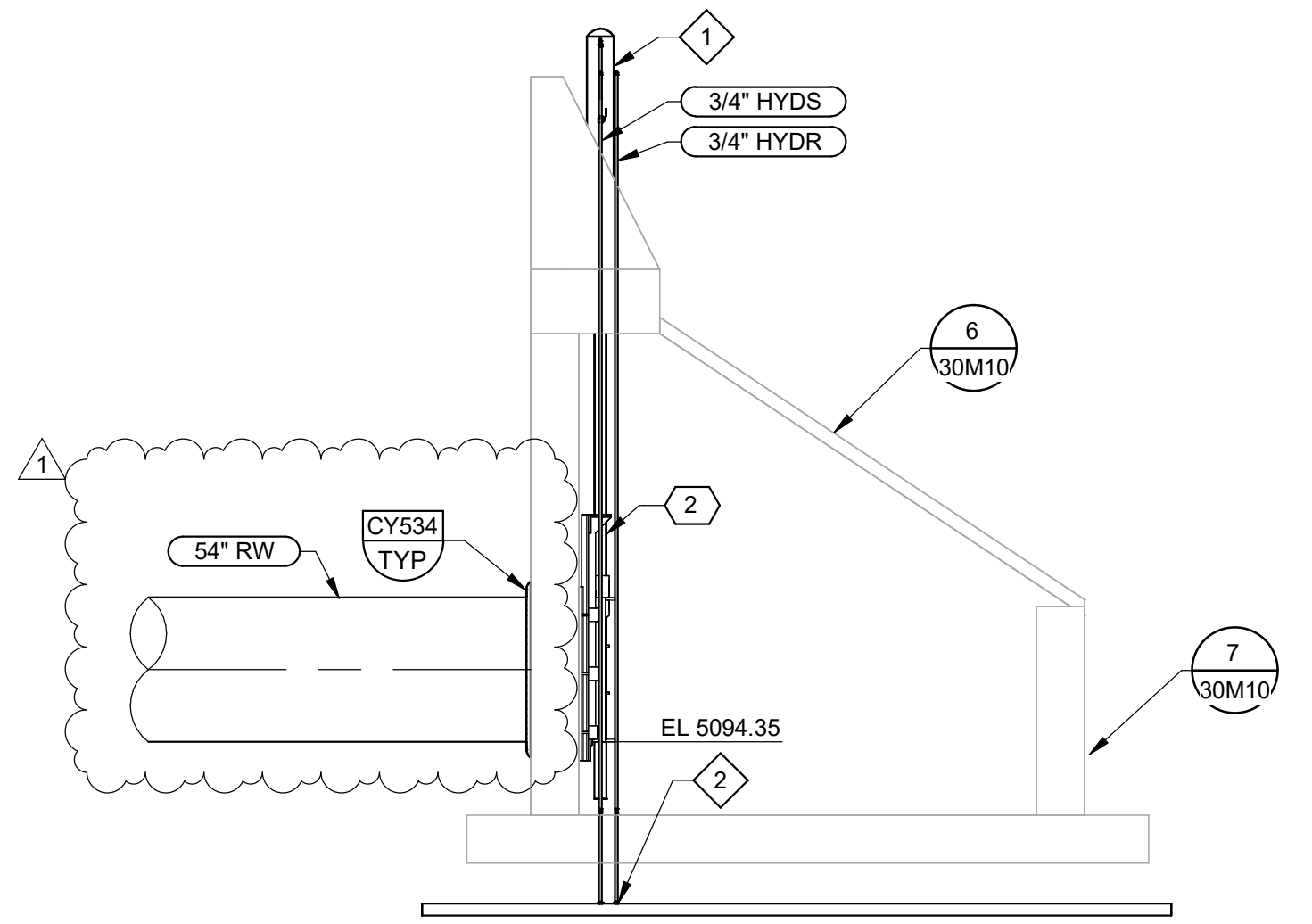
J SECTION
 SCALE: 3/16" = 1'-0"



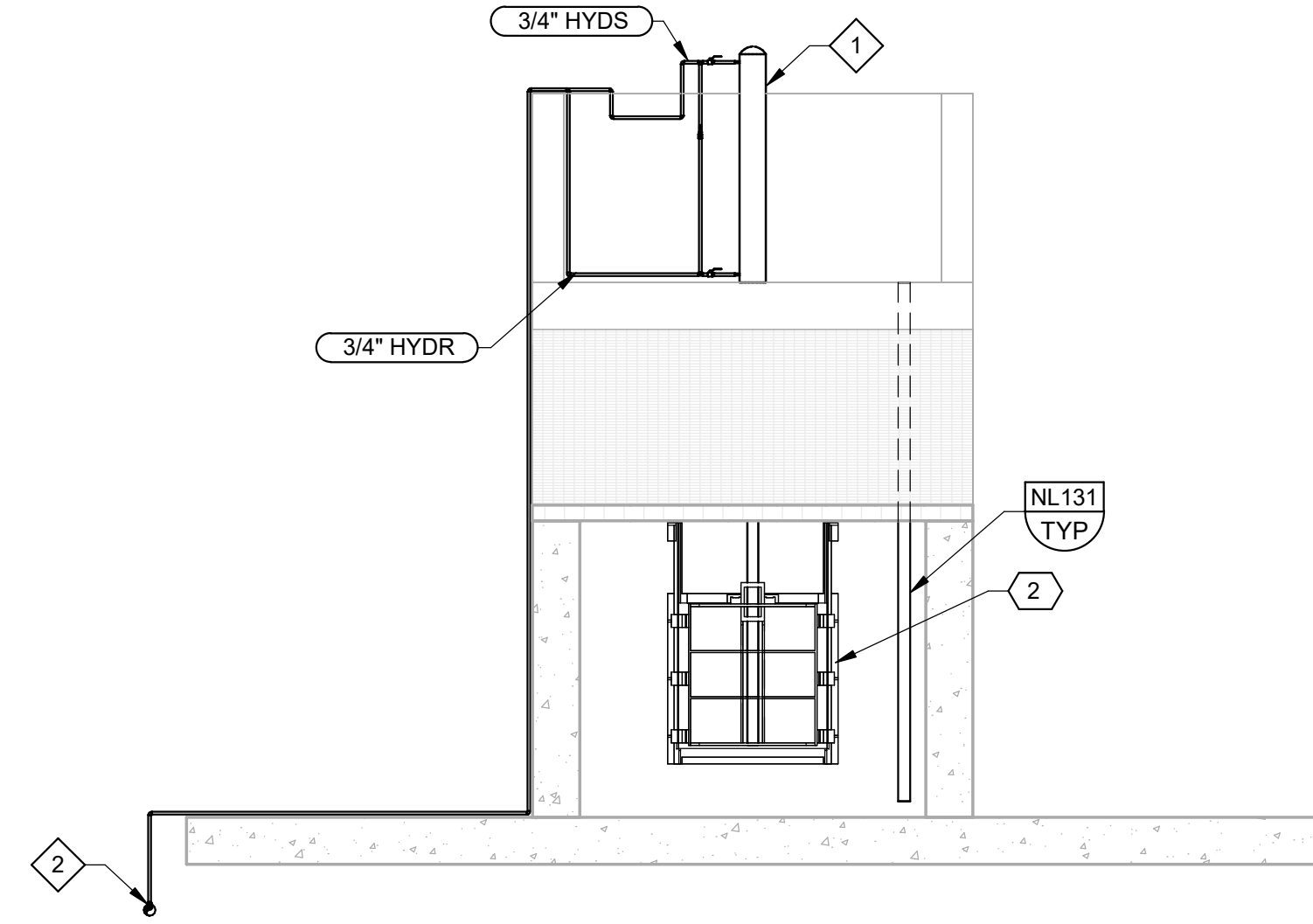
K SECTION
 SCALE: 3/16" = 1'-0"



L PLAN
 LOWER INTAKE STRUCTURE
 SCALE: 3/16" = 1'-0"



M SECTION
 SCALE: 3/16" = 1'-0"

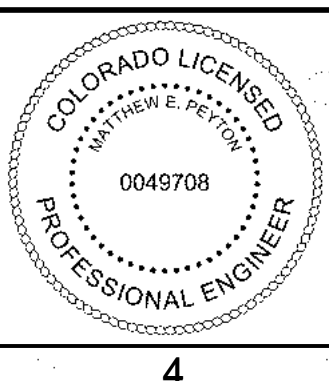


N SECTION
 SCALE: 3/16" = 1'-0"

PLOT DATE: 6/3/2026 4:22:07 PM

REV		DATE	BY	DESCRIPTION
1	6/26	JK		ADDENDUM NO. 1

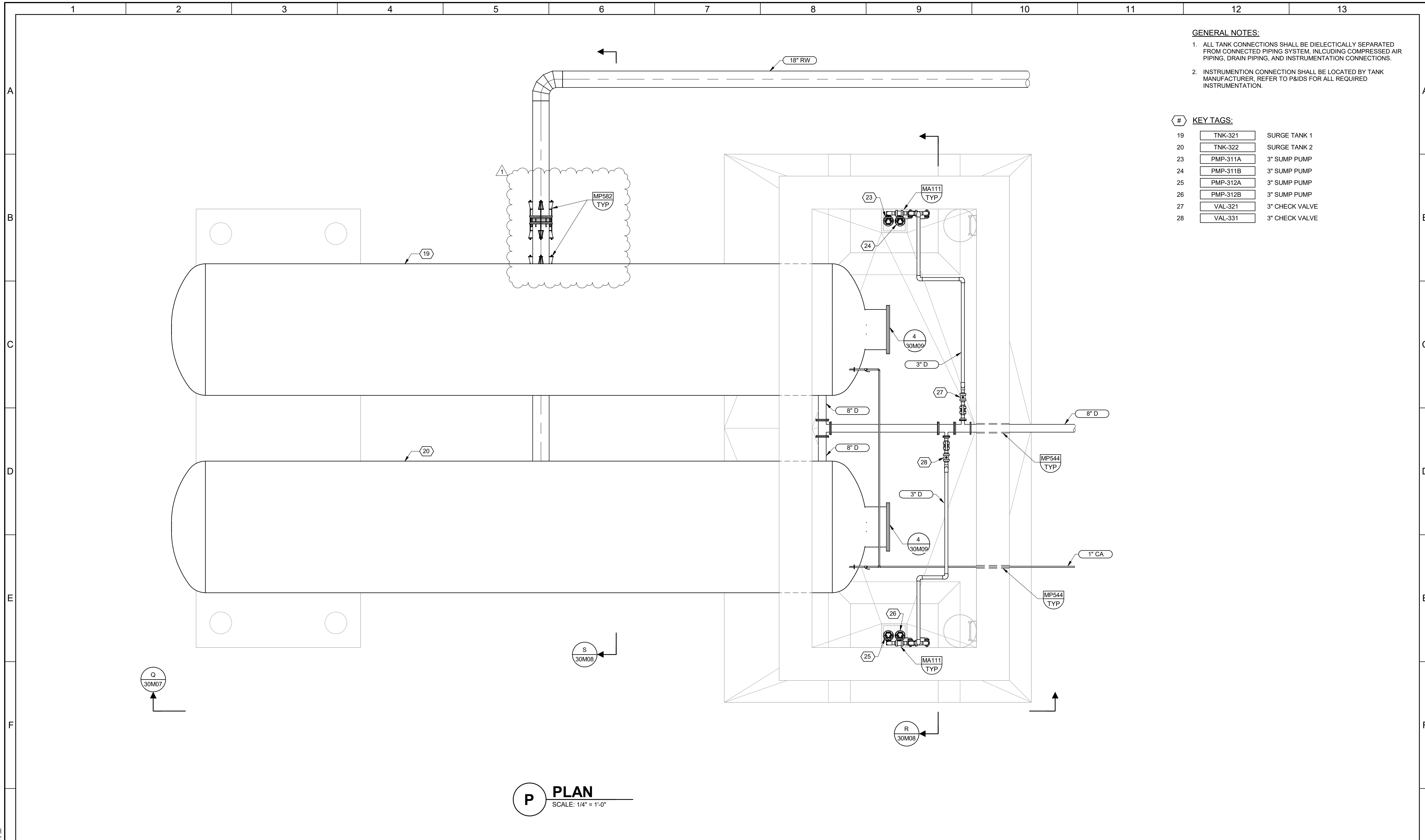
DESIGNED MP
 DRAWN LRG
 CHECKED MZ
 DATE MAY 2026



CITY OF THORNTON
 THORNTON WATER PROJECT
 SOURCE WATER PUMP STATION
 MECHANICAL
 INTAKE STRUCTURES
 PLAN AND SECTIONS

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203505
 DRAWING NO. 30M05
 SHEET NO. 77 OF 168



- GENERAL NOTES:**
1. ALL TANK CONNECTIONS SHALL BE DIELECTICALLY SEPARATED FROM CONNECTED PIPING SYSTEM, INCLUDING COMPRESSED AIR PIPING, DRAIN PIPING, AND INSTRUMENTATION CONNECTIONS.
 2. INSTRUMENTATION CONNECTION SHALL BE LOCATED BY TANK MANUFACTURER. REFER TO P&IDS FOR ALL REQUIRED INSTRUMENTATION.

KEY TAGS:

19	TNK-321	SURGE TANK 1
20	TNK-322	SURGE TANK 2
23	PMP-311A	3" SUMP PUMP
24	PMP-311B	3" SUMP PUMP
25	PMP-312A	3" SUMP PUMP
26	PMP-312B	3" SUMP PUMP
27	VAL-321	3" CHECK VALVE
28	VAL-331	3" CHECK VALVE

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

PLOT DATE: 6/2/2026 3:01:23 PM

	BID SET	DESIGNED MP DRAWN LRG CHECKED MZ DATE MAY 2026				CITY OF THORNTON THORNTON WATER PROJECT SOURCE WATER PUMP STATION MECHANICAL SURGE TANK PLAN	VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING  IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 203505 DRAWING NO. 30M06 SHEET NO. 78 OF 168	
REV	DATE	BY	DESCRIPTION						
1	6/26	JK	ADDENDUM NO. 1						

GENERAL NOTES:

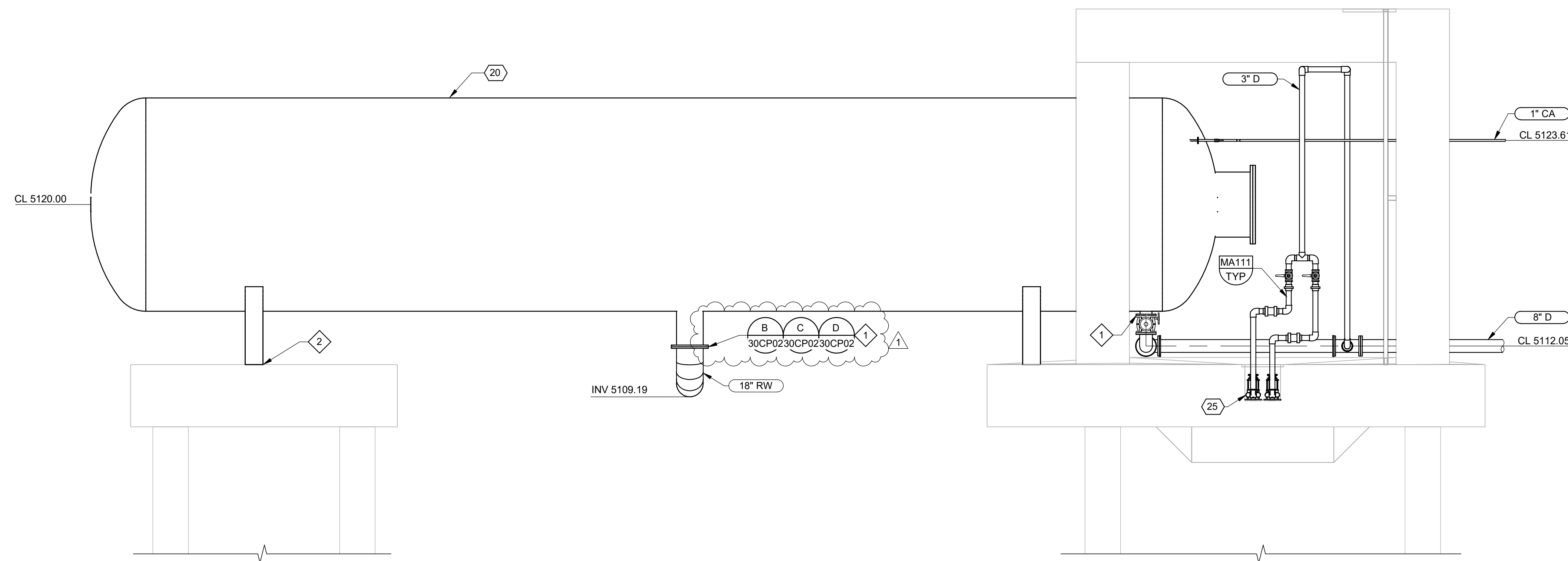
1. ALL TANK CONNECTIONS SHALL BE DIELECTICALLY SEPARATED FROM CONNECTED PIPING SYSTEM, INCLUDING COMPRESSED AIR PIPING, DRAIN PIPING, AND INSTRUMENTATION CONNECTIONS.
2. INSTRUMENTATION CONNECTION SHALL BE LOCATED BY TANK MANUFACTURER, REFER TO P&IDS FOR ALL REQUIRED INSTRUMENTATION.

KEY NOTES:

1. DIELECTRIC FLANGE ISOLATION KIT AND TEST STATION.
2. PROVIDE G10 ISOLATION SLEEVES AND WASHERS AT ANCHOR BOLTS. CONTRACTOR TO ENSURE ANCHOR BOLTS DO NOT COME IN CONTACT WITH TANK LEGS.

KEY TAGS:

- | | | |
|----|----------|--------------|
| 20 | TNK-322 | SURGE TANK 2 |
| 25 | PMP-312A | 3" SUMP PUMP |



Q SECTION
30M06 SCALE: 1/4" = 1'-0"

PLOT DATE: 6/3/2026 4:18:22 PM

REV		DATE	BY	DESCRIPTION
1		6/26	JK	ADDENDUM NO. 1

DESIGNED	MP
DRAWN	LRG
CHECKED	MZ
DATE	MAY 2026



CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
MECHANICAL
SURGE TANK
SECTIONS 1

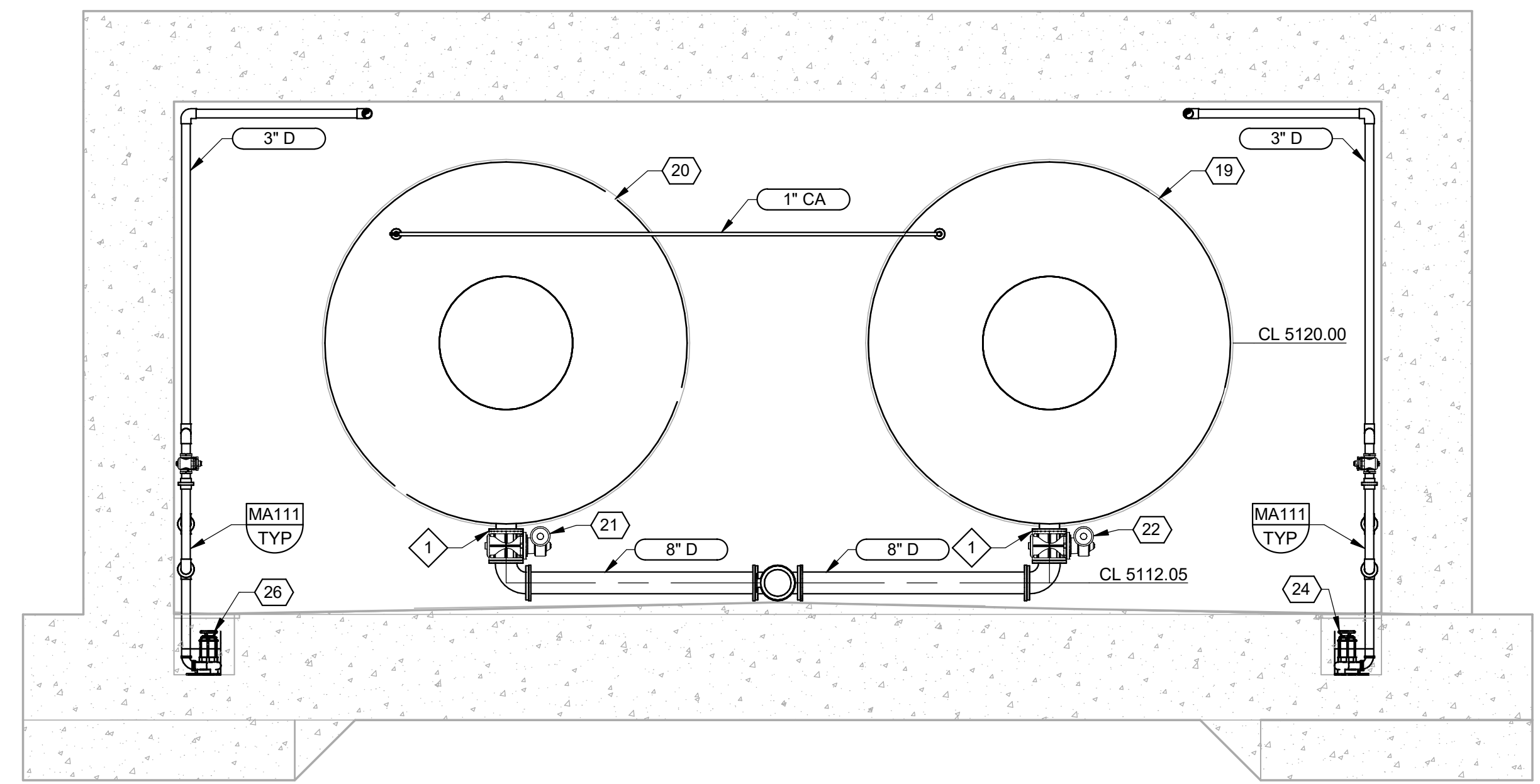
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
203505
DRAWING NO.
30M07
SHEET NO.
79 OF 168

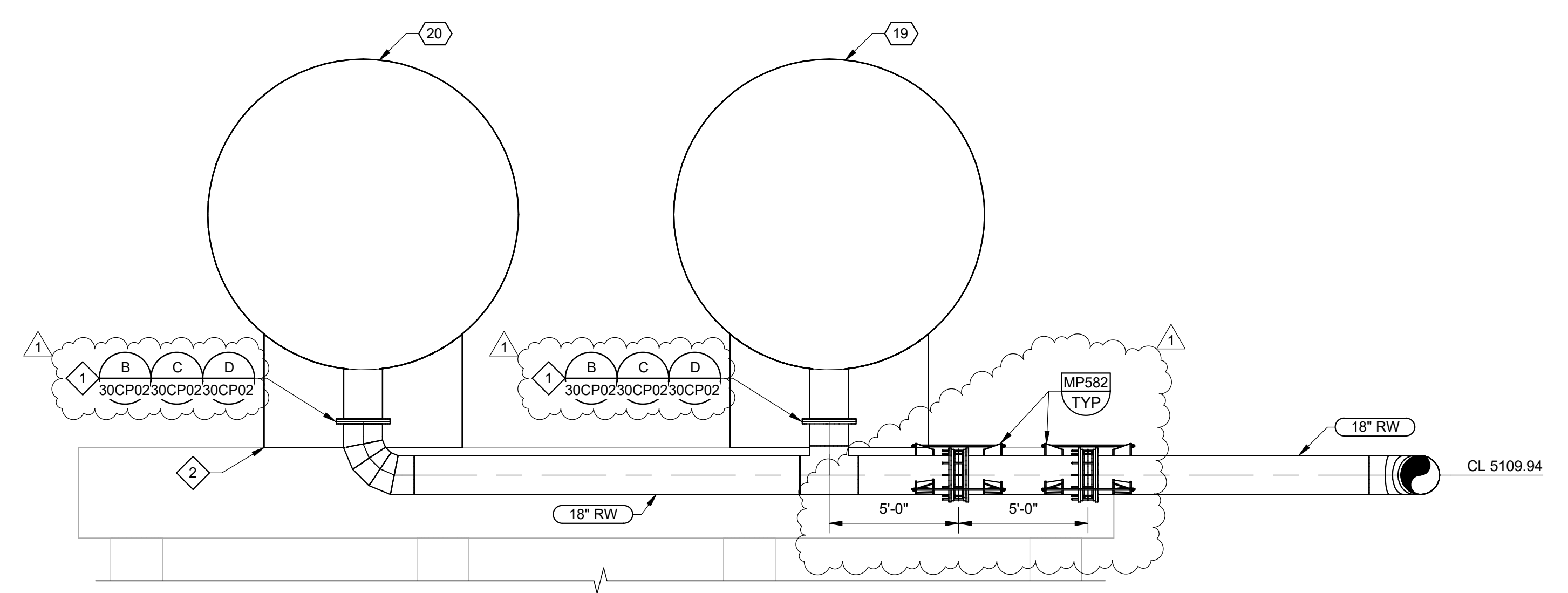
- GENERAL NOTES:**
1. ALL TANK CONNECTIONS SHALL BE DIELECTICALLY SEPARATED FROM CONNECTED PIPING SYSTEM, INCLUDING COMPRESSED AIR PIPING, DRAIN PIPING, AND INSTRUMENTATION CONNECTIONS.
 2. INSTRUMENTATION CONNECTION SHALL BE LOCATED BY TANK MANUFACTURER. REFER TO P&IDS FOR ALL REQUIRED INSTRUMENTATION.
- KEY NOTES:**
1. DIELECTRIC FLANGE ISOLATION KIT AND TEST STATION.

KEY TAGS:

19	TNK-321	SURGE TANK 1
20	TNK-322	SURGE TANK 2
21	VAL-316	4" PLUG VALVE
22	VAL-315	4" PLUG VALVE
24	PMP-311B	3" SUMP PUMP
26	PMP-312B	3" SUMP PUMP



R SECTION
30M06 SCALE: 1/4" = 1'-0"

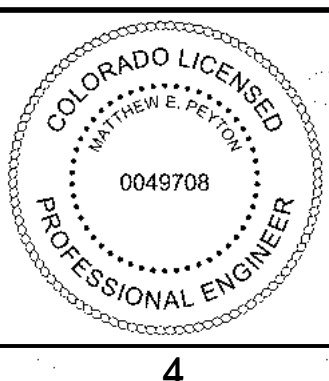


S SECTION
30M06 SCALE: 1/4" = 1'-0"

PLOT DATE: 6/2/2026 2:52:18 PM

REV		DATE	BY	DESCRIPTION
1	6/26	JK		ADDENDUM NO. 1

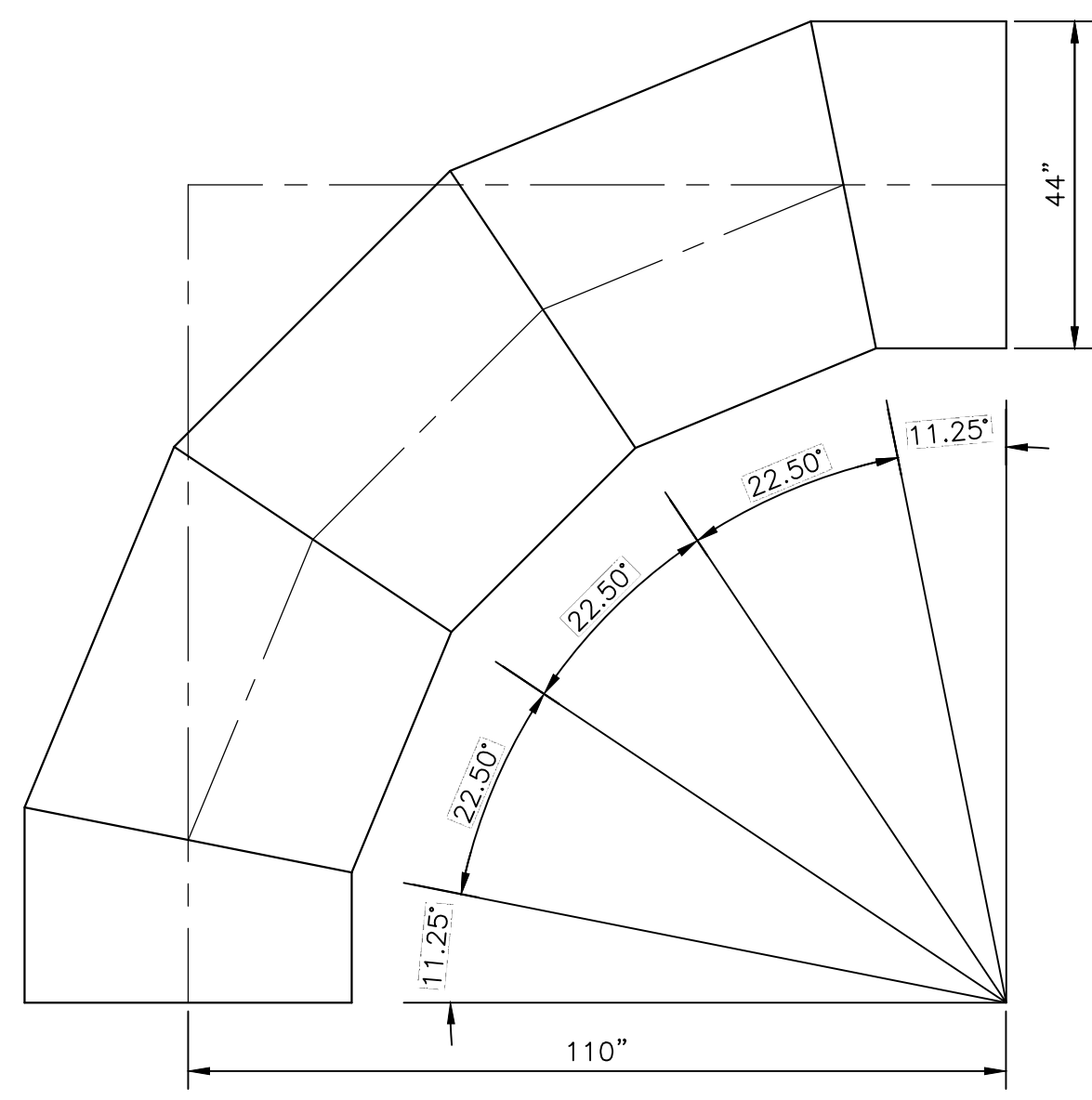
DESIGNED	MP
DRAWN	LRG
CHECKED	MZ
DATE	MAY 2026



CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
MECHANICAL
**SURGE TANK
SECTIONS 2**

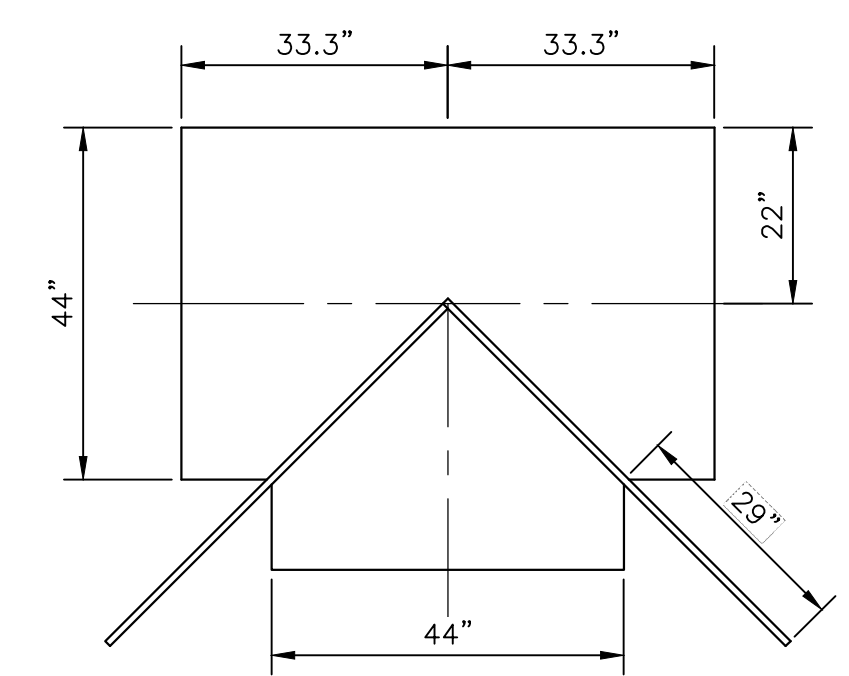
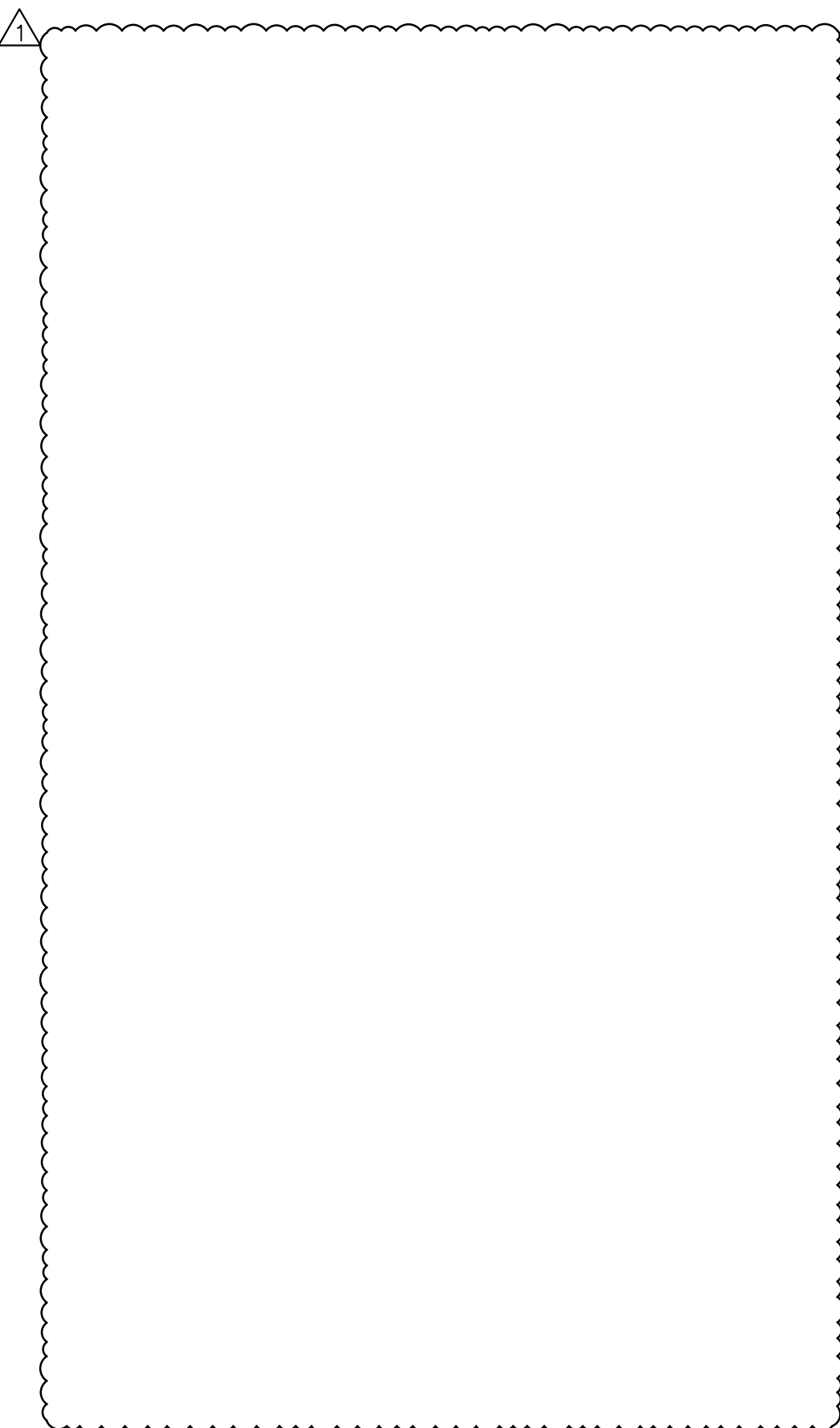
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
203505
DRAWING NO.
30M08
SHEET NO.
80 OF 168



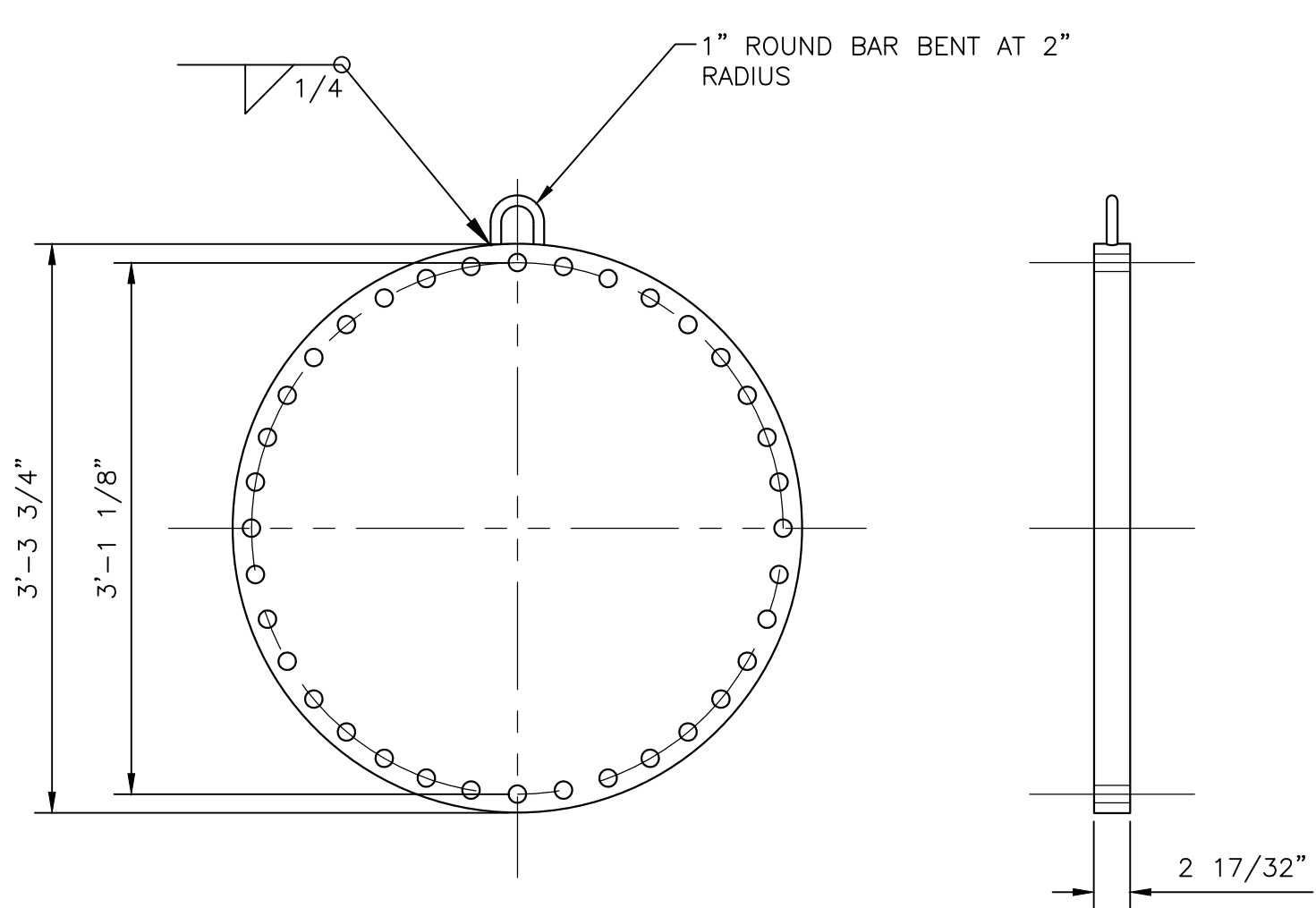
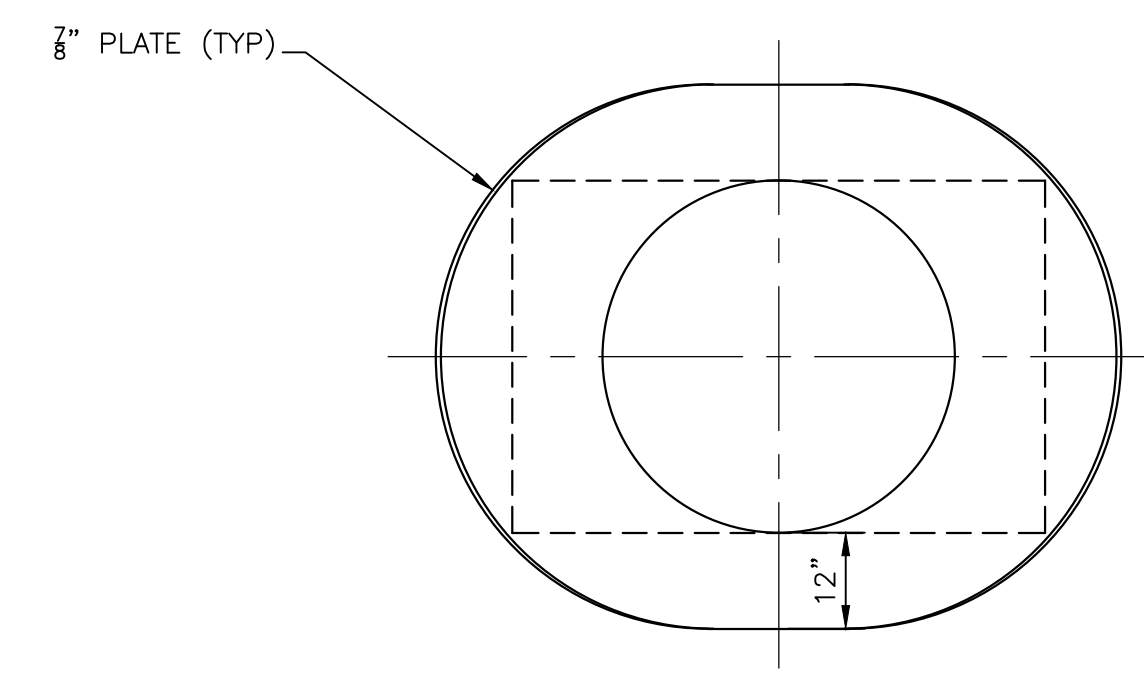
42" 2.5R AWWA C208 MITERED STEEL ELBOW

1 DETAIL
30M02 SCALE: 1/2"=1'-0"



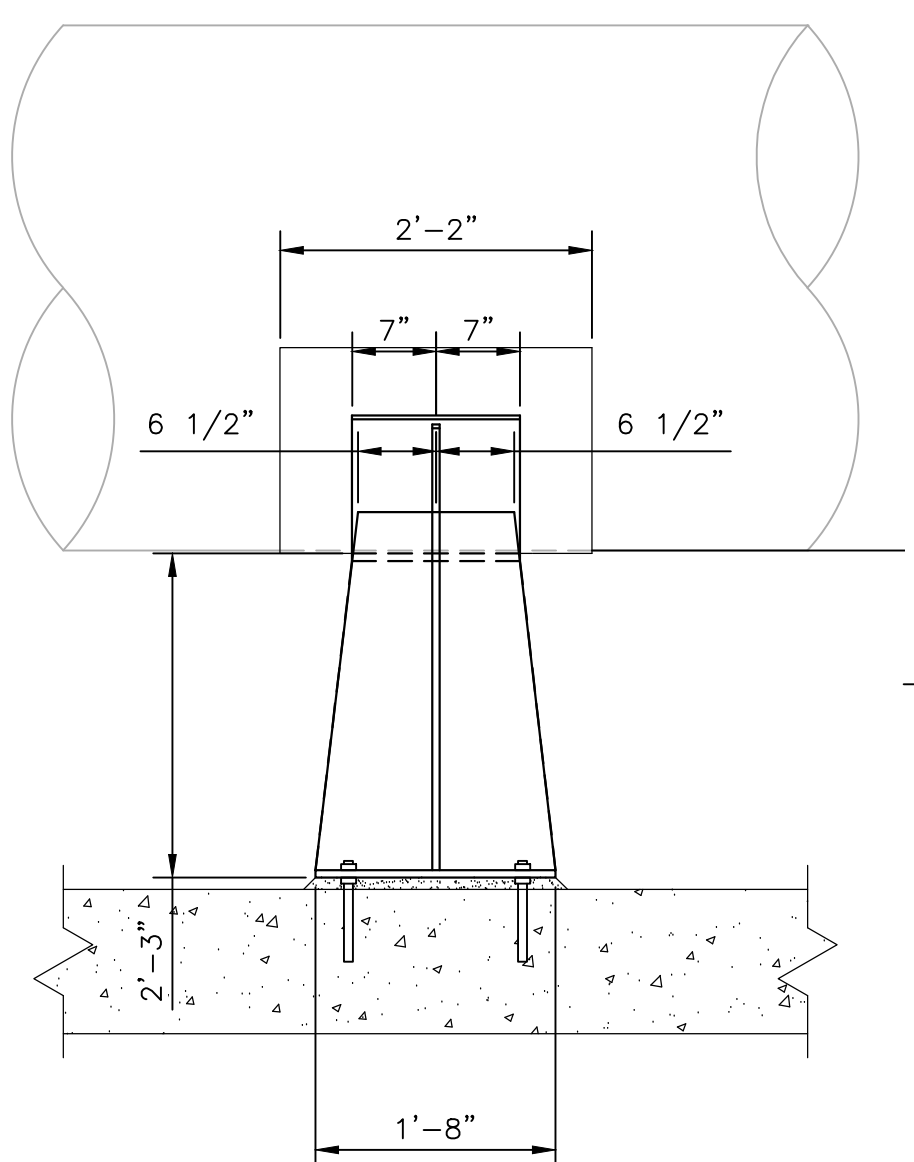
42" CROTCH PLATE

3 DETAIL
30M02 SCALE: 1/2"=1'-0"



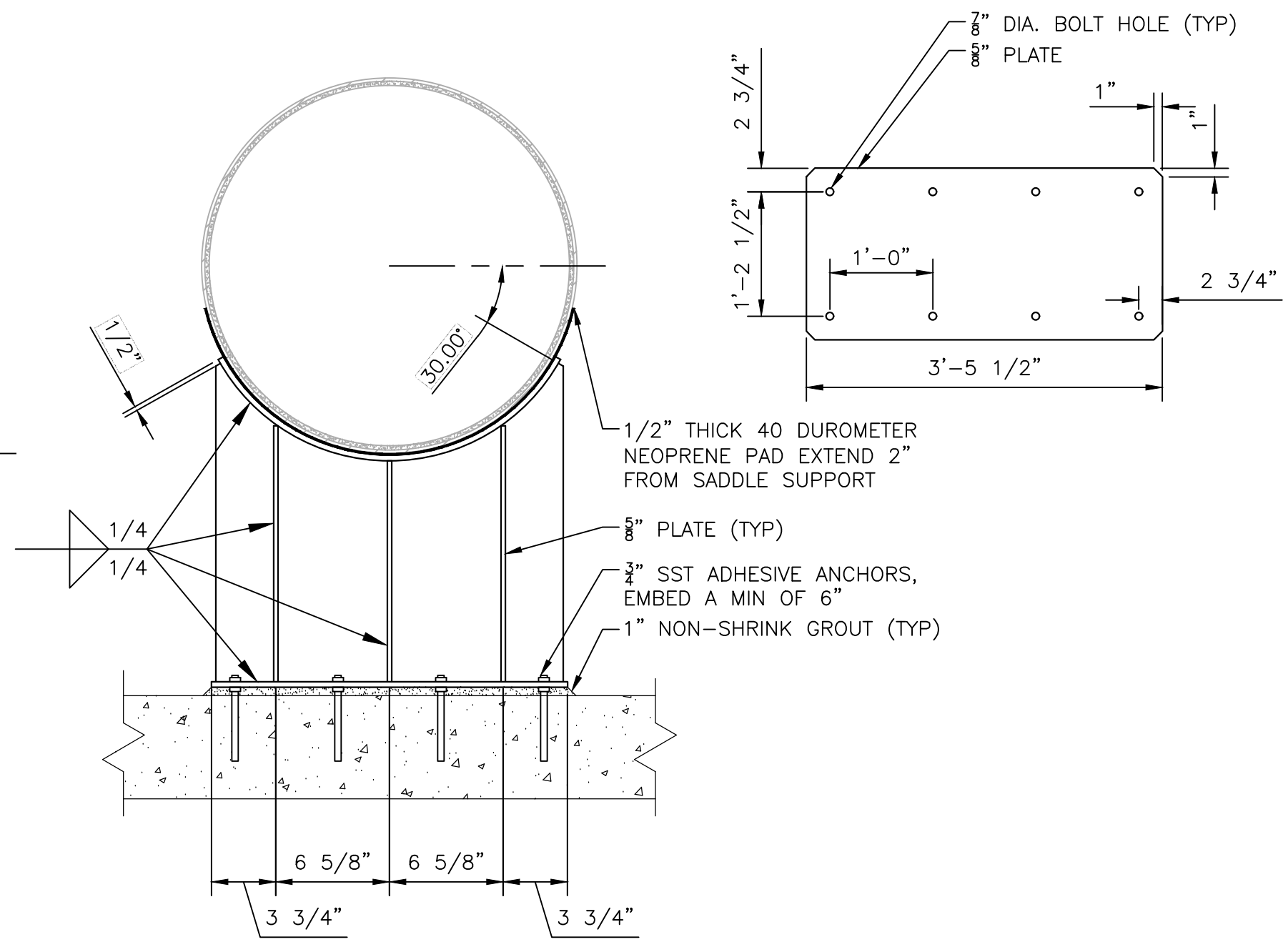
42" BLIND FLANGE

4 DETAIL
30M06 SCALE: 1"=1'-0"



42" STEEL PIPE SUPPORT

5 DETAIL
30M02 SCALE: 1' 1/2"=1'-0"



LAST SAVED BY: Igarcia

REV	DATE	BY	DESCRIPTION
1	6/26	JK	ADDENDUM NO. 1

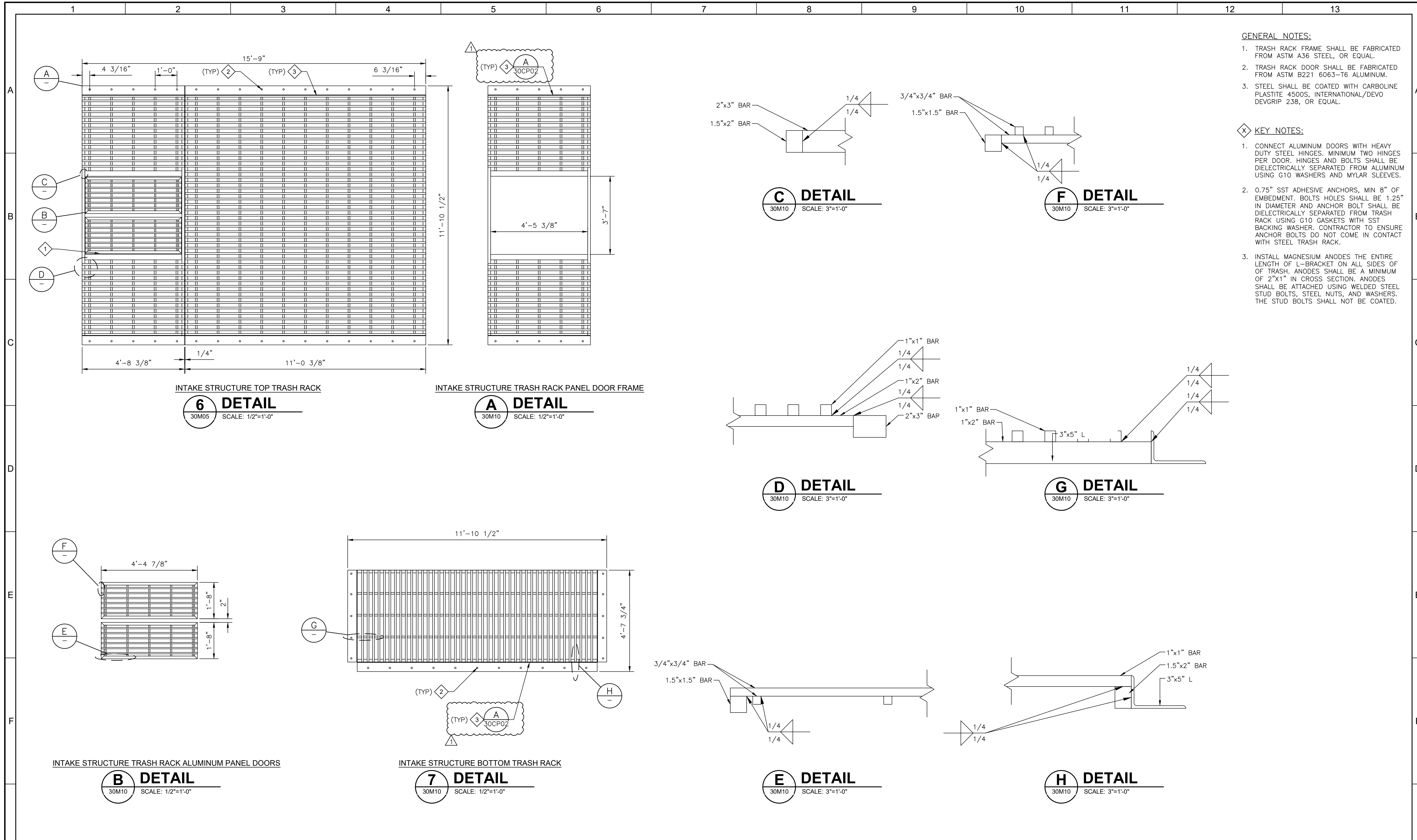
DESIGNED	MP
DRAWN	LRG
CHECKED	MZ
DATE	MAY 2026



CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
MECHANICAL
MECHANICAL DETAILS 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

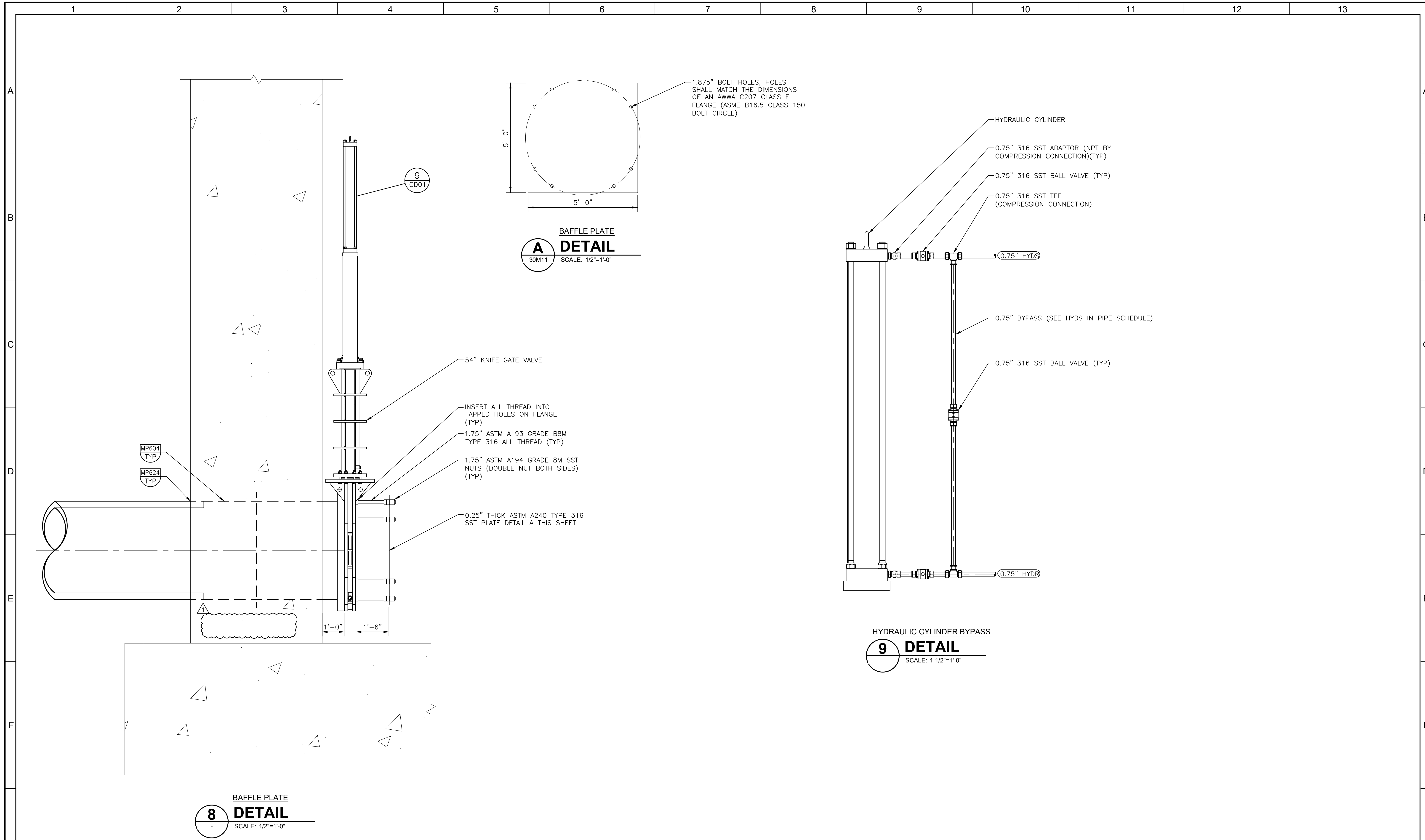
JOB NO. 203505
DRAWING NO. 30M09
SHEET NO. 81 OF 169



- GENERAL NOTES:**
- TRASH RACK FRAME SHALL BE FABRICATED FROM ASTM A36 STEEL, OR EQUAL.
 - TRASH RACK DOOR SHALL BE FABRICATED FROM ASTM B221 6063-T6 ALUMINUM.
 - STEEL SHALL BE COATED WITH CARBOLINE PLASTITE 4500S, INTERNATIONAL/DEVO DEVGRIP 238, OR EQUAL.
- KEY NOTES:**
- CONNECT ALUMINUM DOORS WITH HEAVY DUTY STEEL HINGES. MINIMUM TWO HINGES PER DOOR. HINGES AND BOLTS SHALL BE DIELECTRICALLY SEPARATED FROM TRASH RACK USING G10 WASHERS AND MYLAR SLEEVES.
 - 0.75" SST ADHESIVE ANCHORS, MIN 8" OF EMBEDMENT. BOLTS HOLES SHALL BE 1.25" IN DIAMETER AND ANCHOR BOLT SHALL BE DIELECTRICALLY SEPARATED FROM TRASH RACK USING G10 GASKETS WITH SST BACKING WASHER. CONTRACTOR TO ENSURE ANCHOR BOLTS DO NOT COME IN CONTACT WITH STEEL TRASH RACK.
 - INSTALL MAGNESIUM ANODES THE ENTIRE LENGTH OF L-BRACKET ON ALL SIDES OF OF TRASH. ANODES SHALL BE A MINIMUM OF 2"x1" IN CROSS SECTION. ANODES SHALL BE ATTACHED USING WELDED STEEL STUD BOLTS, STEEL NUTS, AND WASHERS. THE STUD BOLTS SHALL NOT BE COATED.

LAST SAVED BY: lgarcia

BID SET		DESIGNED MP				CITY OF THORNTON	VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 203505
		DRAWN LRG				THORNTON WATER PROJECT		DRAWING NO. 30M10
		CHECKED MZ				MECHANICAL		SHEET NO. 82 OF 169
		DATE MAY 2026				MECHANICAL DETAILS 2		
REV	DATE	BY	DESCRIPTION					
1	6/26	JK	ADDENDUM NO. 1					



LAST SAVED BY: lgarcia

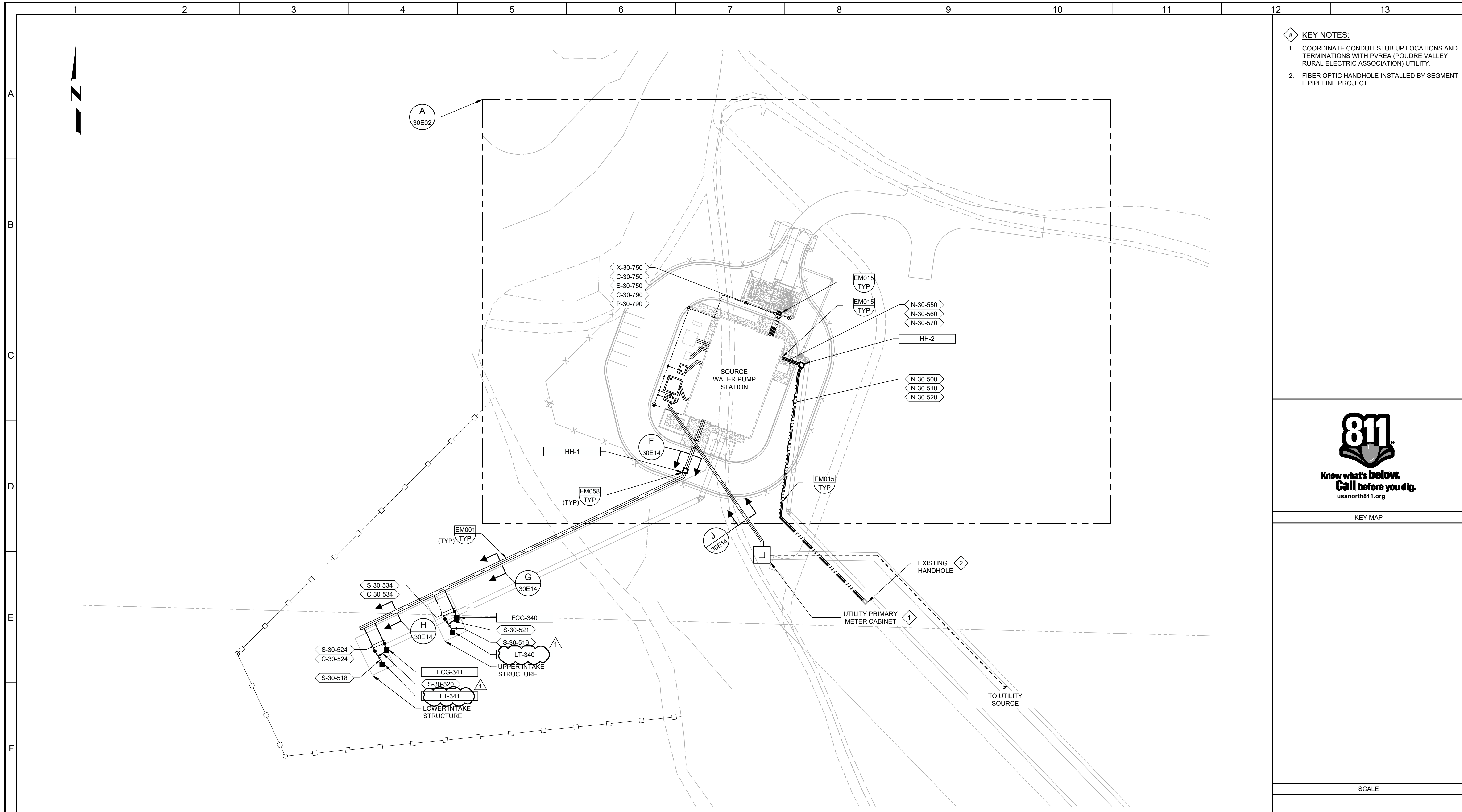
REV	DATE	BY	DESCRIPTION
1	6/26	JK	ADDENDUM NO. 1

DESIGNED	MP
DRAWN	LRG
CHECKED	MZ
DATE	MAY 2026



CITY OF THORNTON
 THORNTON WATER PROJECT
 SOURCE WATER PUMP STATION
 MECHANICAL
 MECHANICAL DETAILS 3

VERIFY SCALES	JOB NO. 203505
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. 30M11
0 1"	SHEET NO. 83 OF 169



PLAN
FILE: 203505_01E0101

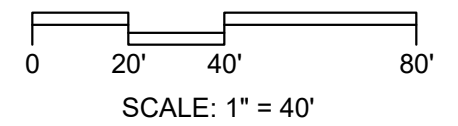
- KEY NOTES:**
- COORDINATE CONDUIT STUB UP LOCATIONS AND TERMINATIONS WITH PVREA (POUDRE VALLEY RURAL ELECTRIC ASSOCIATION) UTILITY.
 - FIBER OPTIC HANDHOLE INSTALLED BY SEGMENT F PIPELINE PROJECT.



Know what's below.
Call before you dig.
usanorth811.org

KEY MAP

SCALE



LAST SAVED BY: FOLIVARES

BID SET			
REV	DATE	BY	DESCRIPTION
1	6/26	JD	ADDENDUM NO. 1

DESIGNED	JD
DRAWN	CWG
CHECKED	TDH
DATE	MAY 2026

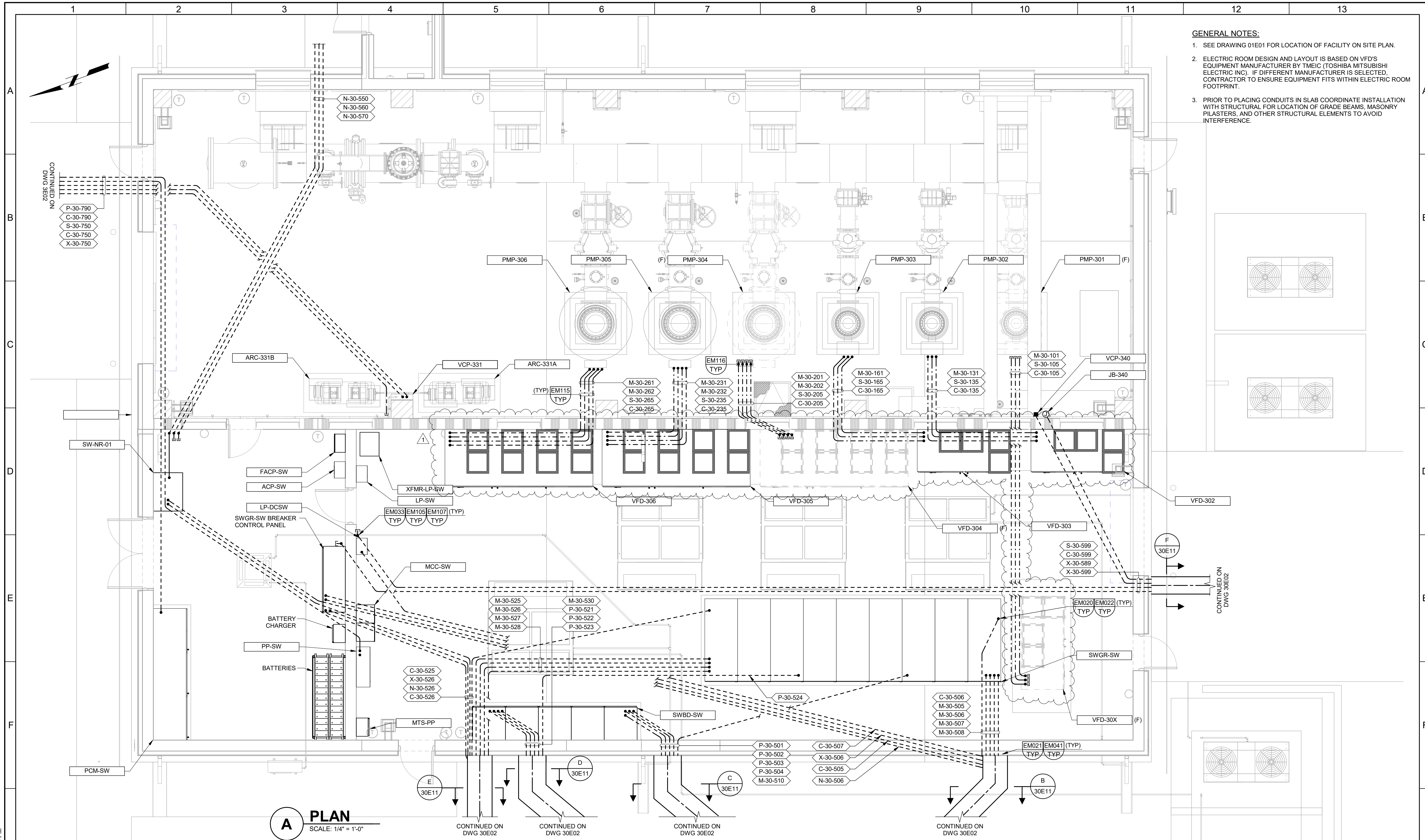


CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
ELECTRICAL
OVERALL SITE PLAN

VERIFY SCALES	JOB NO. 203505
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. 30E01
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. 92 OF 169

GENERAL NOTES:

- SEE DRAWING 01E01 FOR LOCATION OF FACILITY ON SITE PLAN.
- ELECTRIC ROOM DESIGN AND LAYOUT IS BASED ON VFD'S EQUIPMENT MANUFACTURER BY TMEIC (TOSHIBA MITSUBISHI ELECTRIC INC). IF DIFFERENT MANUFACTURER IS SELECTED, CONTRACTOR TO ENSURE EQUIPMENT FITS WITHIN ELECTRIC ROOM FOOTPRINT.
- PRIOR TO PLACING CONDUITS IN SLAB COORDINATE INSTALLATION WITH STRUCTURAL FOR LOCATION OF GRADE BEAMS, MASONRY PLASTERS, AND OTHER STRUCTURAL ELEMENTS TO AVOID INTERFERENCE.



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

BID SET			
REV	DATE	BY	DESCRIPTION
1	6/26	JD	ADDENDUM NO. 1

DESIGNED
JD

DRAWN
EYV

CHECKED
TDH

DATE
MAY 2026

CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
ELECTRICAL
POWER AND CONTROL PLAN

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 203505 DRAWING NO. 30E20 SHEET NO. 109 OF 169
---	---

PLOT DATE: 6/3/2026 1:35:03 PM

3/13/2026 4:05 PM

POWER SOURCE

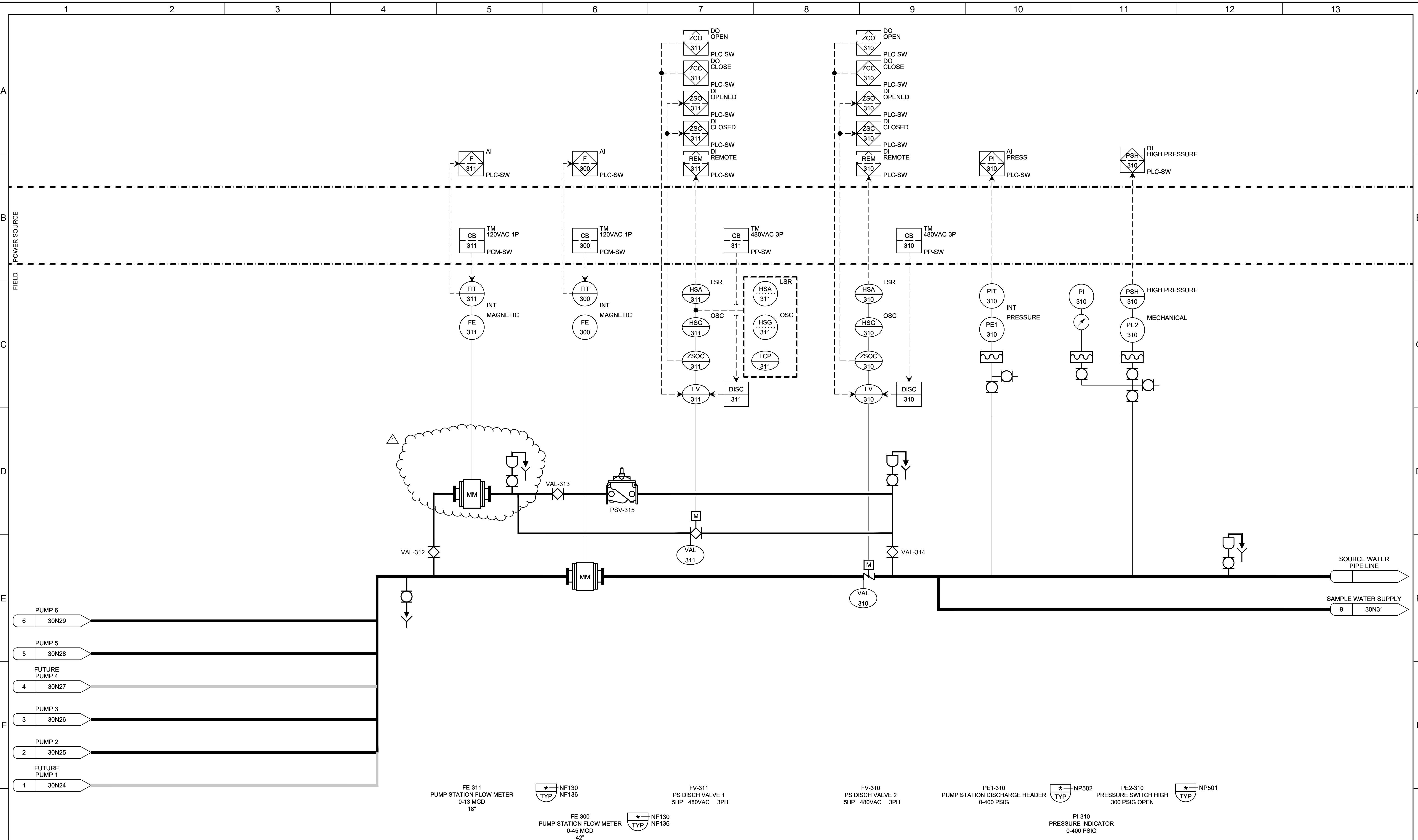
FIELD

DISCH

PUMP

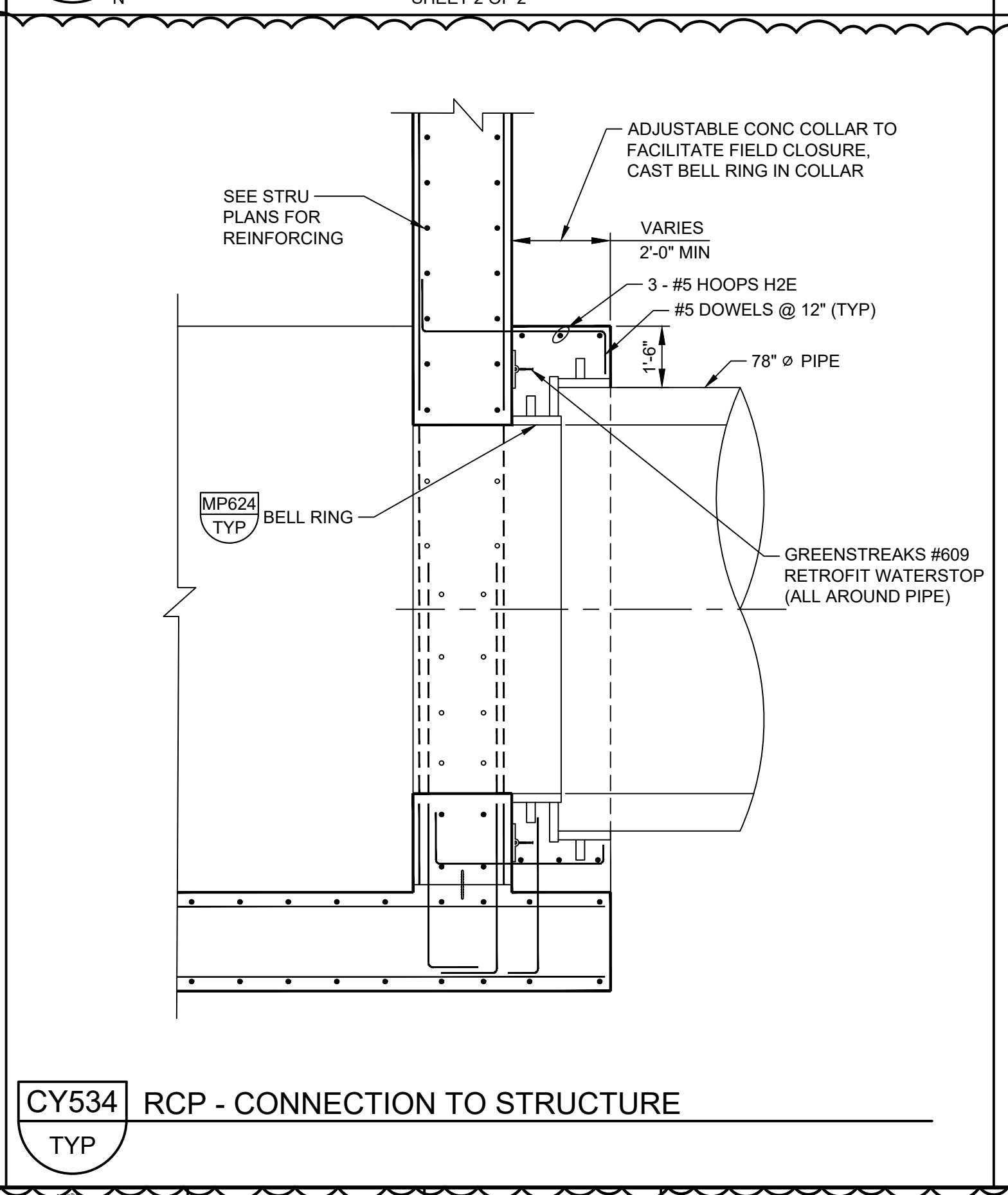
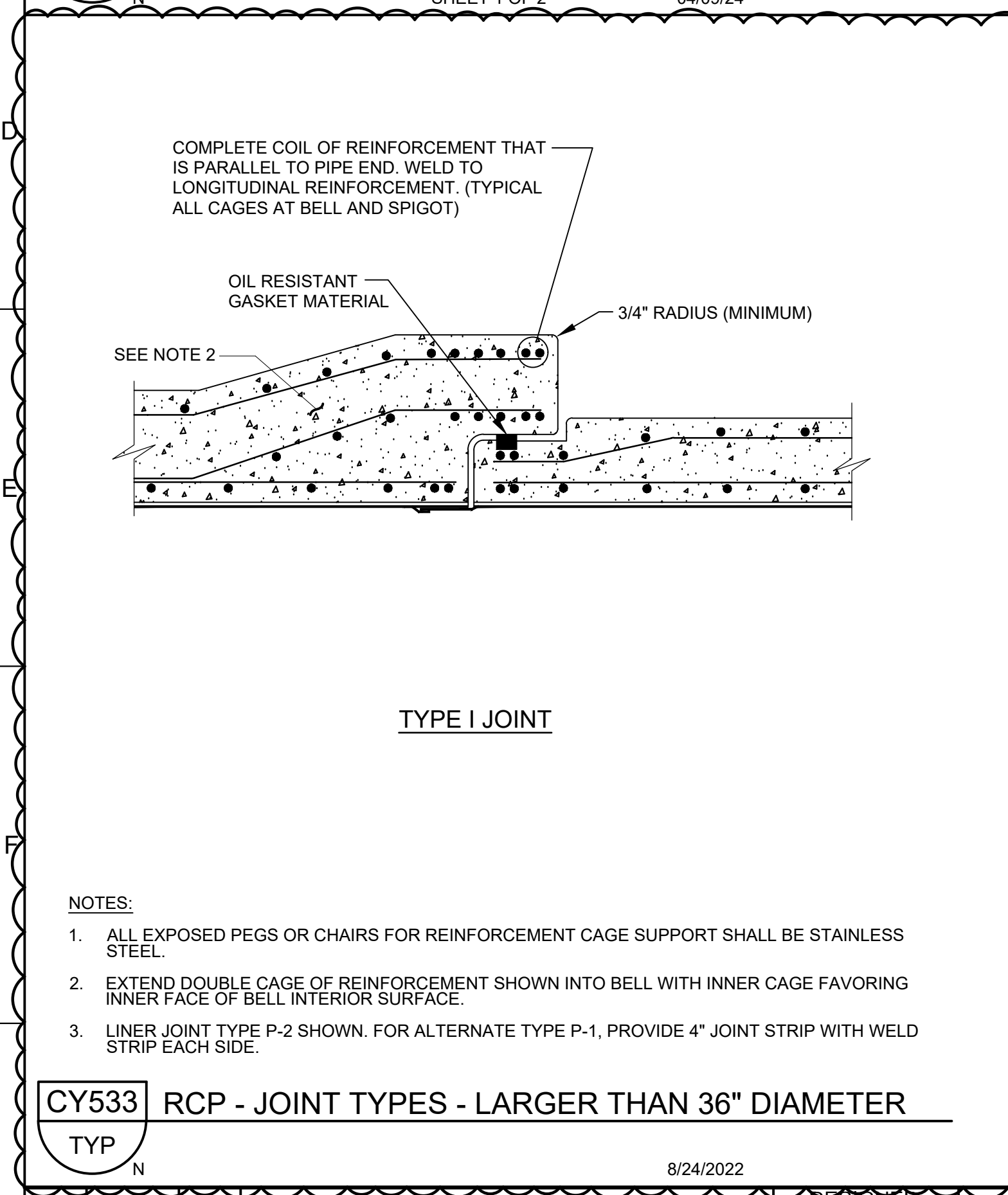
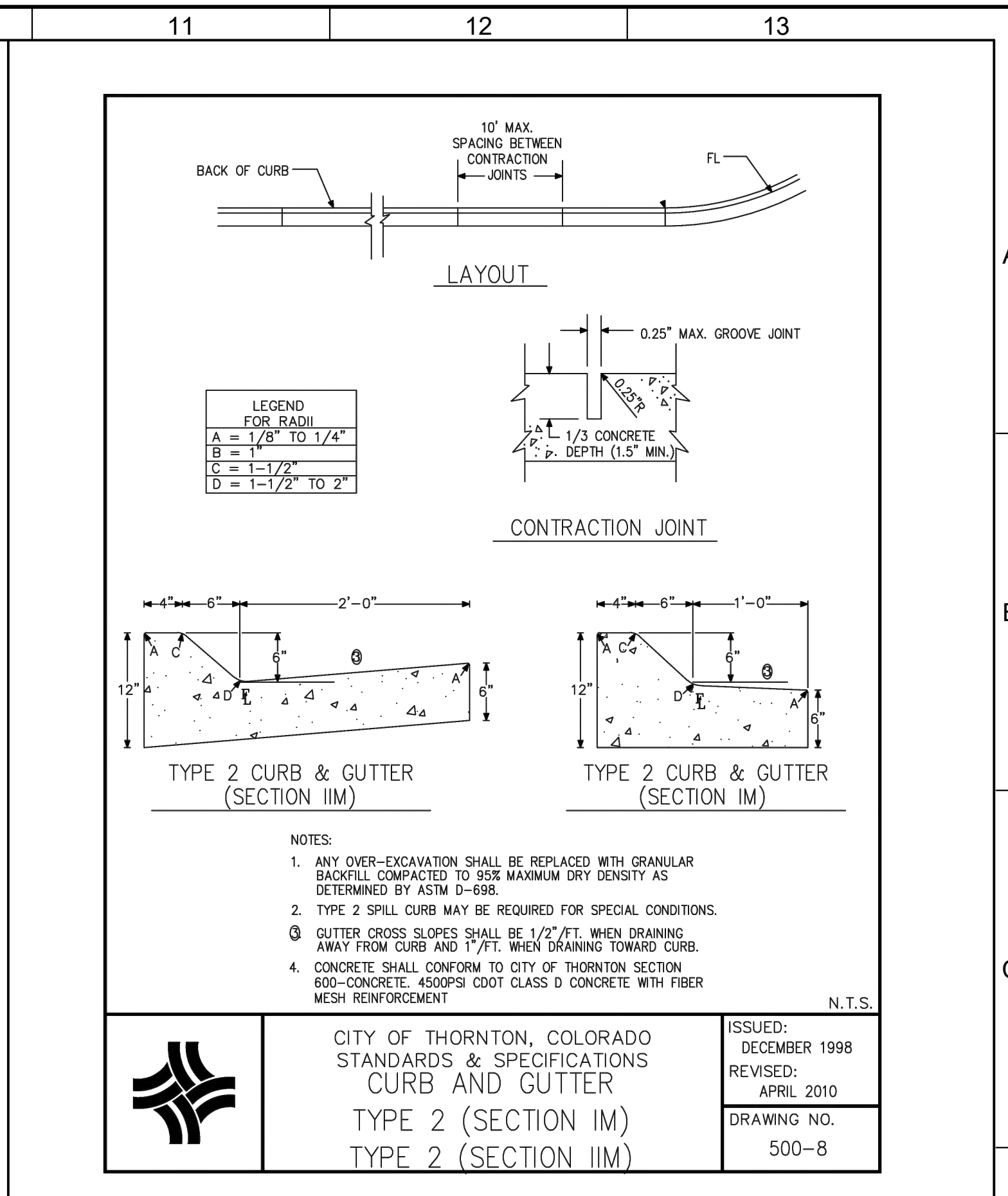
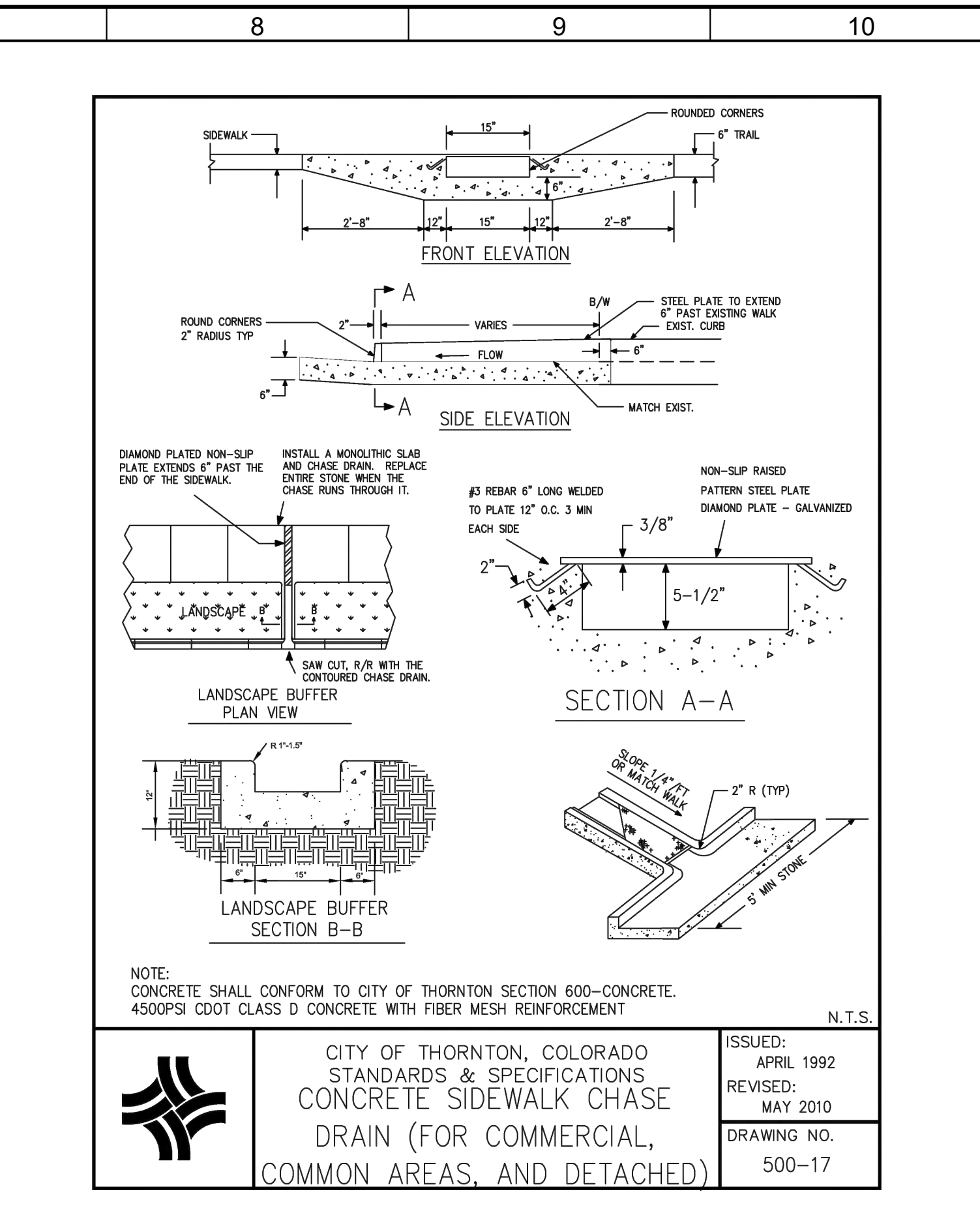
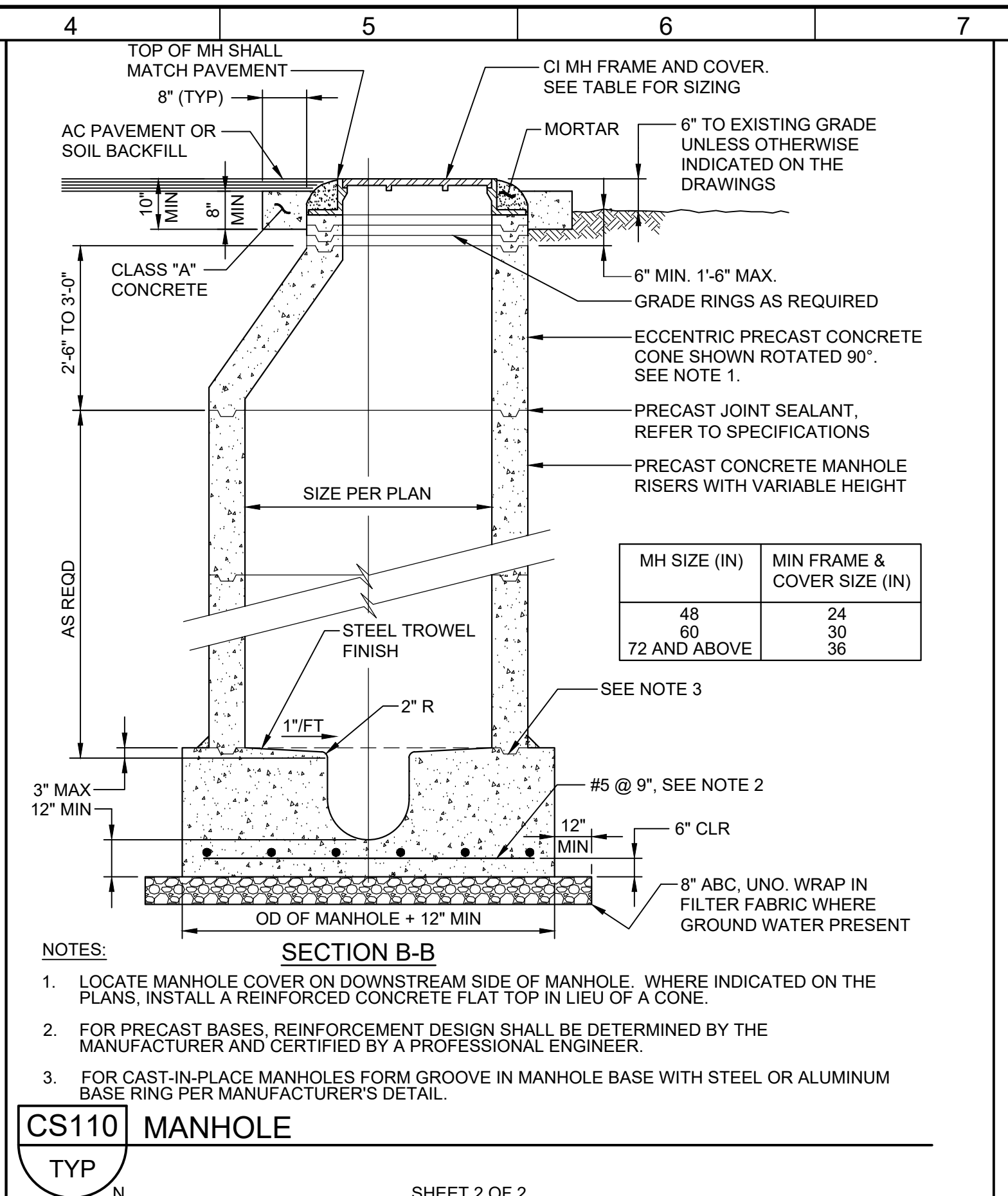
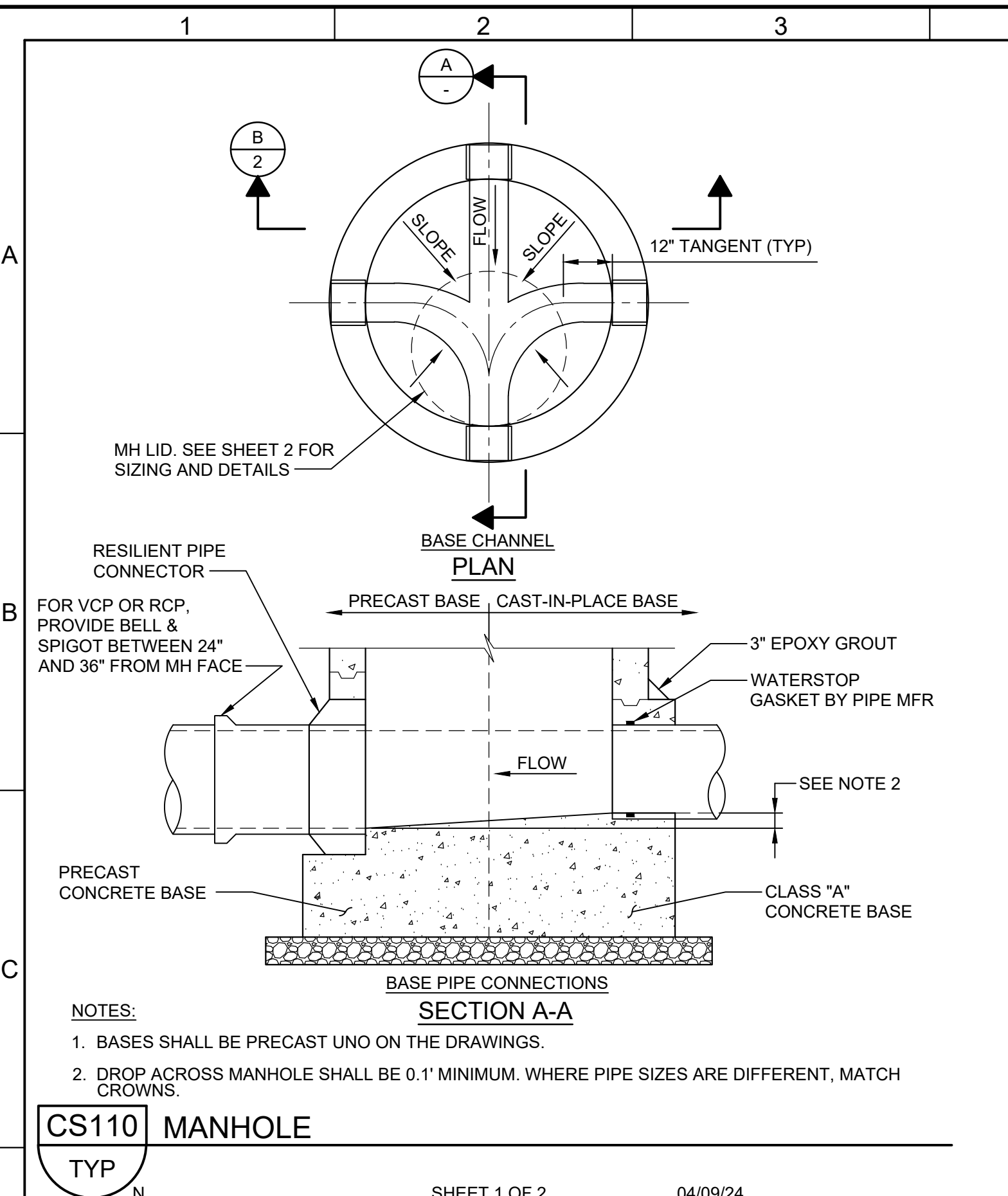
REVISION

LAST SAVED BY: DCOSSME



BID SET		DESIGNED ANW DRAWN KMM CHECKED DJC DATE MAY 2026				CITY OF THORNTON THORNTON WATER PROJECT SOURCE WATER PUMP STATION INSTRUMENTATION PUMP DISCHARGE HEADER P&ID	VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 203505 DRAWING NO. 30N30 SHEET NO. 133 OF 169
REV 1 DATE 6/26 BY JK	ADDENDUM NO. 1 DESCRIPTION	DATE MAY 2026				CITY OF THORNTON THORNTON WATER PROJECT SOURCE WATER PUMP STATION INSTRUMENTATION PUMP DISCHARGE HEADER P&ID	VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 203505 DRAWING NO. 30N30 SHEET NO. 133 OF 169

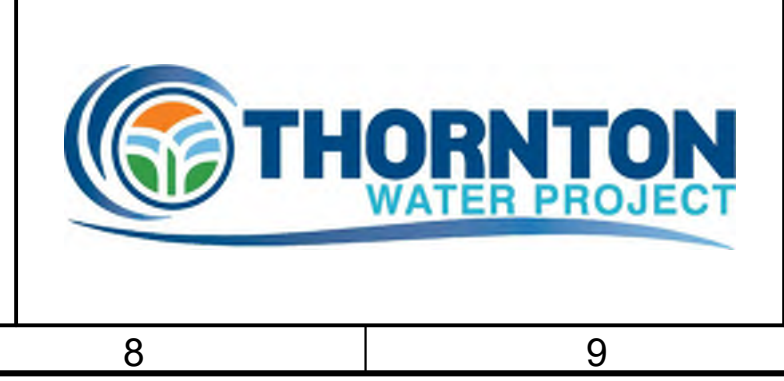
Plot Date: 5/13/2025 10:55:54 AM



BID SET

REV	DATE	BY	DESCRIPTION
1	6/2026	JK	ADDENDUM NO. 1

DESIGNED BY: CE
DRAWN BY: CE
CHECKED BY: CE
DATE: MAY 2026

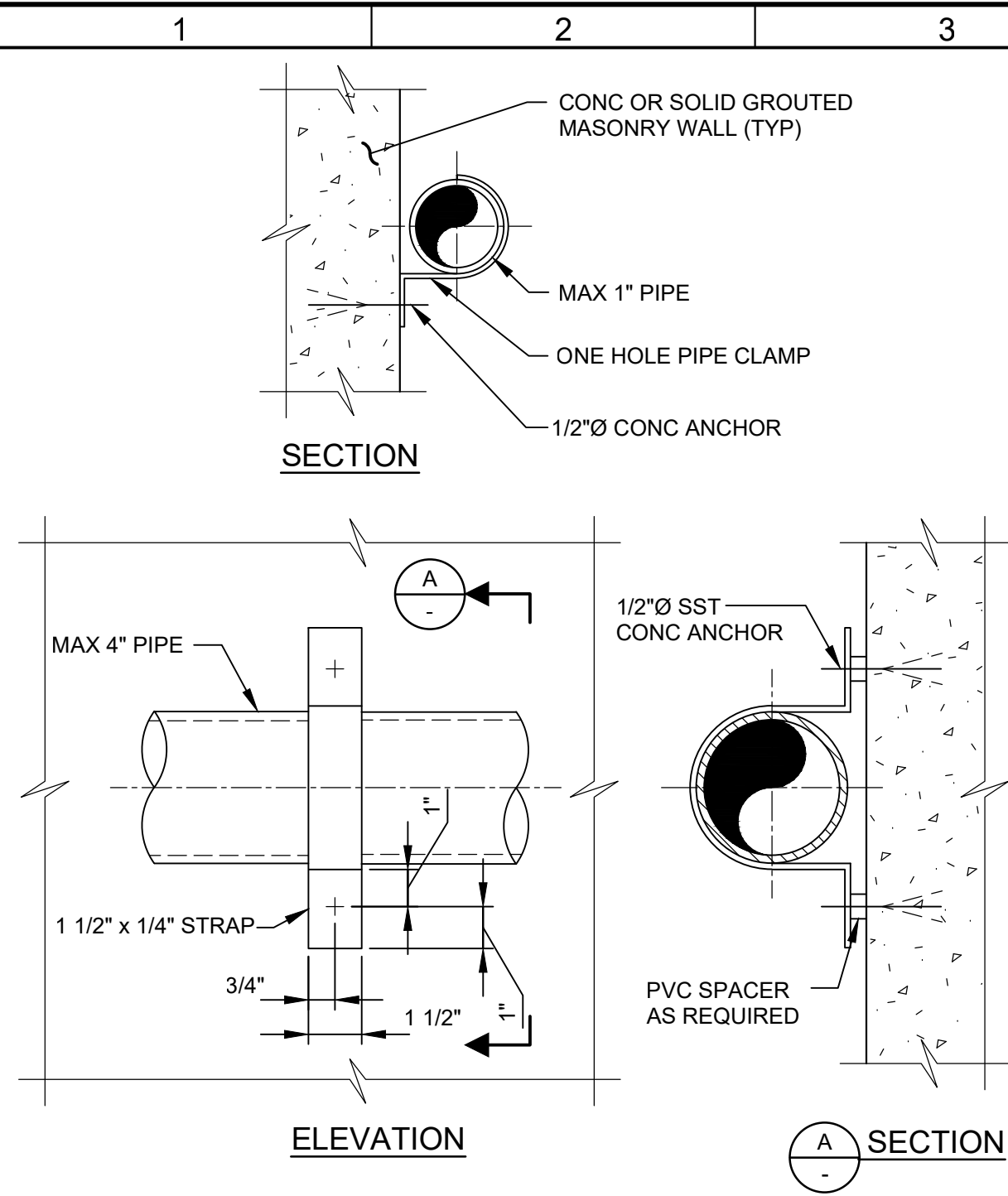


CITY OF THORNTON THORNTON WATER PROJECT SOURCE WATER PUMP STATION TYPICAL DETAILS CIVIL TYPICAL DETAILS 2

VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

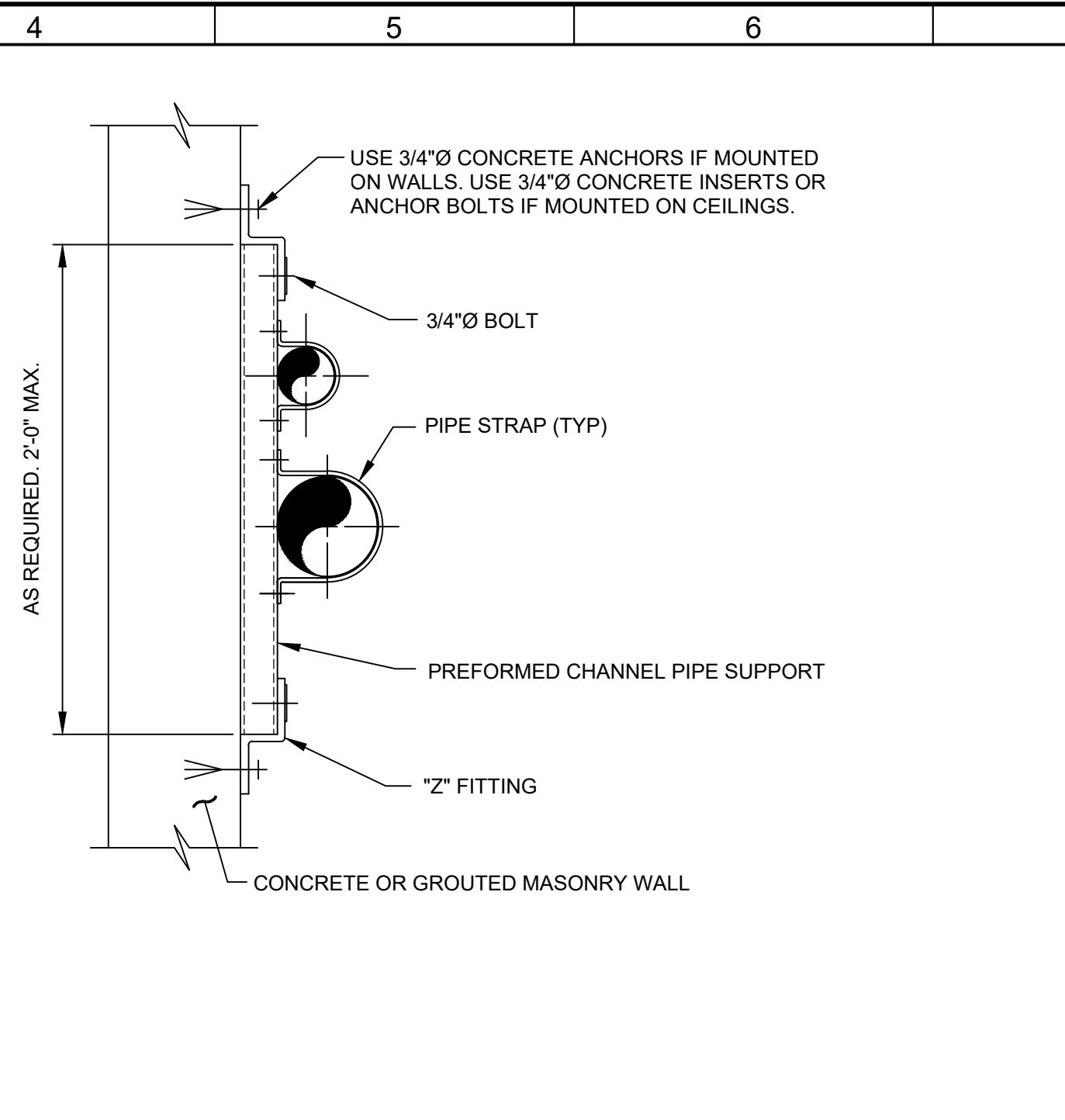
JOB NO. 203505
DRAWING NO. 30TC02
SHEET NO. 139 OF 169

LAST SAVED BY: SSheet



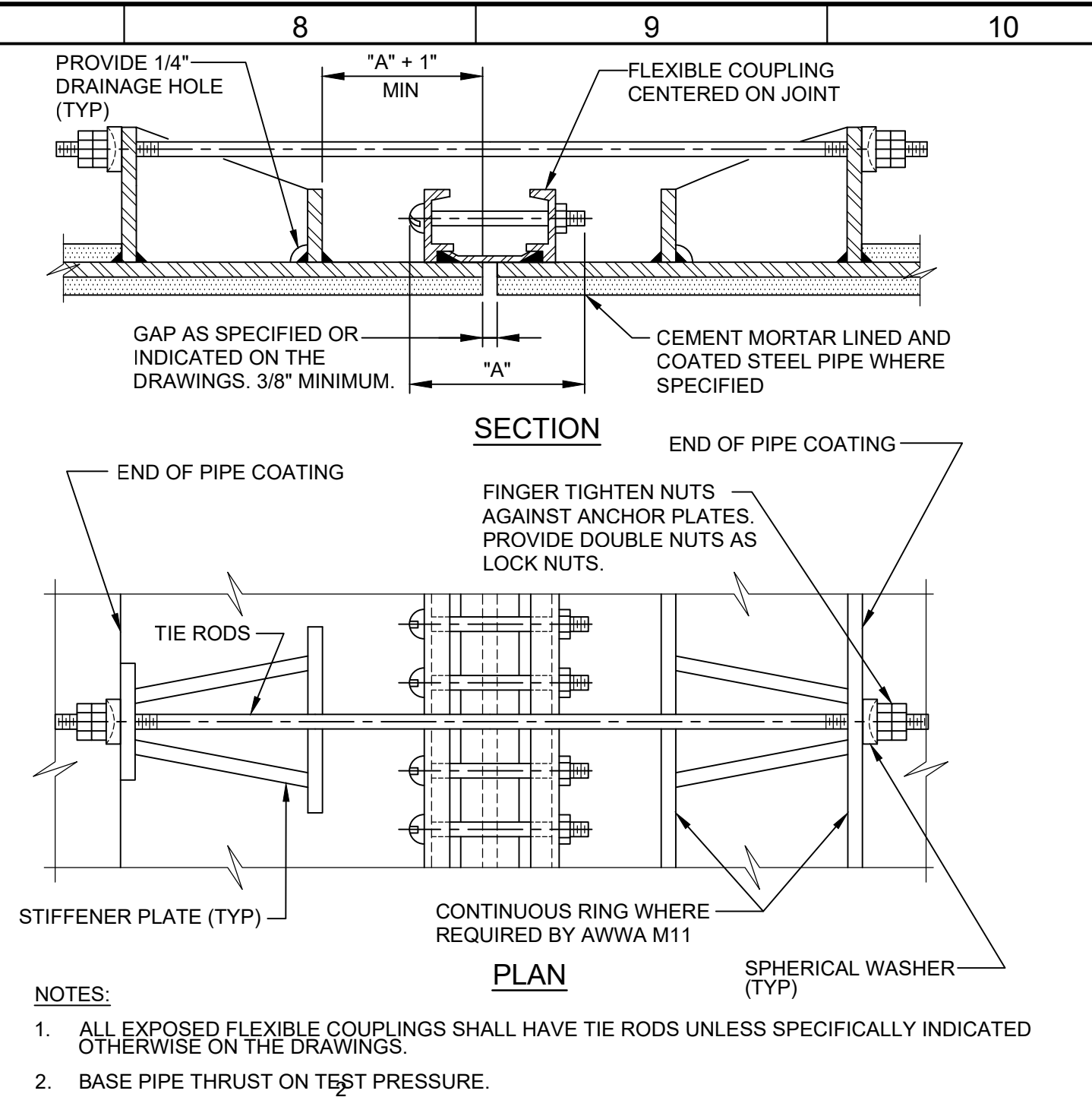
NOTE:
1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

MP215 PIPE SUPPORT - WALL - PIPE CLIP
TYP
12/23/24



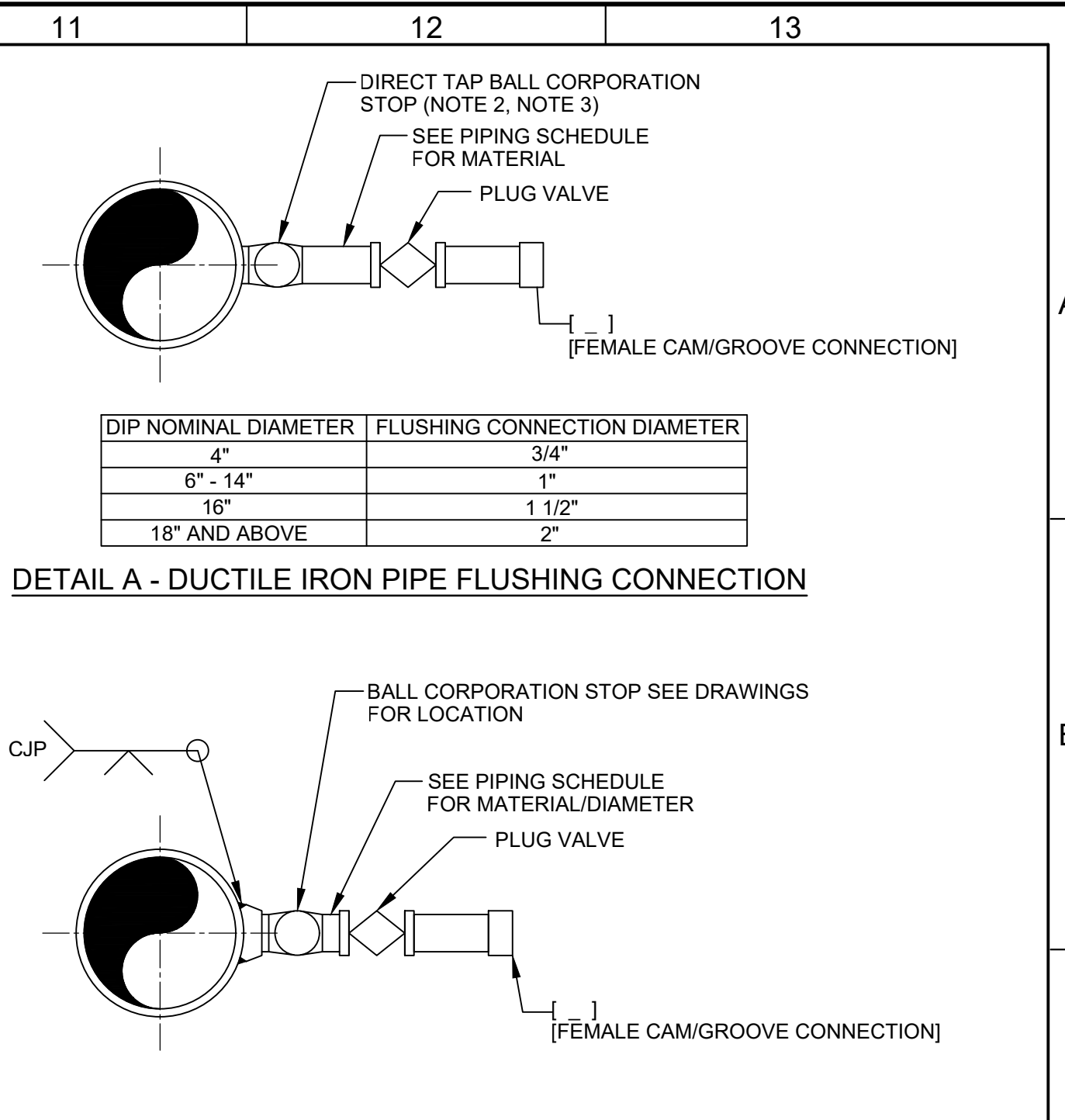
NOTES:
1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
2. SPACE PREFORMED CHANNEL PIPE SUPPORTS AT MAXIMUM 5'-0" O.C.

MP218 PIPE SUPPORT - WALL - PREFORMED CHANNEL
W/ PIPE CLIPS
TYP
10/05/23



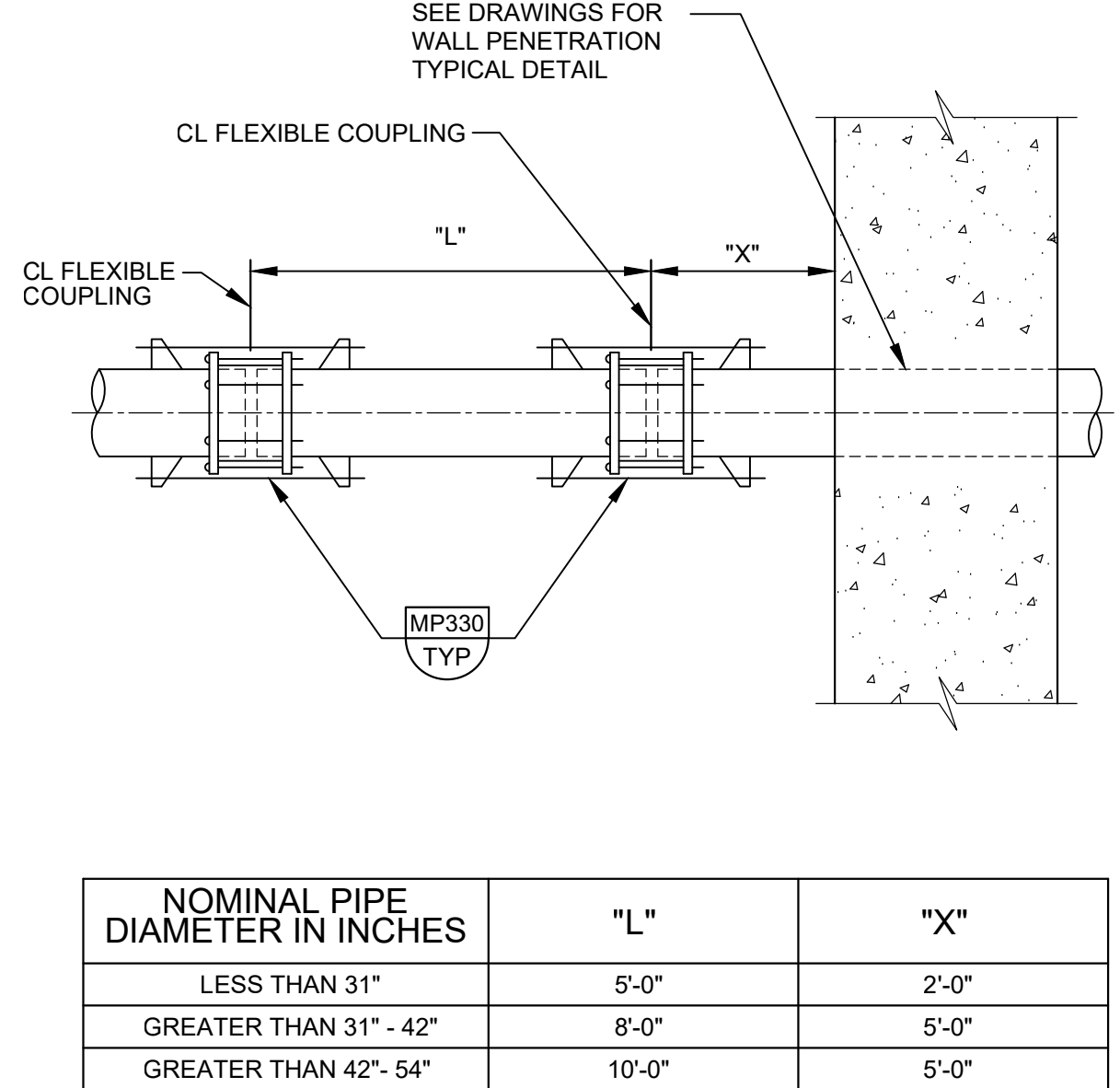
NOTES:
1. ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
2. BASE PIPE THRUST ON TEST PRESSURE.
3. PIPE THRUST = 0.7854 x D x TEST PRESSURE, WHERE "D" IS PIPE "OD".
4. ANCHOR LUGS AND TIE RODS SHALL BE DESIGNED BY PIPE MANUFACTURER IN ACCORDANCE WITH AWWA M11 STEEL PIPE MANUAL.
5. GRIND ALL CORNERS SMOOTH.
6. COAT ALL EXPOSED STEEL SURFACES WITH EPOXY IN ACCORDANCE WITH SPECIFICATIONS.
7. INSTALL JOINT BONDS PER CATHODIC PROTECTION DETAIL B/30CP02

MP330 PIPE JOINT - STEEL - FLEXIBLE COUPLING -
RESTRAINED
TYP
5/04/26



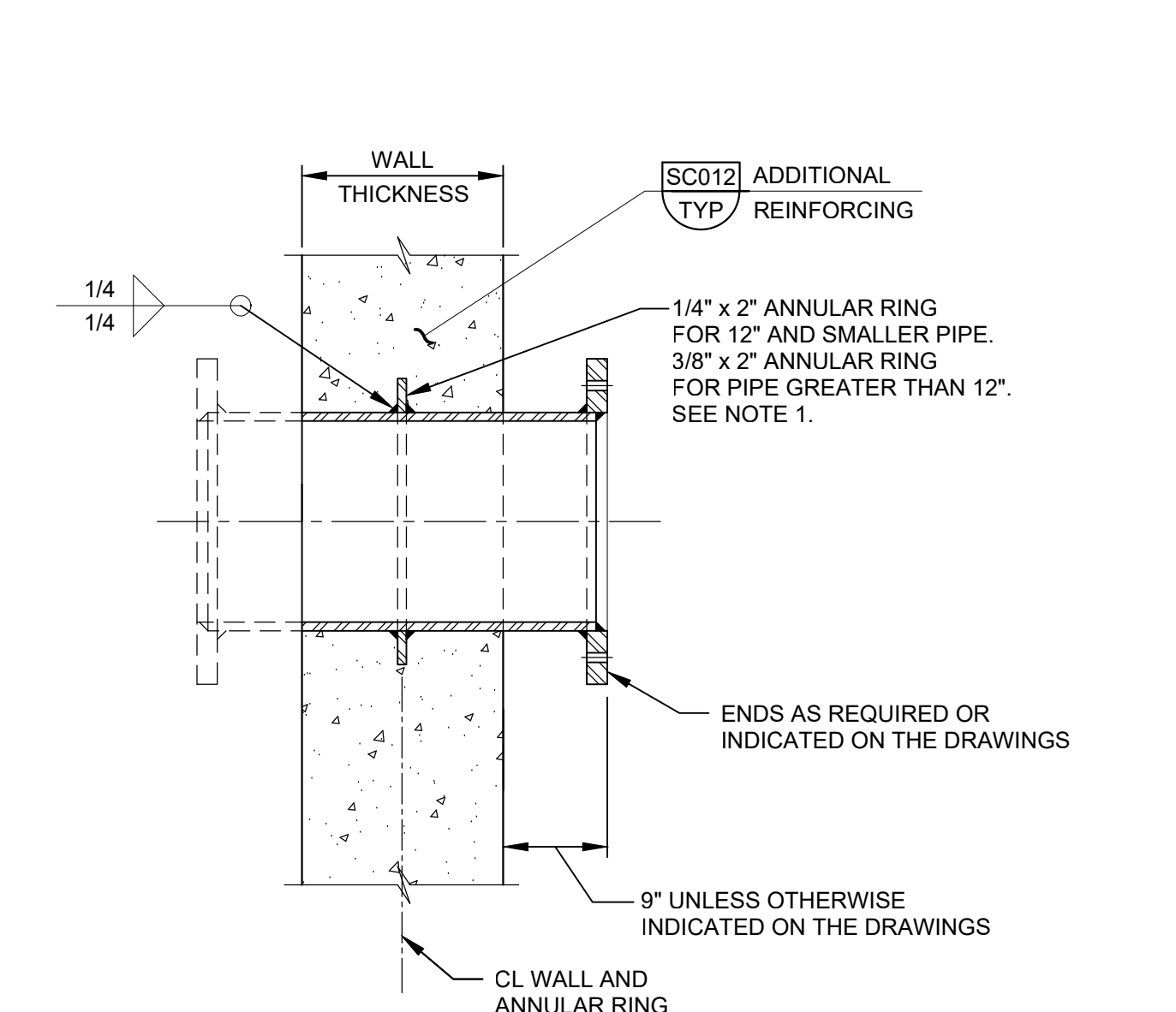
NOTE:
1. CJP = COMPLETE JOINT PENETRATION. CORPORATION STOP SHALL BE FURNISHED WITH AWWA TAPER THREADS PER AWWA C800. PIPE SHALL BE TAPPED ACCORDINGLY.
2. CONNECTIONS GREATER THAN 2" SHALL REQUIRE A TAPPING SADDLE.

MP405 PIPE CONNECTION - FLUSHING
TYP
12/01/22



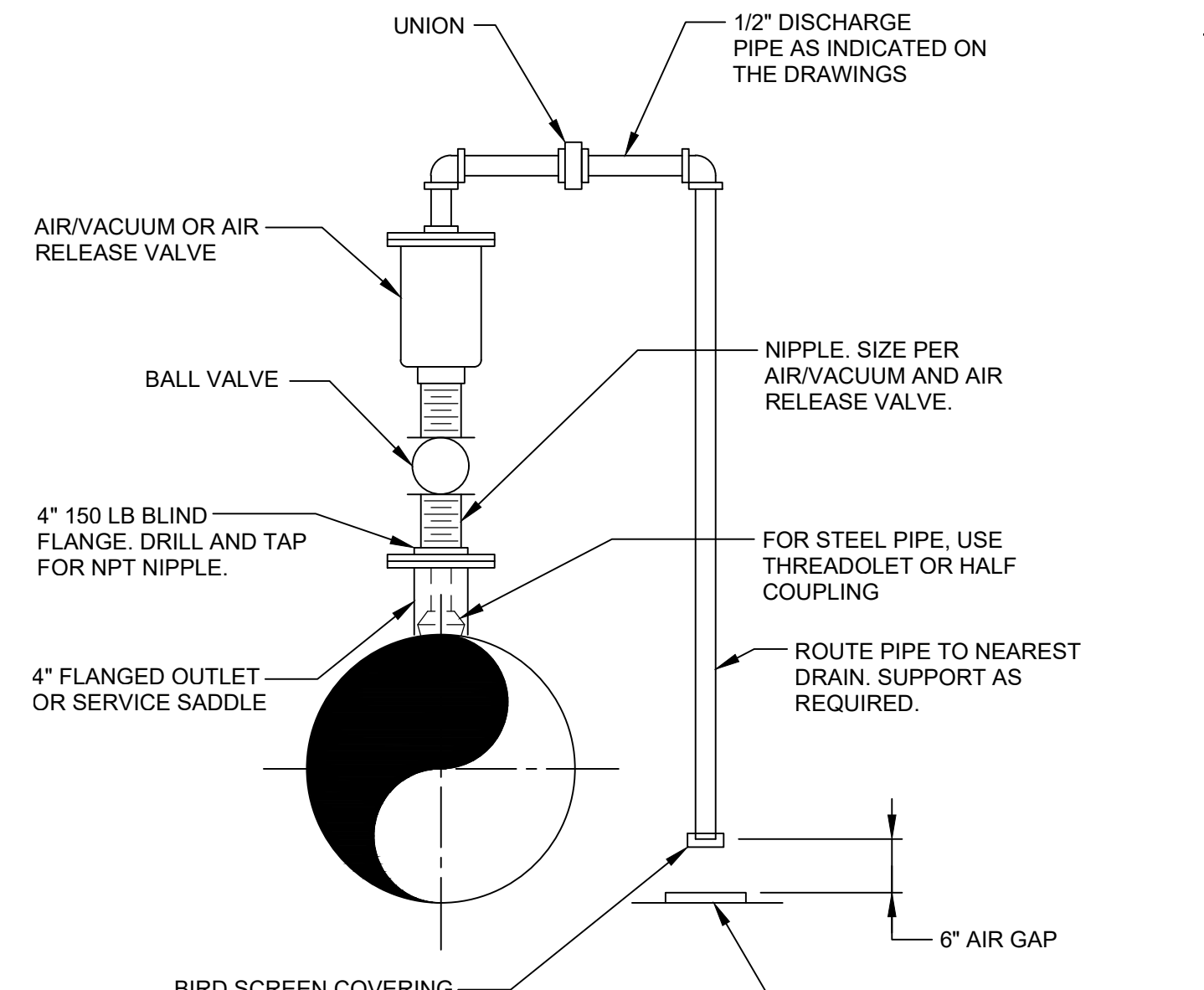
NOTE:
1. PIPES SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.

MP582 WALL CONNECTION - STEEL - RESTRAINED FLEXIBLE
COUPLINGS
TYP
12/01/22



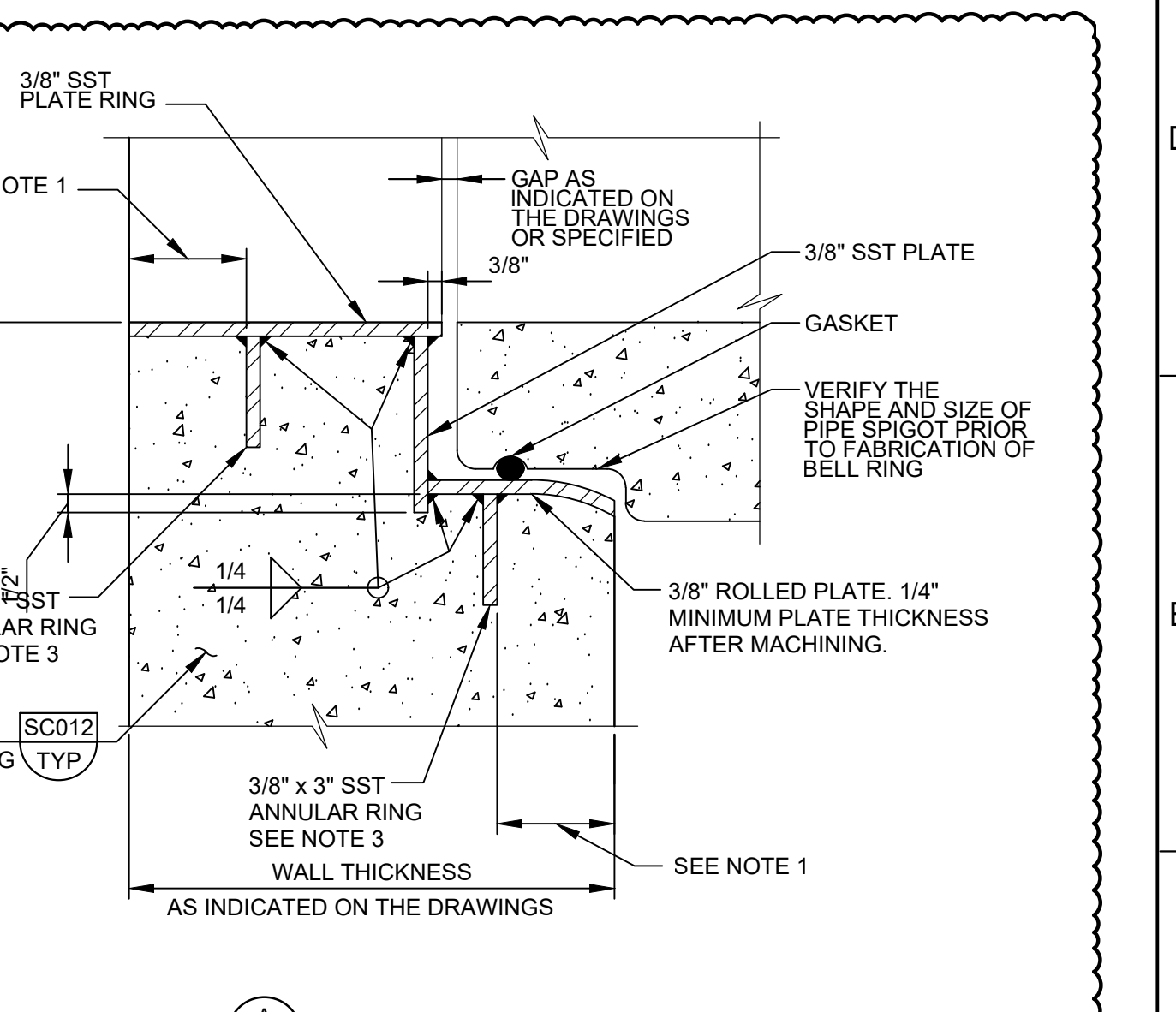
NOTE:
1. INSTALL ANNULAR RING ON PIPE SO THAT IT IS LOCATED AT CENTER OF WALL AND IN PLANE PARALLEL TO FACE OF WALL.
2. ENSURE ANNULAR RING AND PIPE IS KEPT ELECTRICALLY ISOLATED FROM REBAR. MUST MAINTAIN A MINIMUM CLEARANCE OF 2" FROM REBAR. SHALL TEST ISOLATION FROM REBAR BEFORE AND AFTER POURING CONCRETE. SEE CATHODIC PROTECTION SPECS SECTION

MP604 WALL PENETRATION - STEEL - FABRICATED WALL
PIPE (UP TO 42" DIA)
TYP
12/1/2022



NOTES:
1. VALVE SIZE SHALL BE AS INDICATED ON THE DRAWINGS.
2. SERVICE TAP AND PLUG VALVE SHALL MATCH VALVE INLET SIZE.

MP898 PIPING - VALVE - VACUUM AND AIR RELEASE: 3" AND
SMALLER VALVE
TYP
12/10/24



NOTES:
1. FACE WALL REINF. SEE [SC012] 2
2. WELD CUT REINFORCING BARS TO ANNULAR RING.
3. INSTALL ANNULAR RINGS PARALLEL TO FACE OF WALL AFTER ACCOUNTING FOR SLOPE OF PIPE. BELL RING INSERT SHALL BE INSTALLED PERPENDICULAR TO CENTERLINE OF PIPE.
4. GRIND SMOOTH ALL METAL EDGES AND ALL SURFACES IN PIPE SEATING AREA.
5. BELL RING SHALL HAVE SPIDER BRACING INSTALLED AT POINT OF MANUFACTURE.
6. * = 1 1/2" FOR #4 BARS; 2" FOR #5 BARS; 2 1/2" FOR #6 BARS; AND 3" FOR #7 AND LARGER BARS.
7. TO PREVENT HEATING DAMAGE TO GASKET, DO NOT WELD TO ANNULAR RING AFTER PIPE IS INSTALLED IN BELL RING INSERT.

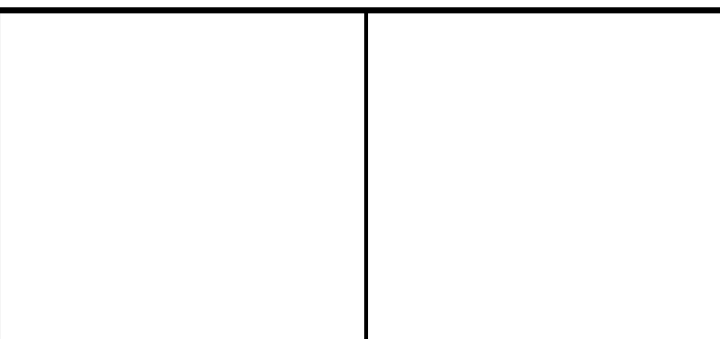
MP624 WALL PENETRATION - RCP - SST BELL RING INSERT
FOR PIPE
TYP
10/11/2023

LAST SAVED BY: Igarca

REV	DATE	BY	DESCRIPTION
1	6/26	JK	ADDENDUM NO. 1

BID SET

DESIGNED MP
DRAWN LRG
CHECKED MZ
DATE MAY 2026



CITY OF THORNTON
THORNTON WATER PROJECT
SOURCE WATER PUMP STATION
TYPICAL DETAILS
**MECHANICAL
TYPICAL DETAILS 2**

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"	JOB NO. 203505 DRAWING NO. 30TM02 SHEET NO. 153 OF 169
--	--