

**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.



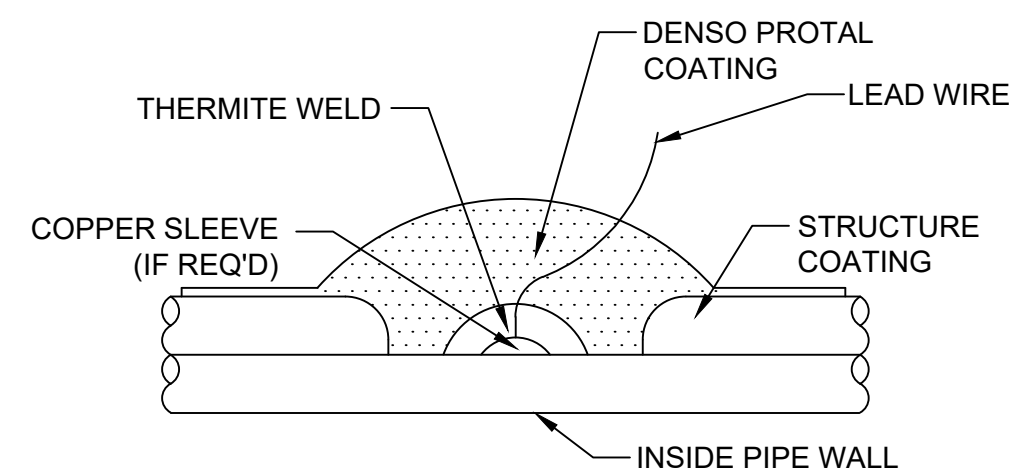
| REV |  | DATE | BY | DESCRIPTION    |
|-----|--|------|----|----------------|
| 1   |  | 6/26 | JK | ADDENDUM NO. 1 |

|                |                  |
|----------------|------------------|
| <b>BID SET</b> | DESIGNED<br>MMV  |
|                | DRAWN<br>MTJ     |
|                | CHECKED<br>VWJ   |
|                | DATE<br>MAY 2026 |



|   |  |
|---|--|
| CITY OF THORNTON  |  |
| THORNTON WATER PROJECT SOURCE<br>WATER PUMP STATION ACCESS ROAD |  |
| CATHODIC PROTECTION   |  |
| <b>TEST STATION DETAILS</b>                                     |  |

|   |                              |
|---|------------------------------|
| VERIFY SCALES<br>BAR IS ONE INCH ON ORIGINAL DRAWING<br>0 1" 1" | JOB NO.<br>203505            |
| IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY        | DRAWING NO.<br><b>30CP01</b> |
|   | SHEET NO.<br>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

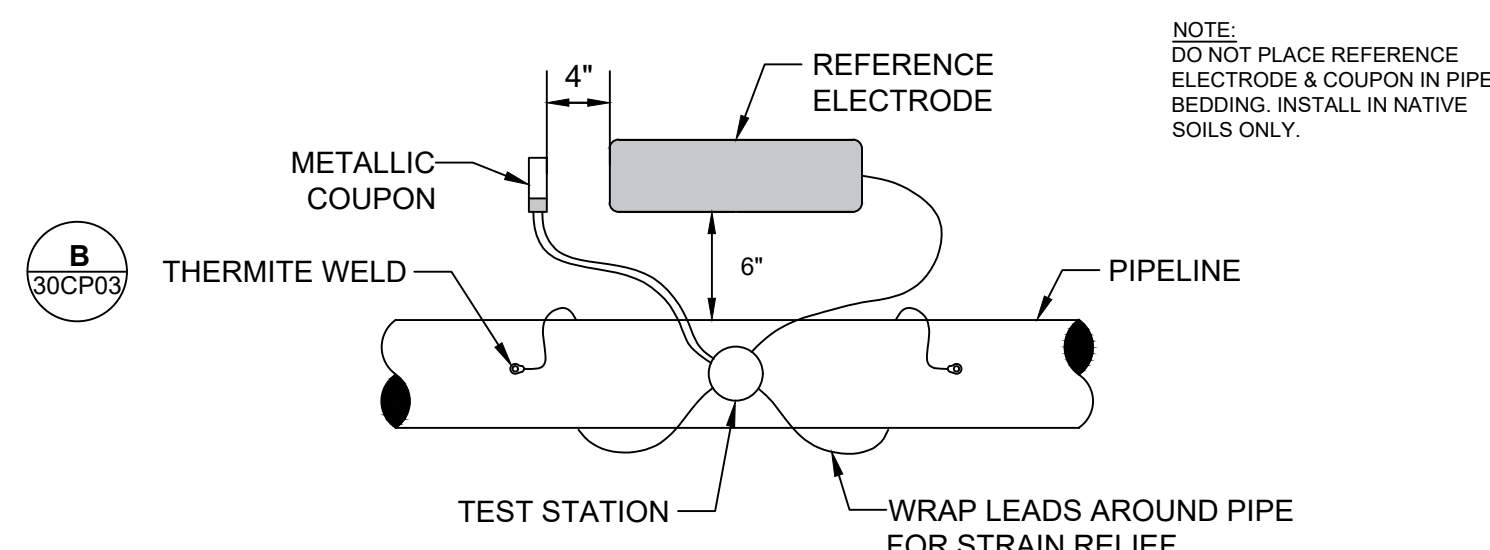


| TWP SOURCE WATER PUMP STATION - 54" WSP CATHODIC PROTECTION SCHEDULE |                  |                |                |                   |                             |                              |   |
|--|------------------|----------------|----------------|-------------------|-----------------------------|------------------------------|---|
| 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.)

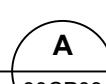
| TWP SOURCE WATER PUMP STATION - 42" WSP CATHODIC PROTECTION SCHEDULE |                  |                |                |                   |                             |                              |   |
|--|------------------|----------------|----------------|-------------------|-----------------------------|------------------------------|---|
| 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.)



NOTE:  
DO NOT PLACE REFERENCE ELECTRODE & COUPON IN PIPE BEDDING. INSTALL IN NATIVE SOILS ONLY.

REFERENCE ELECTRODE AND METALLIC COUPON INSTALLATION DETAIL  
NOT TO SCALE



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

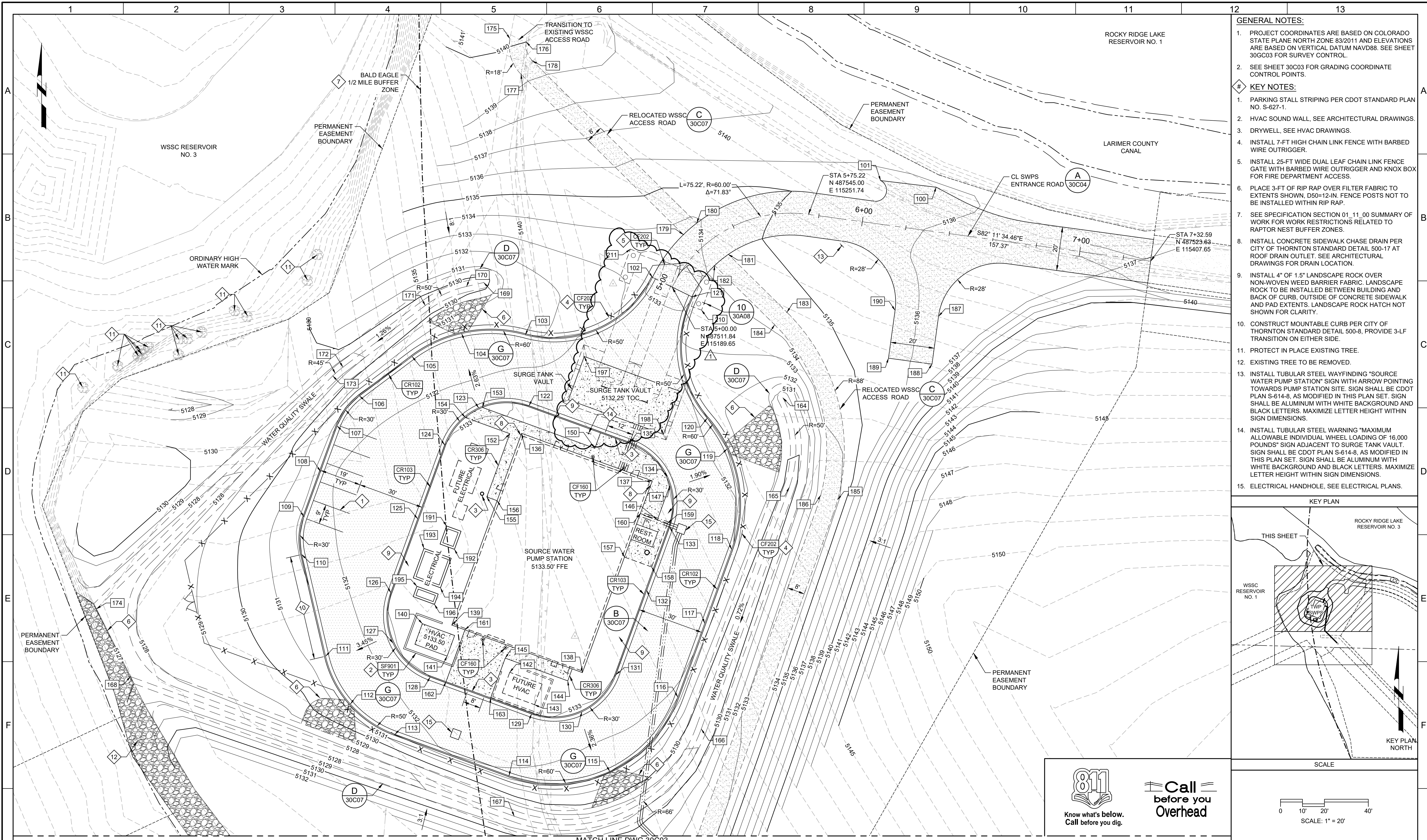
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| DESIGNED | MMV      |
| DRAWN    | MTJ      |
| CHECKED  | VWJ      |
| DATE     | MAY 2026 |



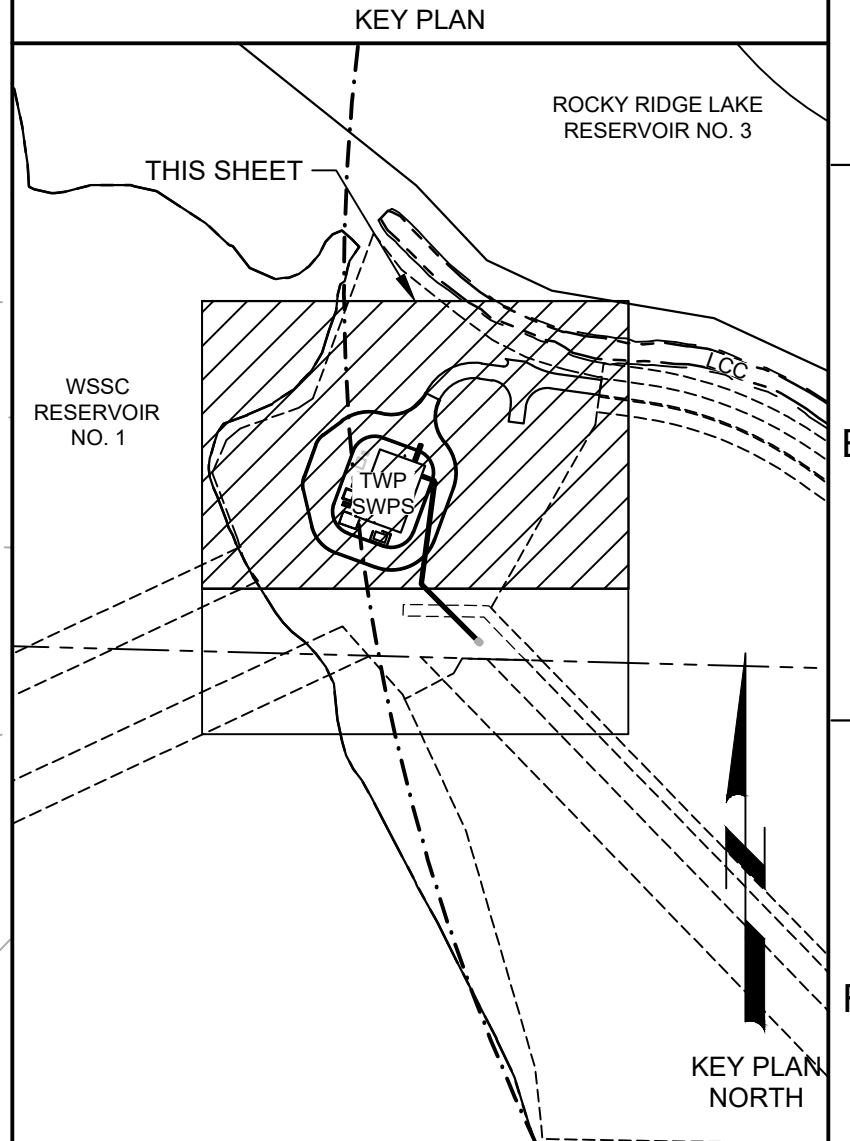
CITY OF THORNTON  
THORNTON WATER PROJECT SOURCE  
WATER PUMP STATION ACCESS ROAD  
CATHODIC PROTECTION  
**TEST STATION SCHEDULE**

|                                     |                              |
|-------------------------------------|------------------------------|
| VERIFY SCALES                       | JOB NO.<br>203505            |
| BAR IS ONE INCH ON ORIGINAL DRAWING | DRAWING NO.<br><b>30CP03</b> |
| 0 1"                                | SHEET NO.<br>25 OF 169       |

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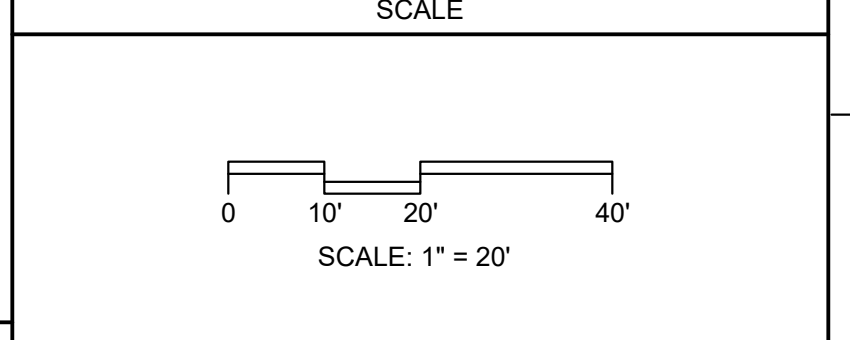


- GENERAL NOTES:**
- PROJECT COORDINATES ARE BASED ON COLORADO STATE PLANE NORTH ZONE 83/2011 AND ELEVATIONS ARE BASED ON VERTICAL DATUM NAVD88. SEE SHEET 30C03 FOR SURVEY CONTROL POINTS.
  - SEE SHEET 30C03 FOR GRADING COORDINATE CONTROL POINTS.
- KEY NOTES:**
- PARKING STALL STRIPING PER CDOT STANDARD 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.



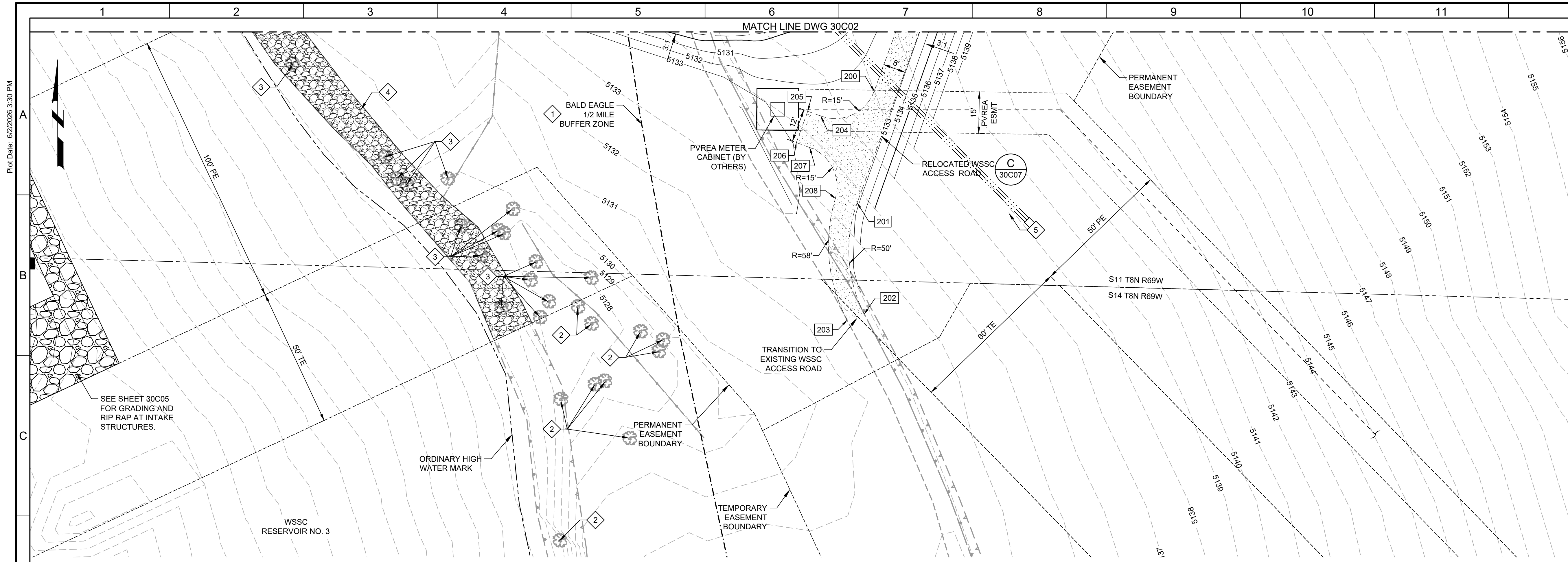
**811**  
Know what's below.  
Call before you dig.

**Call before you Overhead**



|  |                             |  |          |          |          |   |  |   |           |           |           |           |
|--|-----------------------------|--|----------|----------|----------|---|--|---|-----------|-----------|-----------|-----------|
| <p><b>BID SET</b></p>                                  |                             | <p>DESIGNED DES</p> <p>DRAWN DWN</p> <p>CHECKED CHK</p> <p>DATE MAY 2026</p> |          |          |          | <p>CITY OF THORNTON</p> <p>THORNTON WATER PROJECT</p> <p>SOURCE WATER PUMP STATION</p> <p>CIVIL</p> <p>PAVING, GRADING, AND DRAINAGE PLAN 1</p> | <p>VERIFY SCALES</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING</p> <p>0 1" 1'</p> <p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY</p> | <p>JOB NO. 203505</p> <p>DRAWING NO. 30C02</p> <p>SHEET NO. 27 OF 169</p> |           |           |           |           |
| <p>1</p> <p>6/2026</p> <p>JK</p> <p>ADDENDUM NO. 1</p> | <p>2</p> <p>DESCRIPTION</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> |

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 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.



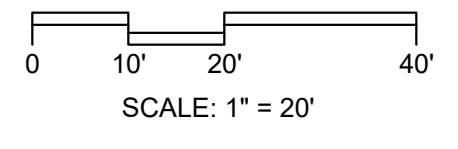
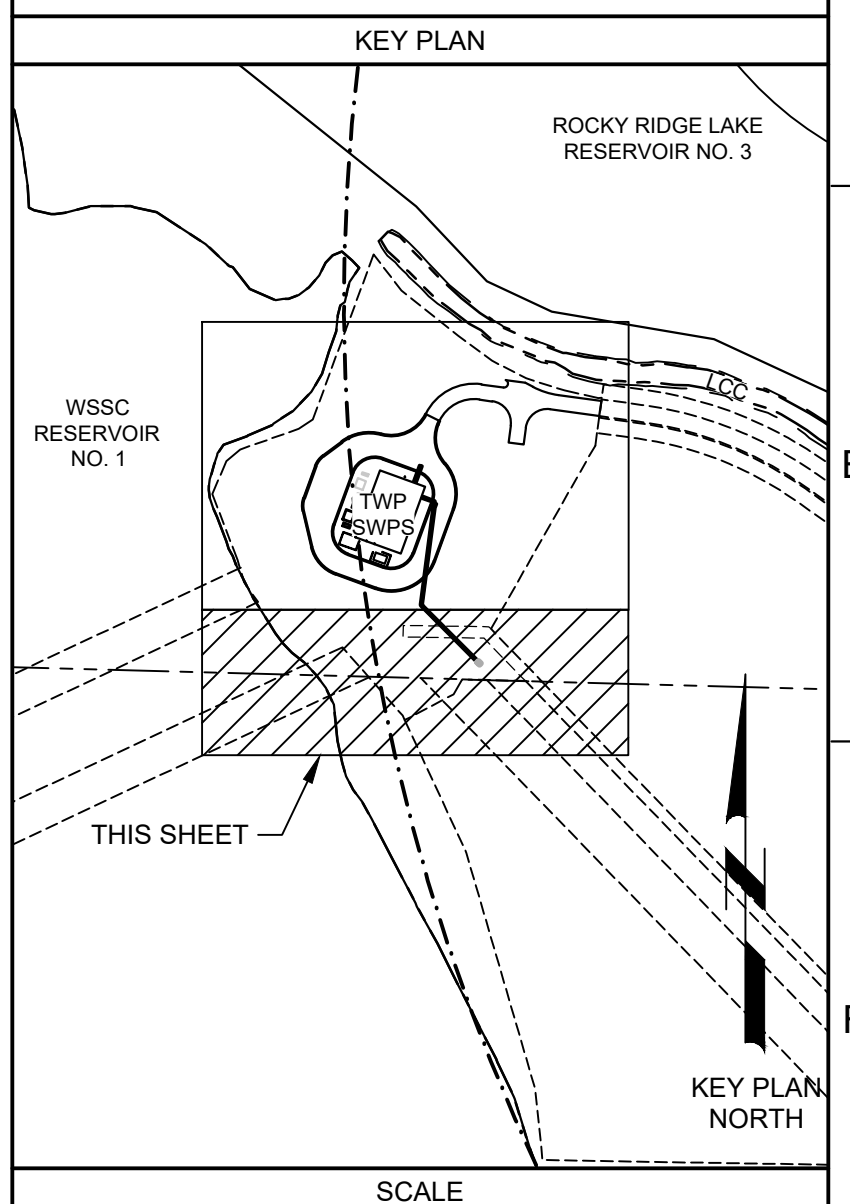
| COORDINATE CONTROL POINTS |           |           |           |             |
|---------------------------|-----------|-----------|-----------|-------------|
| POINT                     | NORTHING  | EASTING   | ELEVATION | DESCRIPTION |
| 100                       | 487557.38 | 115309.94 | 5135.97   | 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          |

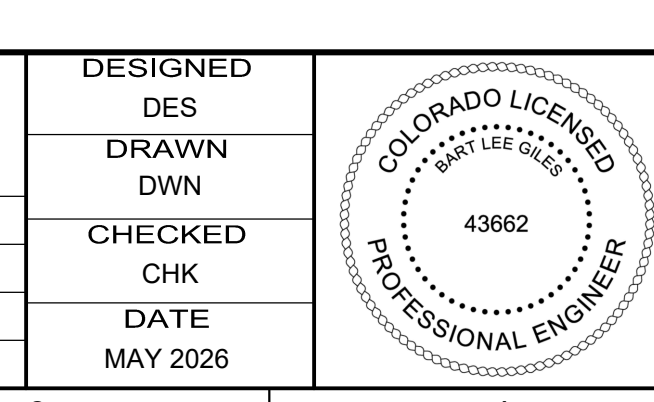
| COORDINATE CONTROL POINTS |           |           |           |             |
|---------------------------|-----------|-----------|-----------|-------------|
| POINT                     | NORTHING  | EASTING   | ELEVATION | DESCRIPTION |
| 169                       | 487513.93 | 115103.79 | 5129.84   | 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         |



LAST SAVED BY: CHUSTED

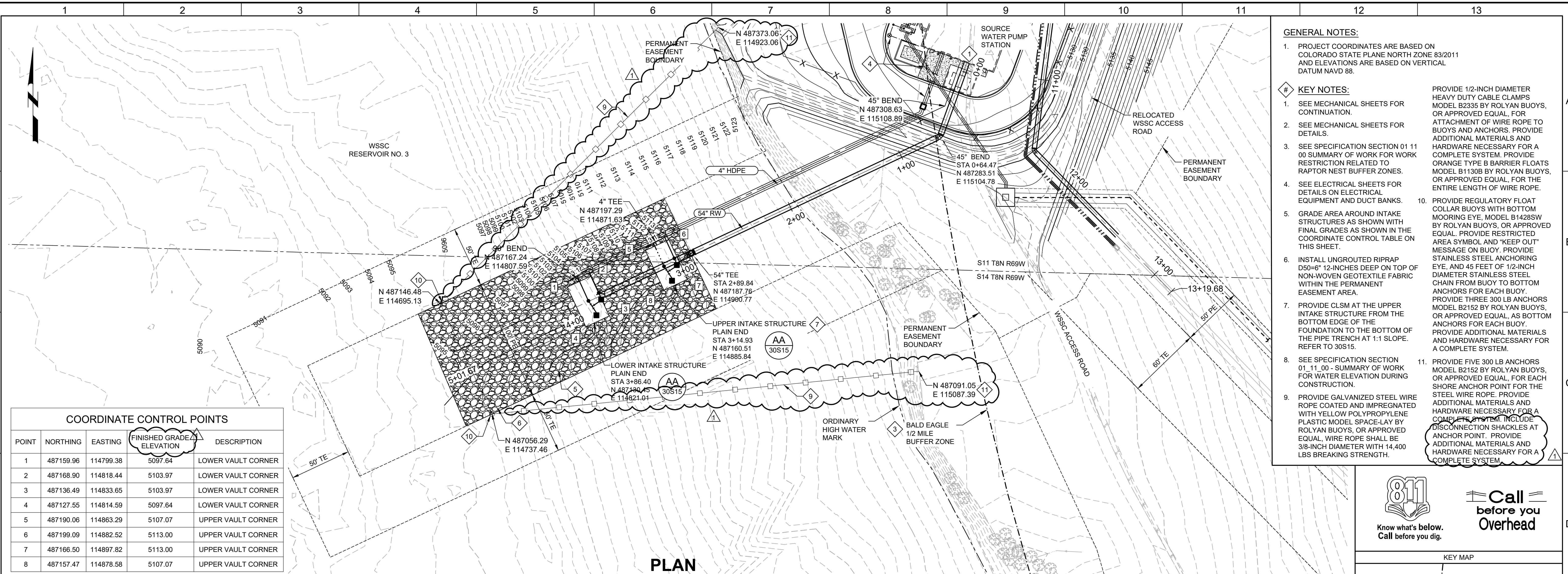
|                 |              |                |                  |
|-----------------|--------------|----------------|------------------|
| <b>BID SET</b>  |              |                |                  |
| DESIGNED<br>DES | DRAWN<br>DWN | CHECKED<br>CHK | DATE<br>MAY 2026 |
| 6/2026          | JK           | ADDENDUM NO. 1 |                  |
| REV             | DATE         | BY             | DESCRIPTION      |
| 1               |              |                |                  |



CITY OF THORNTON  
**THORNTON WATER PROJECT**  
 SOURCE WATER PUMP STATION  
 CIVIL  
**PAVING, GRADING, AND DRAINAGE PLAN 2**

|   |                             |
|---|-----------------------------|
| VERIFY SCALES<br>BAR IS ONE INCH ON ORIGINAL DRAWING<br>0 1" 1" | JOB NO.<br>203505           |
| IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY        | DRAWING NO.<br><b>30C03</b> |
|   | SHEET NO.<br>28 OF 169      |

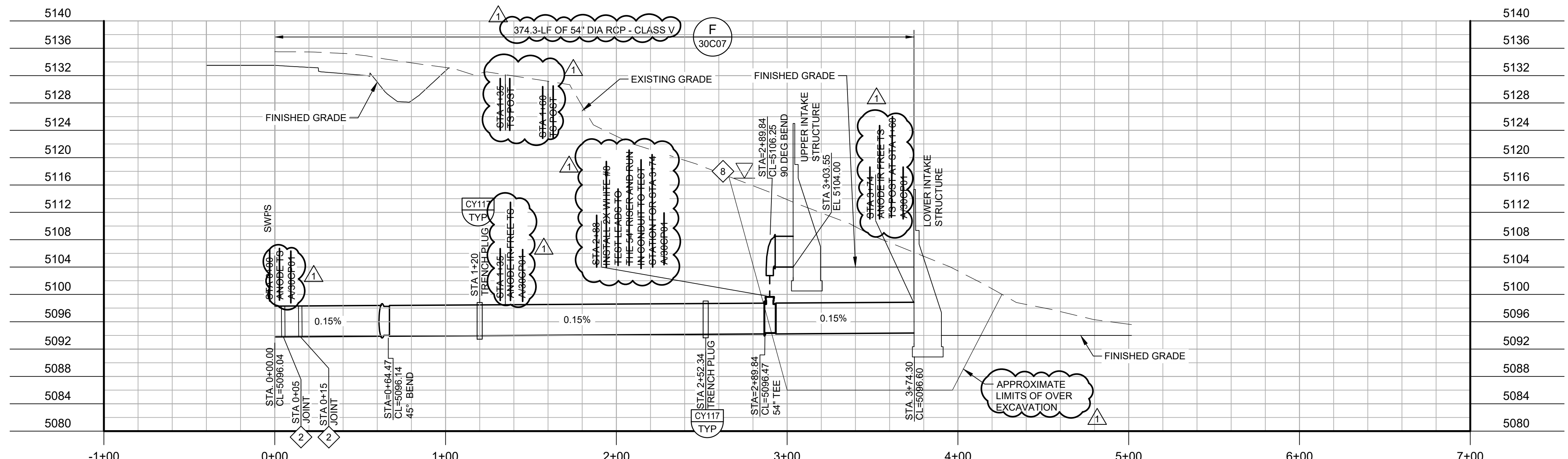
Plot Date: 6/20/2026 3:25 PM



- 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.

**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 |



**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

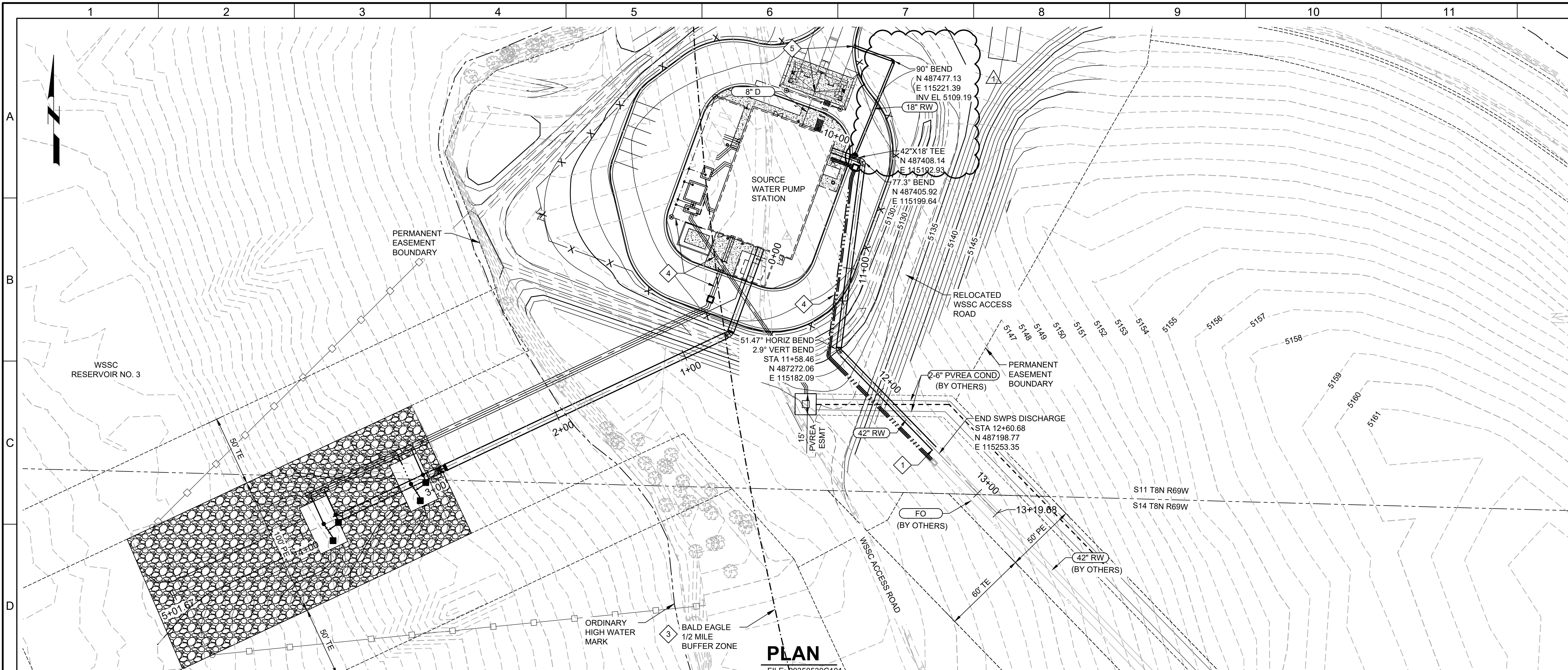


**CITY OF THORNTON**  
**THORNTON WATER PROJECT**  
SOURCE WATER PUMP STATION  
CIVIL  
**INTAKE PIPING PLAN AND PROFILE**

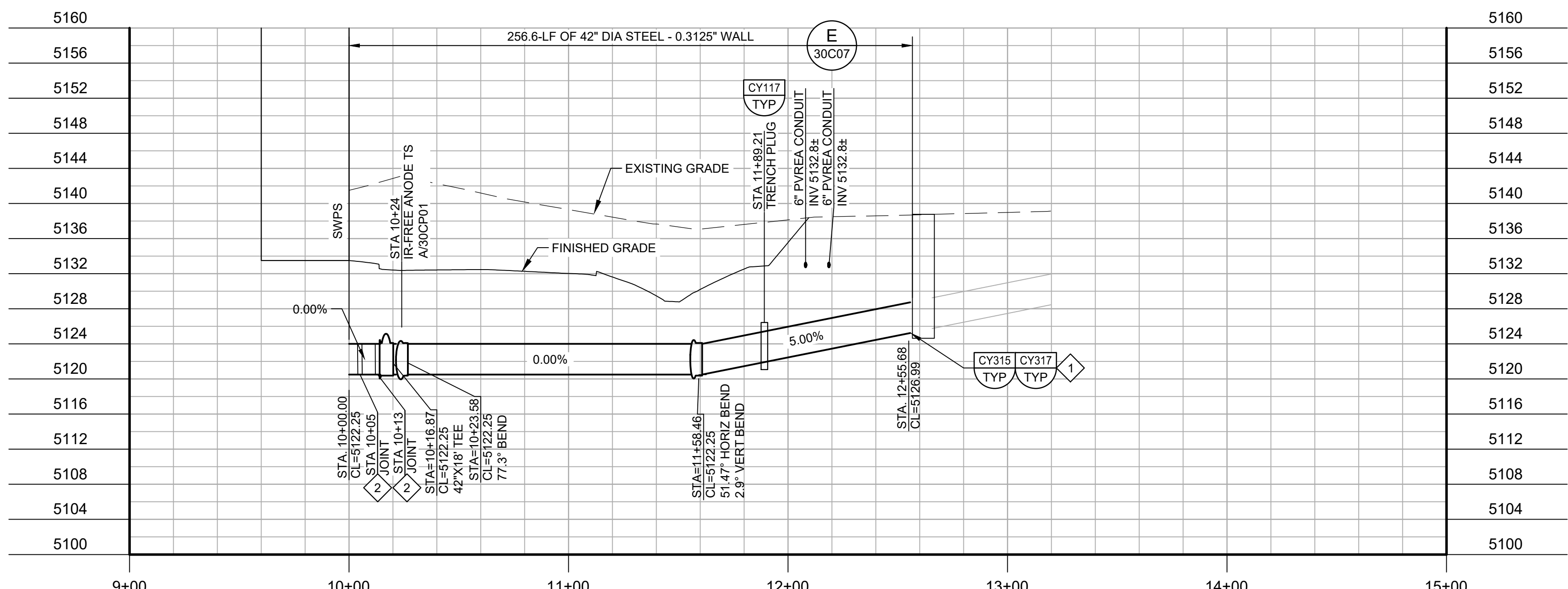
VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1" 1"  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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

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



PLAN  
FILE: 20350530C101



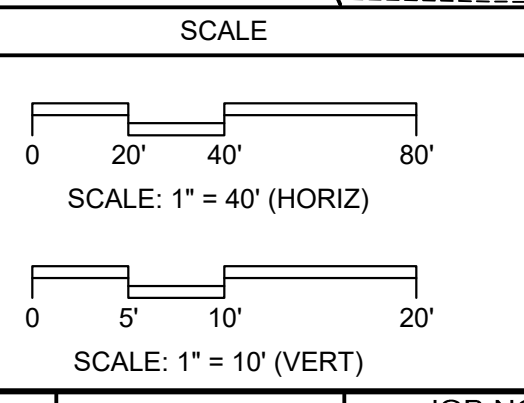
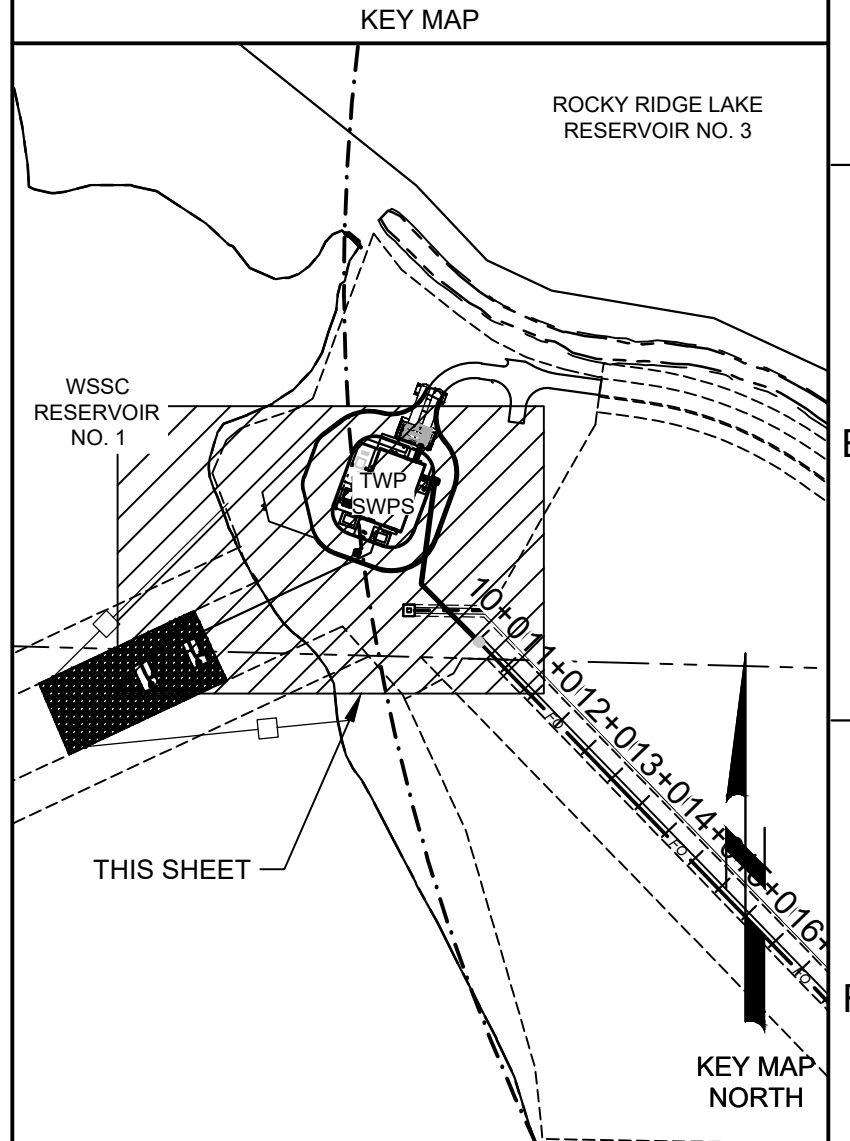
PROFILE  
FILE: 20350530C101

**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:**

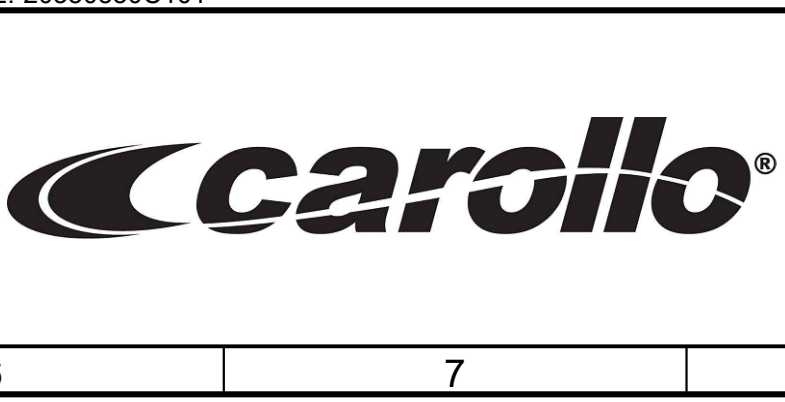
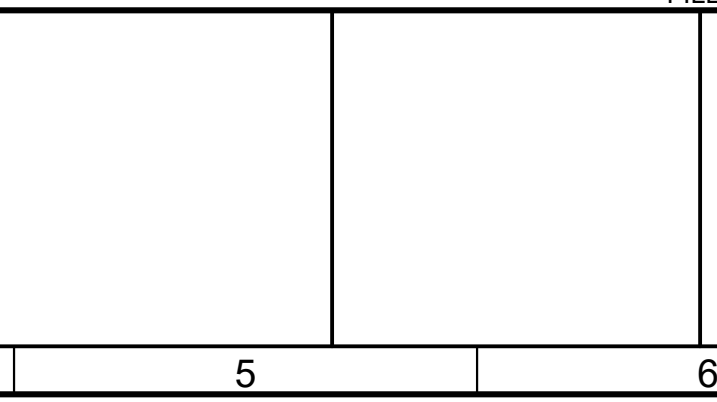
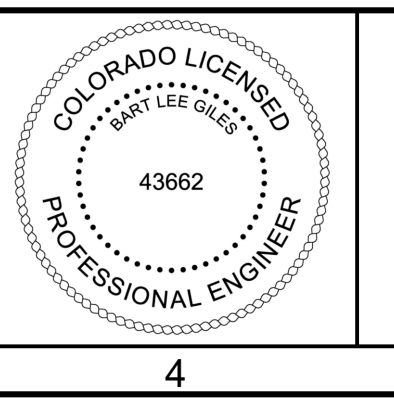
- INSTALL TEST BULKHEAD PER DETAIL CY315 TO TEST PIPE SEGMENT PRIOR TO CONNECTING TO 42\"/>



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

**BID SET**

DESIGNED CH  
DRAWN CH  
CHECKED JK  
DATE MAY 2026



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

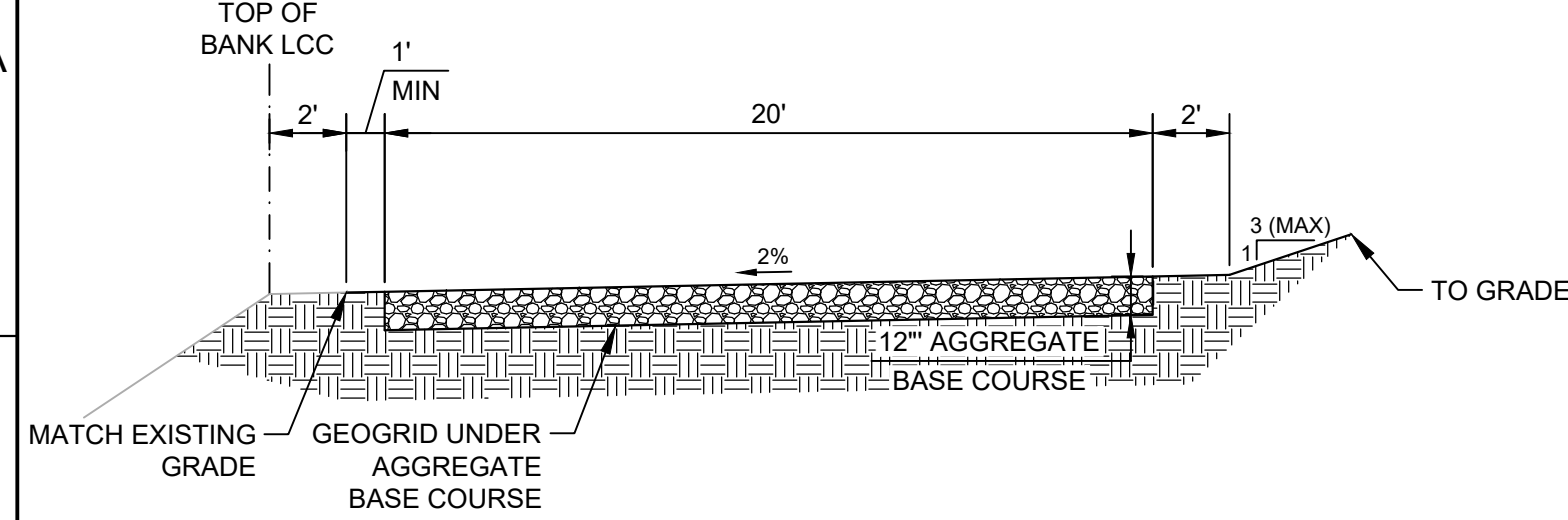
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DRAWING NO. 30C06  
SHEET NO. 31 OF 169

LAST SAVED BY: CHUJSTED

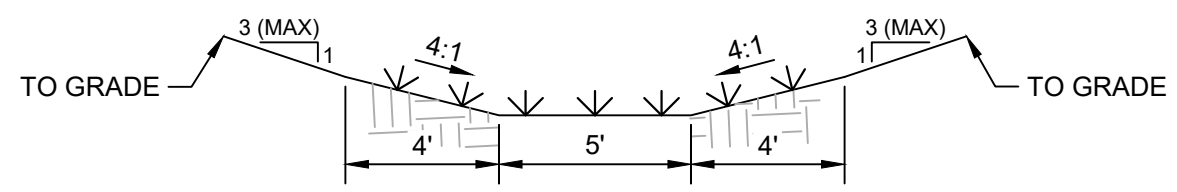
Plot Date: 6/2/2026 3:25 PM

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

A B C D E F G



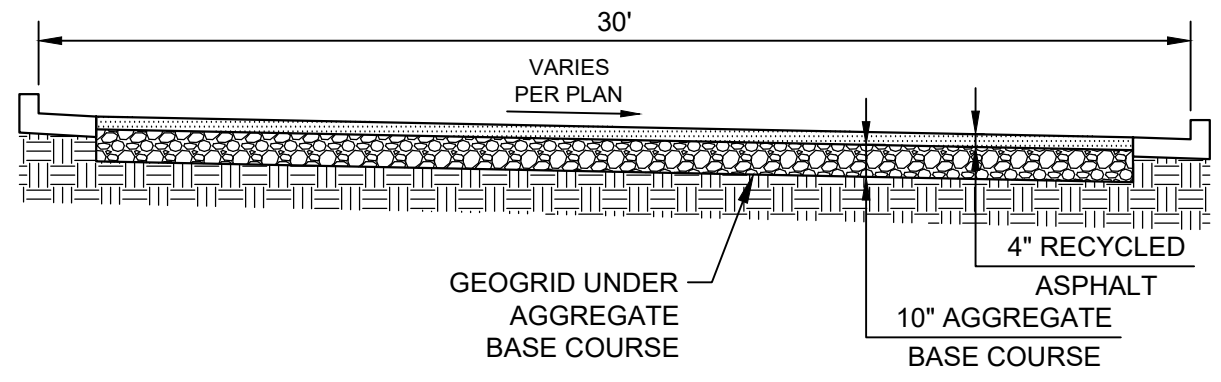
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FILE: 203505\_30C05



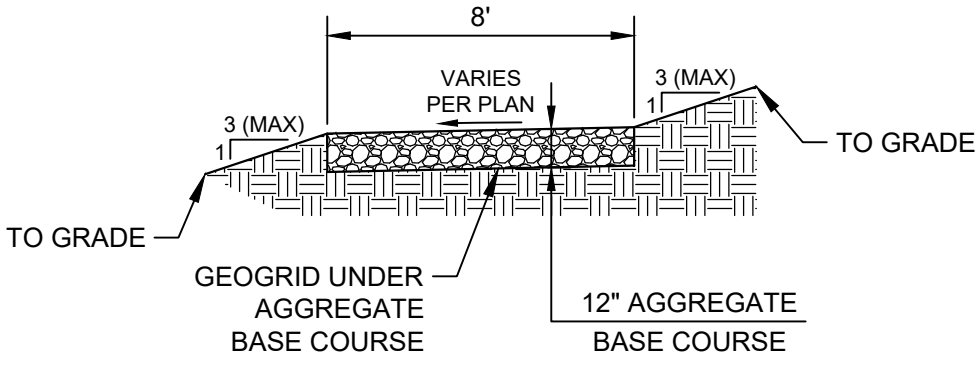
**NOTES:**

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.

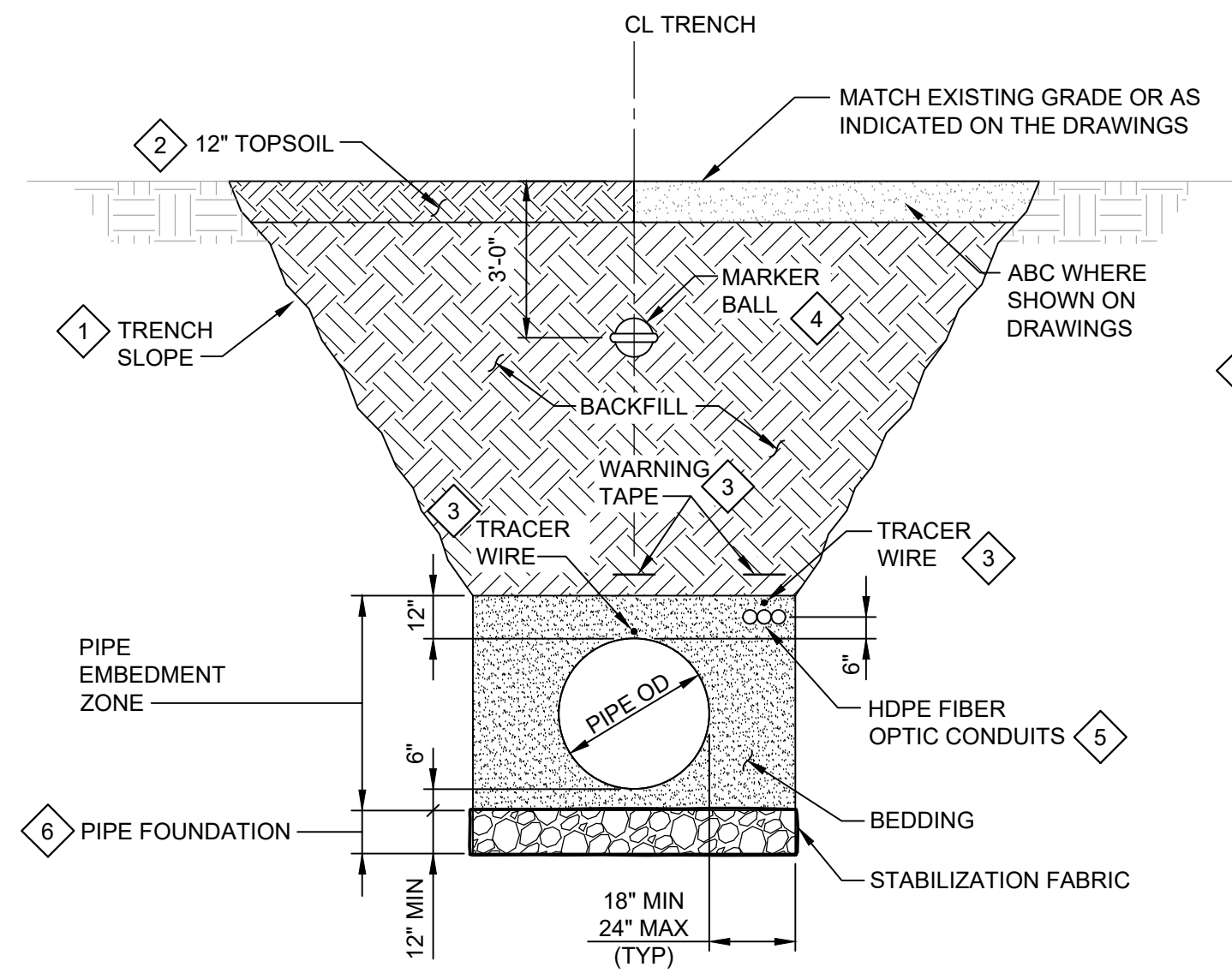
**D DETAIL**  
SCALE: 1" = 5'  
FILE: 20350530C0800



**B DETAIL**  
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FILE: 203505\_30C05



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



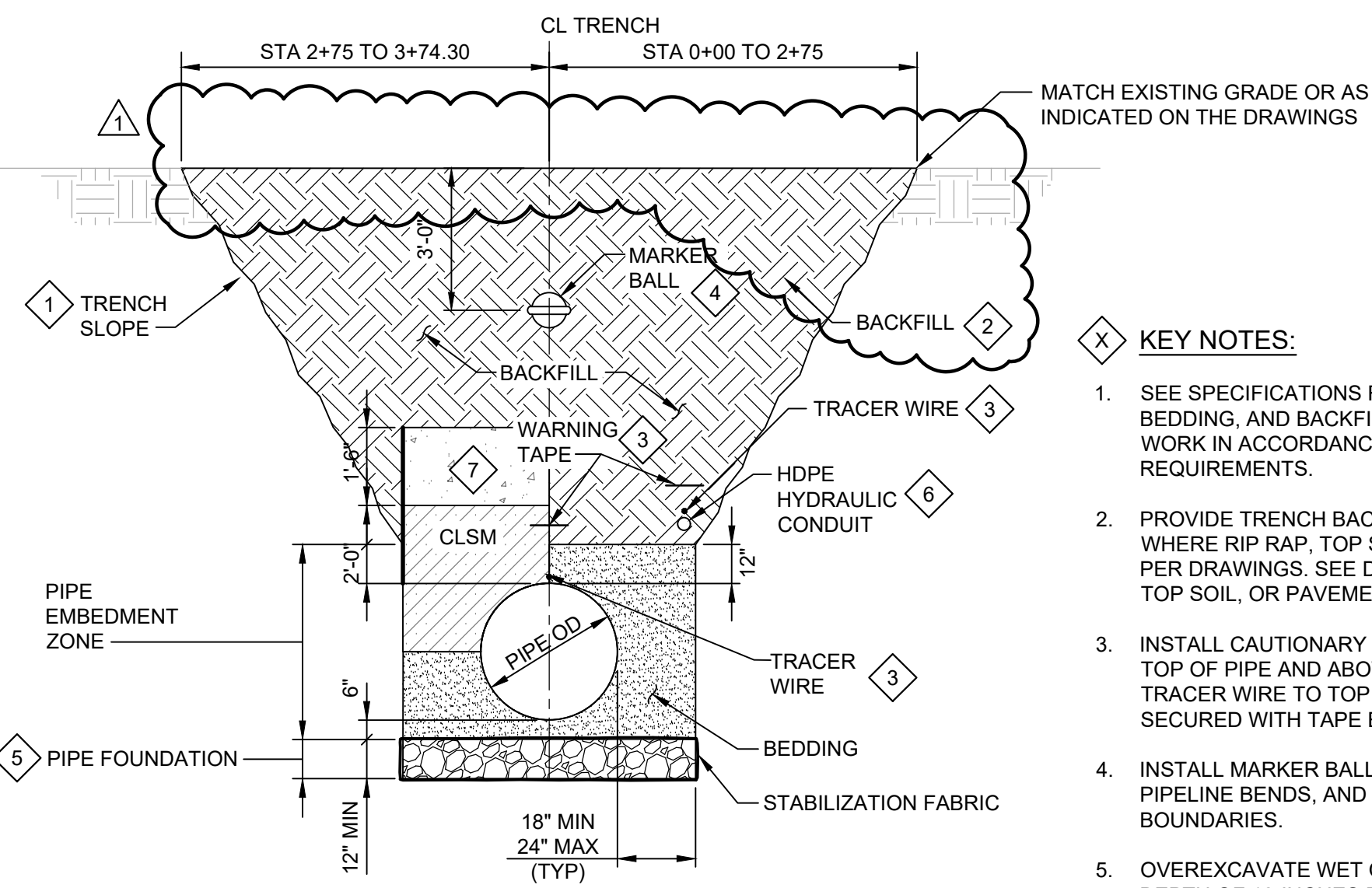
**NOTES:**

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.



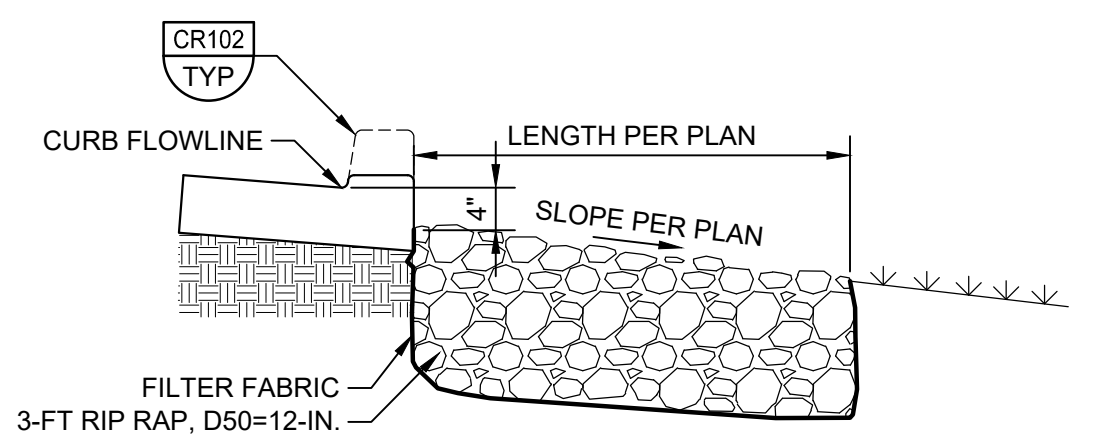
**NOTES:**

1. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

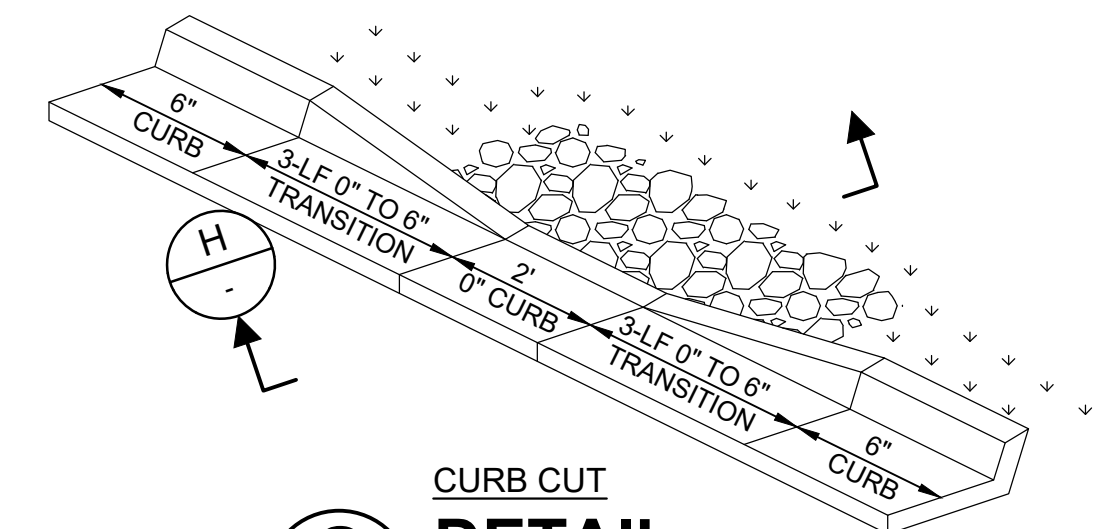
**F DETAIL**  
SCALE: NTS  
FILE: NA

**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 |

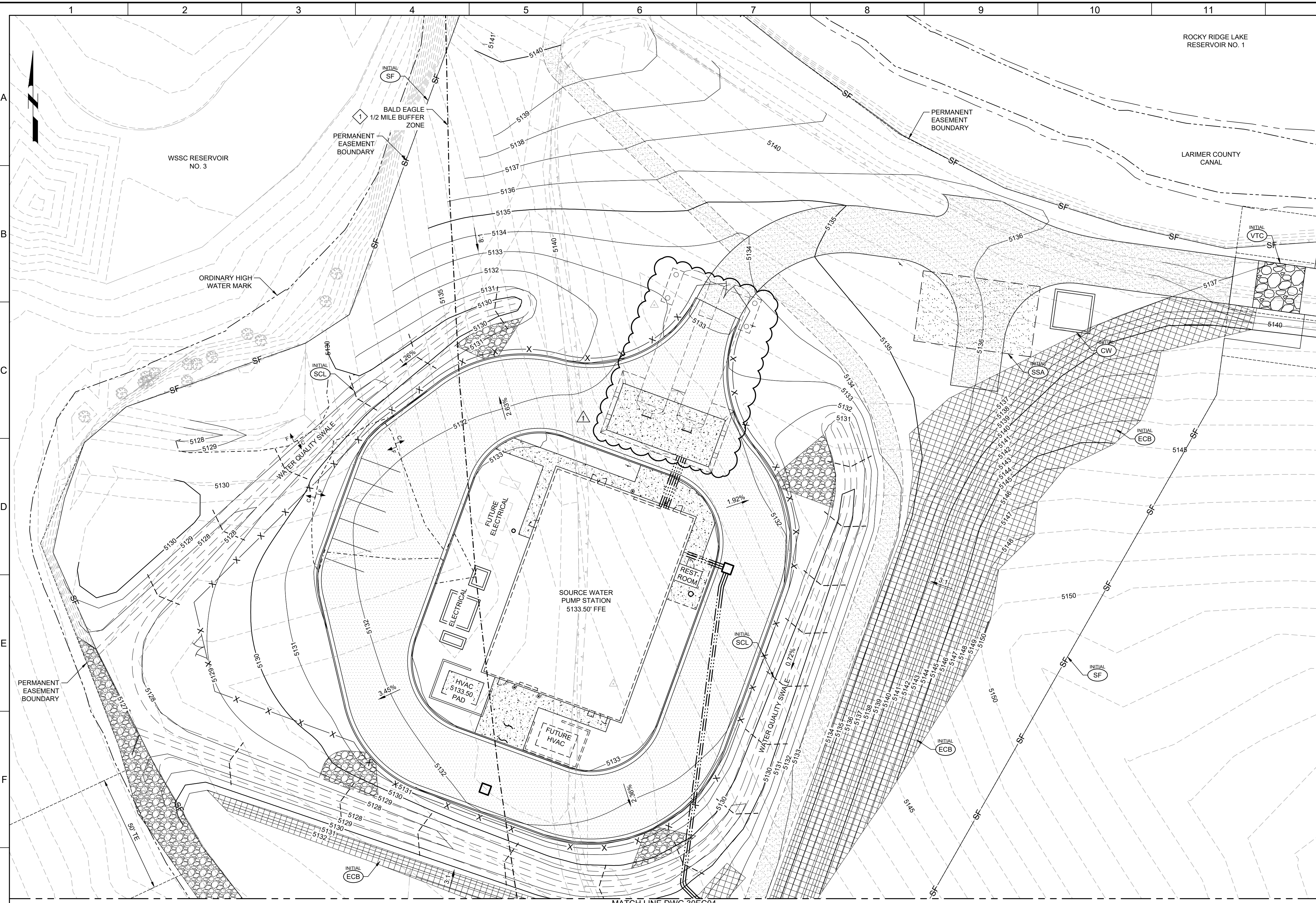


CITY OF THORNTON  
THORNTON WATER PROJECT  
SOURCE WATER PUMP STATION  
CIVIL  
DETAILS 1

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

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

LAST SAVED BY: CHUJSTED

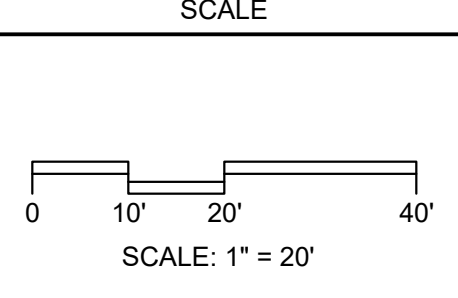
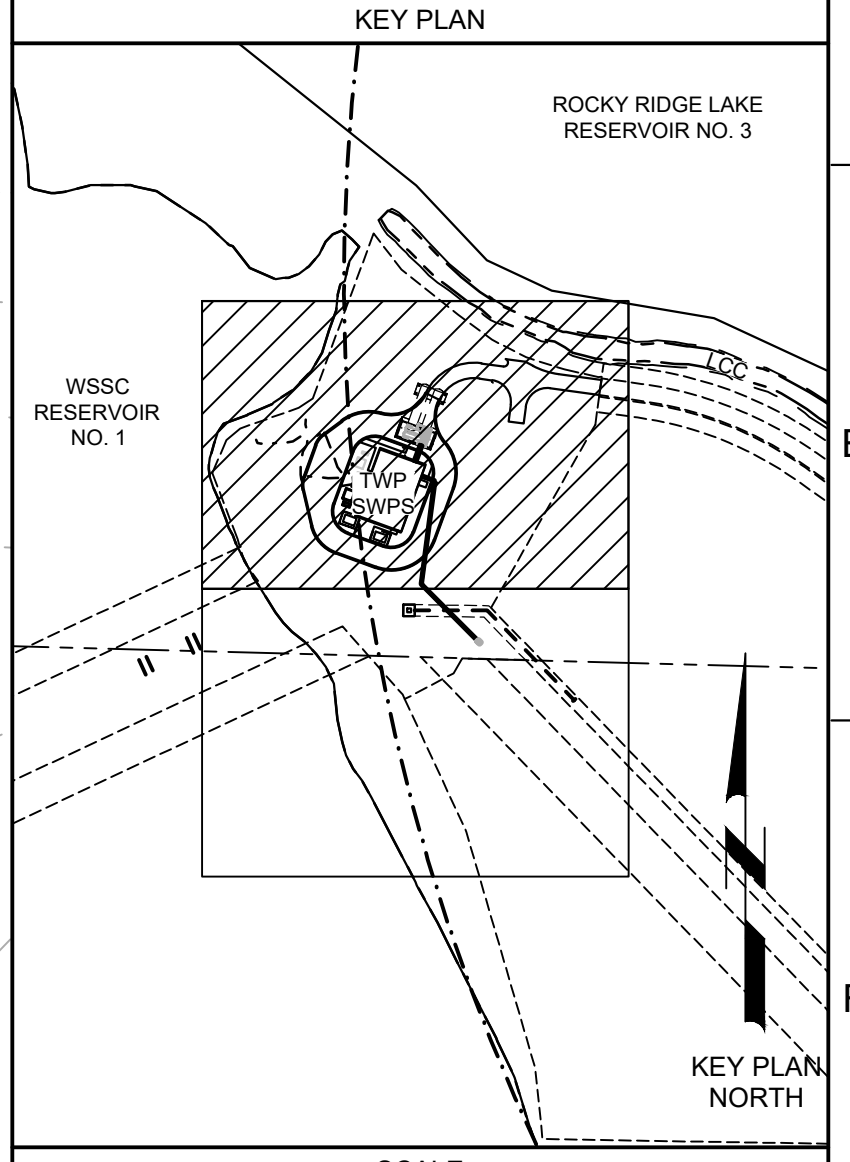


**GENERAL NOTES:**

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

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



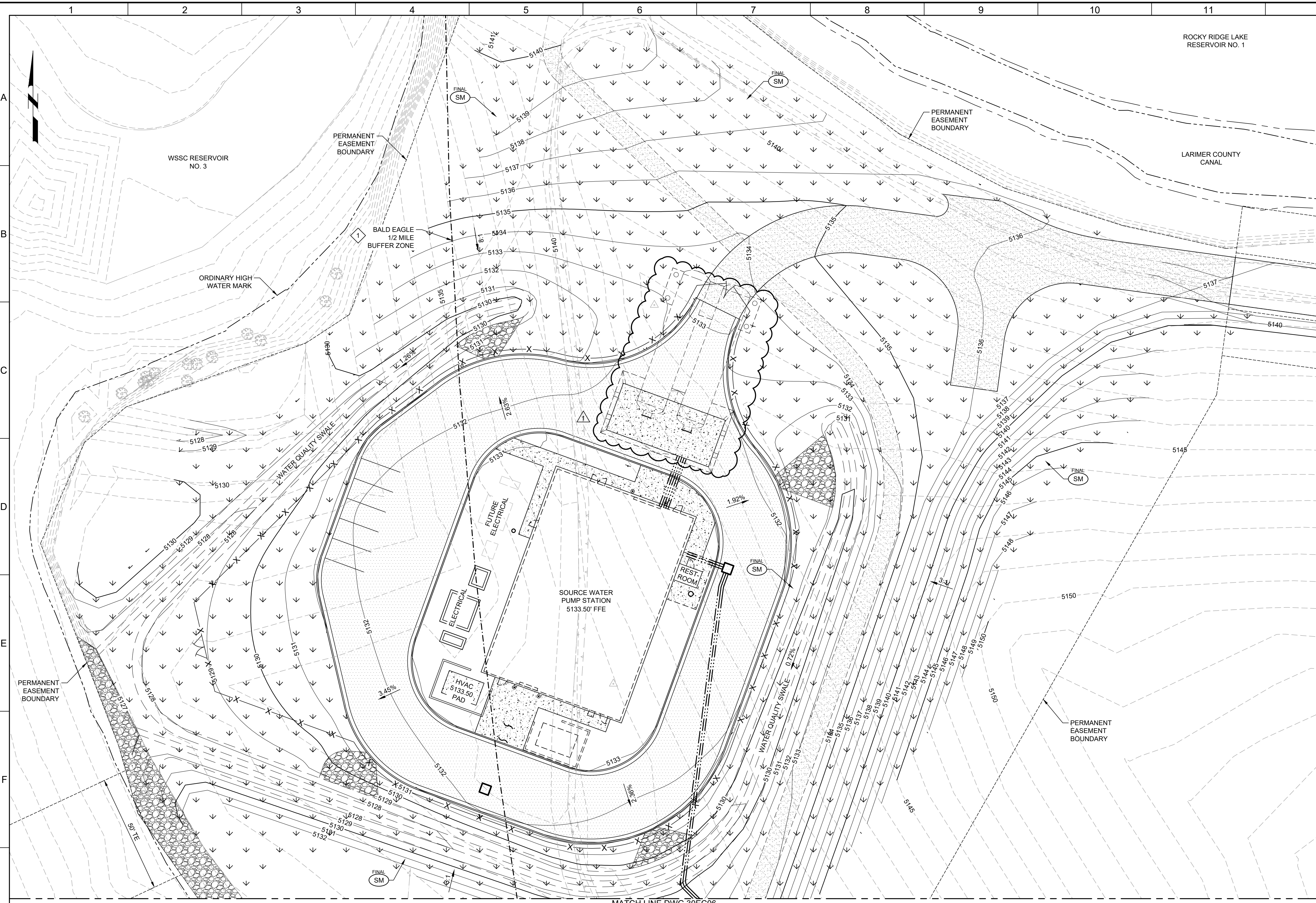
CITY OF THORNTON  
THORNTON WATER PROJECT  
SOURCE WATER PUMP STATION  
EROSION CONTROL  
EROSION CONTROL PLAN 1 - INITIAL

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.

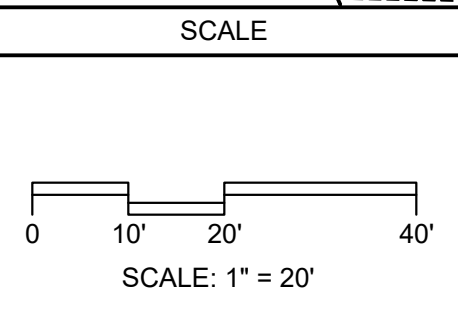
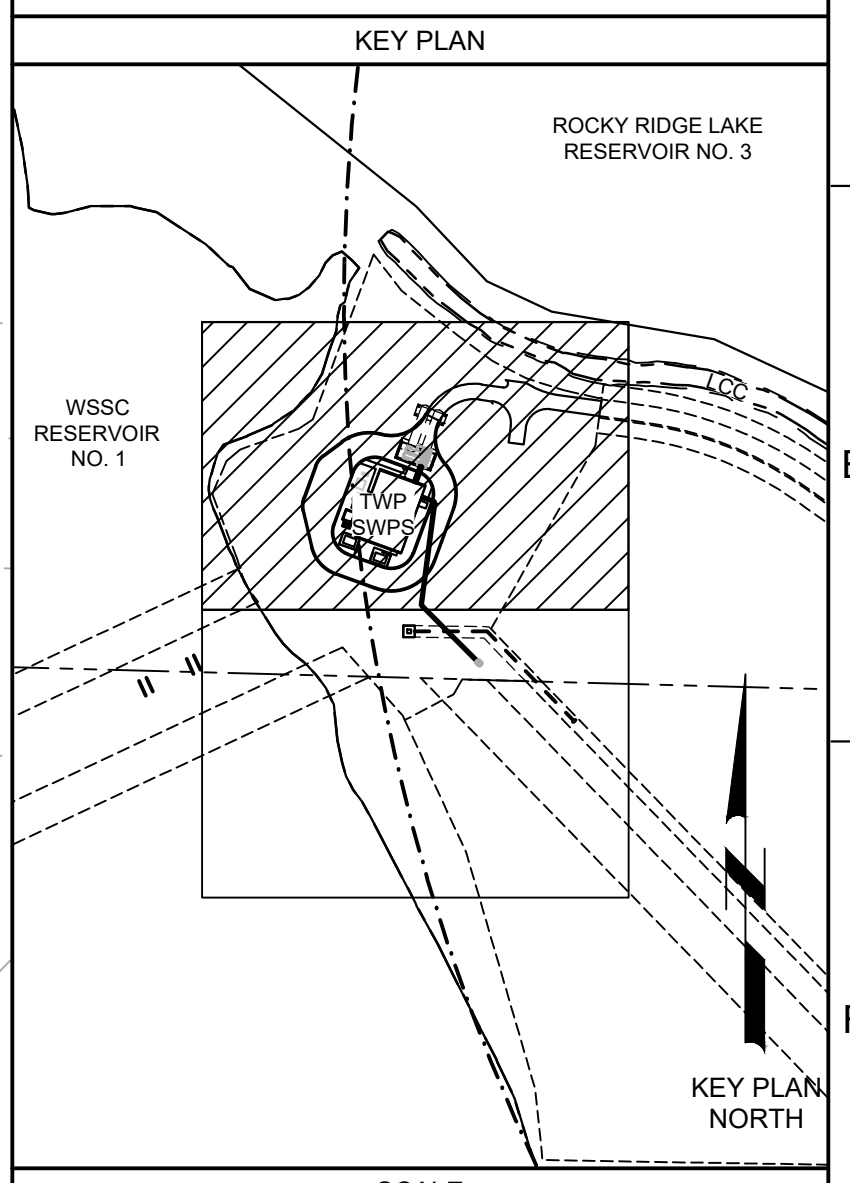
**KEY NOTES:**

- 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 |

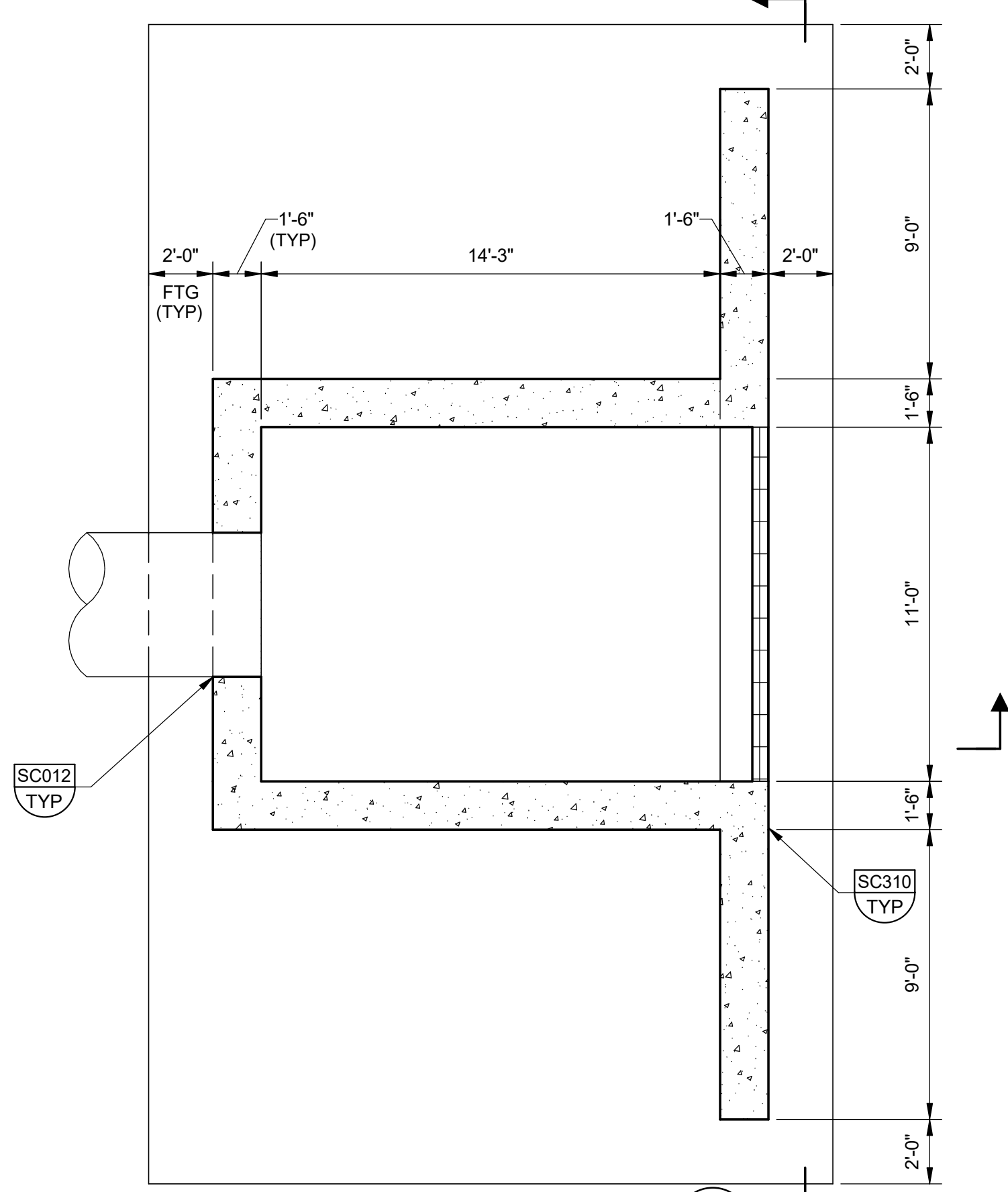
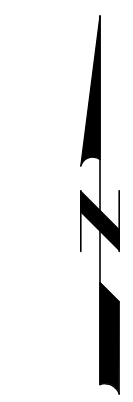
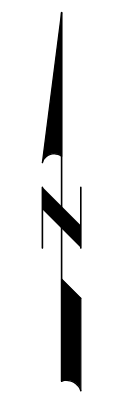
DESIGNED RJF  
DRAWN RJF  
CHECKED JJK  
DATE MAY 2026



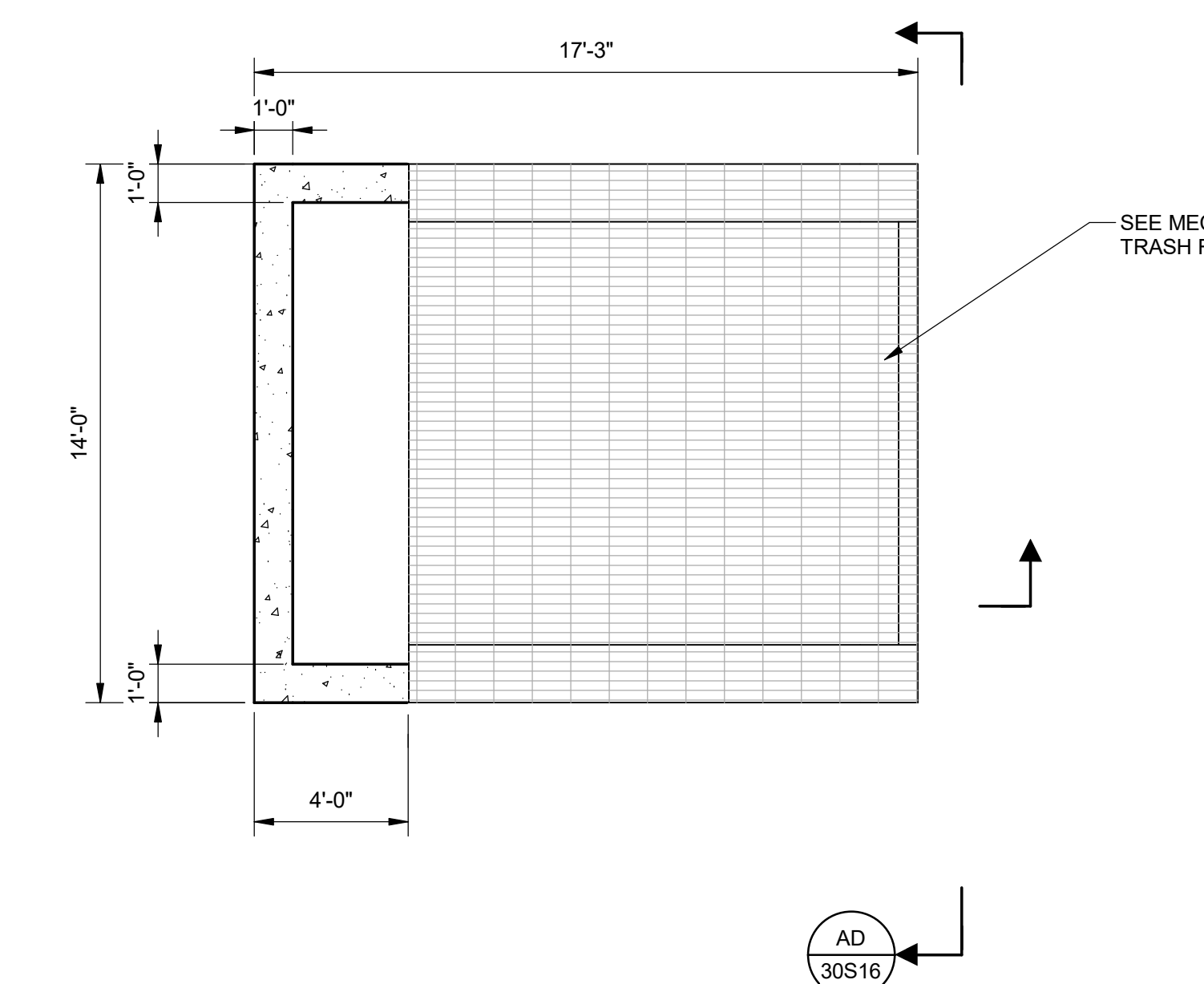
CITY OF THORNTON  
THORNTON WATER PROJECT  
SOURCE WATER PUMP STATION  
EROSION CONTROL  
EROSION CONTROL PLAN 1 - FINAL

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

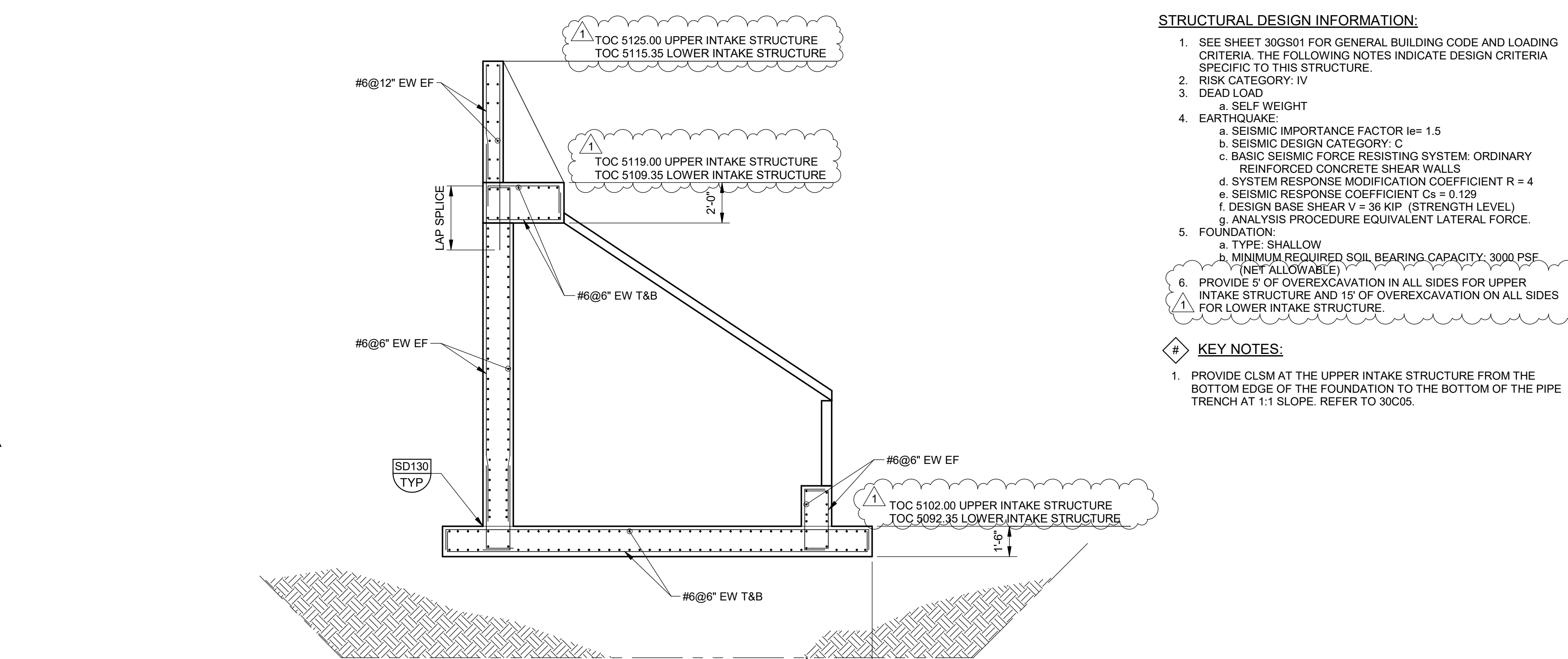
JOB NO. 203505  
DRAWING NO. 30EC05  
SHEET NO. 37 OF 169



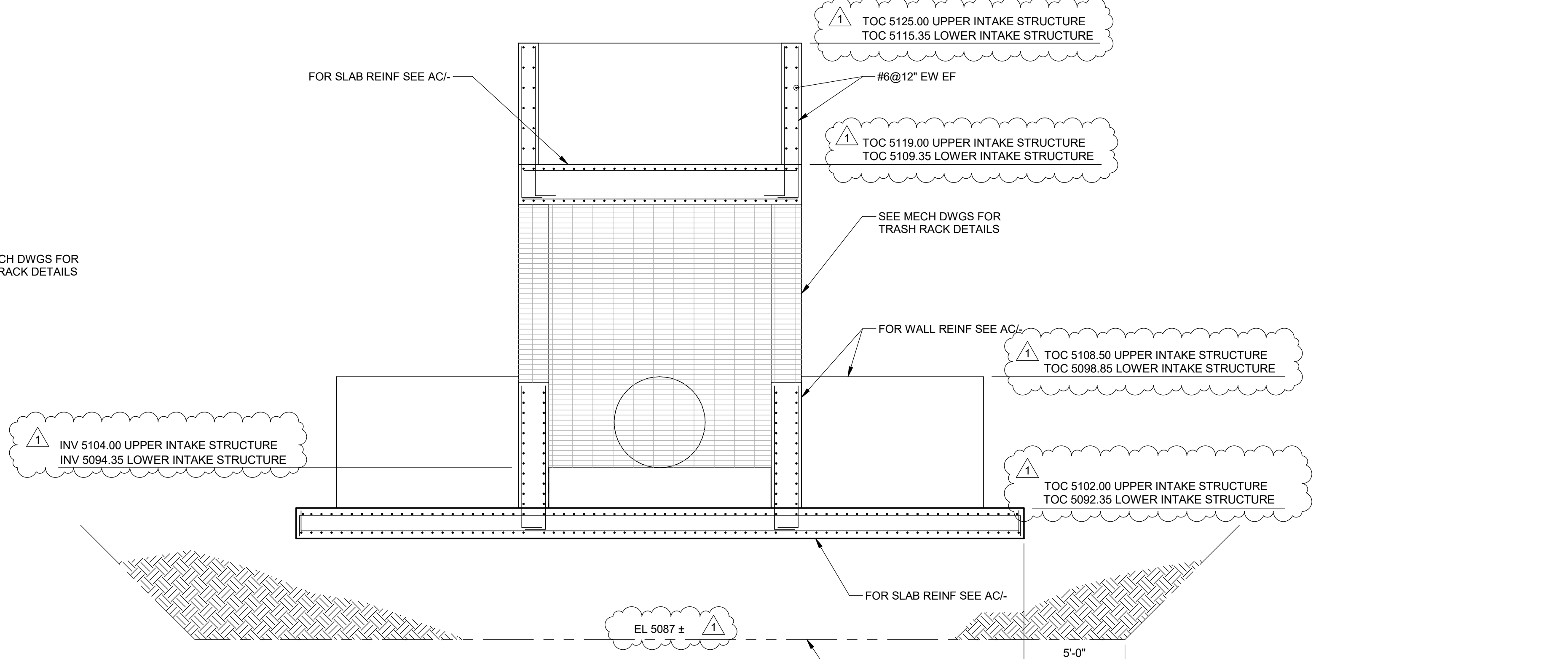
**AA PLAN**  
SCALE: 1/4" = 1'-0"



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



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



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

- 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.

SEE MECH DWGS FOR TRASH RACK DETAILS

SEE MECH DWGS FOR TRASH RACK DETAILS

FOR WALL REINF SEE AC/

FOR SLAB REINF SEE AC/

INV 5104.00 UPPER INTAKE STRUCTURE  
INV 5094.35 LOWER INTAKE STRUCTURE

TOC 5108.50 UPPER INTAKE STRUCTURE  
TOC 5098.85 LOWER INTAKE STRUCTURE

TOC 5102.00 UPPER INTAKE STRUCTURE  
TOC 5092.35 LOWER INTAKE STRUCTURE

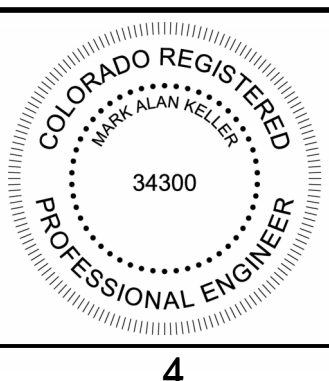
EL 5087 ±

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.

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

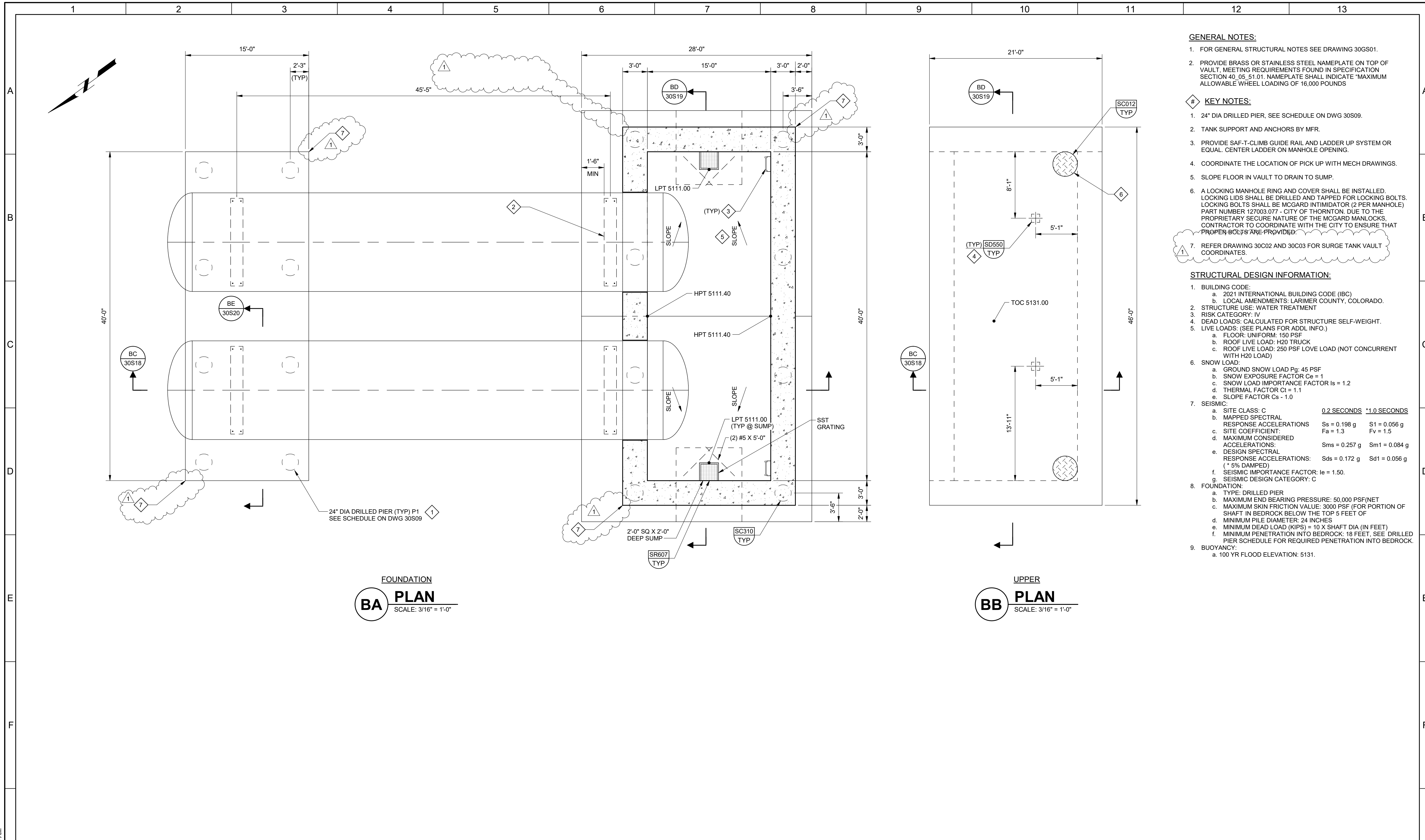
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|-----|------|----|----------------|
| 1   | 6/26 | JK | ADDENDUM NO. 1 |

|          |          |
|----------|----------|
| 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

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

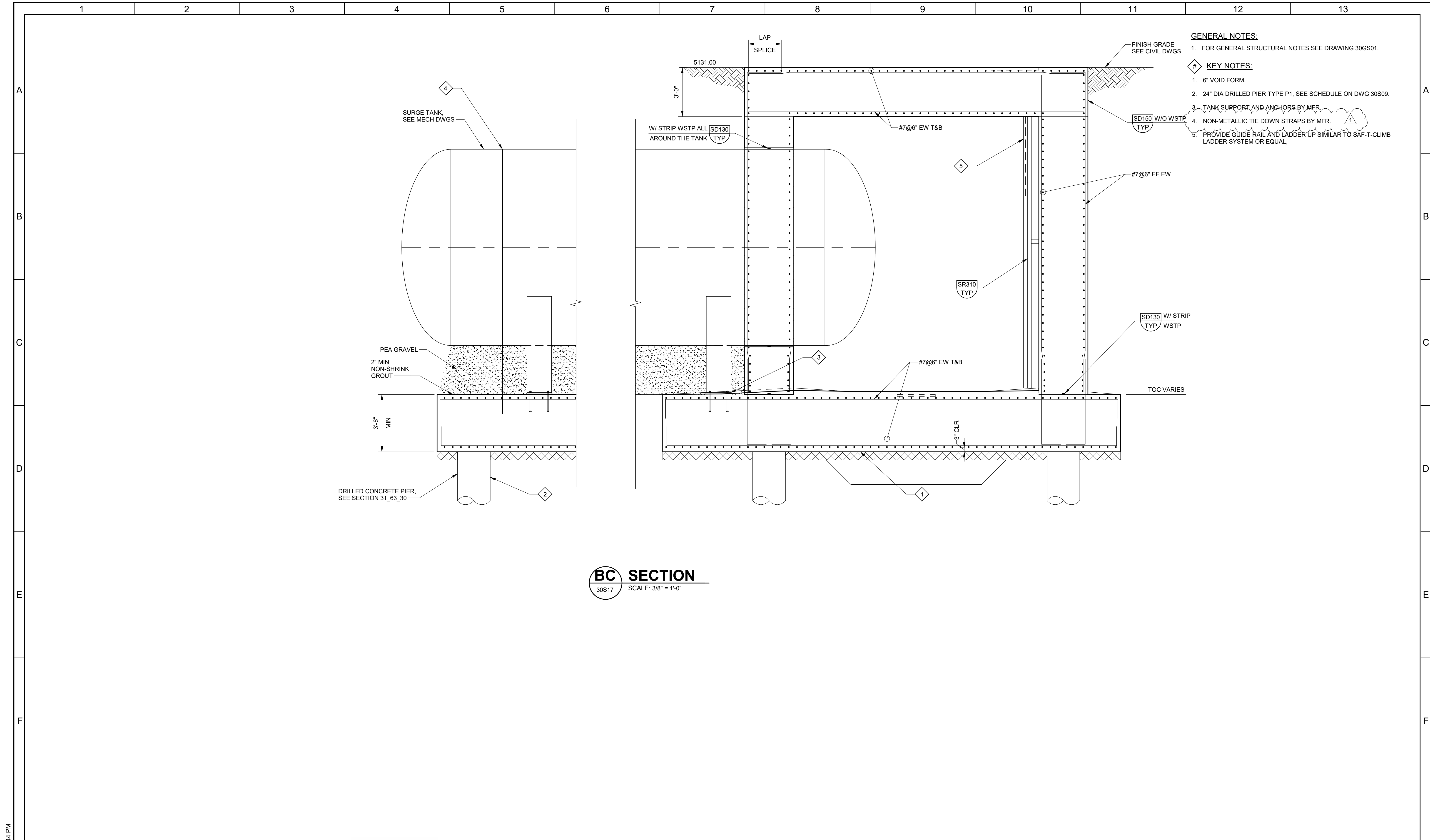
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|----------|----------|
| DESIGNED | NV       |
| DRAWN    | JBB      |
| CHECKED  | MAK      |
| DATE     | MAY 2026 |



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   |

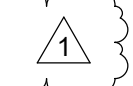
PLOT DATE: 6/2/2026 4:03:44 PM

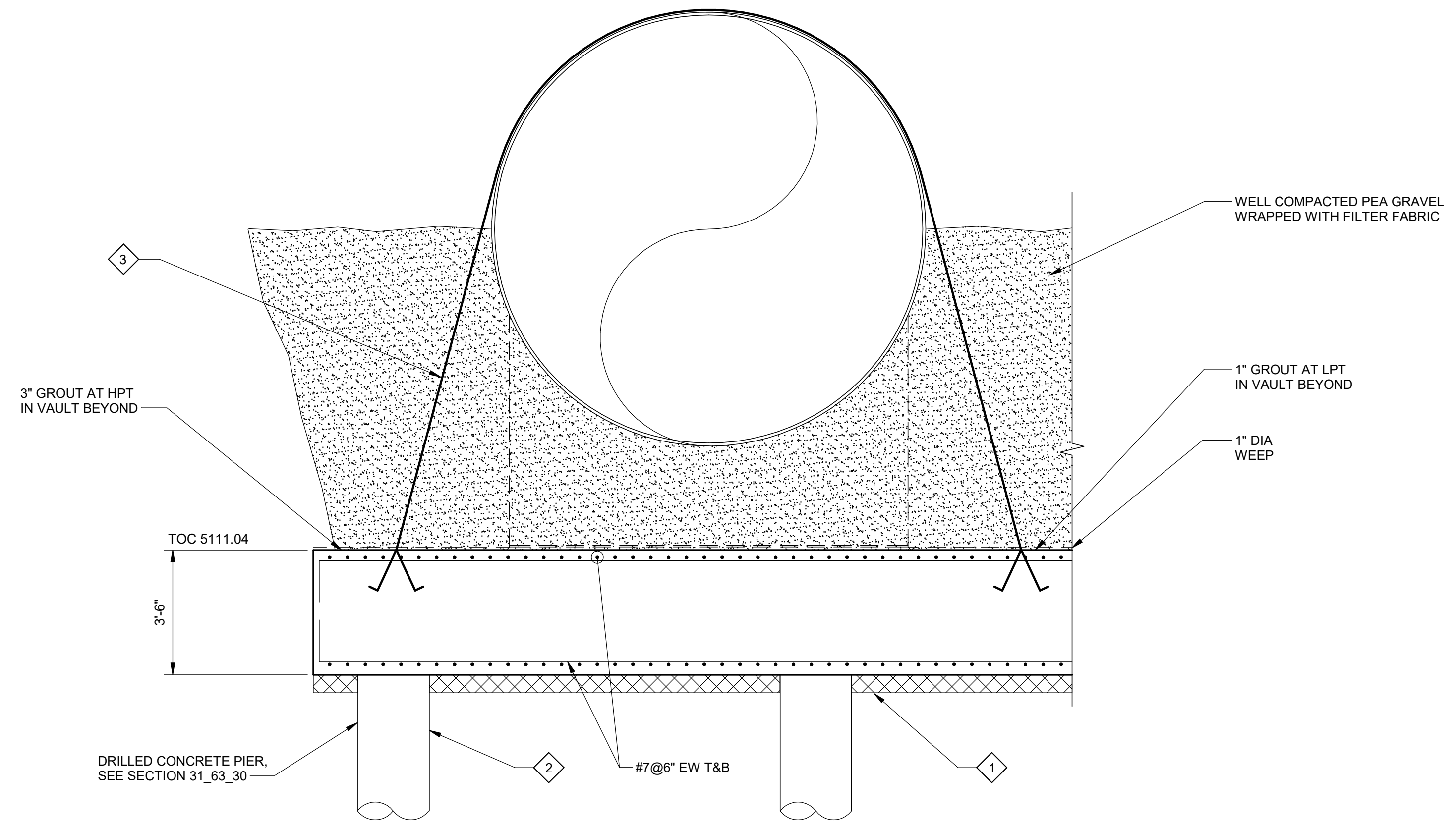


- GENERAL NOTES:**
- FOR GENERAL STRUCTURAL NOTES SEE DRAWING 30GS01.
- KEY NOTES:**
- 6" VOID FORM.
  - 24" DIA DRILLED PIER TYPE P1, SEE SCHEDULE ON DWG 30S09.
  - TANK SUPPORT AND ANCHORS BY MFR.
  - NON-METALLIC TIE DOWN STRAPS BY MFR.
  - PROVIDE GUIDE RAIL AND LADDER UP SIMILAR TO SAF-T-CLIMB LADDER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

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

| <p><b>BID SET</b></p>   |      | <p>DESIGNED<br/>Designer</p> <p>DRAWN<br/>Author</p> <p>CHECKED<br/>Checker</p> <p>DATE<br/>MAY 2026</p> |             |             |  | <p>CITY OF THORNTON<br/>                 THORNTON WATER PROJECT<br/>                 SOURCE WATER PUMP STATION<br/>                 STRUCTURAL<br/>                 SURGE TANK SECTIONS 1</p> | <p>VERIFY SCALES<br/>                 BAR IS ONE INCH ON ORIGINAL DRAWING<br/>                 0 1"<br/>                 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY</p> | <p>JOB NO.<br/>203505</p> <p>DRAWING NO.<br/><b>30S18</b></p> <p>SHEET NO.<br/>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"

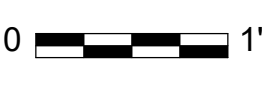
PLOT DATE: 6/2/2026 4:03:44 PM

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| <b>BID SET</b> |      |    |                |
| REV            | DATE | BY | DESCRIPTION    |
|                | 6/26 | JK | ADDENDUM NO. 1 |

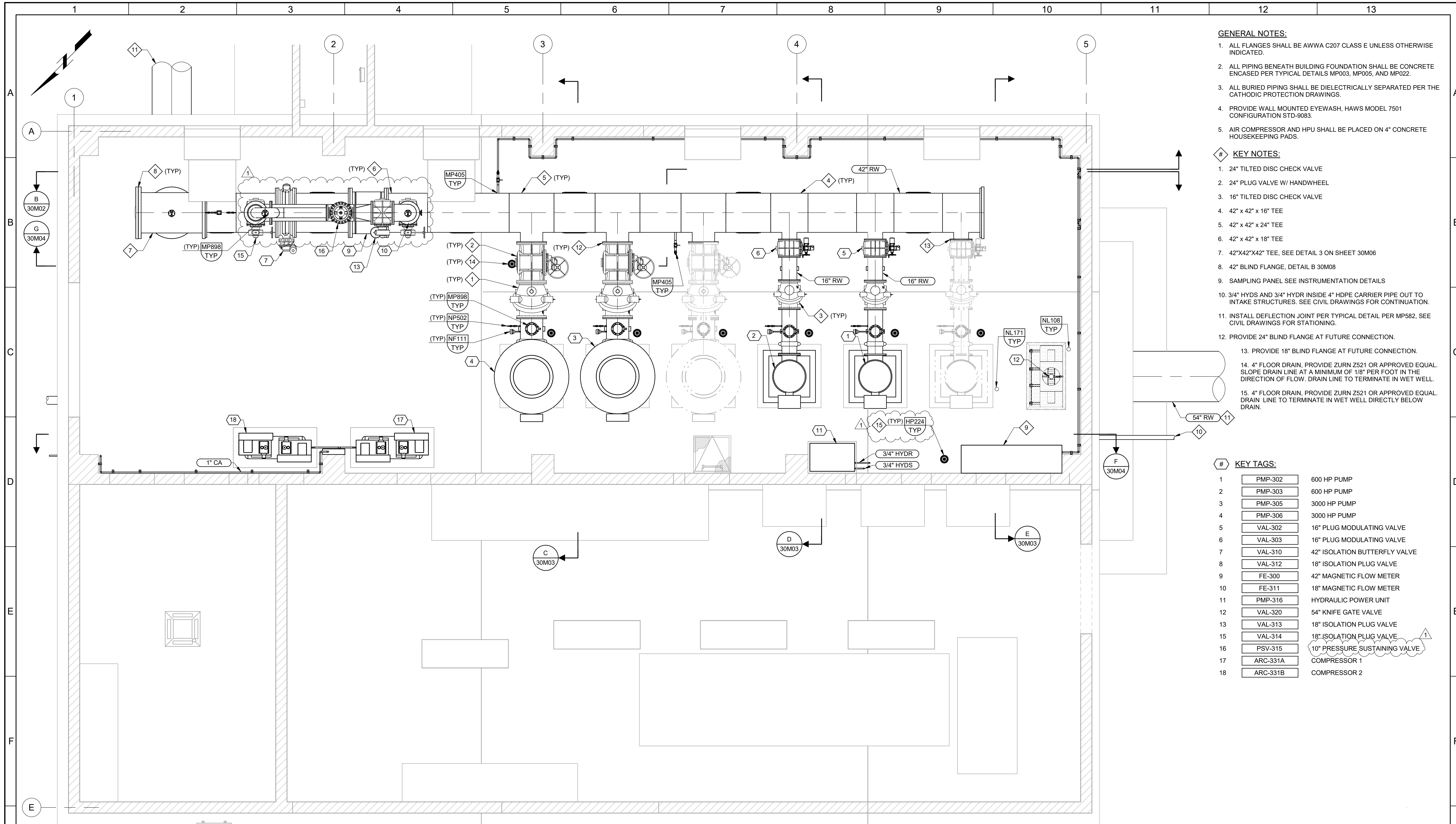
DESIGNED  
Designer  
 DRAWN  
Author  
 CHECKED  
Checker  
 DATE  
MAY 2026



CITY OF THORNTON  
 THORNTON WATER PROJECT  
 SOURCE WATER PUMP STATION  
 STRUCTURAL  
**SURGE TANK SECTIONS 3**

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

JOB NO.  
203505  
 DRAWING NO.  
**30S20**  
 SHEET NO.  
72 OF 168



- 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 30M08
  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.

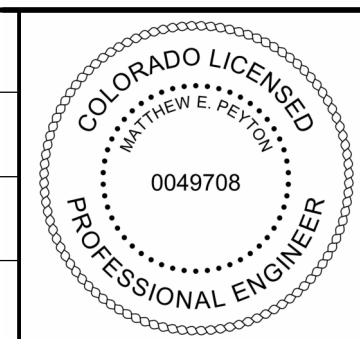
- KEY TAGS:**
- |    |          |                               |
|----|----------|-------------------------------|
| 1  | PMP-302  | 600 HP PUMP                   |
| 2  | PMP-303  | 600 HP PUMP                   |
| 3  | PMP-305  | 3000 HP PUMP                  |
| 4  | PMP-306  | 3000 HP PUMP                  |
| 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

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

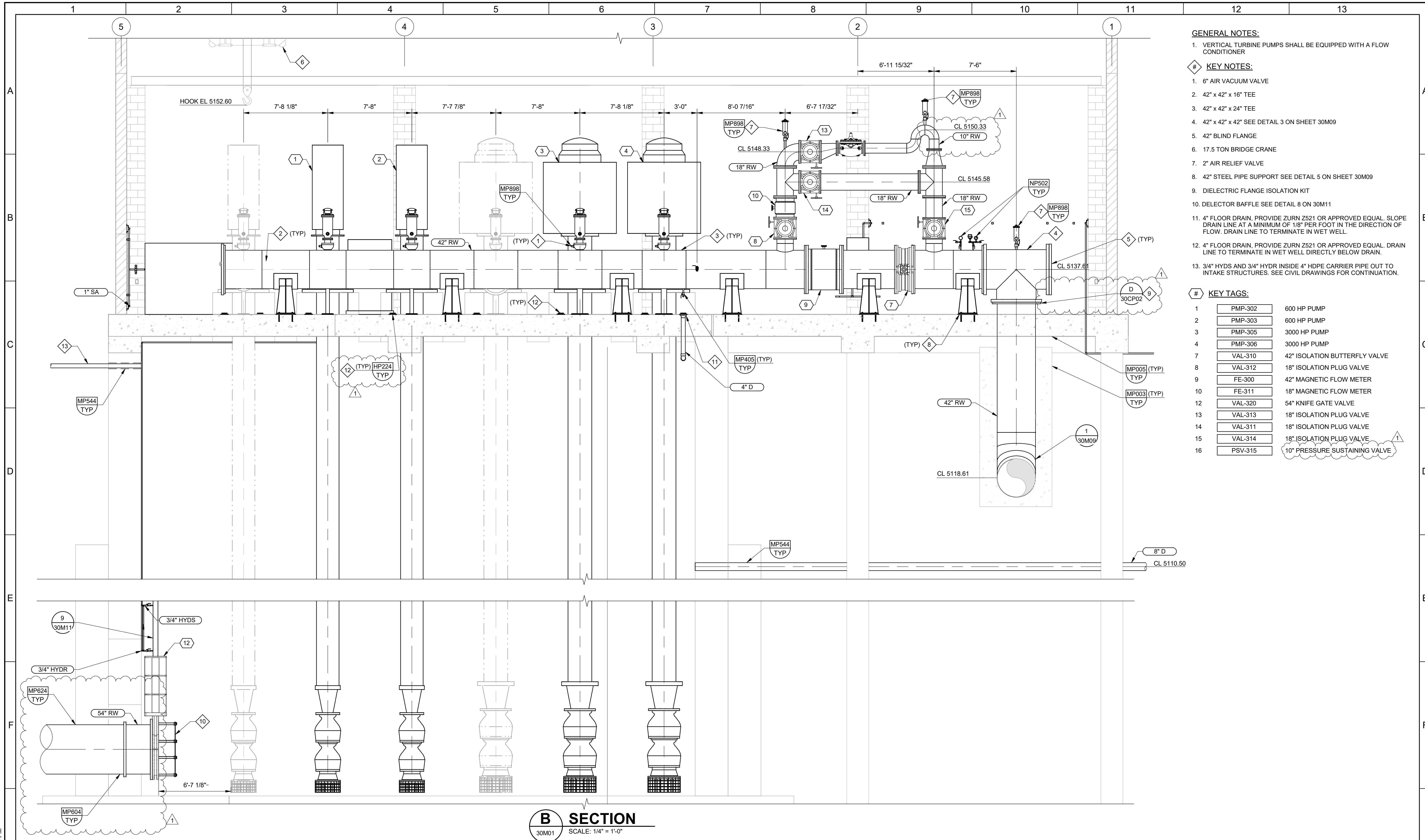
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| DRAWN    | LRG      |
| CHECKED  | MZ       |
| DATE     | MAY 2026 |



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.

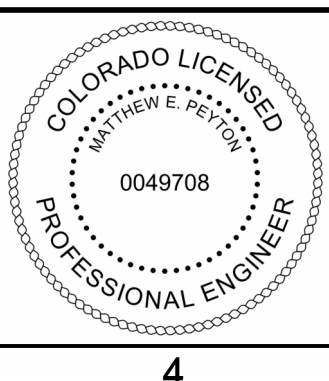
- KEY TAGS:**
- |    |         |                               |
|----|---------|-------------------------------|
| 1  | PMP-302 | 600 HP PUMP                   |
| 2  | PMP-303 | 600 HP PUMP                   |
| 3  | PMP-305 | 3000 HP PUMP                  |
| 4  | PMP-306 | 3000 HP PUMP                  |
| 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 | JK | BY | DESCRIPTION    |
|-----|------|----|----|----------------|
| 1   | 6/26 | JK |    | ADDENDUM NO. 1 |

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| DESIGNED | MP       |
| DRAWN    | LRG      |
| CHECKED  | MZ       |
| DATE     | MAY 2026 |



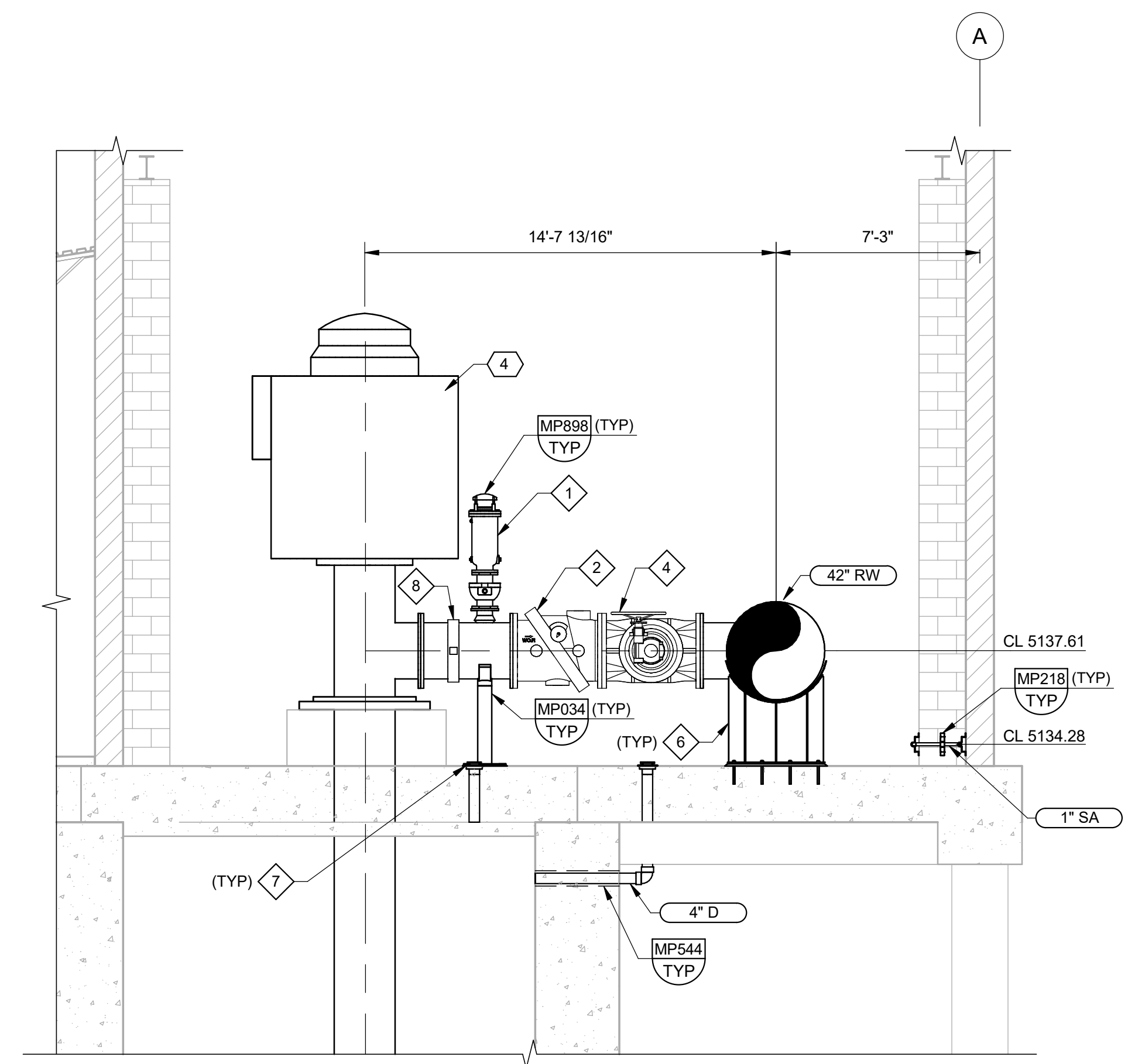
CITY OF THORNTON  
THORNTON WATER PROJECT  
SOURCE WATER PUMP STATION  
MECHANICAL  
PUMP STATION  
SECTIONS 1

|  |             |
|--|-------------|
| 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   |

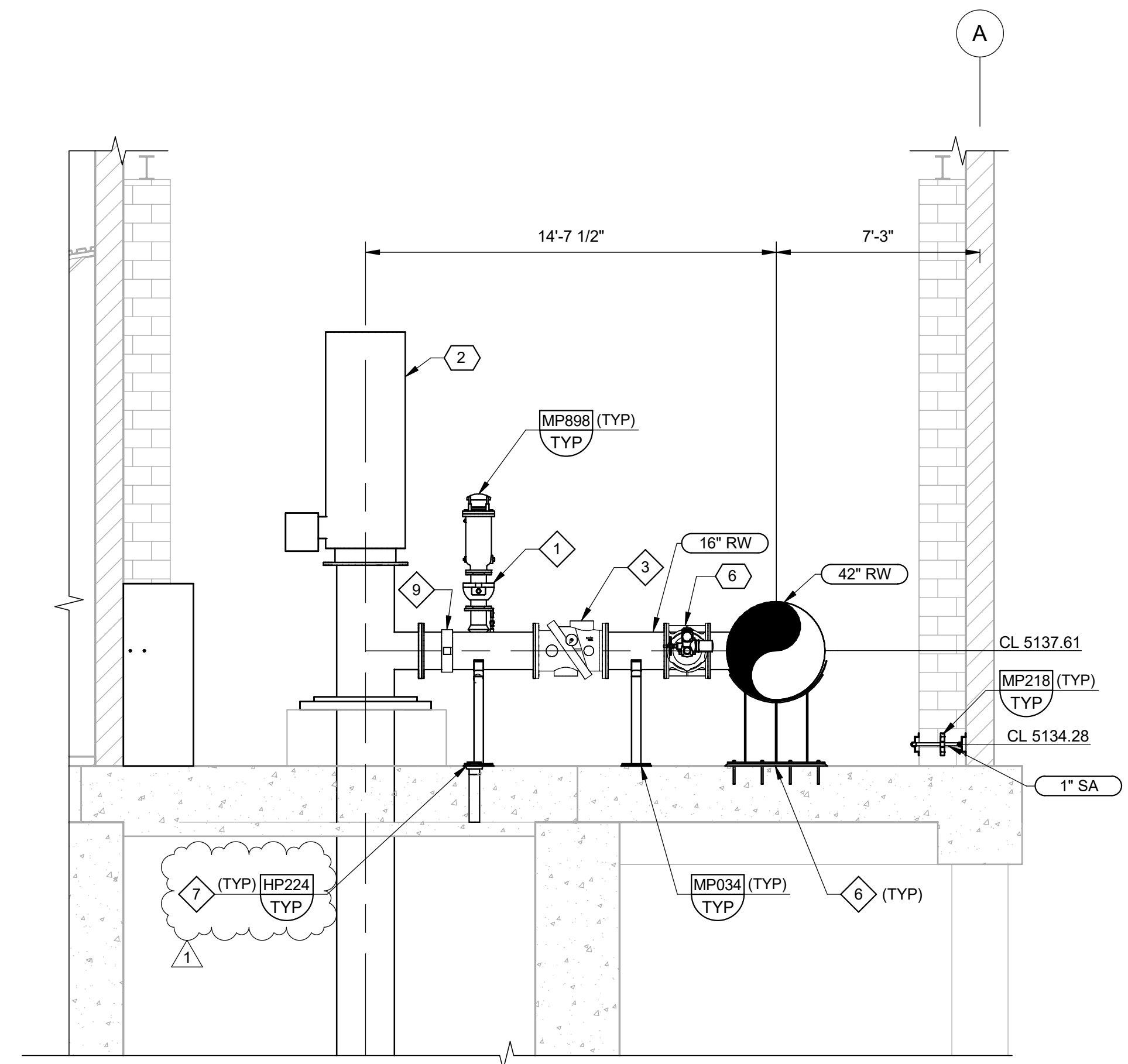
# KEY TAGS:

|    |         |                           |
|----|---------|---------------------------|
| 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      |

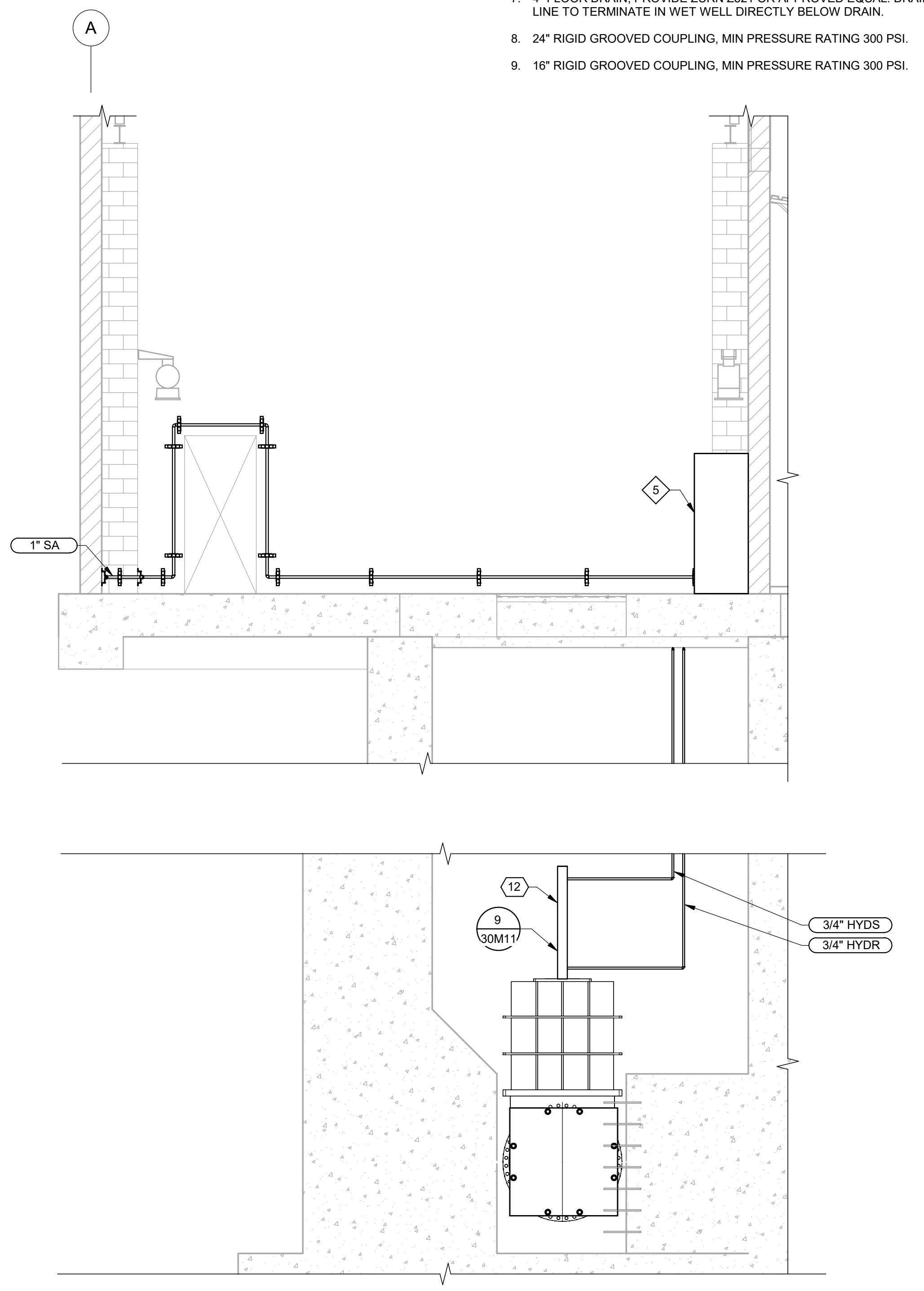
- ◆ KEY NOTES:
- 6" AIR VACUUM VALVE
  - 24" TILTED DISC CHECK VALVE
  - 16" TILTED DISC CHECK VALVE
  - 24" PLUG VALVE W/ HANDWHEEL
  - SAMPLING PANEL SEE INSTRUMENTATION DETAILS.
  - 42" STEEL PIPE SUPPORT SEE DETAIL 5 ON SHEET 30M09.
  - 4" FLOOR DRAIN, PROVIDE ZURN Z521 OR APPROVED EQUAL. DRAIN LINE 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"

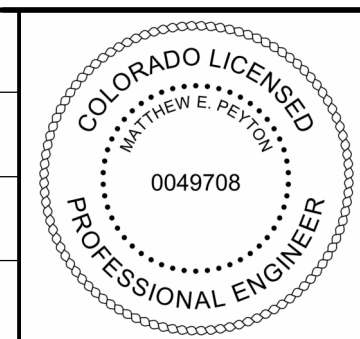


**E SECTION**  
30M01 SCALE: 1/4" = 1'-0"

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

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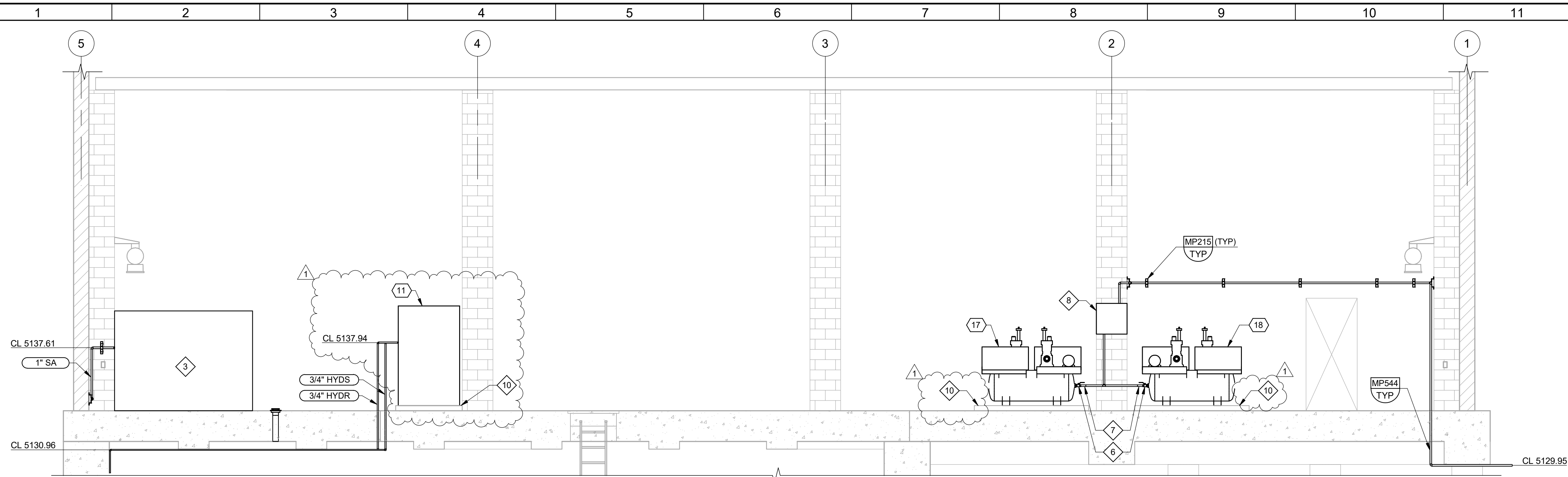
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| DESIGNED | MP       |
| DRAWN    | LRG      |
| CHECKED  | MZ       |
| DATE     | MAY 2026 |



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

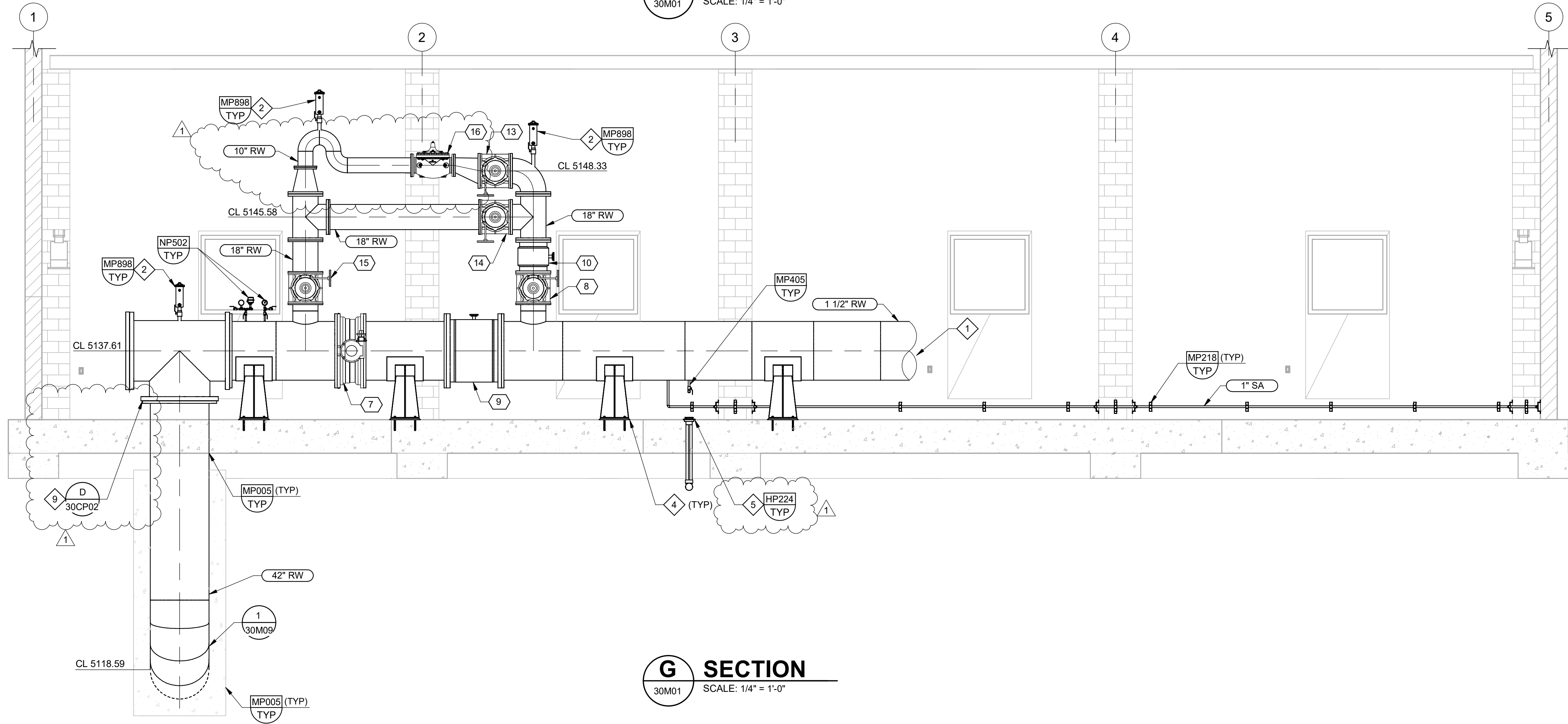
VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1"  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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



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

- KEY NOTES:**
- 42" HEADER NOT SHOWN FOR CLARITY.
  - 2" AIR RELIEF VALVE.
  - SAMPLING PANEL SEE INSTRUMENTATION DETAILS.
  - 42" STEEL PIPE SUPPORT SEE DETAIL 5 ON SHEET 30M09.
  - 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.
  - 1" BALL ISOLATION VALVE.
  - 1" BRAIDED COPPER FLEXIBLE CONNECTOR, 6" LONG WITH FEMALE NPT CONNECTIONS, MIN PRESSURE RATING 400 PSI.
  - SURGE VESSEL VENDOR CONTROL PANEL.
  - DIELECTRIC FLANGE ISOLATION KIT.
  - 4" HOUSE KEEPING PAD.
- KEY TAGS:**
- |    |          |                               |
|----|----------|-------------------------------|
| 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          |
| 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 |
| 17 | ARC-331A | COMPRESSOR 1                  |
| 18 | ARC-331B | COMPRESSOR 2                  |

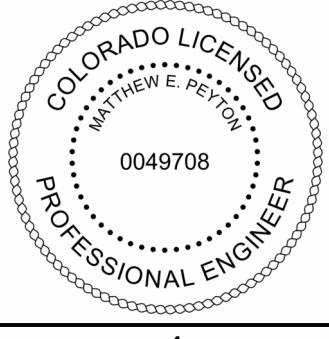


**G SECTION**  
30M01 SCALE: 1/4" = 1'-0"

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

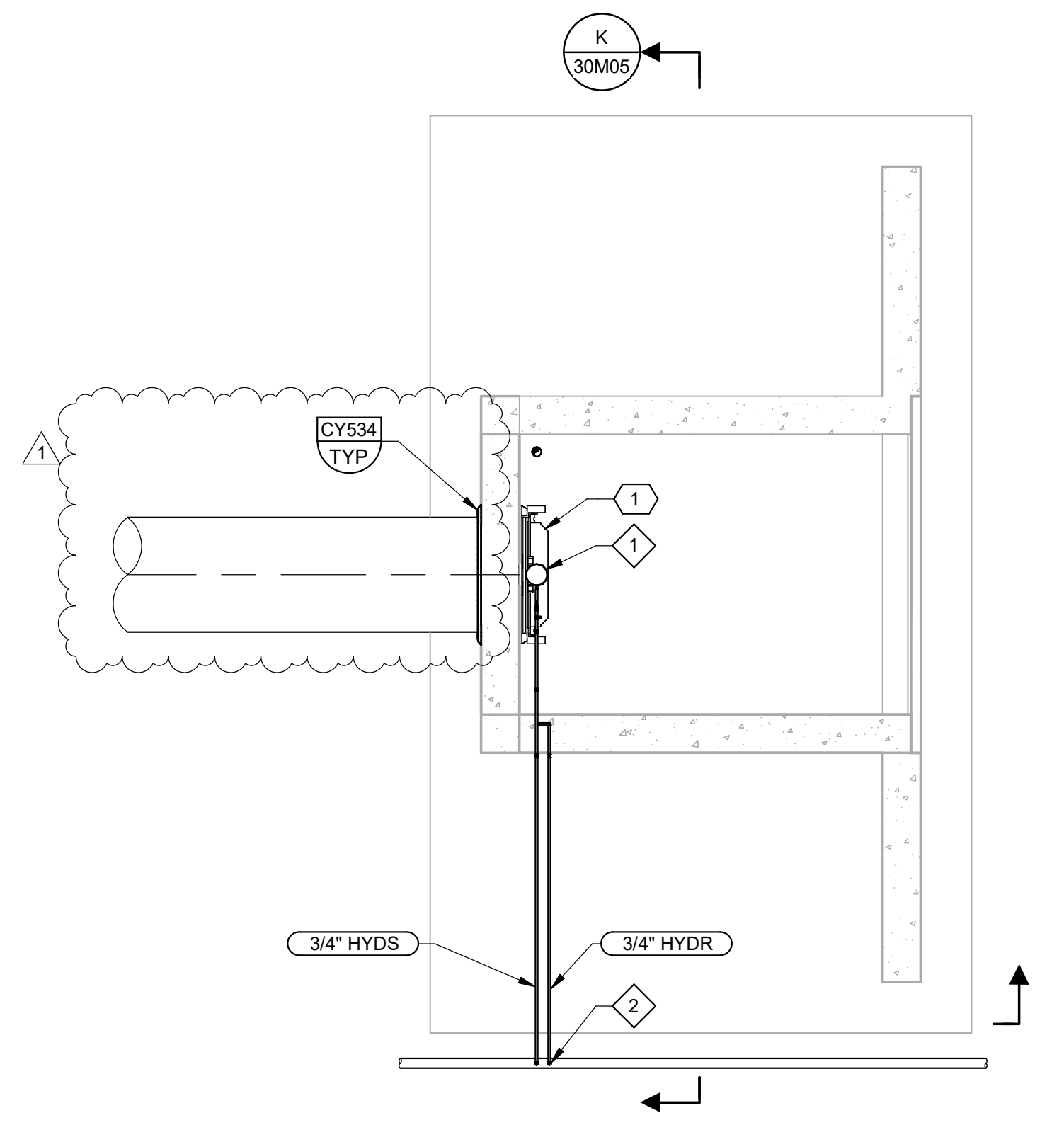
VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203505  
DRAWING NO. 30M04  
SHEET NO. 76 OF 168

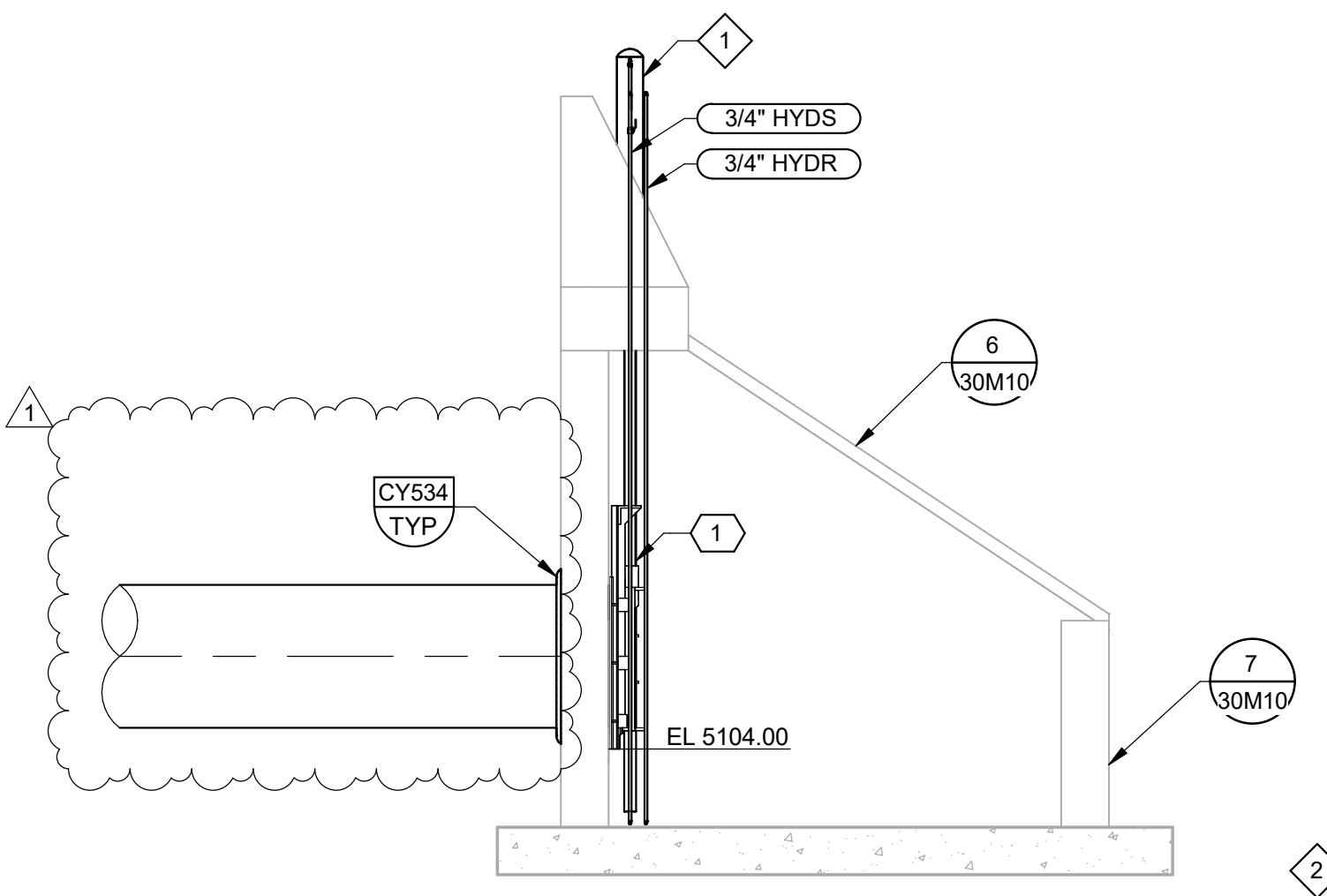
**GENERAL NOTES:**  
 1. INSTALL GATE PER MANUFACTURER RECOMMENDATIONS.

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

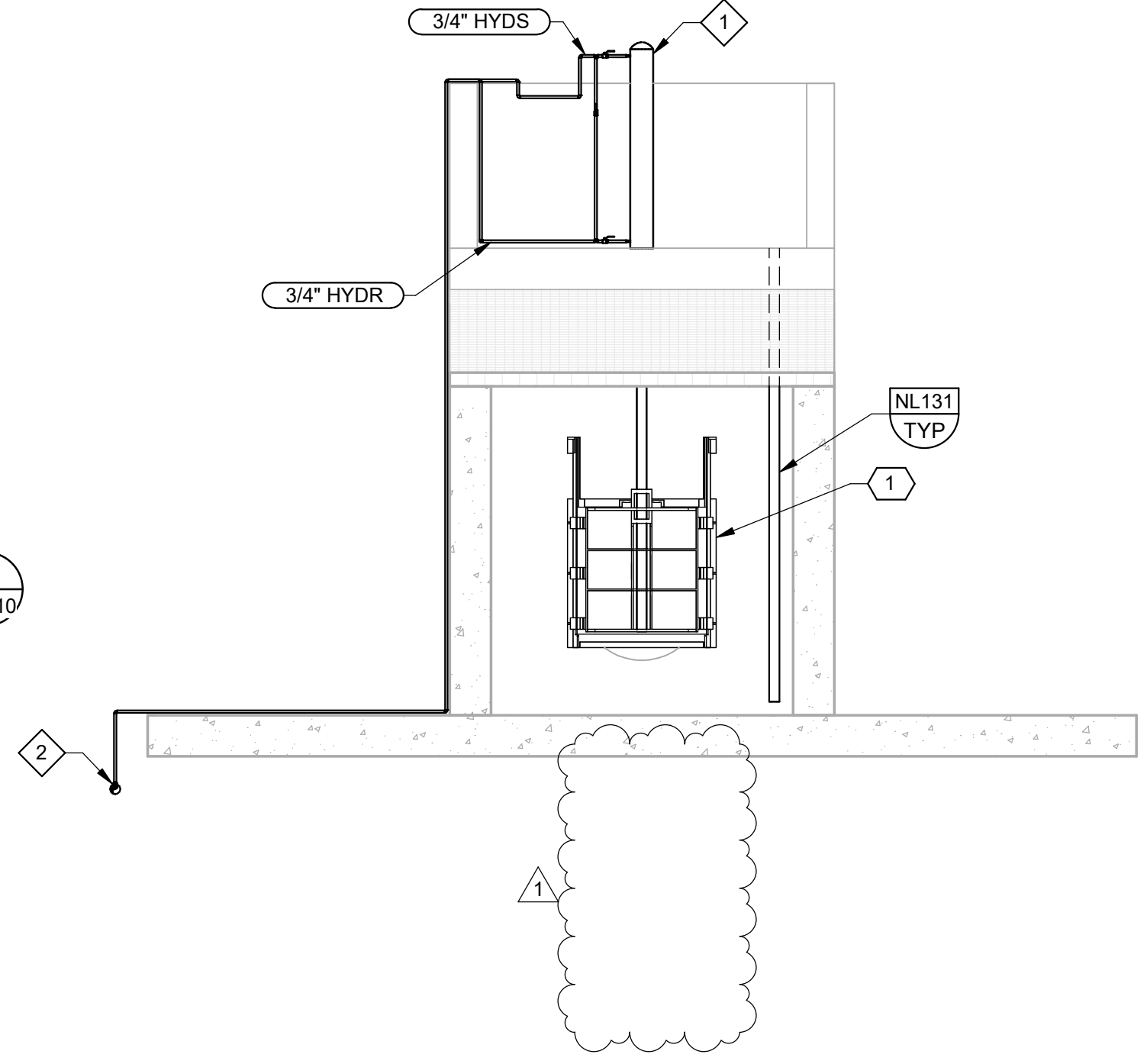
**KEY TAGS:**  
 1. GAT-340 54" CAST IRON SLUICE GATE  
 2. GAT-341 54" CAST IRON SLUICE GATE



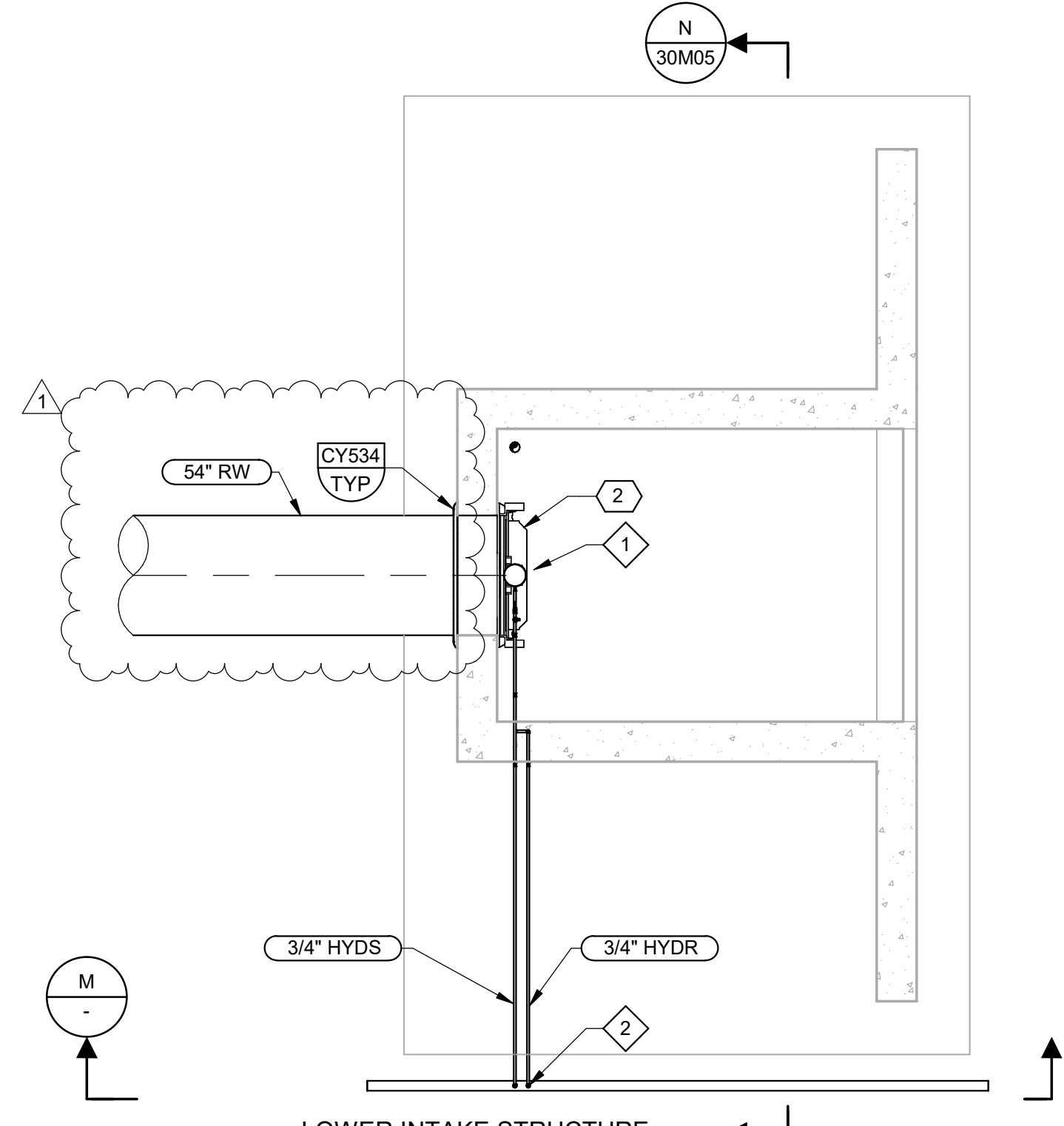
**H PLAN**  
 UPPER INTAKE STRUCTURE  
 SCALE: 3/16" = 1'-0"



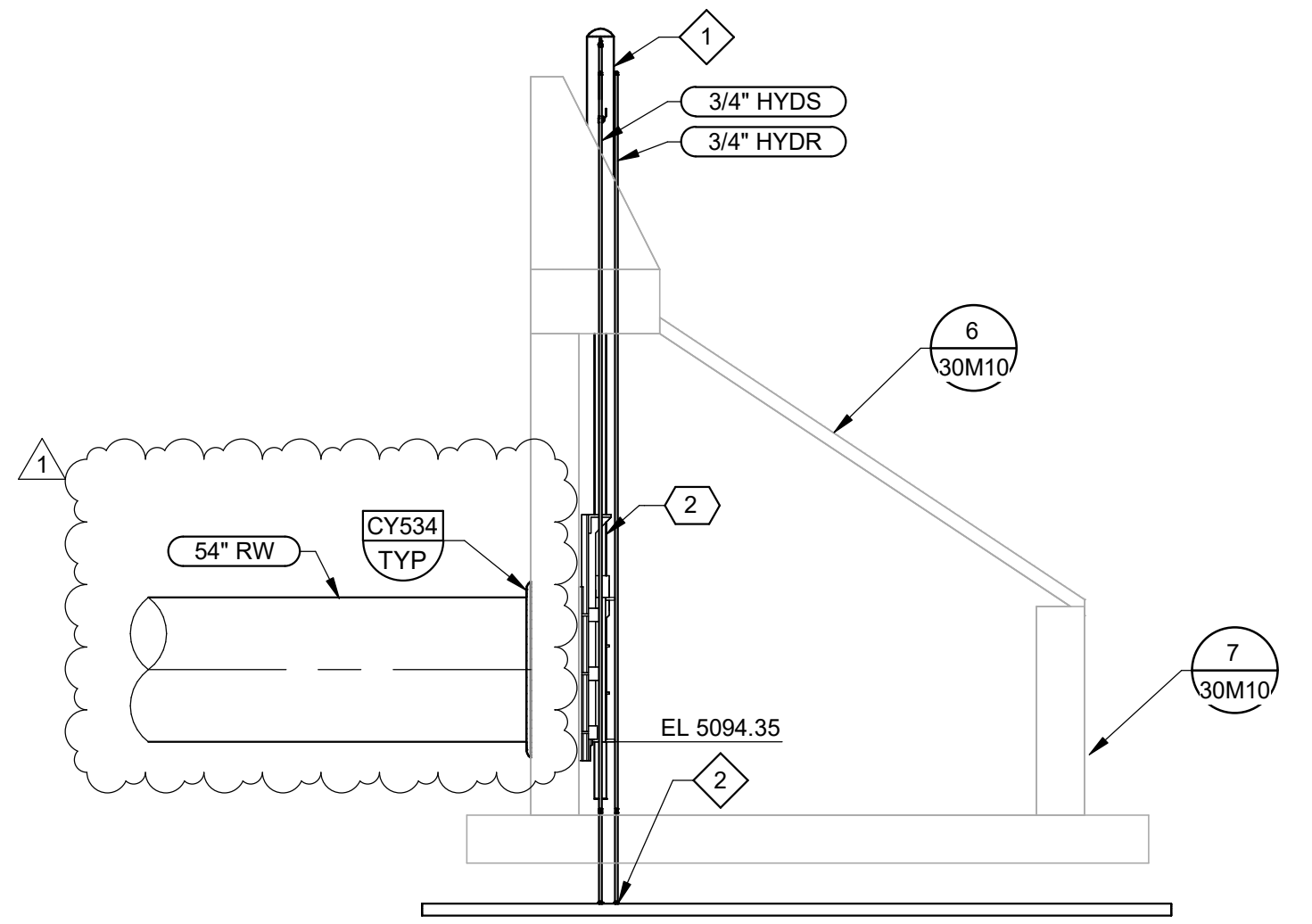
**J SECTION**  
 SCALE: 3/16" = 1'-0"



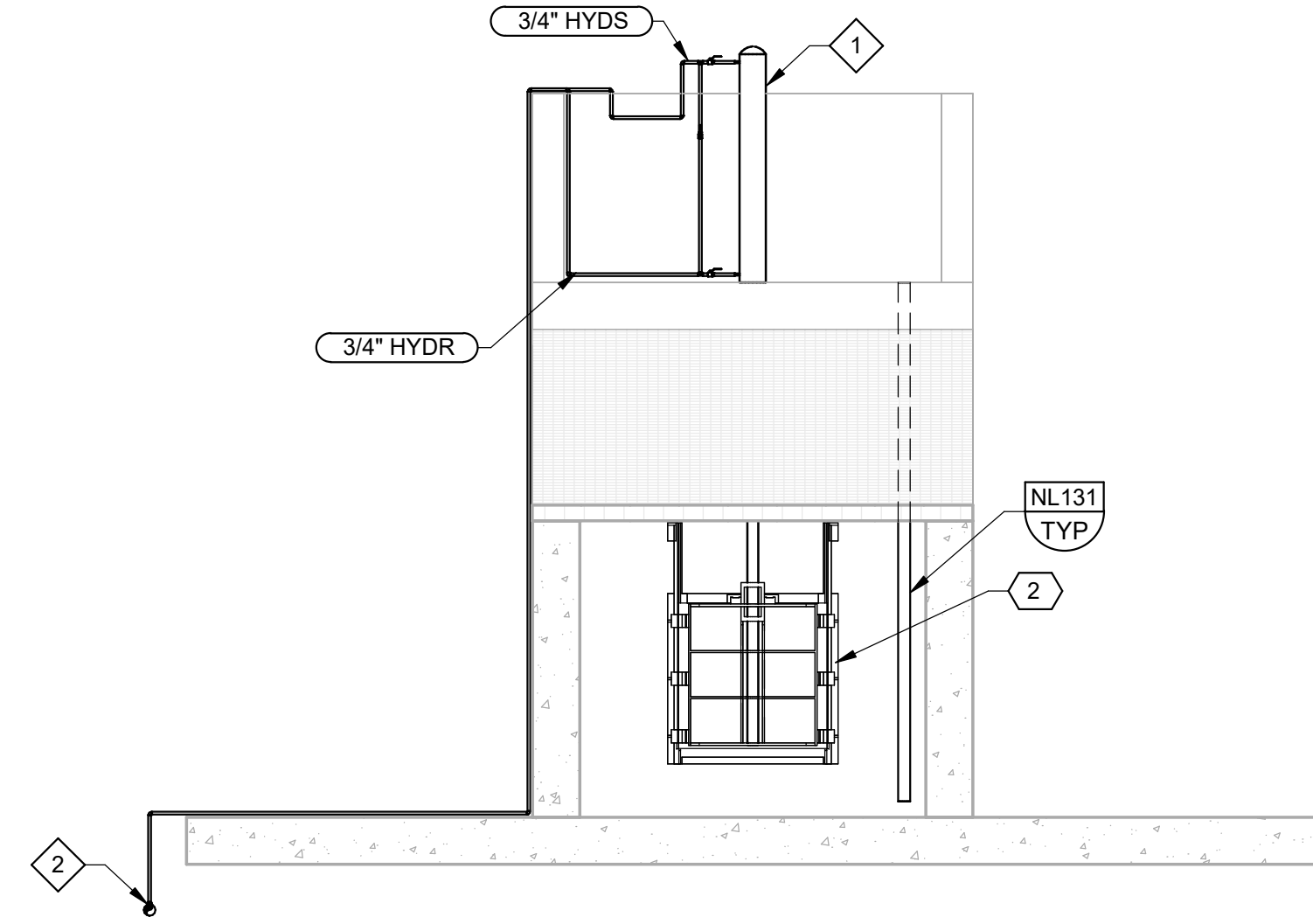
**K SECTION**  
 SCALE: 3/16" = 1'-0"



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



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

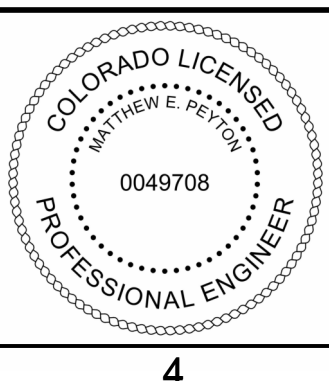


**N SECTION**  
 SCALE: 3/16" = 1'-0"

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

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

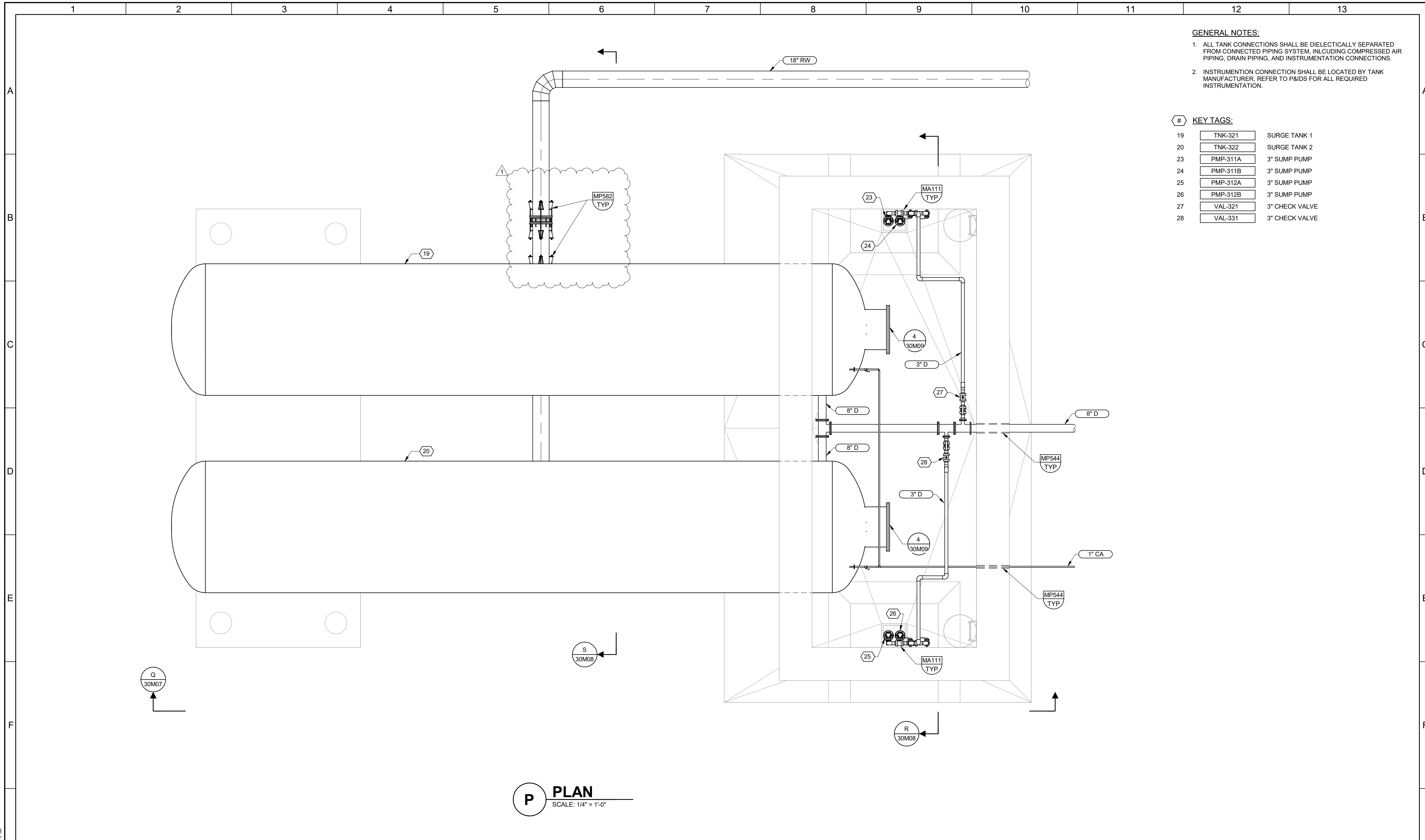
DESIGNED MP  
 DRAWN LRG  
 CHECKED MZ  
 DATE MAY 2026



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

|  |                |   |   |  |   |   |  |   |  |
|--|----------------|---|---|--|---|---|--|---|--|
|  | <b>BID SET</b> | DESIGNED<br>MP<br>DRAWN<br>LRG<br>CHECKED<br>MZ<br>DATE<br>MAY 2026 |  |  |  |  | <b>CITY OF THORNTON</b><br>THORNTON WATER PROJECT<br>SOURCE WATER PUMP STATION<br>MECHANICAL<br><b>SURGE TANK PLAN</b> | VERIFY SCALES<br>BAR IS ONE INCH ON ORIGINAL DRAWING<br><br>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY | JOB NO.<br>203505<br>DRAWING NO.<br><b>30M06</b><br>SHEET NO.<br>78 OF 168 |
|  |                |   |   |  |   |   |  |   |  |

**GENERAL NOTES:**

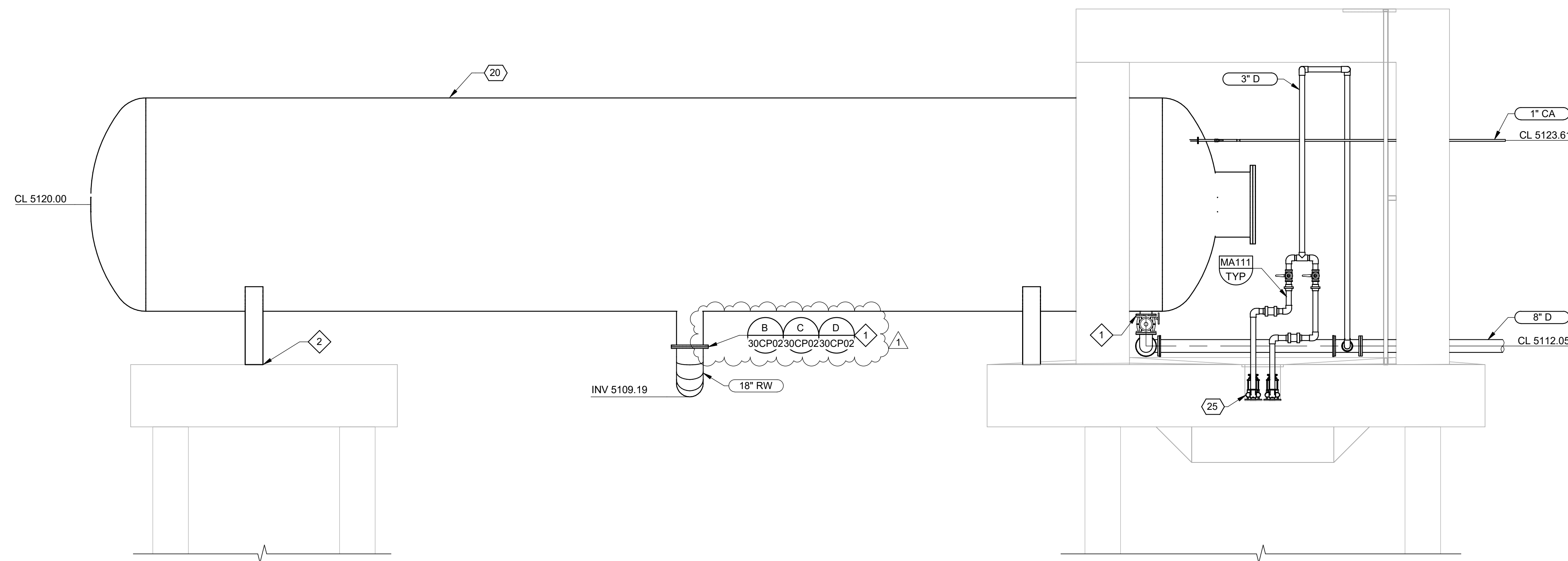
1. ALL TANK CONNECTIONS SHALL BE DIELECTRICALLY SEPARATED FROM CONNECTED PIPING SYSTEM, INCLUDING COMPRESSED AIR PIPING, DRAIN PIPING, AND INSTRUMENTATION CONNECTIONS.
2. INSTRUMENTATION CONNECTION SHALL BE LOCATED BY TANK MANUFACTURER, REFER TO P&IDS FOR ALL REQUIRED INSTRUMENTATION.

**KEY NOTES:**

1. DIELECTRIC FLANGE ISOLATION KIT AND TEST STATION.
2. PROVIDE G10 ISOLATION SLEEVES AND WASHERS AT ANCHORE 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

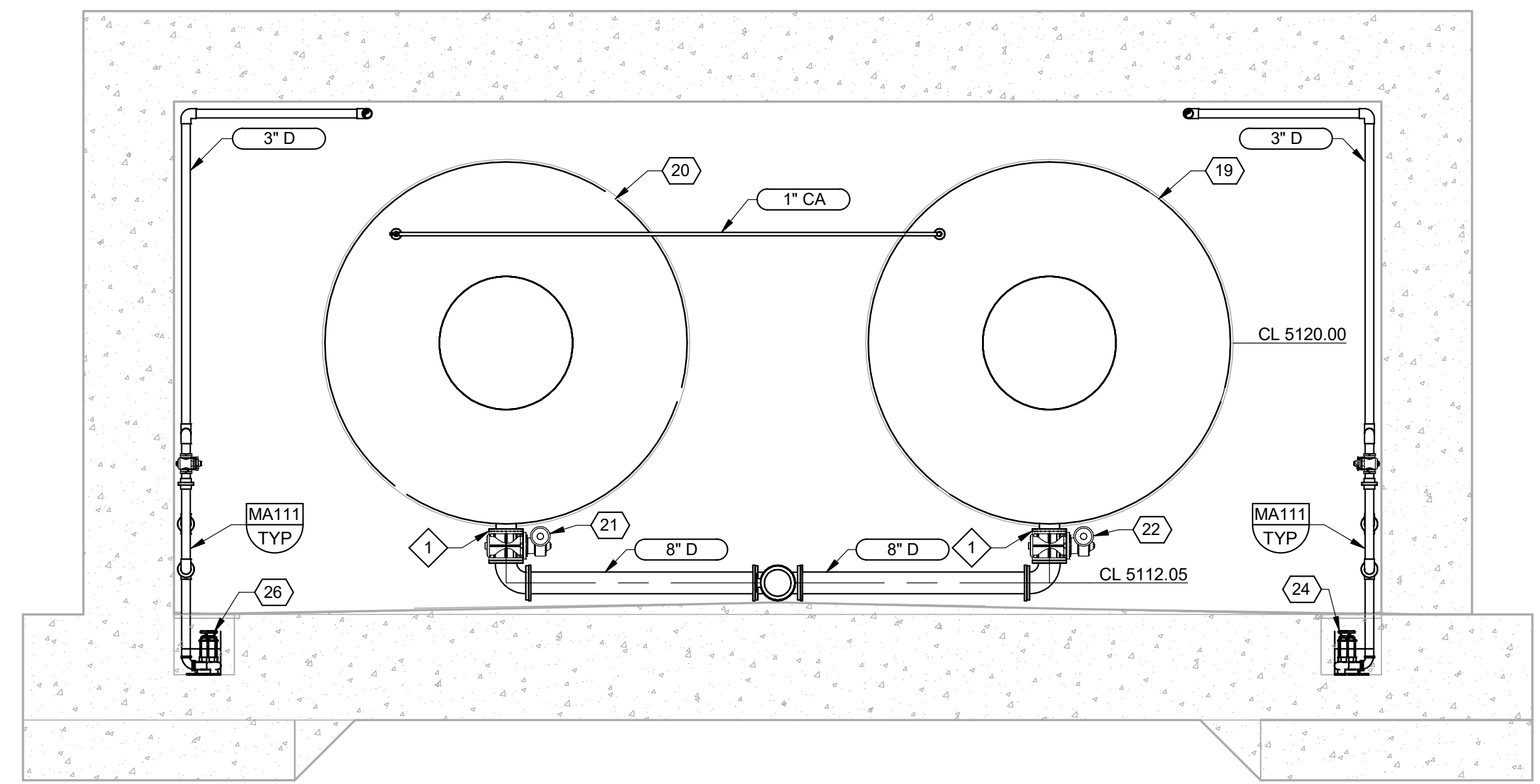
VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1"  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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

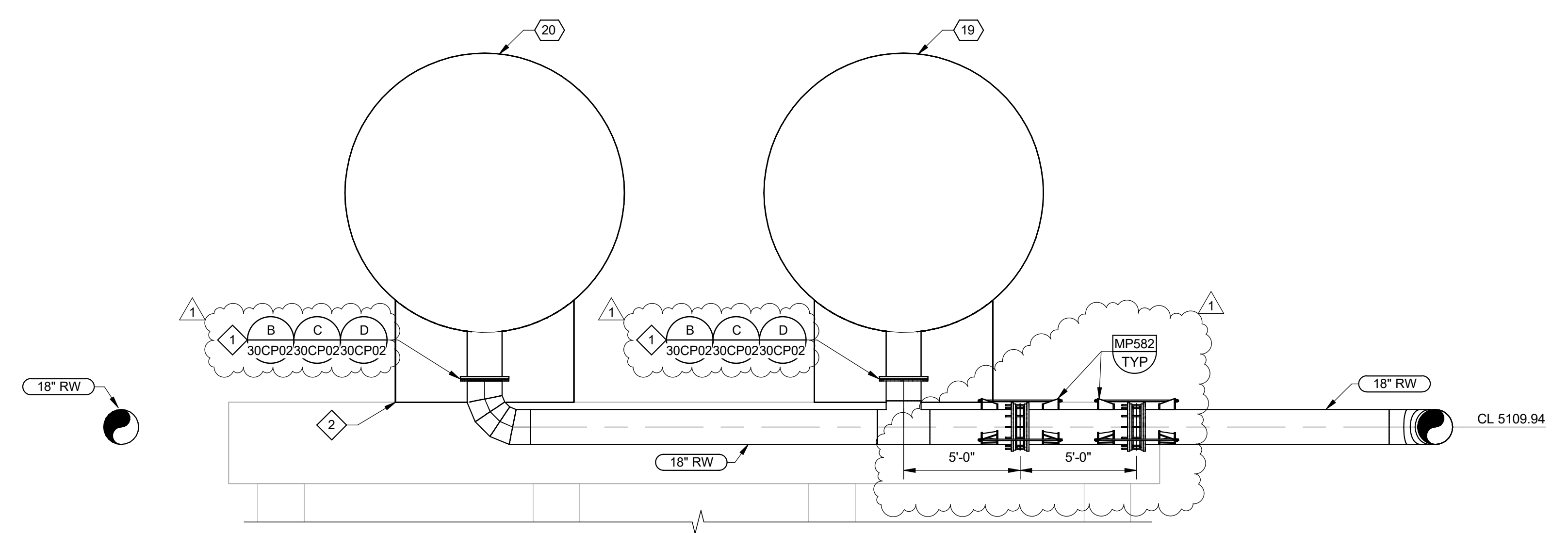
- GENERAL NOTES:**
1. ALL TANK CONNECTIONS SHALL BE DIELECTICALLY SEPARATED FROM CONNECTED PIPING SYSTEM, INCLUDING COMPRESSED AIR PIPING, DRAIN PIPING, AND INSTRUMENTATION CONNECTIONS.
  2. INSTRUMENTATION CONNECTION SHALL BE LOCATED BY TANK MANUFACTURER. REFER TO P&IDS FOR ALL REQUIRED INSTRUMENTATION.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

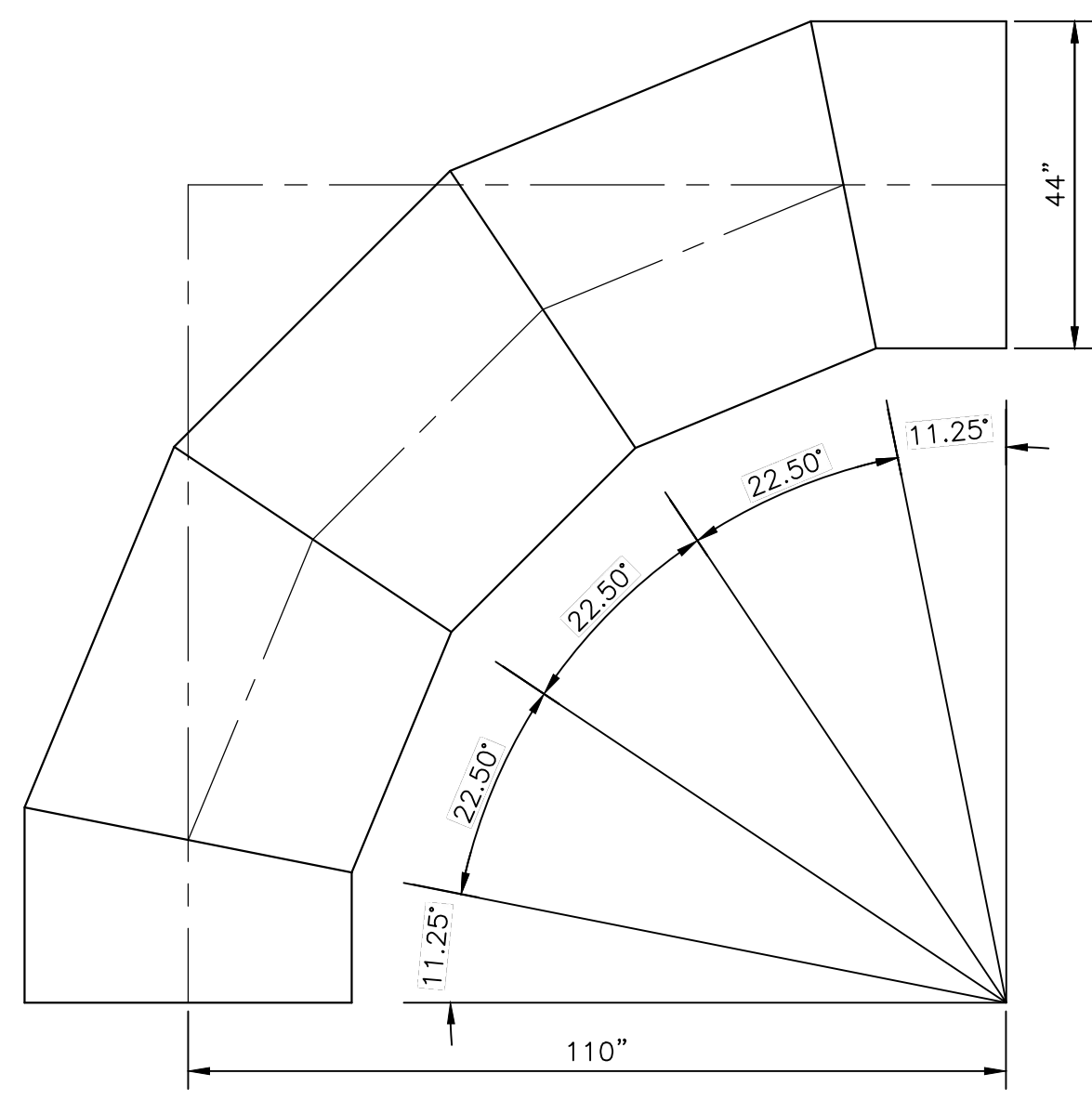
|          |          |
|----------|----------|
| DESIGNED | MP       |
| DRAWN    | LRG      |
| CHECKED  | MZ       |
| DATE     | MAY 2026 |



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

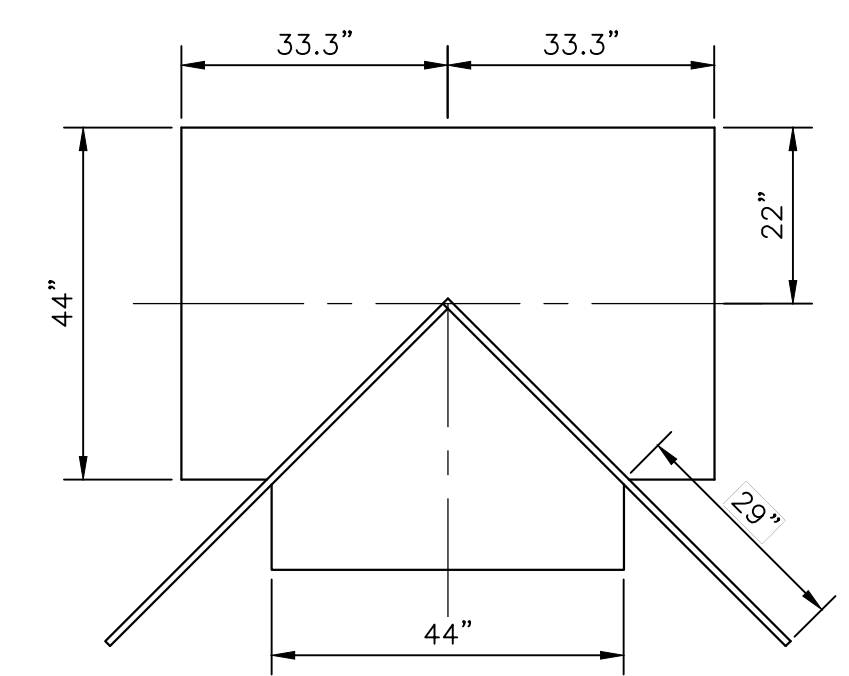
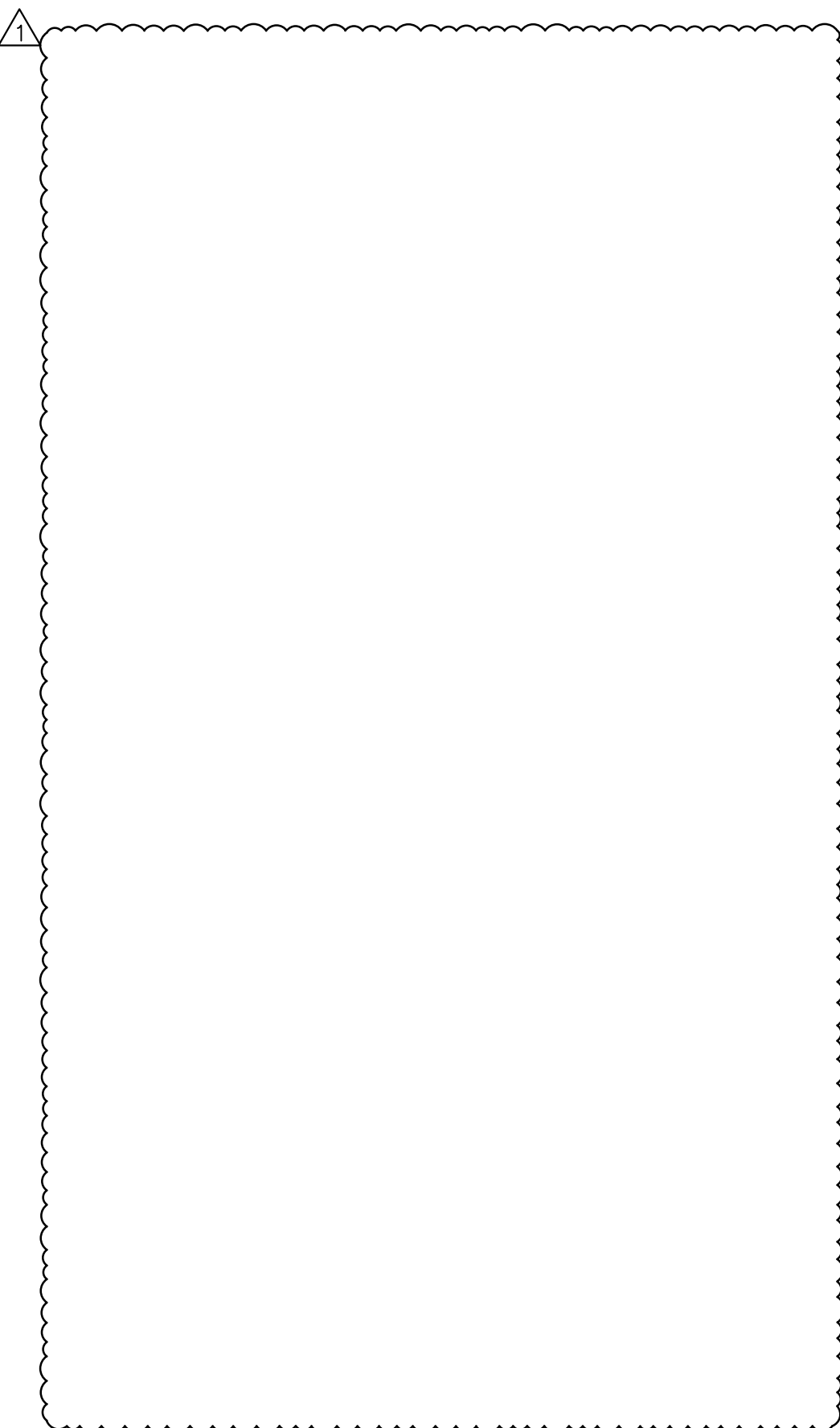
VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1"  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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



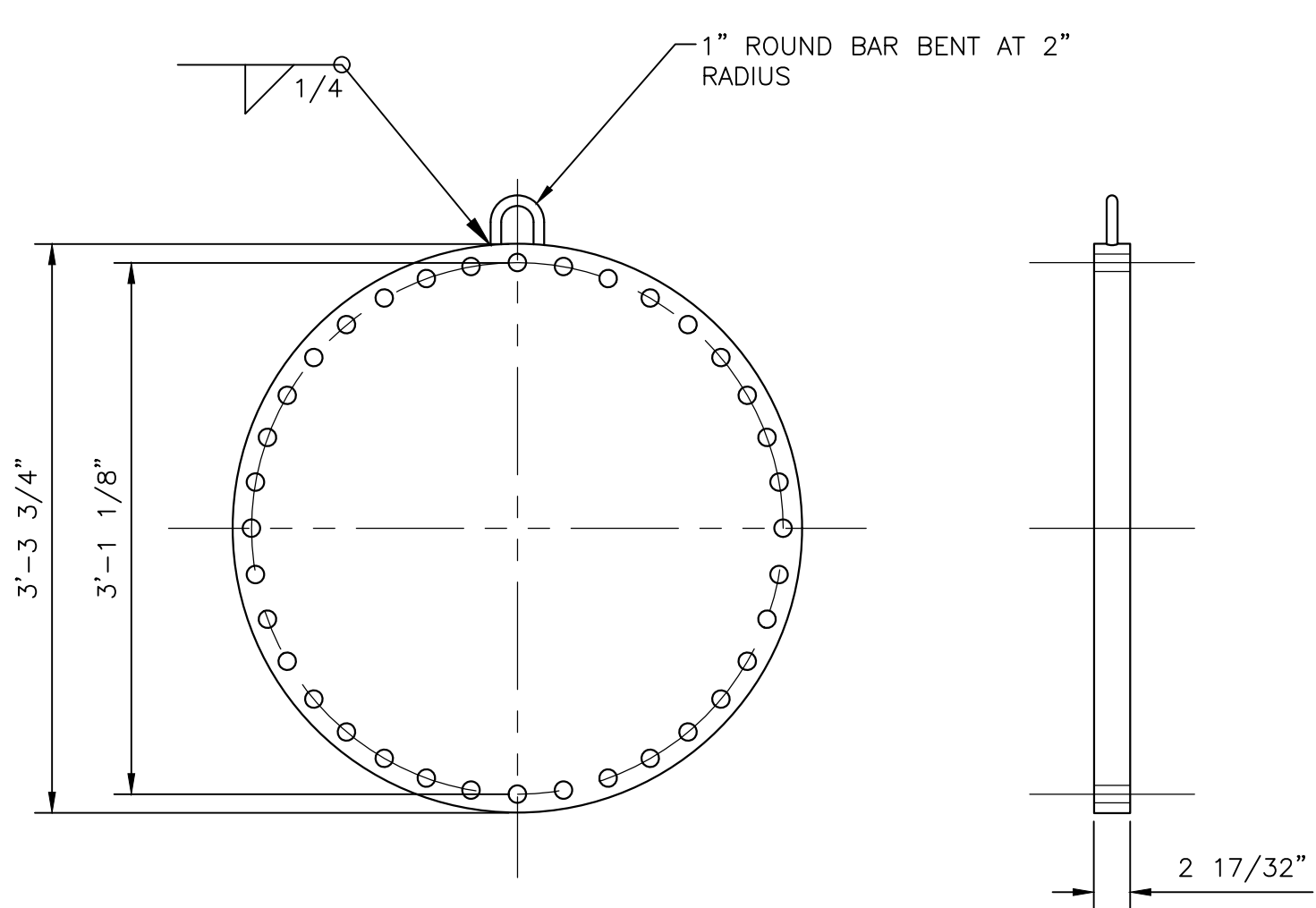
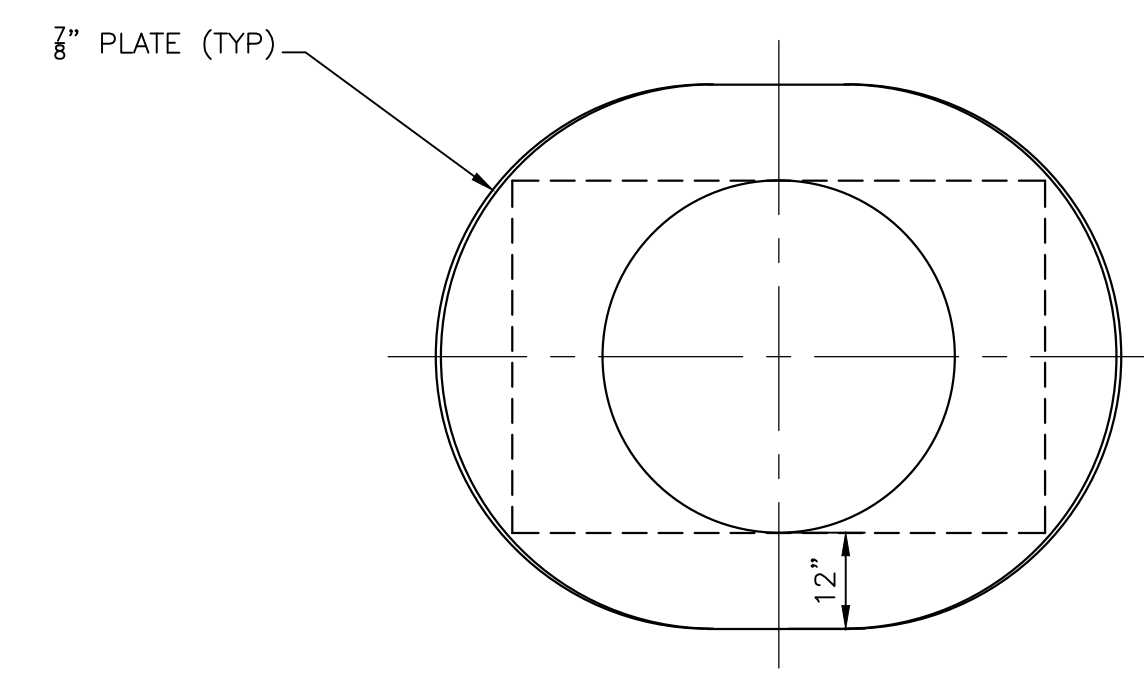
42" 2.5R AWWA C208 MITERED STEEL ELBOW

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



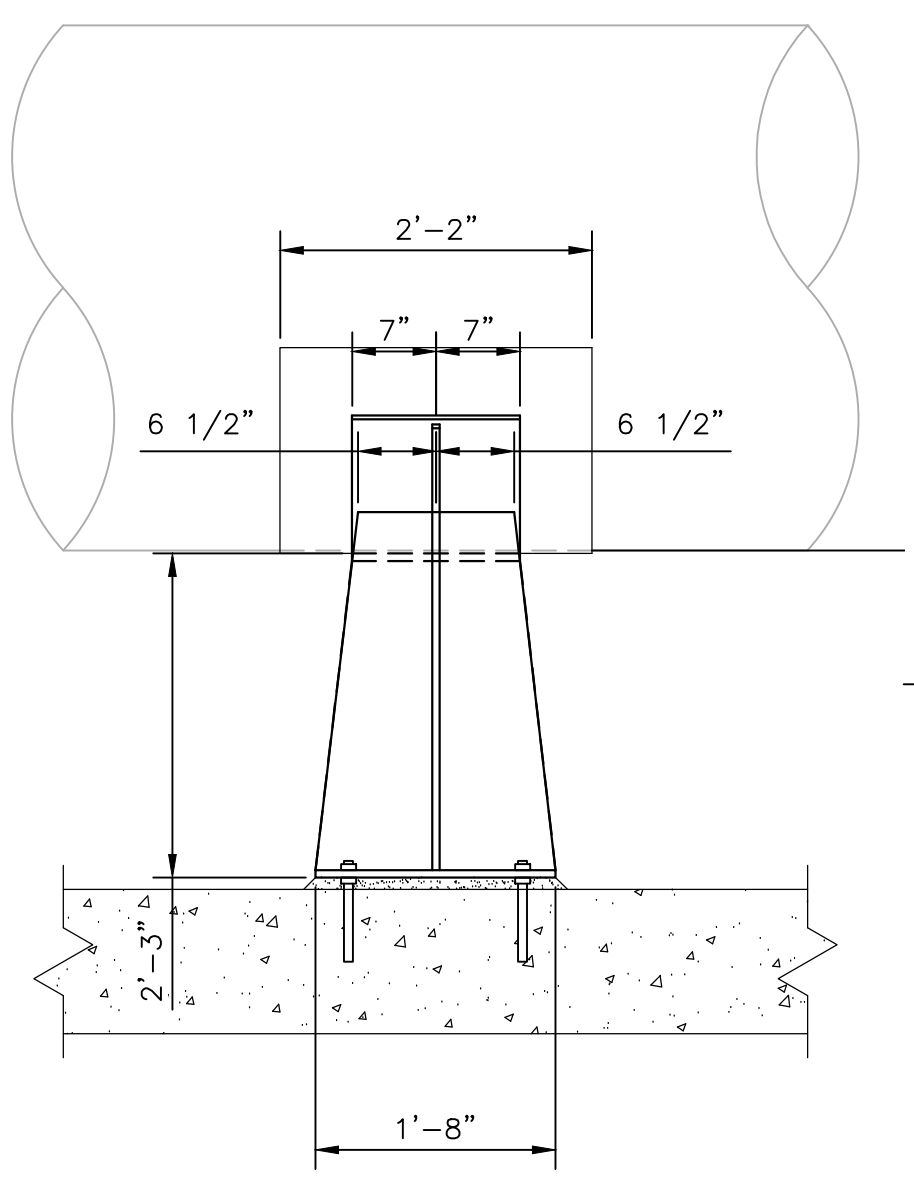
42" CROTCH PLATE

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



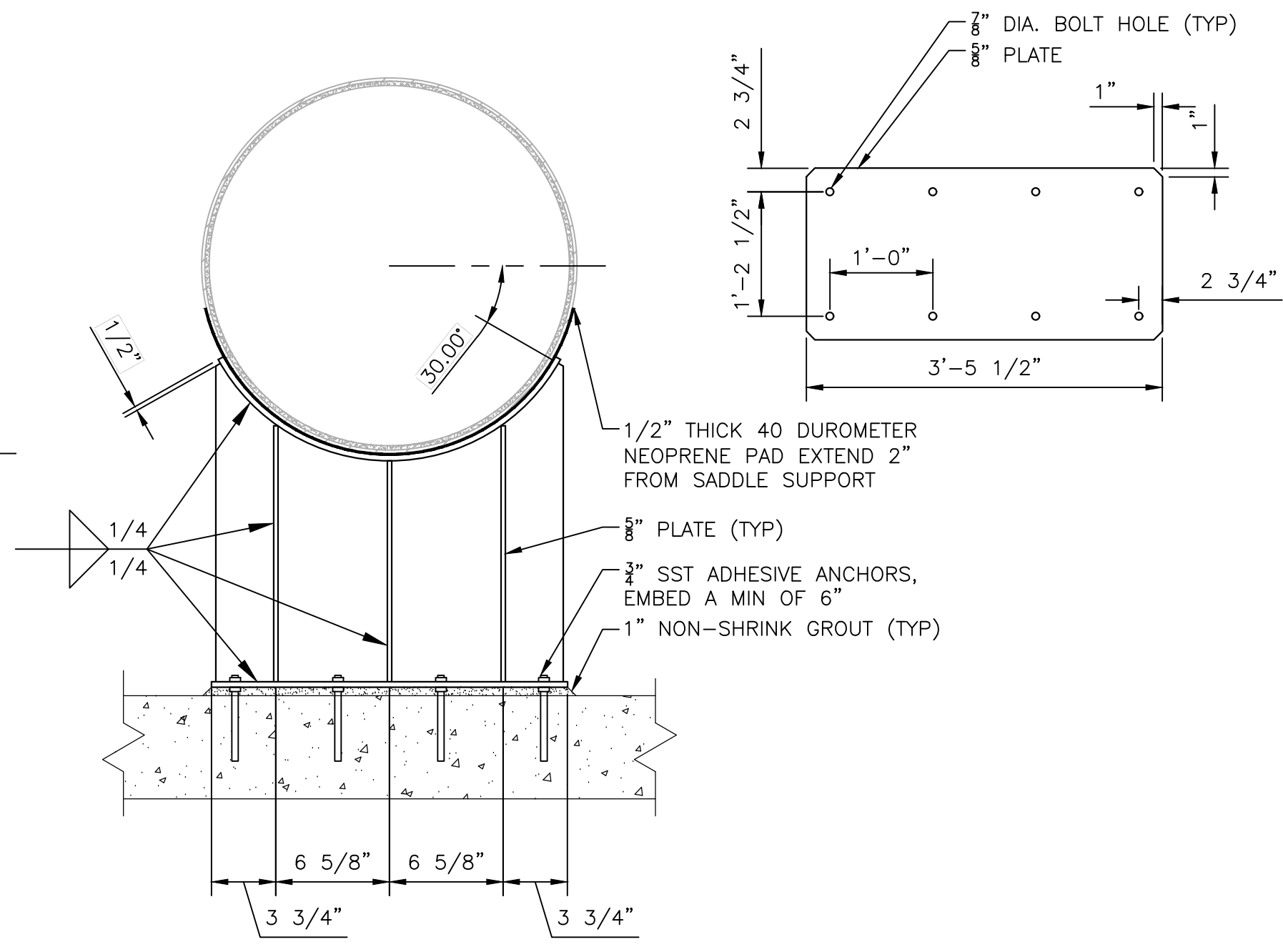
42" BLIND FLANGE

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



42" STEEL PIPE SUPPORT

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



LAST SAVED BY: Igarca

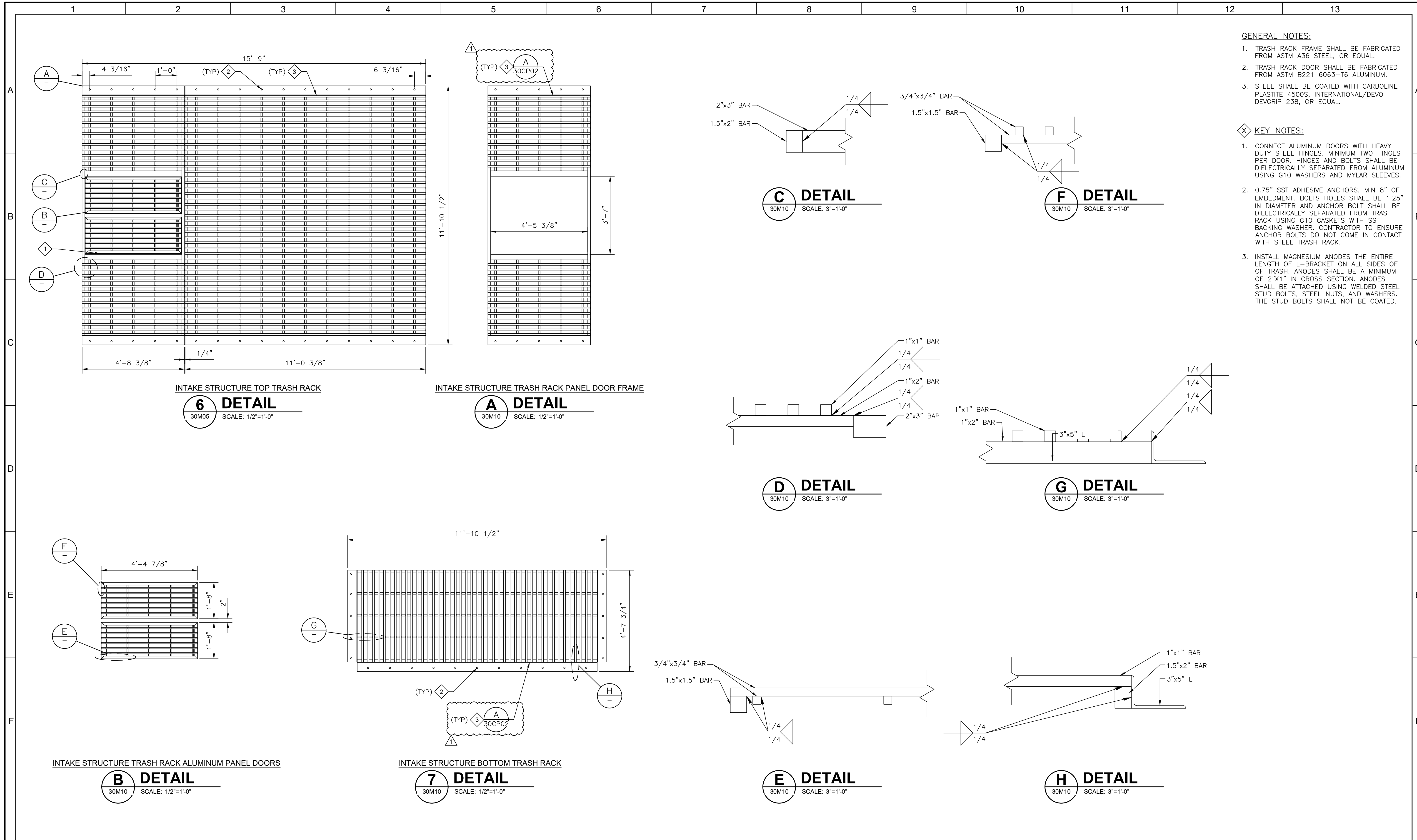
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|---------|------|----|----------------|
| REV     | DATE | BY | DESCRIPTION    |
|         | 6/26 | JK | ADDENDUM NO. 1 |
|         |      |    |                |
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|                  |  |
|------------------|--|
| DESIGNED<br>MP   |  |
| DRAWN<br>LRG     |  |
| CHECKED<br>MZ    |  |
| DATE<br>MAY 2026 |  |
|                  |  |



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

|   |                        |
|---|------------------------|
| VERIFY SCALES   | JOB NO.<br>203505      |
| BAR IS ONE INCH ON ORIGINAL DRAWING                           | DRAWING NO.<br>30M09   |
| 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY | SHEET NO.<br>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 ALUMINUM 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

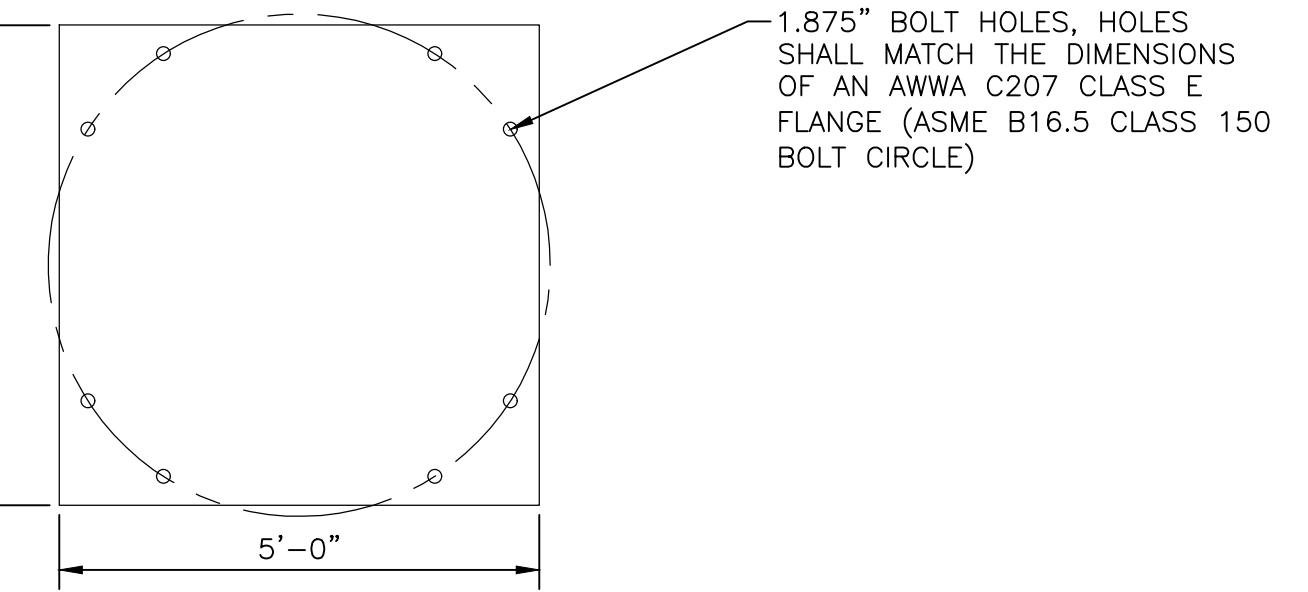
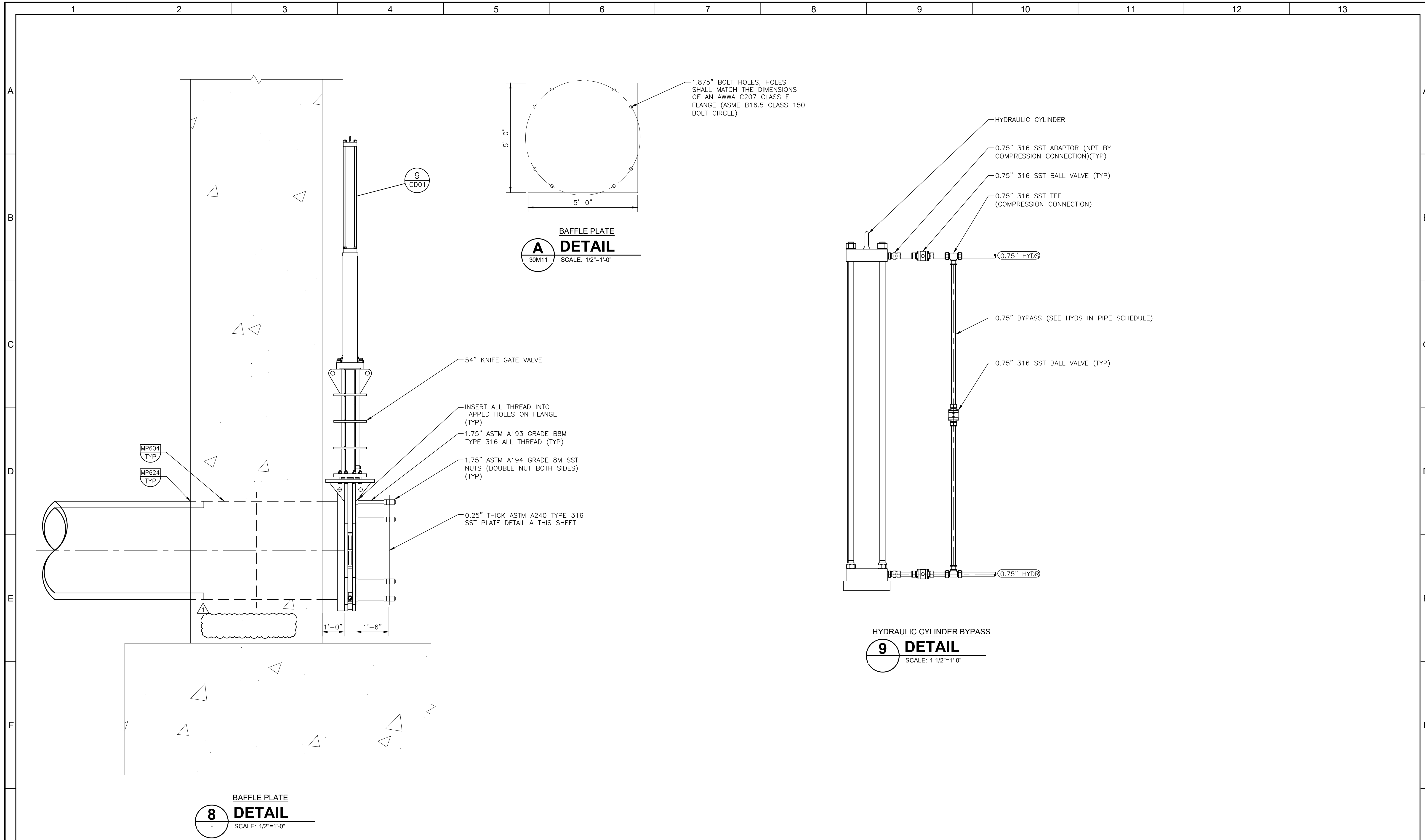
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|---------|----------------|
| BID SET |                |
| REV     | DESCRIPTION    |
| 6/26    | ADDENDUM NO. 1 |
| JK      |                |
| BY      |                |

|          |          |
|----------|----------|
| DESIGNED | MP       |
| DRAWN    | LRG      |
| CHECKED  | MZ       |
| DATE     | MAY 2026 |

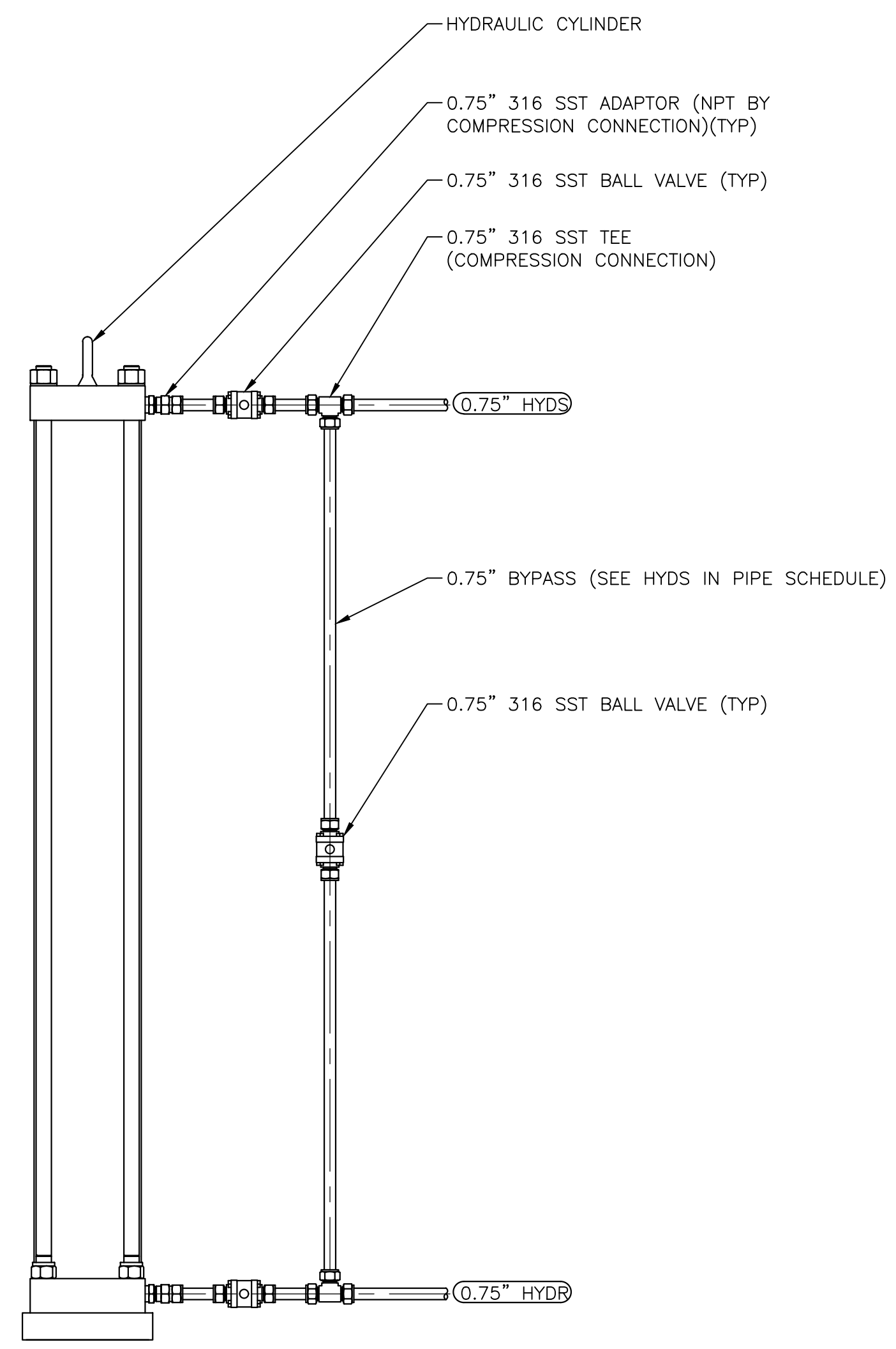


CITY OF THORNTON  
THORNTON WATER PROJECT  
SOURCE WATER PUMP STATION  
MECHANICAL  
MECHANICAL DETAILS 2

|  |                        |
|--|------------------------|
| VERIFY SCALES  | JOB NO.<br>203505      |
| BAR IS ONE INCH ON ORIGINAL DRAWING                      | DRAWING NO.<br>30M10   |
| 0 1"   | SHEET NO.<br>82 OF 169 |
| IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY |                        |



**BAFFLE PLATE  
A  
DETAIL**  
SCALE: 1/2"=1'-0"



**HYDRAULIC CYLINDER BYPASS  
9  
DETAIL**  
SCALE: 1 1/2"=1'-0"

**BAFFLE PLATE  
8  
DETAIL**  
SCALE: 1/2"=1'-0"

LAST SAVED BY: lgarcia

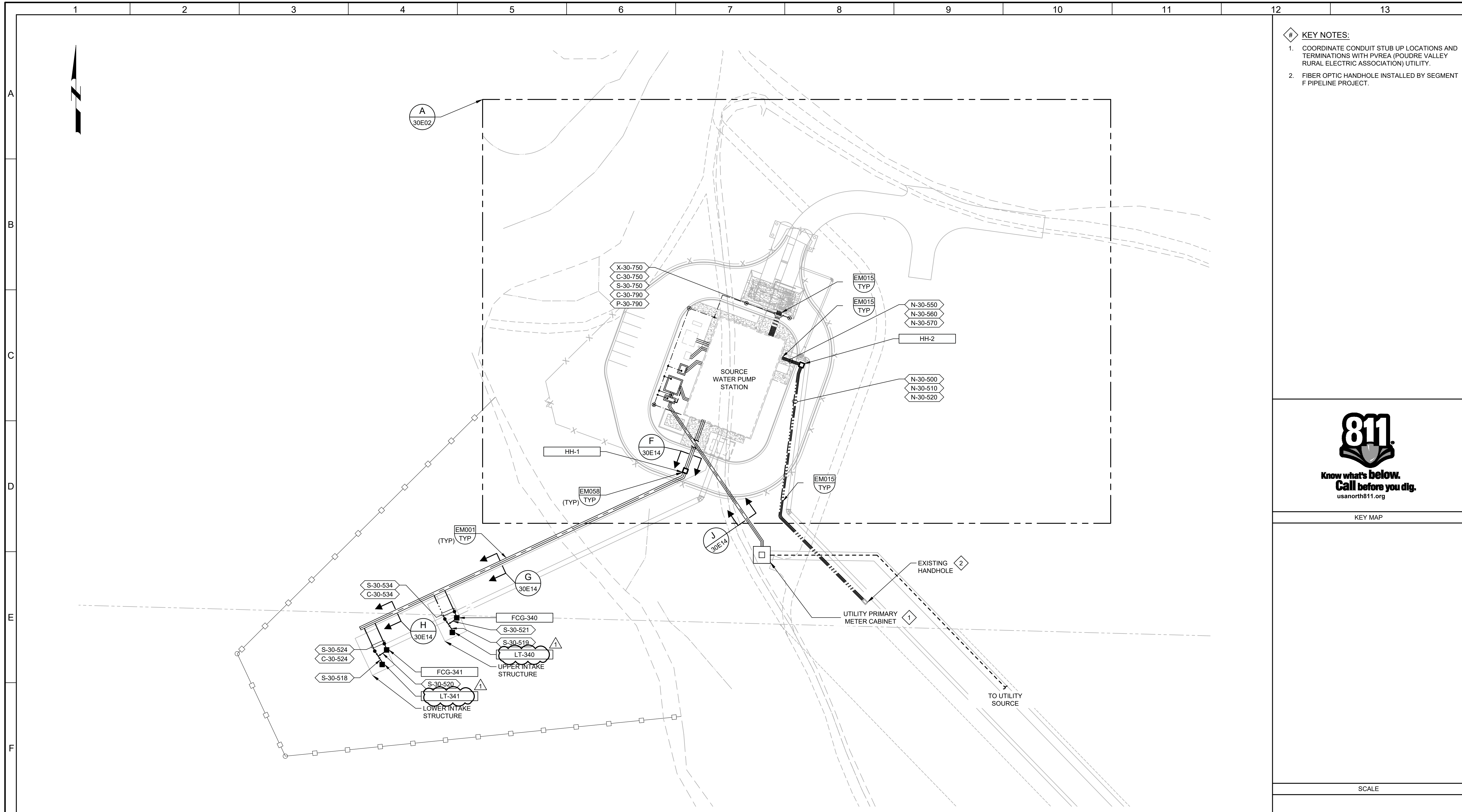
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| <b>BID SET</b> |          |    |                |
| DESIGNED       | MP       |    |                |
| DRAWN          | LRG      |    |                |
| CHECKED        | MZ       |    |                |
| DATE           | MAY 2026 |    |                |
| REV            | DATE     | BY | DESCRIPTION    |
|                | 6/26     | JK | ADDENDUM NO. 1 |

COLORADO LICENSED  
 MATTHEW E. PETERSON  
 0049708  
 PROFESSIONAL ENGINEER



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

|  |                        |
|--|------------------------|
| VERIFY SCALES  | JOB NO.<br>203505      |
| BAR IS ONE INCH ON ORIGINAL DRAWING                      | DRAWING NO.<br>30M11   |
| 0 1"   | SHEET NO.<br>83 OF 169 |
| IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY |                        |



**PLAN**  
FILE: 203505\_01E0101

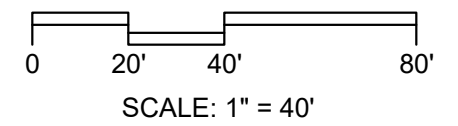
- KEY NOTES:**
- COORDINATE CONDUIT STUB UP LOCATIONS AND TERMINATIONS WITH PVREA (POUDRE VALLEY RURAL ELECTRIC ASSOCIATION) UTILITY.
  - FIBER OPTIC HANDHOLE INSTALLED BY SEGMENT F PIPELINE PROJECT.



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 |

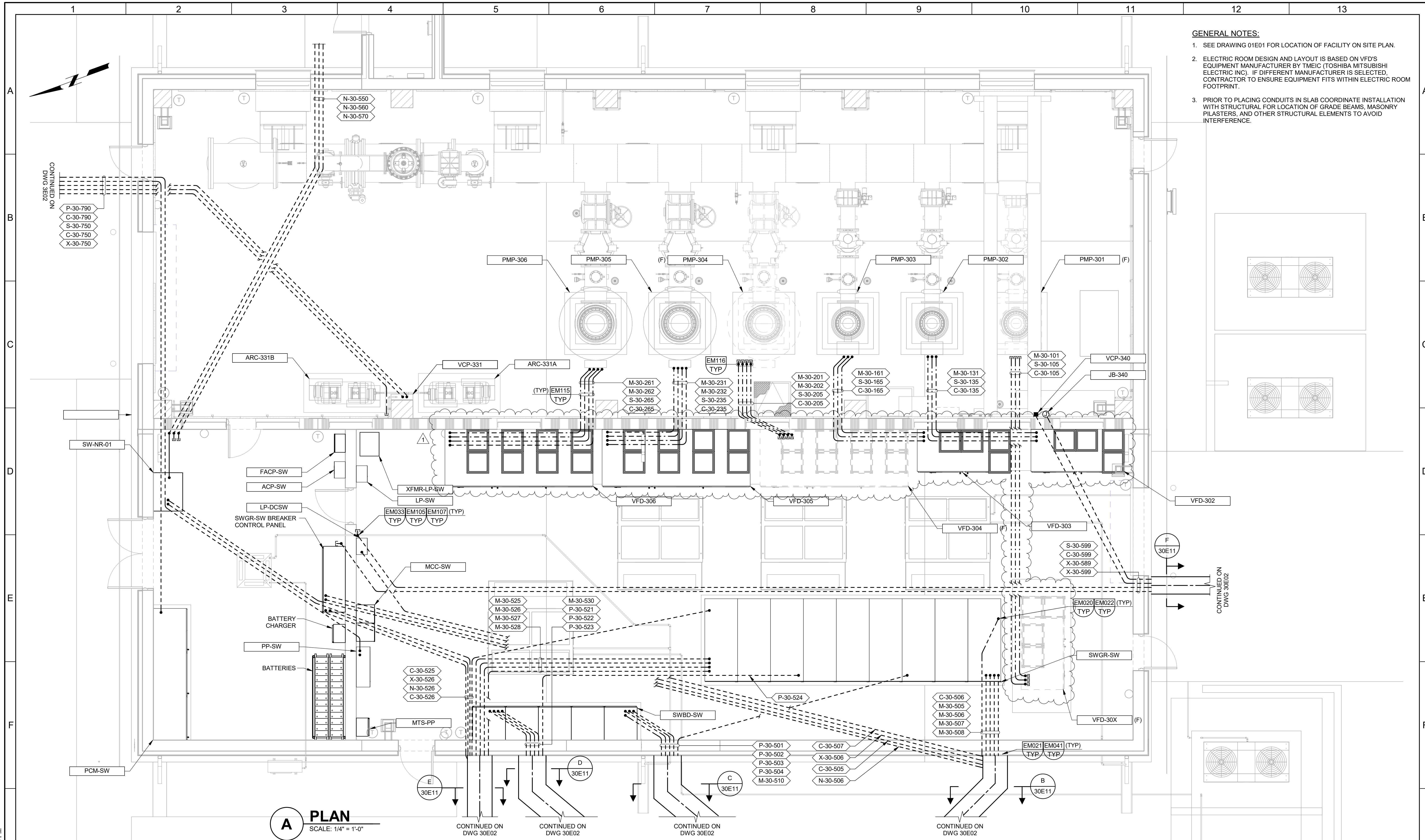


CITY OF THORNTON  
THORNTON WATER PROJECT  
SOURCE WATER PUMP STATION  
ELECTRICAL  
OVERALL SITE PLAN

|  |                        |
|--|------------------------|
| VERIFY SCALES  | JOB NO.<br>203505      |
| BAR IS ONE INCH ON ORIGINAL DRAWING                      | DRAWING NO.<br>30E01   |
| IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY | SHEET NO.<br>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" SCALE

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

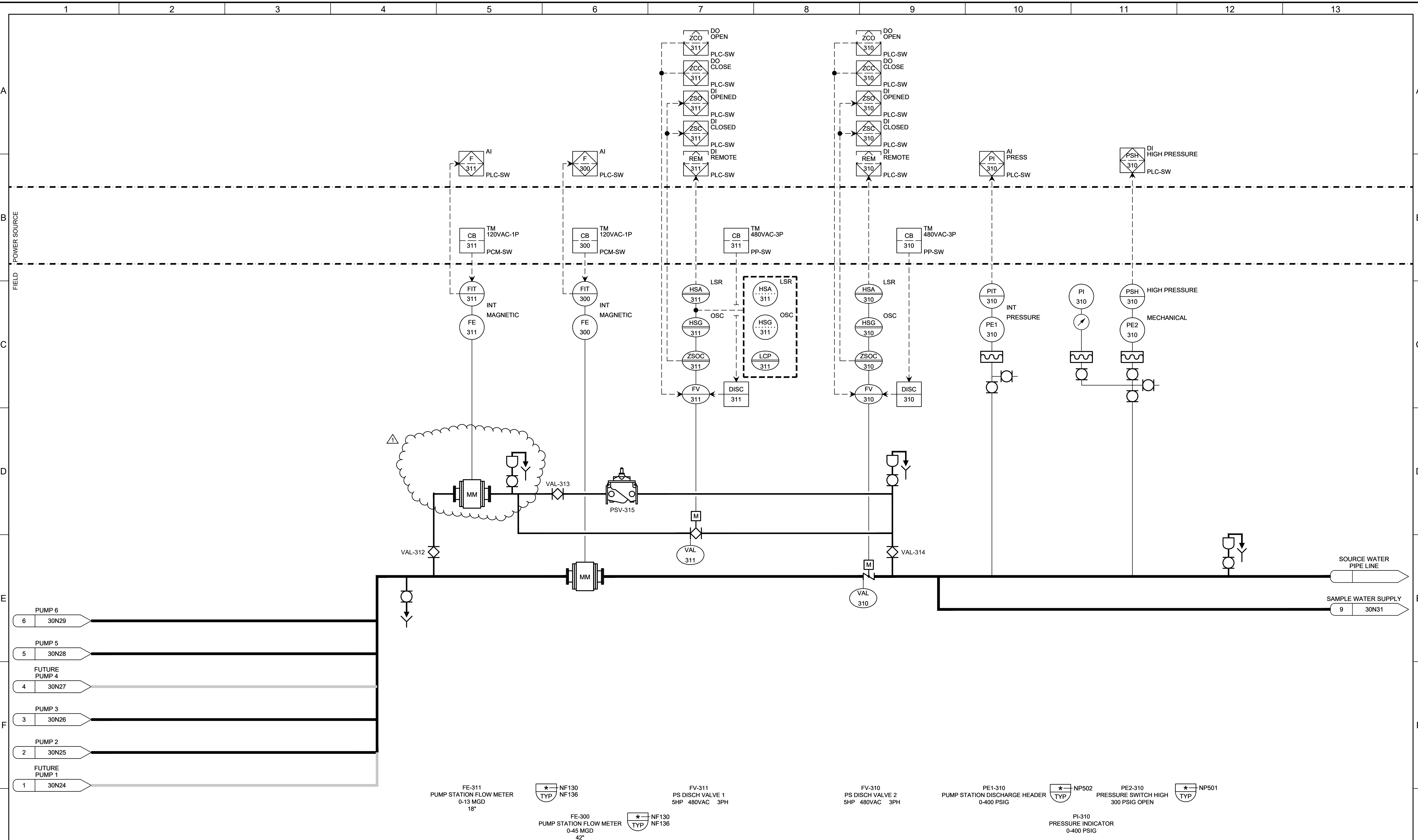
D

E

F

G

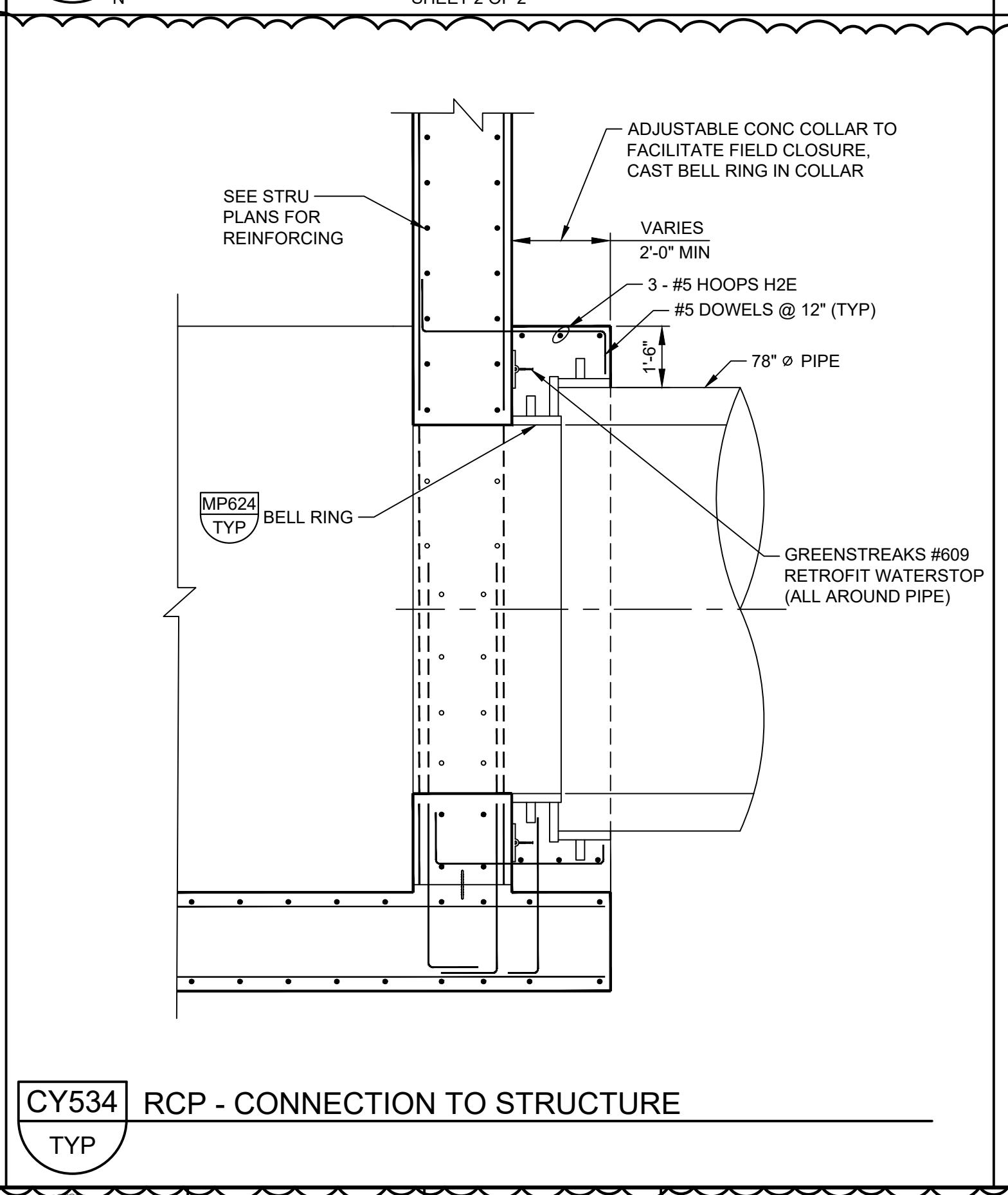
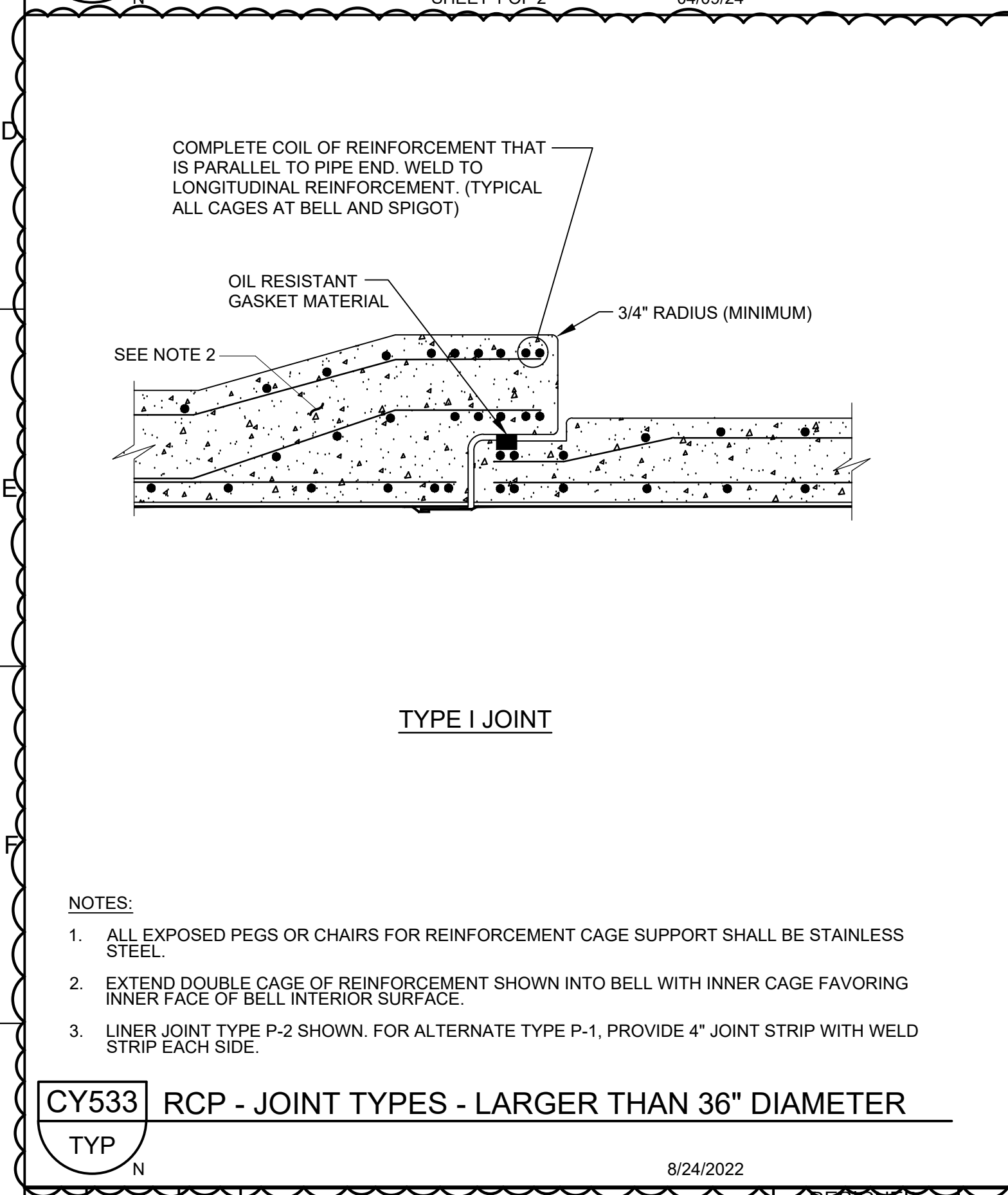
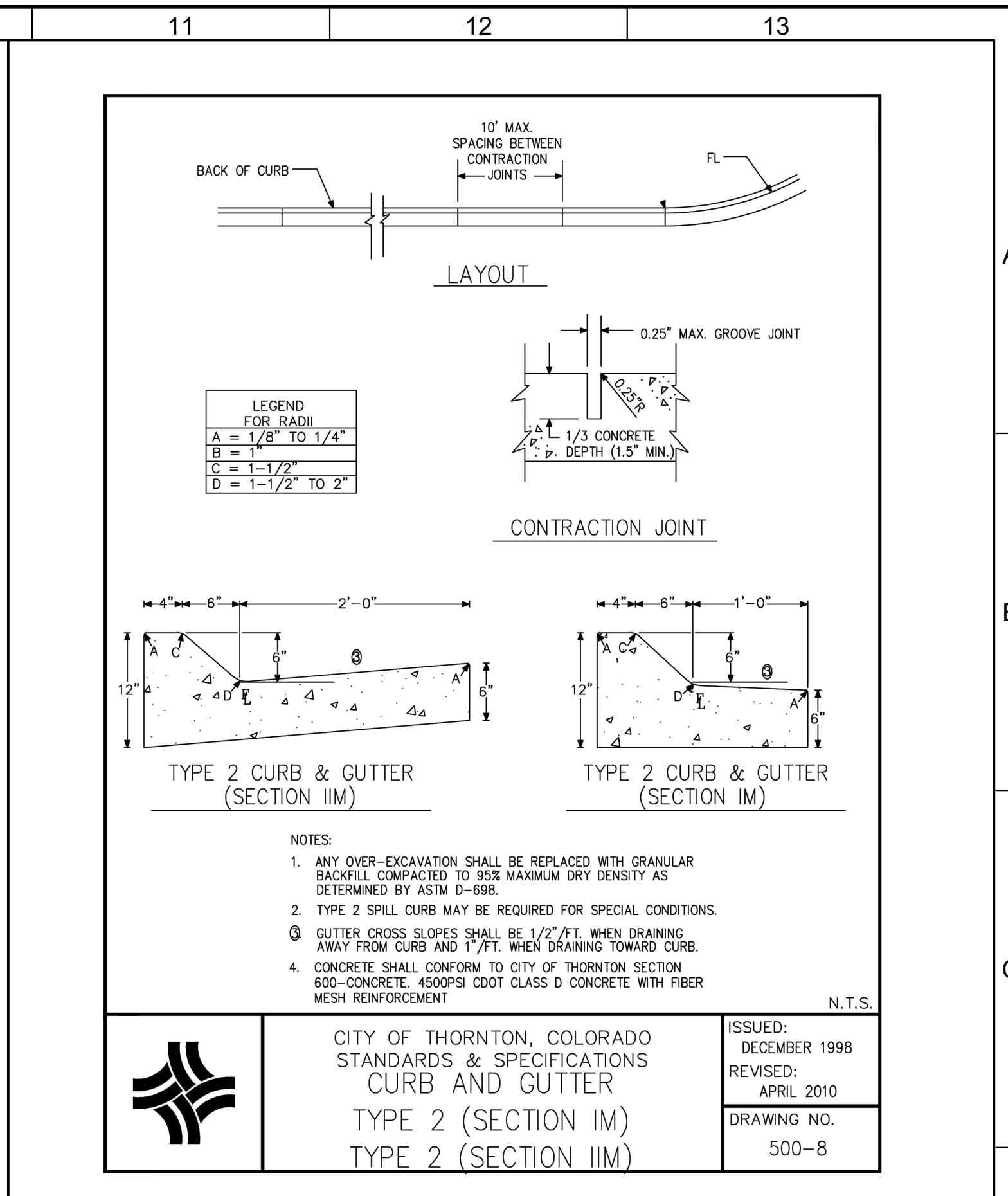
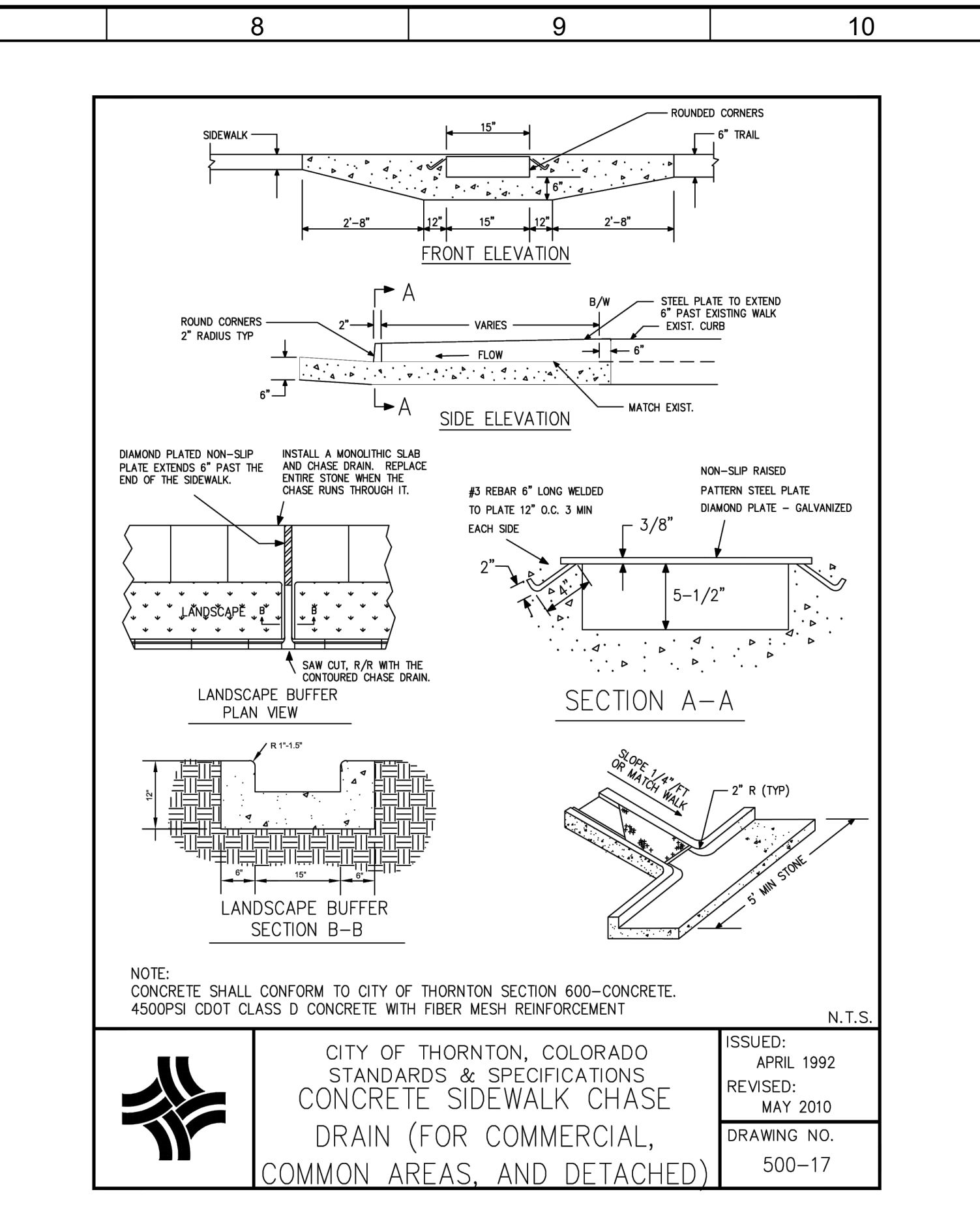
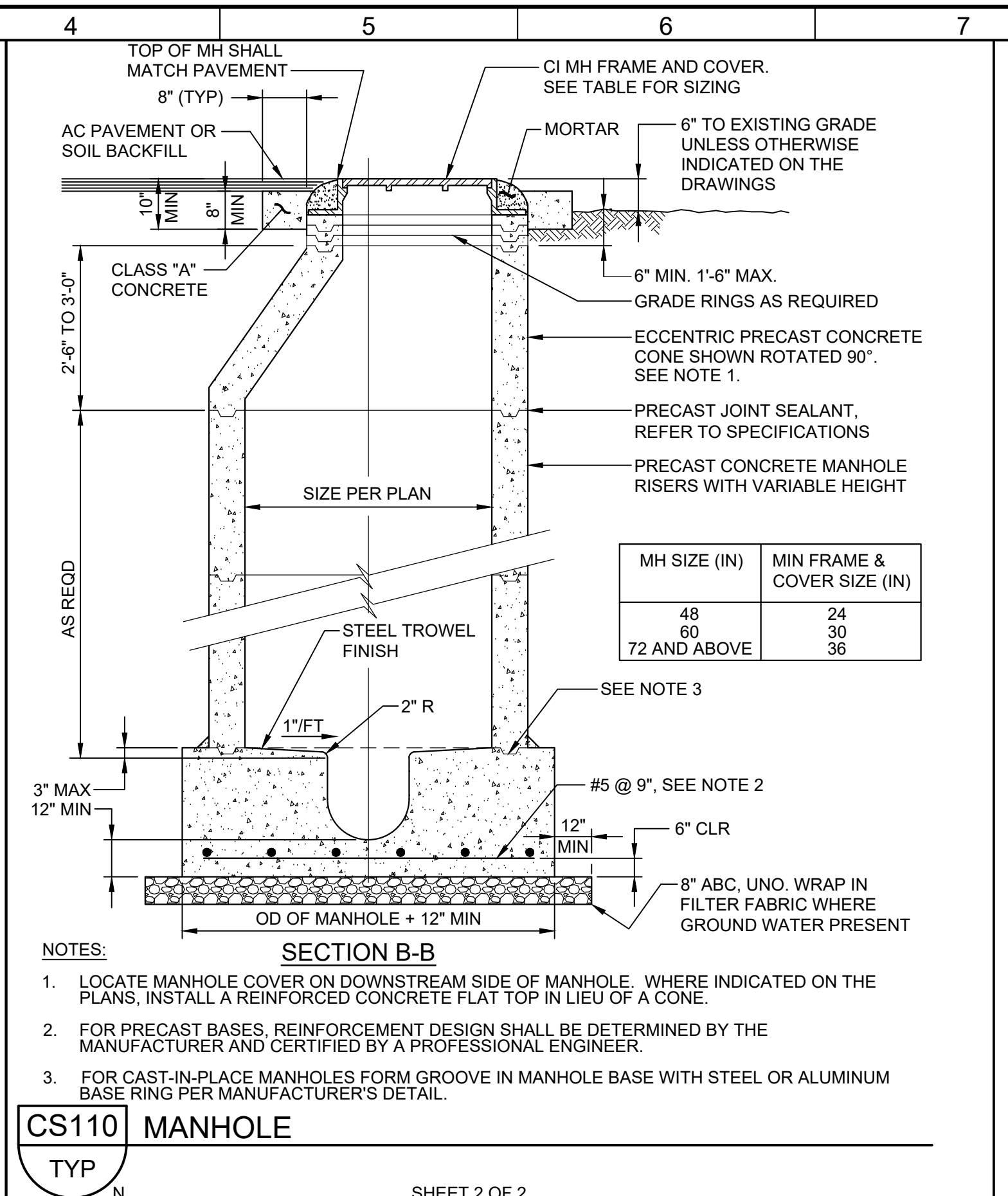
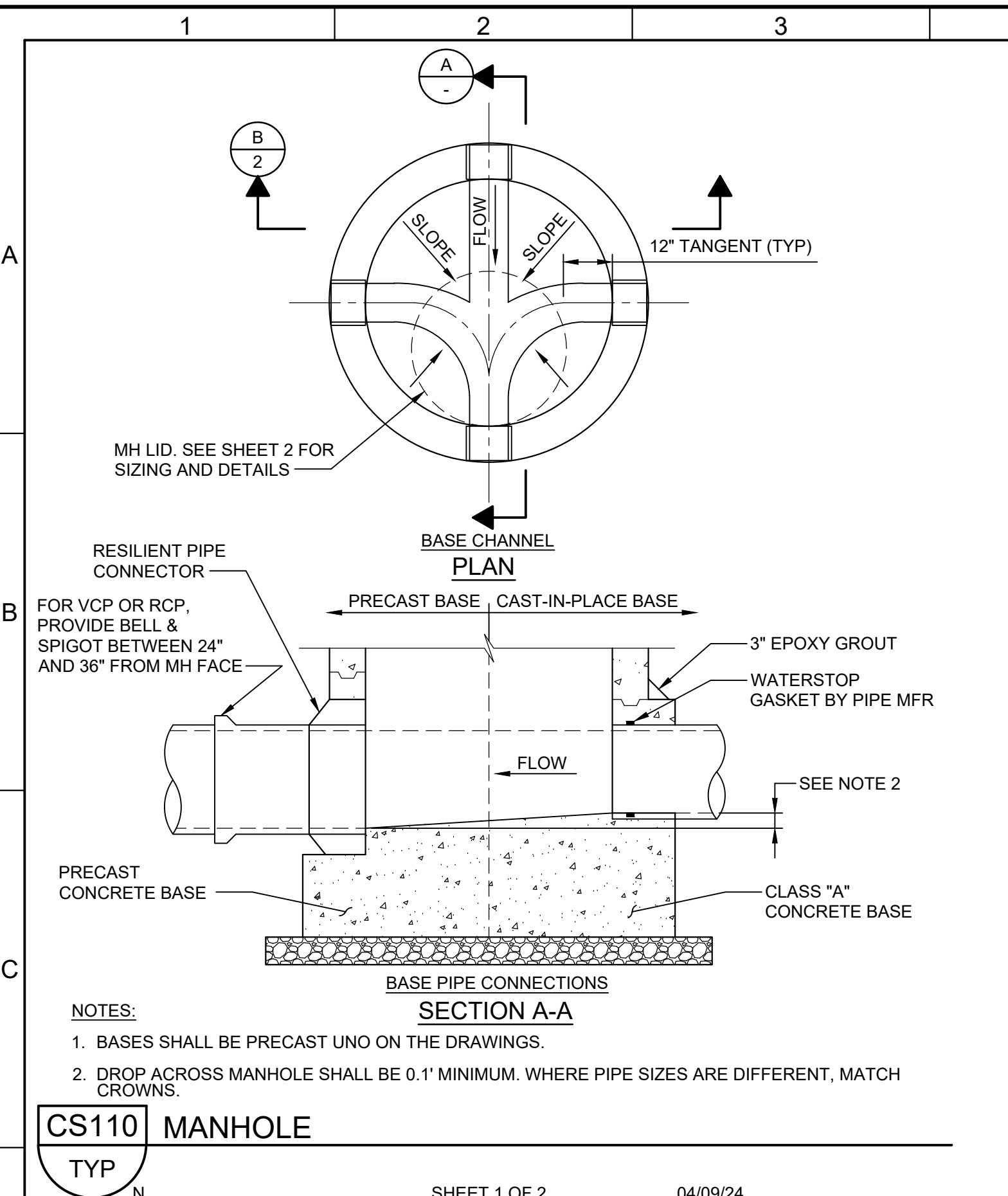
LAST SAVED BY: DCOSSME



|                       |                               |   |  |  |   |  |  |   |
|-----------------------|-------------------------------|---|--|--|---|--|--|---|
| <b>BID SET</b>        |                               | DESIGNED<br>ANW<br>DRAWN<br>KMM<br>CHECKED<br>DJC<br>DATE<br>MAY 2026 |  |  | <b>CITY OF THORNTON</b><br><b>THORNTON WATER PROJECT</b><br>SOURCE WATER PUMP STATION<br>INSTRUMENTATION<br><b>PUMP DISCHARGE HEADER P&amp;ID</b> |  | VERIFY SCALES<br>BAR IS ONE INCH ON ORIGINAL DRAWING<br>0 1" | JOB NO.<br>203505<br>DRAWING NO.<br><b>30N30</b><br>SHEET NO.<br>133 OF 169 |
| 6/26<br>JK<br>DATE BY | ADDENDUM NO. 1<br>DESCRIPTION |   |  |  |   |  |  |   |

PROJECT NO. XXXXXX FILE NAME: 20350530N30.DWG

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



LAST SAVED BY: SNeel

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

|                  |  |
|------------------|--|
| DESIGNED<br>CE   |  |
| DRAWN<br>CE      |  |
| CHECKED<br>CE    |  |
| DATE<br>MAY 2026 |  |

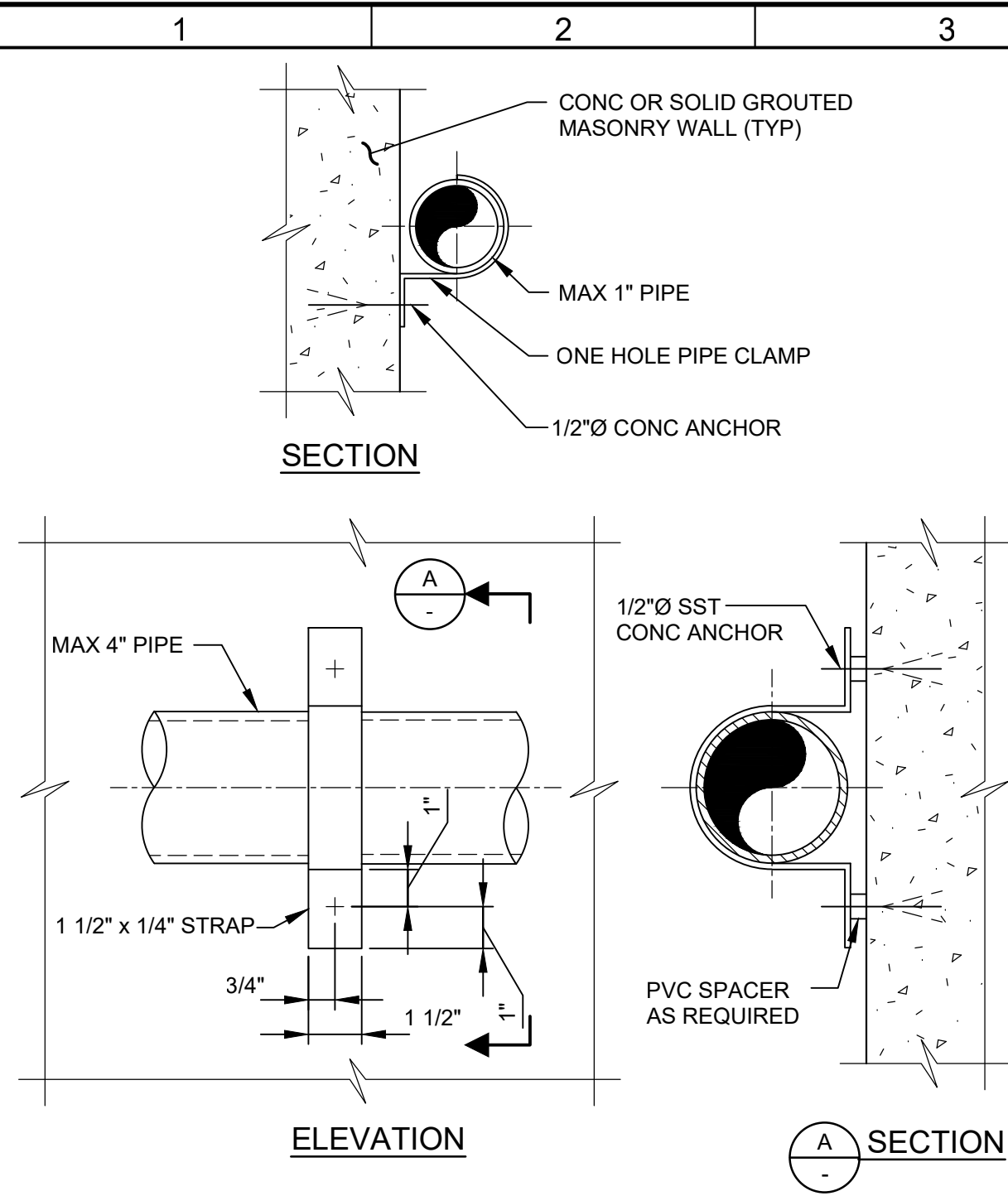


**CITY OF THORNTON**  
**THORNTON WATER PROJECT**  
**SOURCE WATER PUMP STATION**  
 TYPICAL DETAILS  
**CIVIL TYPICAL DETAILS 2**

VERIFY SCALES  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 0 1'

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

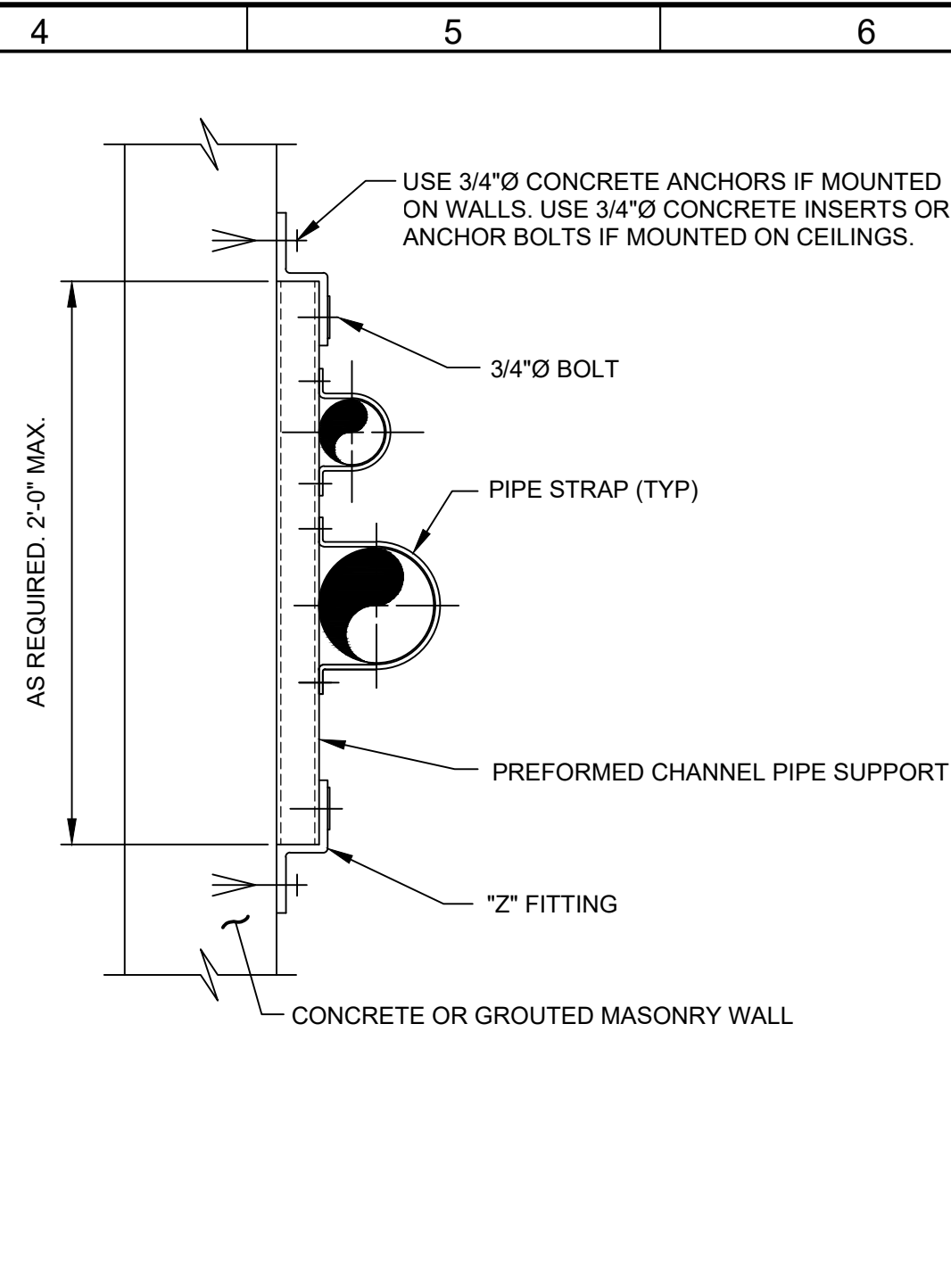
|                         |
|-------------------------|
| JOB NO.<br>203505       |
| DRAWING NO.<br>30TC02   |
| SHEET NO.<br>139 OF 169 |



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

**MP215** PIPE SUPPORT - WALL - PIPE CLIP  
TYP

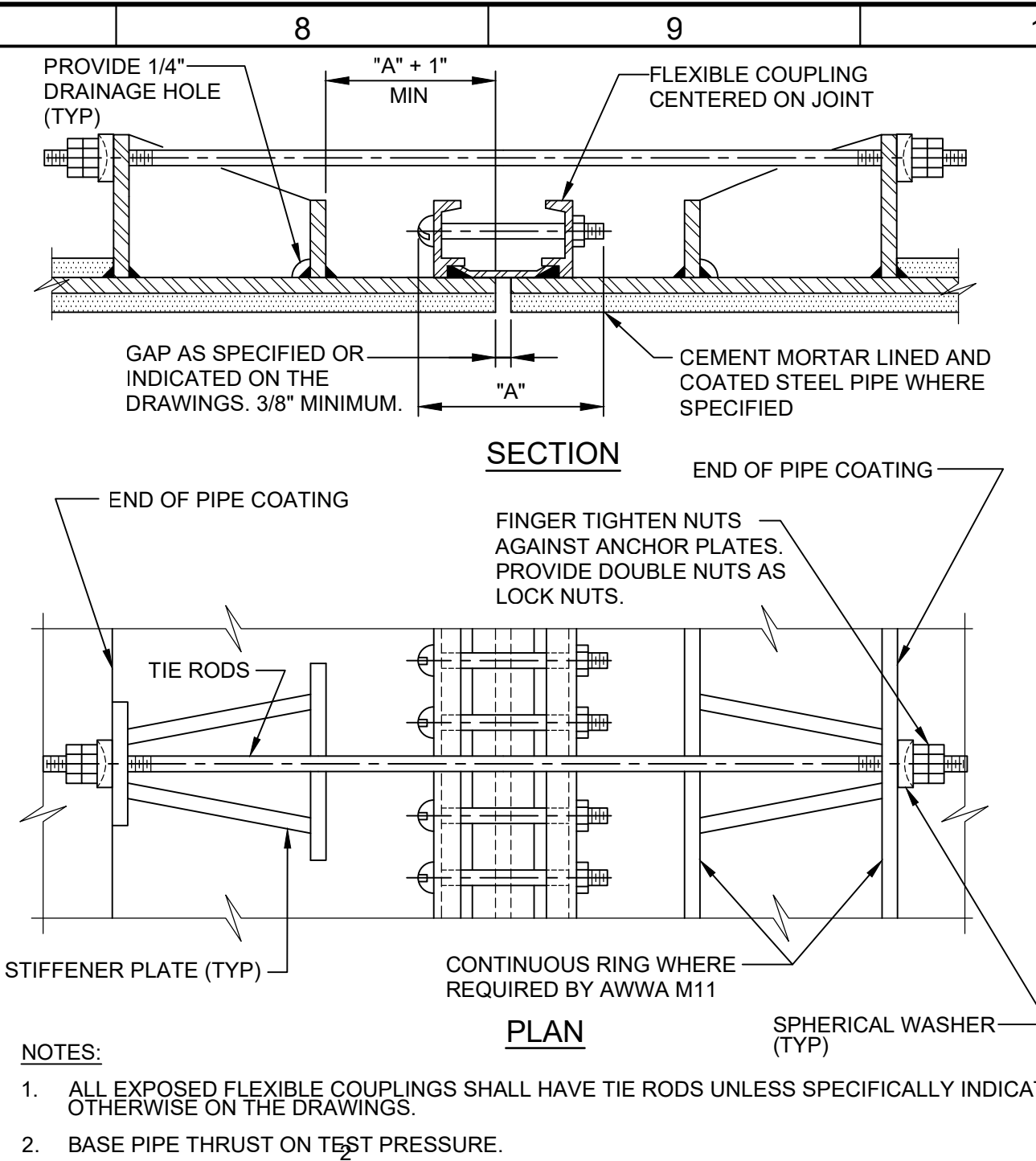
12/23/24



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

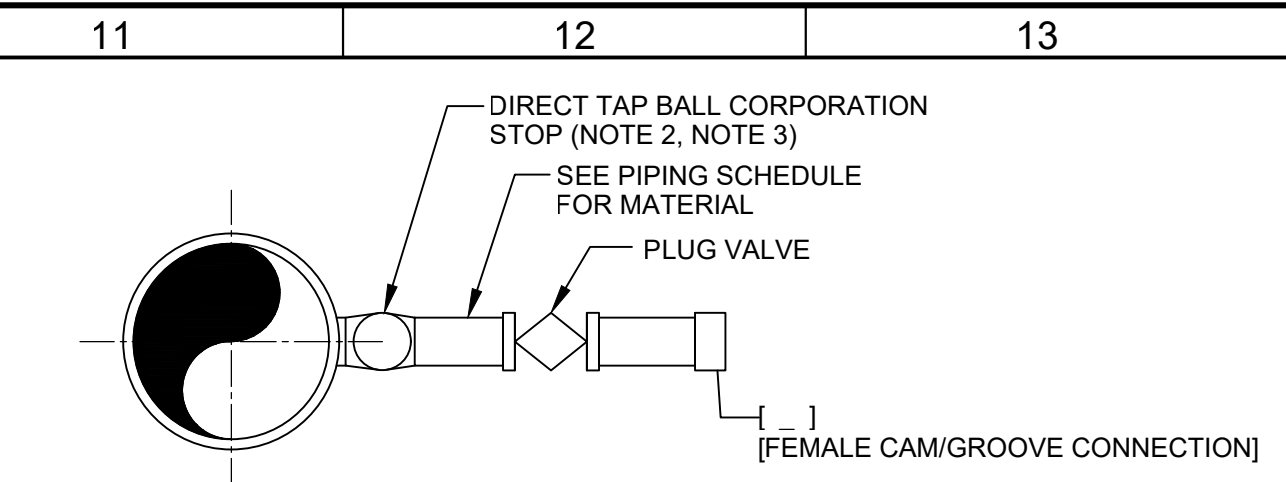
10/05/23



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

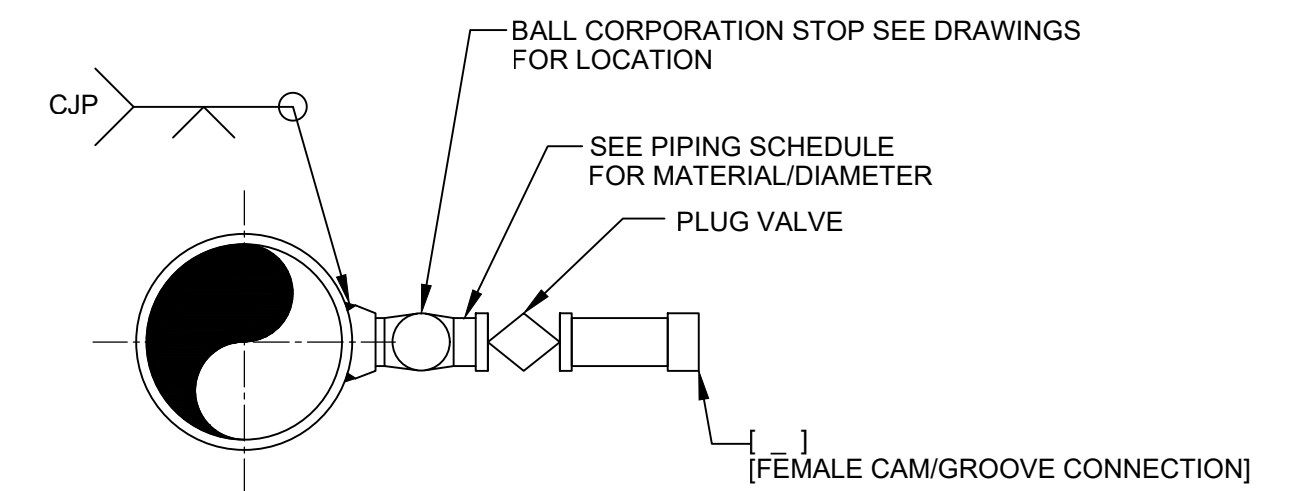
**MP330** PIPE JOINT - STEEL - FLEXIBLE COUPLING -  
RESTRAINED  
TYP

5/04/26



| DIP NOMINAL DIAMETER | FLUSHING CONNECTION DIAMETER |
|----------------------|------------------------------|
| 4"                   | 3/4"                         |
| 6" - 14"             | 1"                           |
| 16"                  | 1 1/2"                       |
| 18" AND ABOVE        | 2"                           |

**DETAIL A - DUCTILE IRON PIPE FLUSHING CONNECTION**

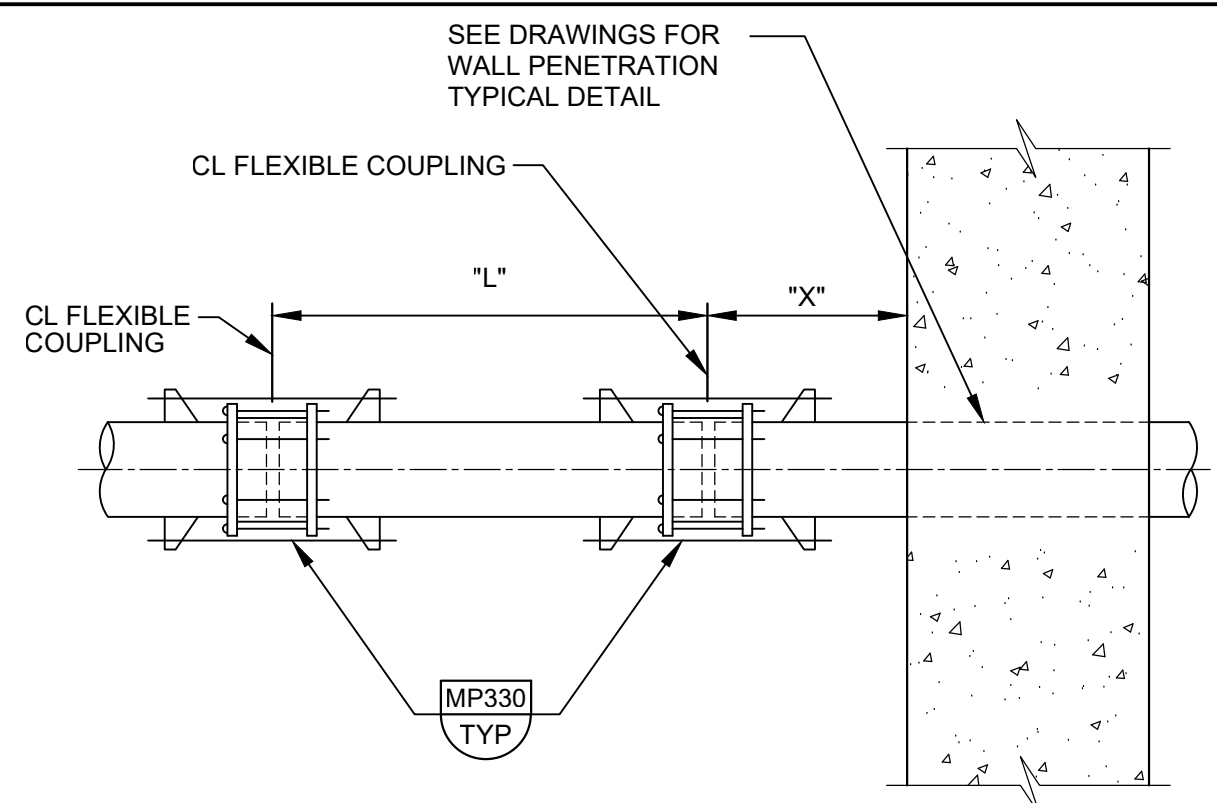


**DETAIL B - STEEL PIPE FLUSHING CONNECTION**

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

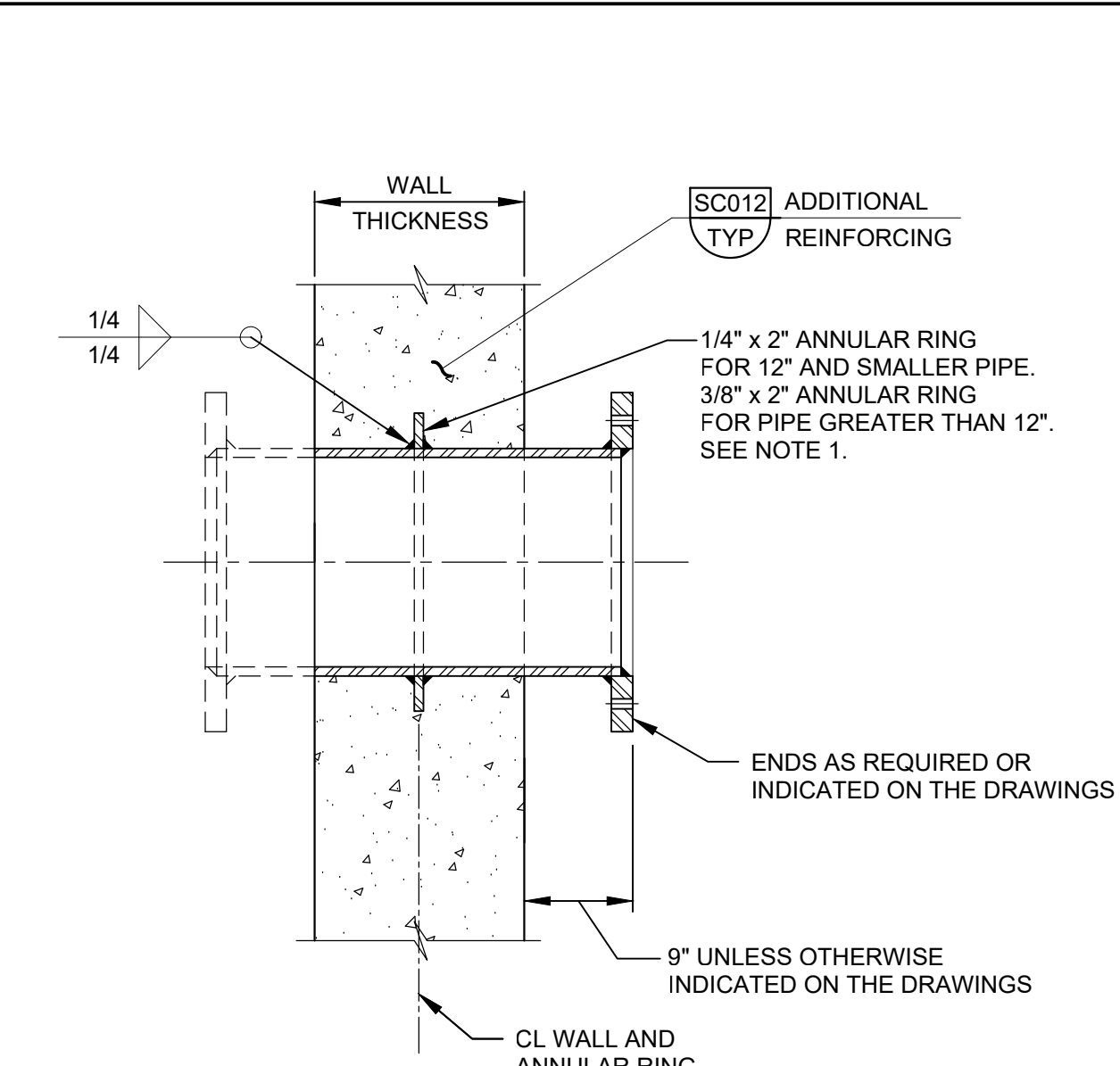


| NOMINAL PIPE DIAMETER IN INCHES | "L"    | "X"   |
|---------------------------------|--------|-------|
| LESS THAN 31"                   | 5'-0"  | 2'-0" |
| GREATER THAN 31" - 42"          | 8'-0"  | 5'-0" |
| GREATER THAN 42" - 54"          | 10'-0" | 5'-0" |

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

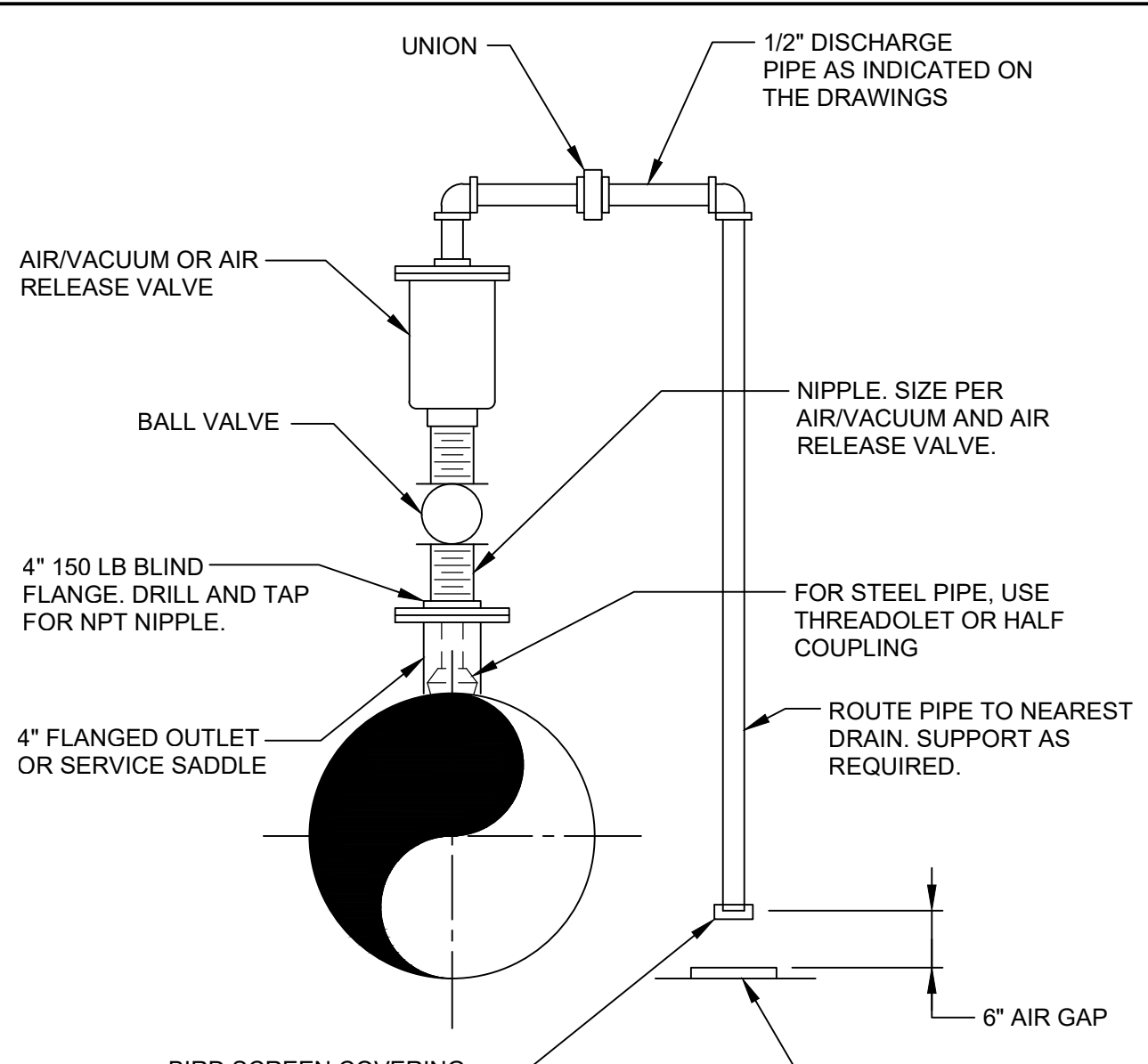
12/01/22



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

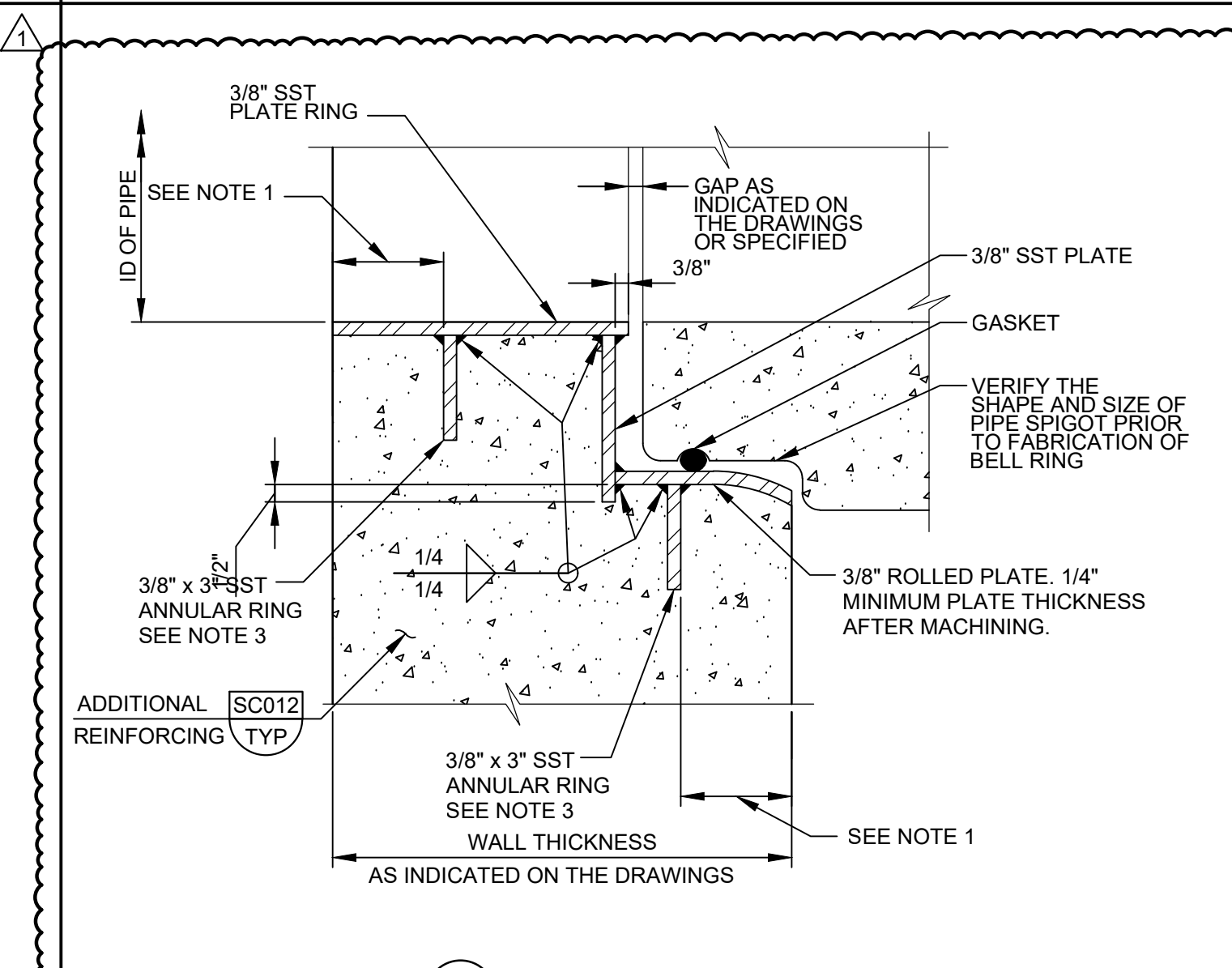
12/1/2022



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.

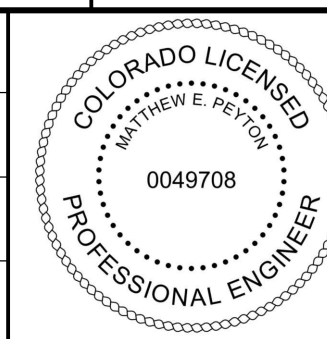
**MP624** WALL PENETRATION - RCP - SST BELL RING INSERT  
FOR PIPE  
TYP

10/11/2023

LAST SAVED BY: 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  
TYPICAL DETAILS  
**MECHANICAL  
TYPICAL DETAILS 2**

| 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 | 30TM02      |
|  | SHEET NO.   |
|  | 153 OF 169  |