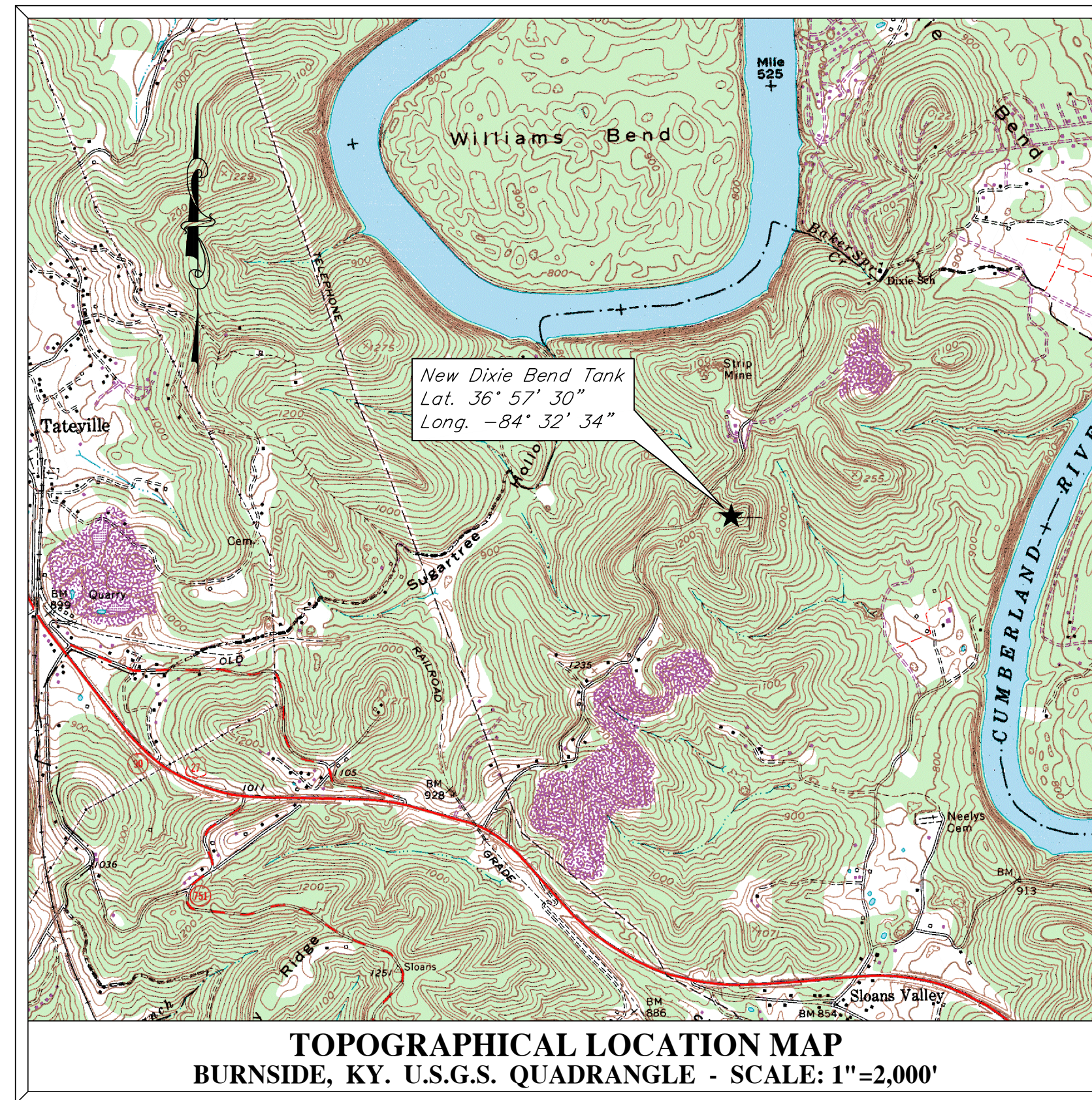
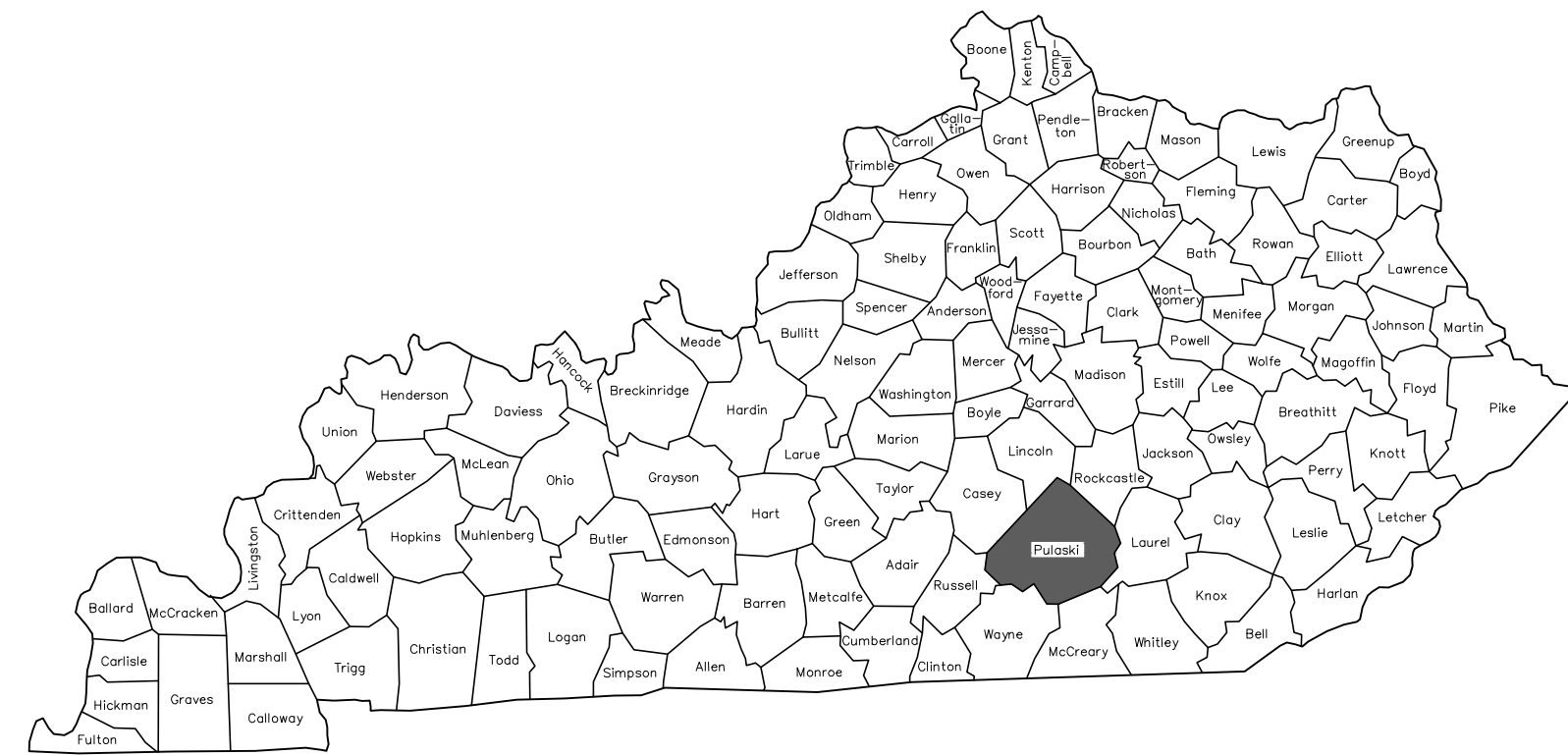


SOUTH EASTERN WATER ASSOCIATION

DIXIE BEND TANK REPLACEMENT

100,000 GALLON ELEVATED WATER STORAGE TANK

PULASKI COUNTY, KENTUCKY



INDEX OF SHEETS

| DESCRIPTION | SHEET NO. |
|-----------------------|-----------|
| COVER SHEET | 1 |
| GENERAL NOTES | 2 |
| SITE PLAN | 3 |
| ELEVATED TANK DETAILS | 4 |
| MISCELLANEOUS DETAILS | 5 |

Prepared By:



GENERAL NOTES

1. Stations shown on the water line are for reference only and do not reflect the actual linear lengths of pipe required for construction.
2. The Contractor shall be responsible for coordinating all construction work with local utility companies and other concerned parties.
3. Existing buried utilities are shown on the drawings in their general location utilizing the best available information. Before construction begins near or through existing utilities (i.e. Gas Co., Telephone Co., etc.) each utility company shall be notified, a request for the exact location of the utility shall be made, and permission to proceed with construction obtained. The Contractor shall contact BUD at telephone no. 1-800-752-6007 or 811.
4. Before construction begins through any property, the Contractor shall make himself aware of the exact location of construction through the property and the bounds of the permanent and temporary construction easements.
5. The Contractor shall have on hand at the job site 11 1/4", 22 1/2", 45" and 90" bends for use where necessary for proper installation.
6. At some locations, the Contractor may be required to provide extra cover over line. No separate payment will be made for such extra cover.
7. Connecting new lines to existing lines or to work in other contracts is subsidiary to the contract.
8. All fittings, thrust restraint and appurtenances to construct the pipelines as shown shall be included in the unit cost for the tank.
9. The pipe lengths have been estimated as close as possible. The Contractor shall be responsible for ordering pipe quantities necessary for installation to the limits as shown on the Drawings unless otherwise instructed. Any left-over pipe quantities shall be the property of the Contractor unless other arrangements are made. The Owner shall not be responsible for re-stocking or other charges associated with the left over pipe.
10. Ductile iron pipe shall be installed in accordance with Standard AWWA C150/ANSI A21.50 Laying Condition Type 3 unless otherwise noted.
11. All driveways that are cut shall be backfilled with KTC #8 or 9-M coarse aggregate.
12. It is the responsibility of the Contractor to comply with all regulations regarding the effect on the environment from the discharge of chlorinated water. See Technical Specifications for methods of sterilization and for disposing of heavily chlorinated water.
13. The time period for pressure testing in this project shall be 6 hours.
14. Tracer wire and warning tape shall be installed with PVC pipe.
15. During the process of tapping asbestos cement mains, the contractor shall conform to OSHA regulations governing the handling of hazardous waste. Pieces of asbestos cement resulting from the tap shall be double bagged, placed in a rigid container and disposed of in an approved landfill.
16. The pipeline shall be "swabbed" prior to pressure testing and sterilization. Pipeline swabbing is not a separate bid item.
17. Locations where pipeline is to be installed on state road right of way are approximately delineated on the drawings. The Contractor, along with the Engineer's Representative, shall determine, precisely, the field locations for transitions between private easements, and state and county road rights of way.
18. All pipelines installed in the ditchline on state or county rights of way shall have 42" minimum cover over top of pipe.
19. The pipeline trench width will be strictly enforced. See Technical Specifications for trench width requirements.
20. The GENERAL CERTIFICATION - NATIONWIDE PERMIT #58 - UTILITY LINE FOR WATER AND OTHER SUBSTANCES is contained in the Specifications. The Contractor shall read, understand and comply with the requirements and procedures. All crossings of streams that appear as a blue line on a USGS 7.5 minute topographical map shall be accomplished in accordance with: PERMIT #58 - UTILITY LINE FOR WATER AND OTHER SUBSTANCES. It is the intent of the plans to identify a stream crossing at each blue line stream. Small creek crossings, less than 15 feet measured from top of bank to top of bank, may be accomplished by trenching when the stream is in a no-flow condition. If the stream is in a flow condition, the crossing shall be accomplished by directional boring or other method that complies with the General Certification and is approved by the Engineer. Specific details for stream crossings are contained in the Miscellaneous Details. Bid items for specific stream crossings may be contained in the Bid Schedule with the type of crossing shown on the Plan Sheets. Payment shall be "Each" for directional bores of small stream crossings. All small stream crossings in the project shall be considered the same regardless of width (up to 15 L.F.) or depth. It is the responsibility of the Contractor to determine an average unit price that will be used for payment for each instance a blue line stream is crossed. Stream crossings may be added, for extended lines beyond those shown on the plans, at the same unit price providing the crossings are reasonably similar to those in the initial project. Stream crossings may be deleted, without effecting the unit price, if a line is deleted or shortened. Payment for specific bid item directional bored stream crossings shall be "Lump Sum".
21. Do not cut fences except where specifically shown and noted.
22. The Contractor shall obtain and pay for all grading, storm water, etc. permits, if any required to complete the work. The contractor shall maintain compliance with all conditions, limitations and stipulations of all permits. The contractor shall not commence work, except mobilization, until he has obtained all required permits for said work. The contractor shall supply the owner with copies of all permits within 24 hours of receipt. A KPDES Storm Water Discharge Permit will be required for this project. The contractor shall fill out, sign and submit the Notice of Intent (NOI) and the Notice of Termination (NOT). The Notice to Proceed will not be issued until the Permit has been provided.
23. All work shall be provided in accordance with all terms of the General Construction Permit and the Floodplain Construction Permit as issued for the Project by the Kentucky Department for Environmental Protection, Division of Water. The Owner will secure said Construction Permits and deliver a copy of each to the Contractor, to be maintained on-site at all times during construction.
24. All work shall be provided in compliance with all applicable local, state and national building codes.
25. All work shall be executed in compliance with the current workplace safety regulations of the U.S. Department of Labor, Occupational Safety and Health Administration (O.S.H.A.).
26. The Contractor shall restrict all construction activities to within the limits of the public right of way and the private easements and fee parcels unless otherwise approved by the Owner in writing. The Contractor shall be solely liable for any and all Work he performs outside of the boundaries of the public road right of way and the private easements and fee parcels provided by the Owner.
27. The Contractor is solely responsible for determination of the existence and location of any and all other buried utilities in the vicinity of his Work. Utilities shown on the Project Drawings are purported to be approximate only and not warranted to be complete nor accurately located. Additional buried utility lines, other than as shown on the Project Drawings, may exist in the vicinity of the Project work. The Contractor shall contact local utilities and/or locating service at least 48 hours prior to commencing work on the Project.
28. The Contractor shall be responsible for all traffic control measures necessary to the safe execution of his work, including but not limited to flaggers, traffic signage, barricades, construction fencing and nighttime warning lights. Traffic safety provisions shall be employed by the Contractor in accordance with the Standards of the appropriate State and local public highway authorities.

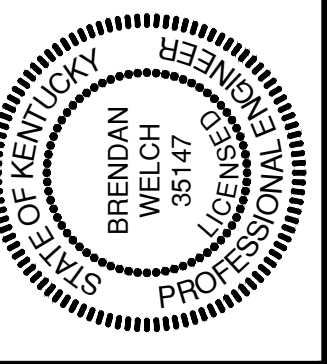
GENERAL NOTES (CONT.)

29. All water main fittings shall be ductile iron, mechanical joint compact fittings for water service complying with AWWA Standard C153. Unless otherwise specifically shown or noted, no PVC fittings, other than in-line repair couplings, will be accepted.
30. All water main fittings shall be anchored with poured concrete thrust blocks as shown in the miscellaneous details drawings. Wrap fittings in minimum 5-mil plastic (PVC) wrap prior to forming and pouring the block.
31. The Contractor shall repair/replace any and all existing utility lines and equipment damaged by the Contractor's Work, to the satisfaction of the damaged utility and at no additional cost to the Owner.
32. The Contractor shall protect all drainage culverts in the vicinity of his work and shall repair or replace all culverts damaged by his Work and at no additional cost to the Owner. All existing culverts may not be shown/noted on the Project Drawings.

ENVIRONMENTAL NOTES

1. When crossing all streams, silt barriers, ie. straw bales or silt fences, shall be put in place to prevent sediment runoff into stream. Conventional stream crossings shall be accomplished during low flow periods. Stream banks shall be re-seeded with native vegetation beneficial to wildlife immediately following completion of the stream crossing. Disturbed surfaces shall be restored to original contours and excess materials removed to a properly confined area.
2. Any excavation by the Contractor that uncovers a historical or archaeological artifact shall be immediately reported to the Owner and Engineer. Construction shall be temporarily halted pending the notification process and further directions after consultation with the State Historic Preservation Officer (SHPO).
3. Contractor shall not disturb any trees with a diameter at breast height greater than three (3) inches.

SOUTH EASTERN WATER ASSOCIATION
DIXIE BEND TANK REPLACEMENT
100,000 GALLON ELEVATED W.S.T.



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KENVIRONS
Civil & Environmental Engineers

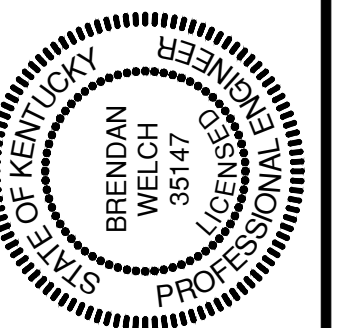


PROJECT NO.
2020007

SHEET NO.
2



In compliance with the Kentucky Dig Law, the Contractor shall call (800) 752-6007 (Kentucky811) toll free or dial 811 a minimum of two and no more than ten business days prior to excavation for information of the location of existing underground utilities. It will be the Contractors responsibility to coordinate excavation with all Utility Owners.



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| DATE: MAY 2020 |
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| REVISIONS |

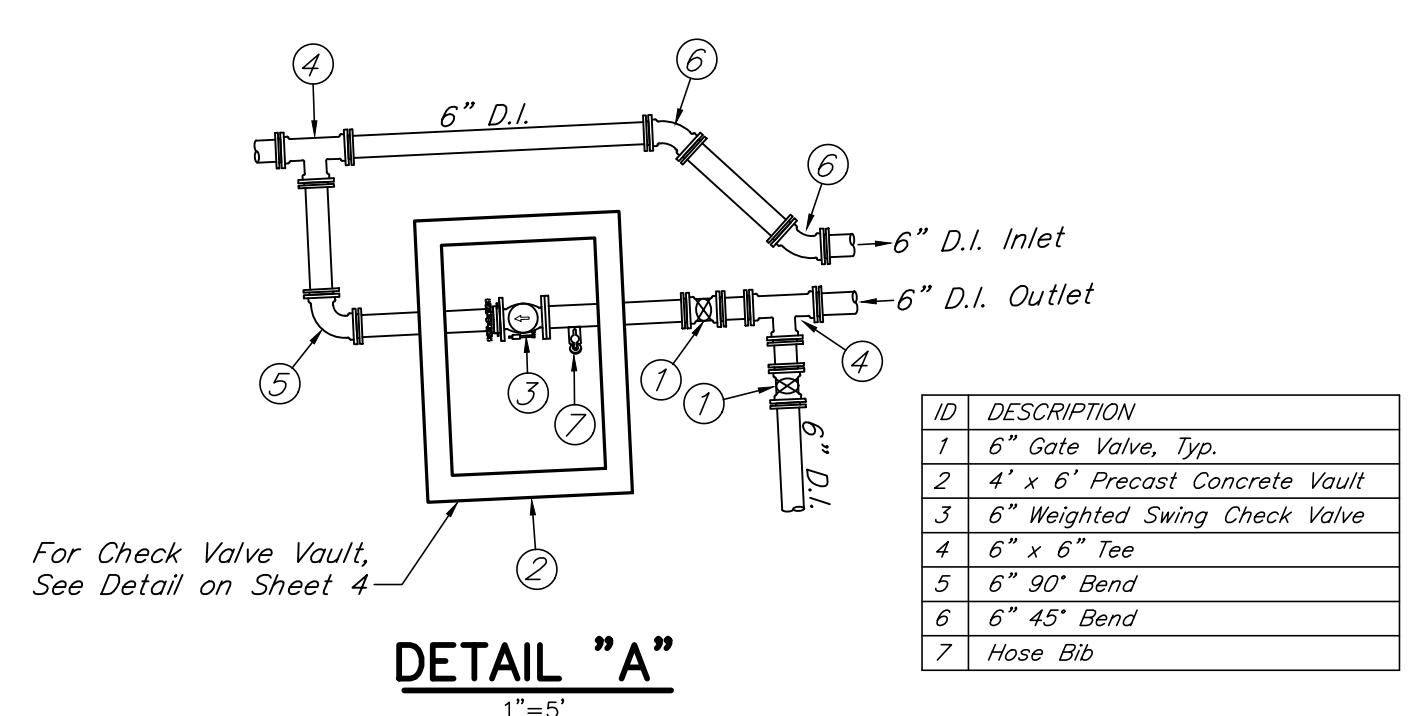
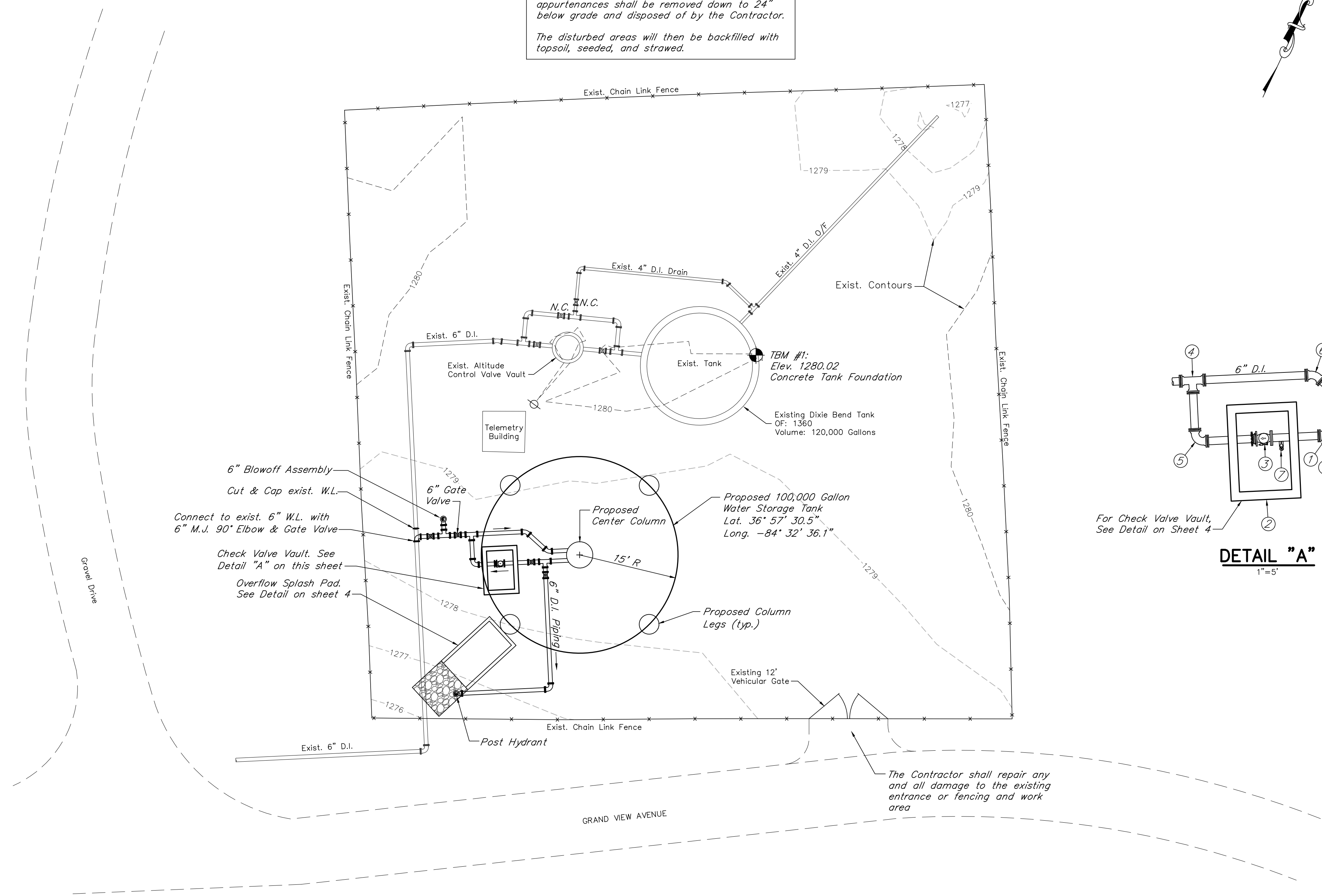


PROJECT NO.
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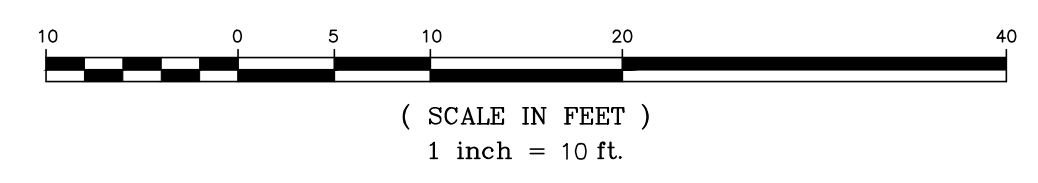
SHEET NO.
3

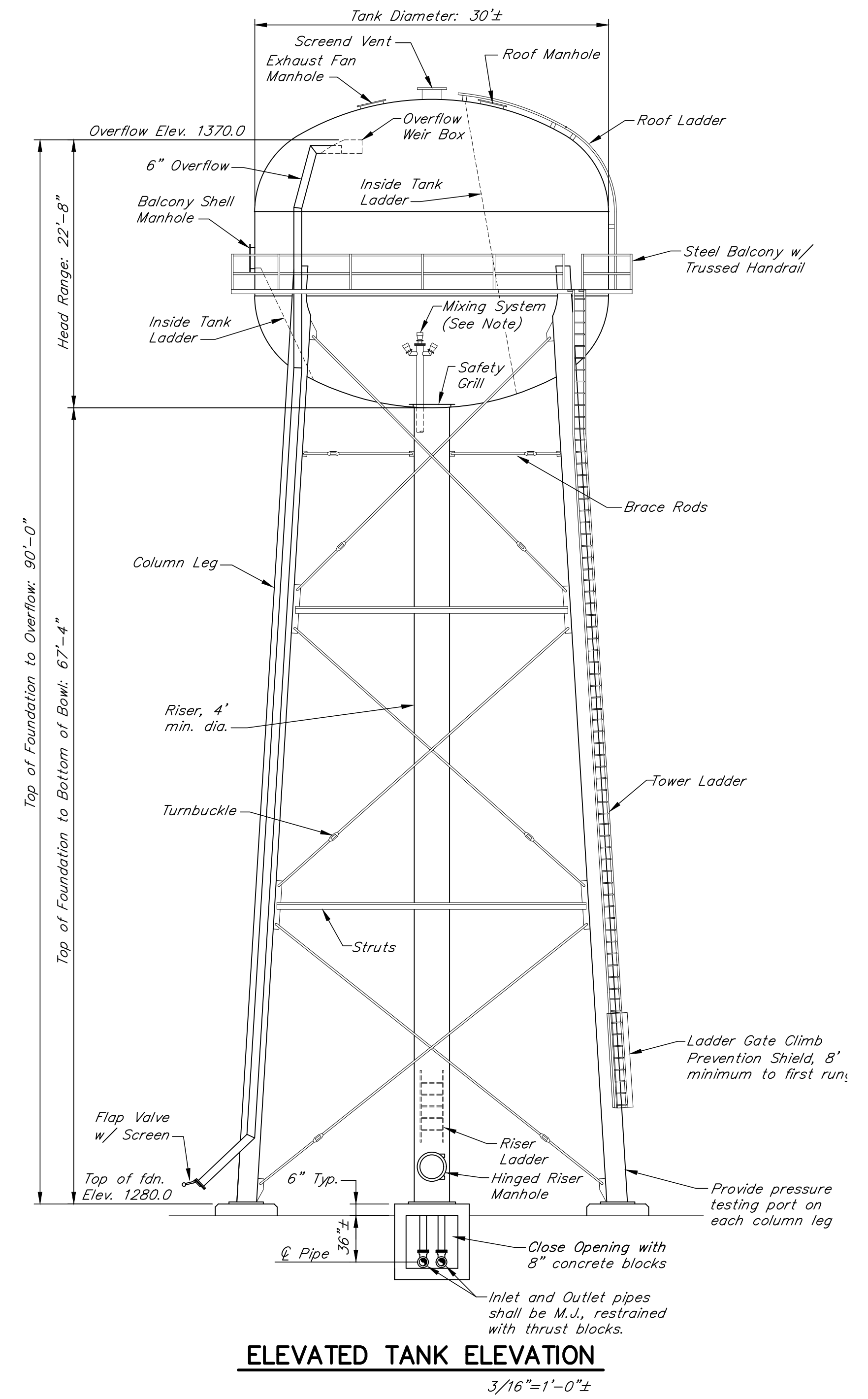
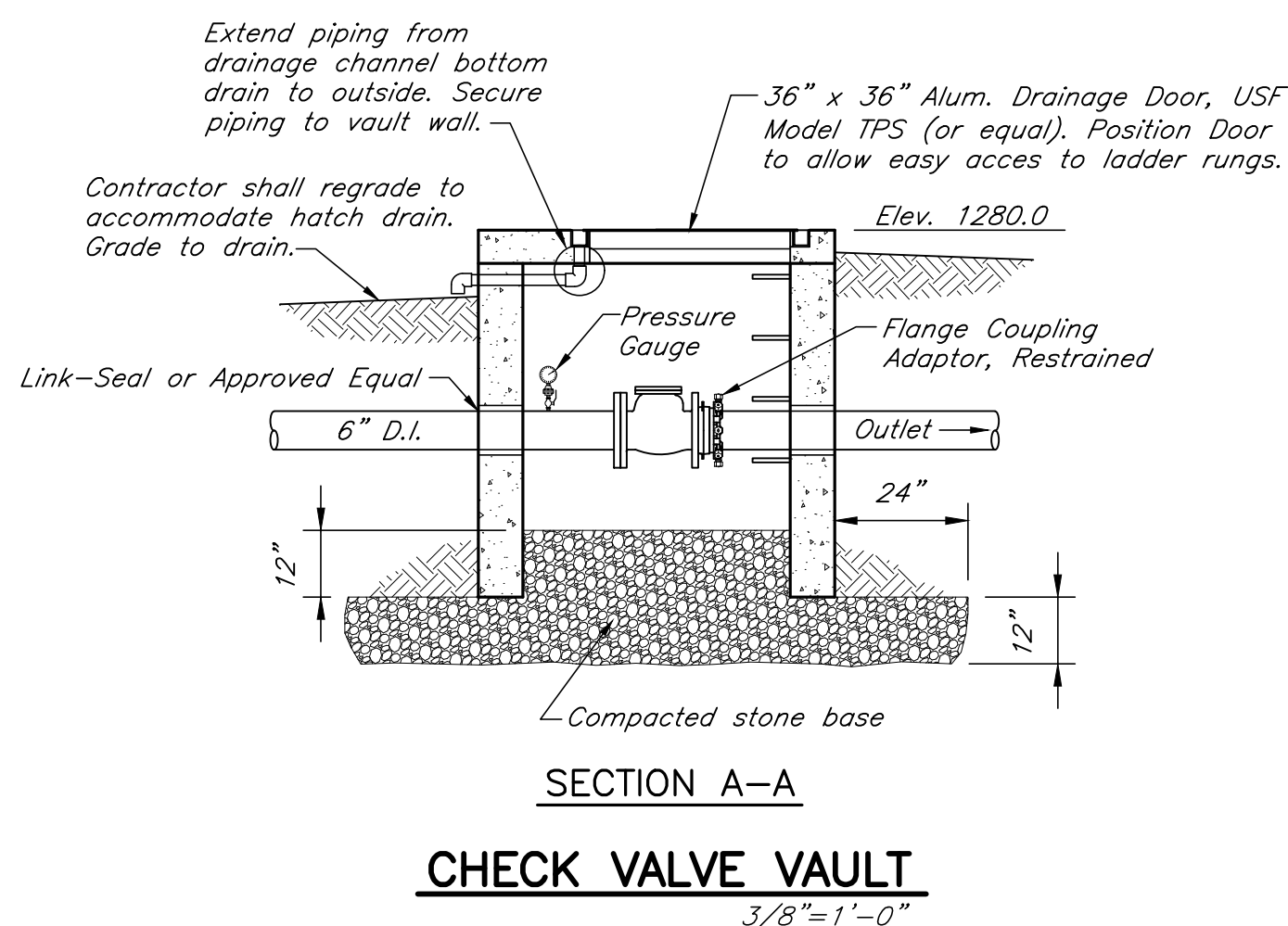
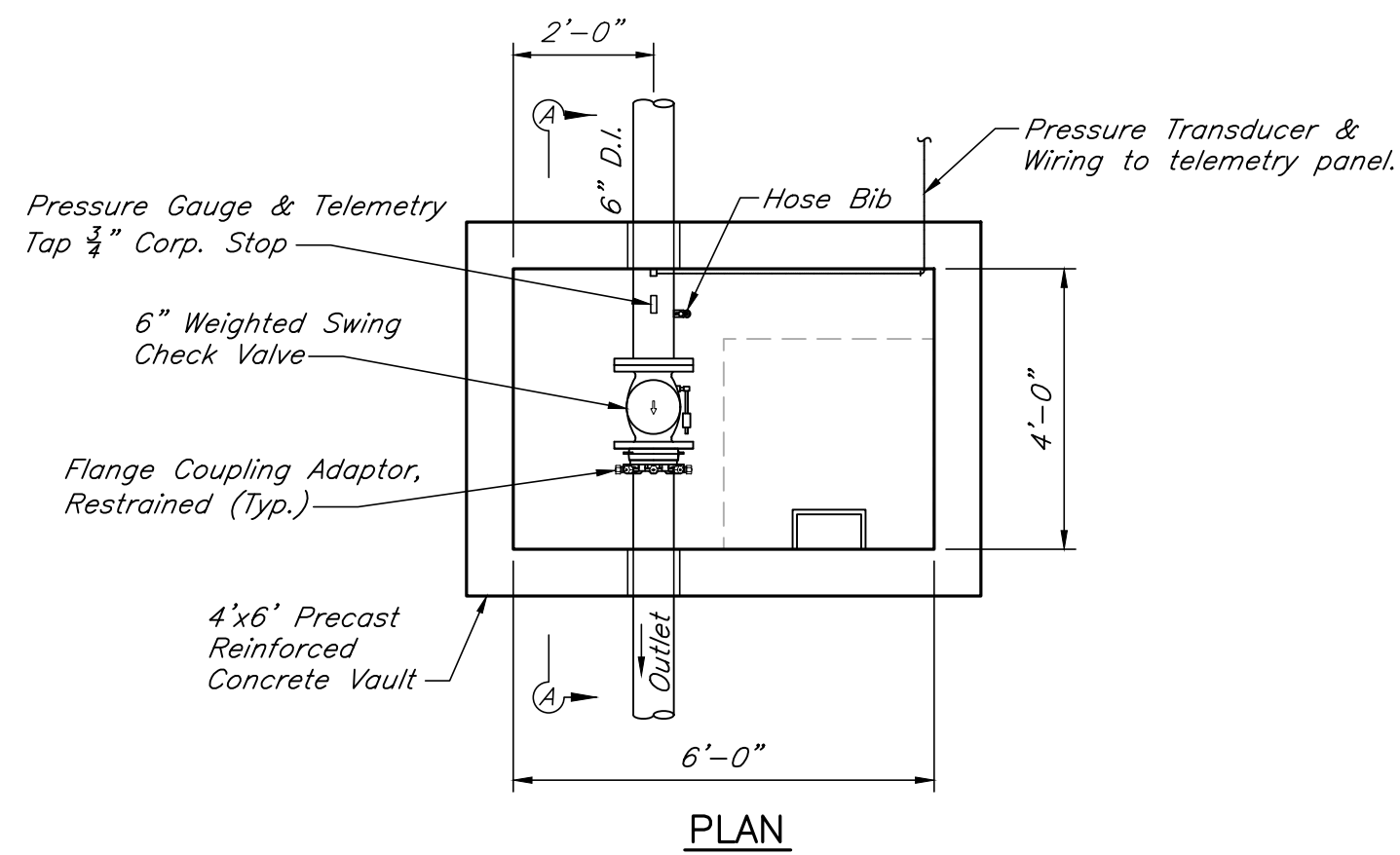
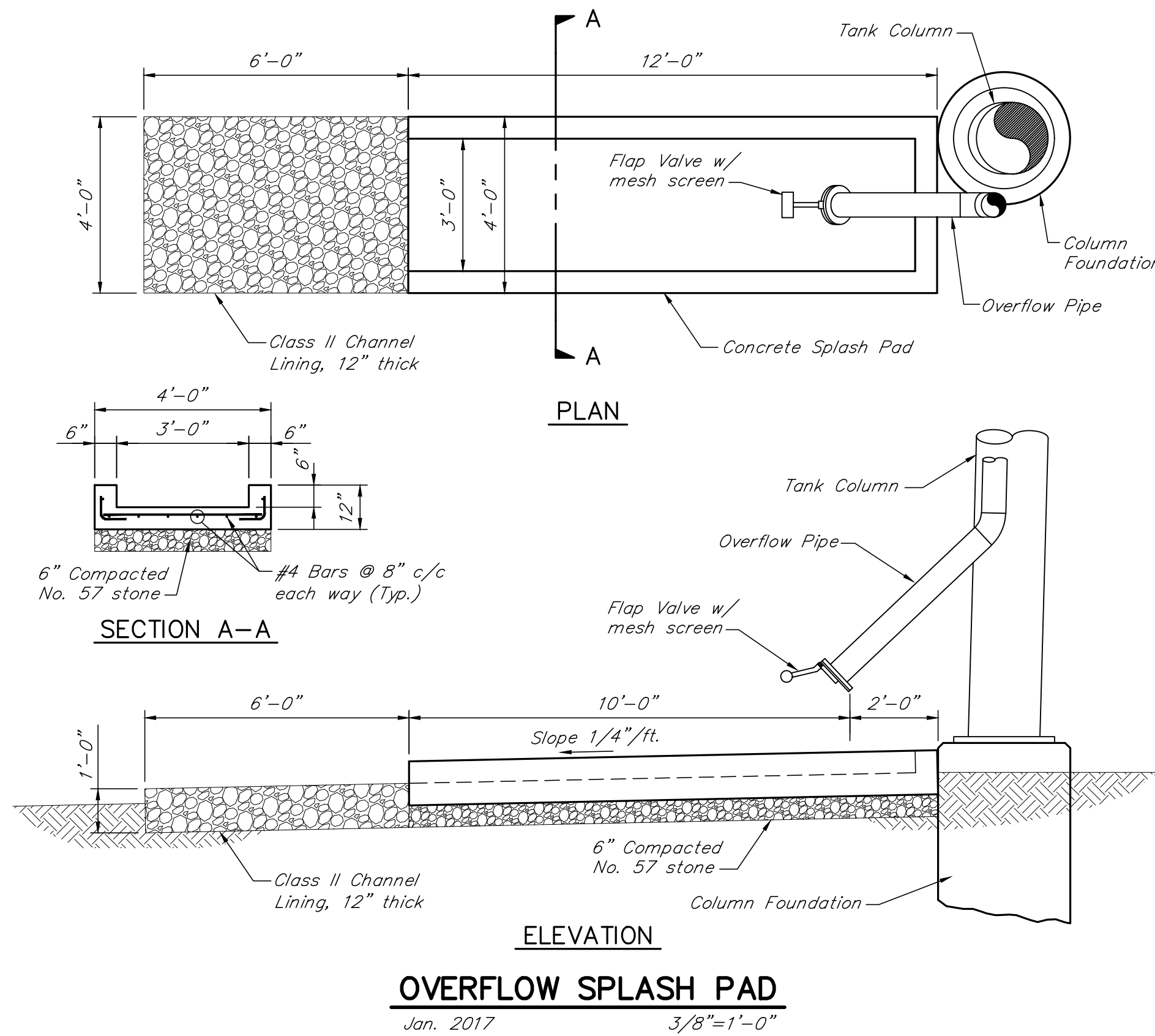
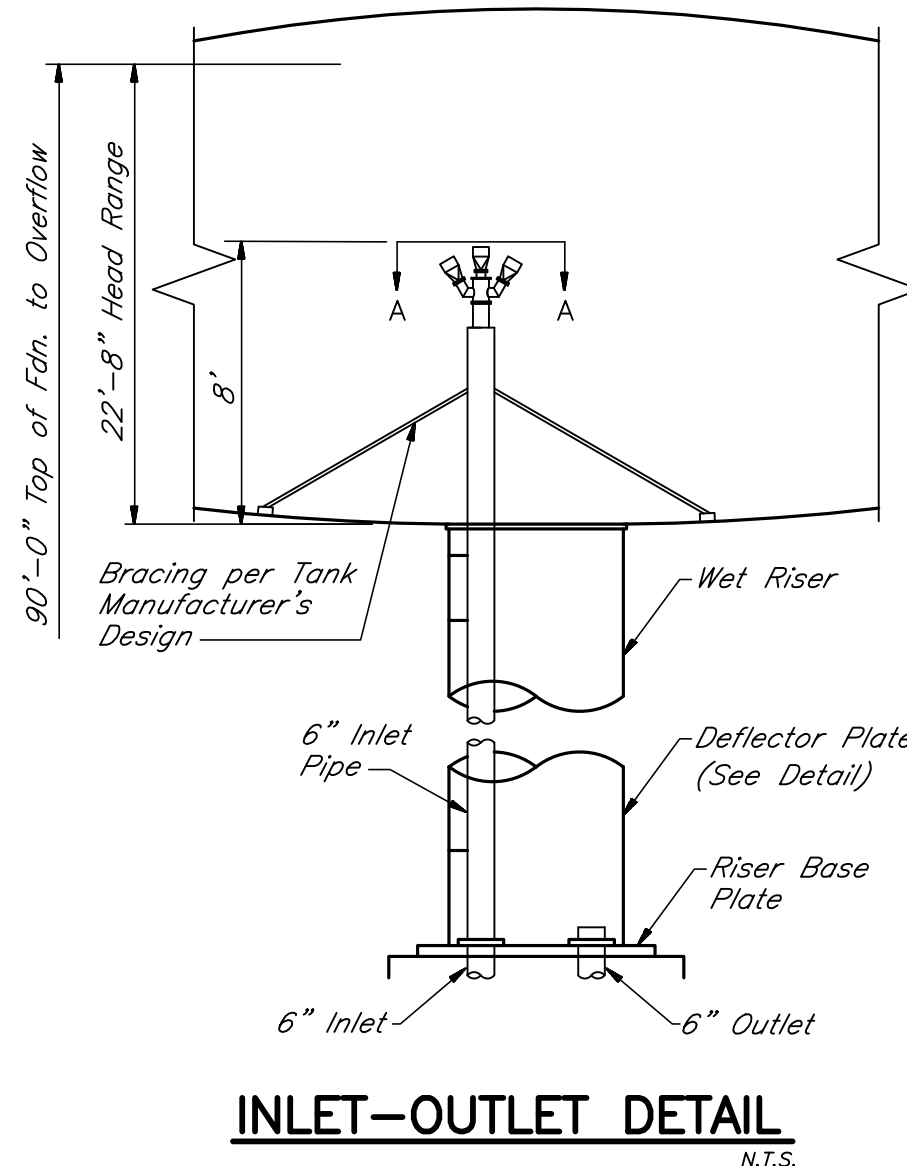
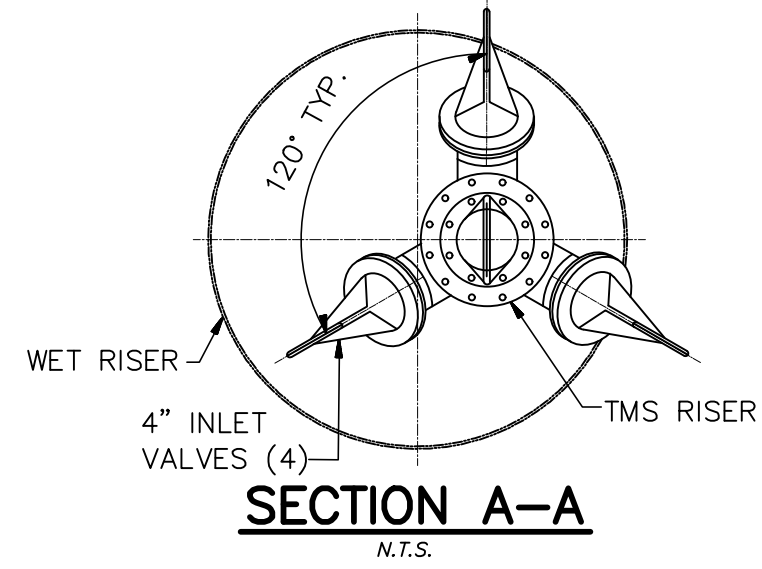
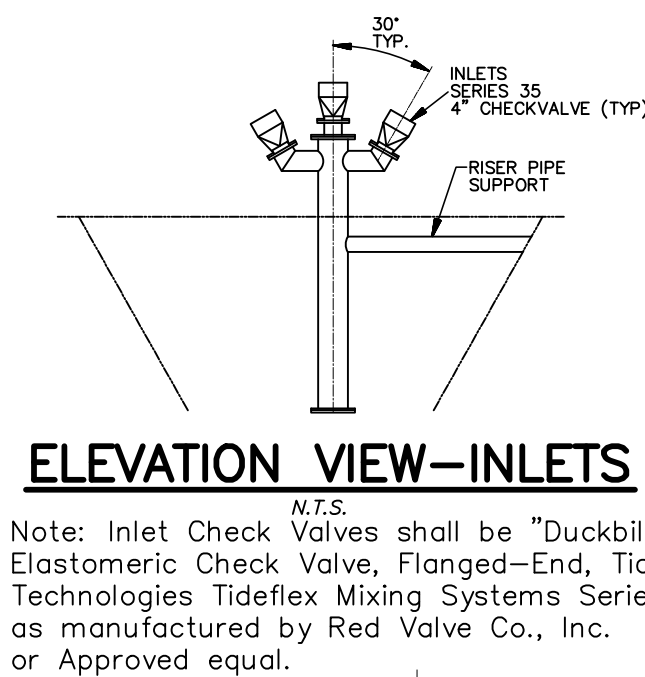
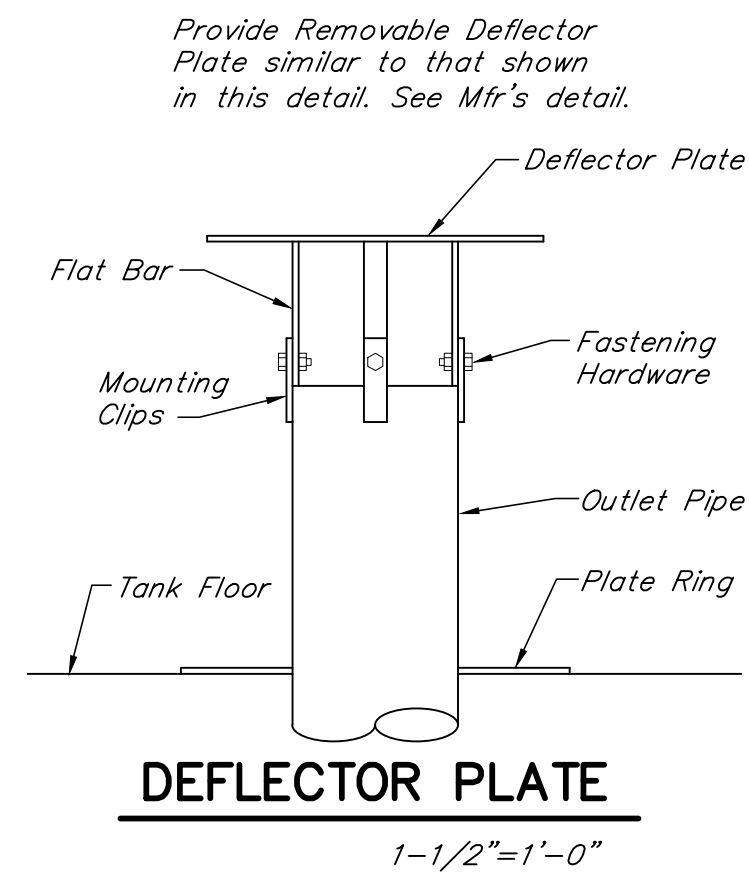
NOTE:
Tank yard piping shall be restrained joint, 6" ductile iron, CL 350. Fittings and thrust blocking shall be included in the bid price for yard piping.

NOTE:
The Contractor shall remove and dispose of the existing water storage tank.
The existing footers, vaults, and all tank appurtenances shall be removed down to 24" below grade and disposed of by the Contractor.
The disturbed areas will then be backfilled with topsoil, seeded, and strawed.



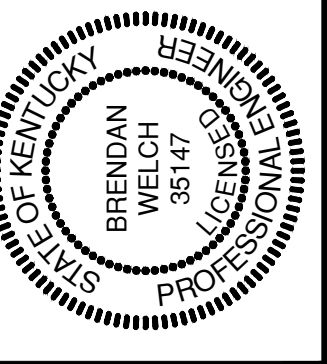
| ID | DESCRIPTION |
|----|--------------------------------|
| 1 | 6" Gate Valve, Typ. |
| 2 | 4' x 6' Precast Concrete Vault |
| 3 | 6" Weighted Swing Check Valve |
| 4 | 6" x 6" Tee |
| 5 | 6" 90° Bend |
| 6 | 6" 45° Bend |
| 7 | Hose Bib |



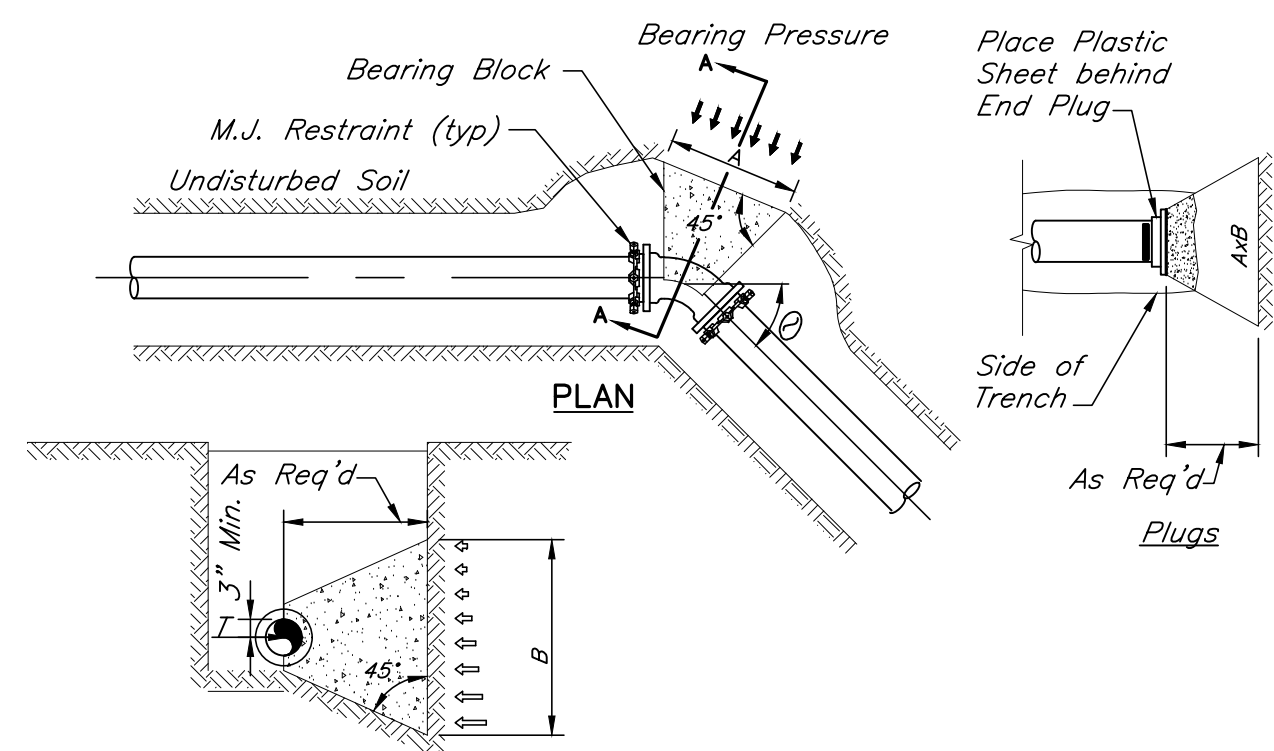


GENERAL NOTES

1. Drawings of tank and associated elements shown on this sheet are for illustrative purposes only. The tank Contractor shall provide the tank and foundation design stamped by a Professional Engineer registered in the Commonwealth of Kentucky.
2. Geotechnical investigation of the site has been done. The associated report is contained in the Specifications.
3. Fertilize, seed and mulch all disturbed unpaved areas in accordance with the Specifications.
4. Ladder Safety Device: This Equipment shall comply with the requirements of OSHA and shall be "Soft-Climb" by Air Space Devices, Inc. or "Lod-Saf" by D.B. Industries, Inc. or equal. Ladders, balcony, handrails, and all aspects of tank shall comply with current requirements of OSHA.
5. Drawings represent the desired result of construction. The methods of construction and risks involved during construction are the responsibility of the Contractor.
6. Contractor shall verify all dimensions and elevations during construction and report to the Engineer during construction any discrepancies.
7. Contractor's proposed substitutions shall be approved by the Engineer prior to commencing any pertinent work.
8. Reinforcing concrete design shall be in strict conformance with ACI Code, Latest Edition.
9. All seams shall be continuous weld.
10. The tank steel shall be delivered to the site uncoated. All prime coating shall be applied in the field after erection and the required abrasive blasting. No factory shop primer will be accepted.



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| CHECKED BY: BRW | DATE: MAY 2020 |
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SECTION A-A

NOTES:

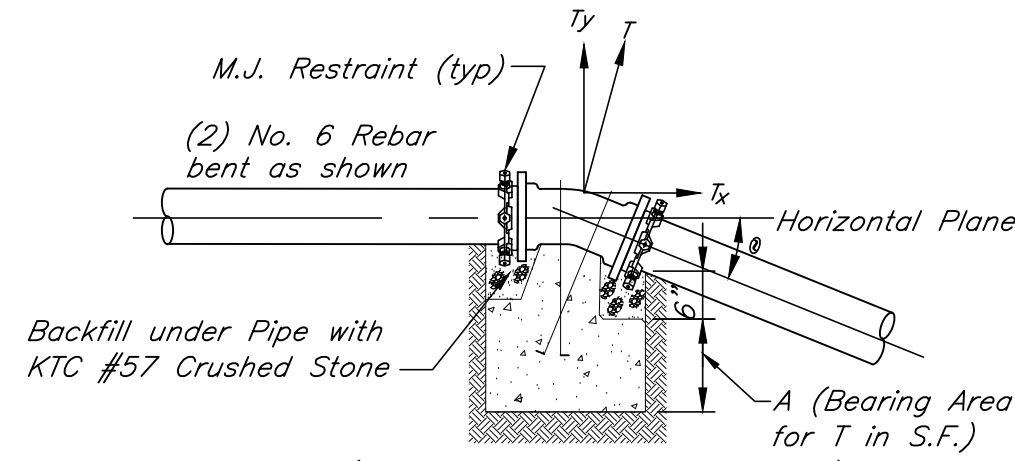
1. Thrust restraint table is based on pipeline pressure of 200 psi and earth bearing capacity of 1500 psf. During construction, the specific soil type may be evaluated and concrete thrust block size revised at the discretion of the Engineer.
2. On large diameter pipes where space limitations or construction difficulties render concrete thrust blocks not feasible or impractical, a joint restraint system may be used. This restrained joint system must be approved by the Engineer.
3. Restraint length 20' minimum in both directions.
4. Concrete shall be 3000 psi minimum conforming to KTC Specifications 601.
5. Accessibility to fittings and bolts must be maintained.
6. Wrap fittings in plastic prior to placing concrete.

HORIZONTAL THRUST BLOCK SCHEDULE

| PIPE SIZE (INCHES) | 90° BEND | | 45° BEND | | 22 1/2° BEND | | 11 1/4° BEND | | TEE, DEAD END | |
|--------------------|----------|--------|----------|-------|--------------|-------|--------------|-------|---------------|--------|
| | A | B | A | B | A | B | A | B | A | B |
| 3 & 4 | 3'-3" | 1'-8" | 2'-4" | 1'-2" | 1'-8" | 1'-0" | 1'-0" | 1'-0" | 2'-8" | 1'-4" |
| 6 | 4'-8" | 2'-4" | 3'-5" | 1'-8" | 2'-6" | 1'-3" | 1'-6" | 1'-0" | 3'-10" | 2'-0" |
| 8 | 6'-0" | 3'-0" | 4'-5" | 2'-3" | 3'-2" | 1'-7" | 2'-3" | 1'-2" | 5'-0" | 2'-6" |
| 10 | 7'-6" | 3'-9" | 5'-5" | 2'-9" | 3'-10" | 2'-0" | 2'-9" | 1'-5" | 6'-3" | 3'-2" |
| 12 | 8'-10" | 4'-5" | 6'-6" | 3'-3" | 4'-8" | 2'-4" | 3'-4" | 1'-8" | 7'-5" | 3'-9" |
| 14 | 10'-3" | 5'-2" | 7'-6" | 3'-9" | 5'-4" | 2'-8" | 3'-10" | 2'-0" | 8'-8" | 4'-4" |
| 16 | 11'-8" | 5'-10" | 8'-7" | 4'-4" | 6'-1" | 3'-0" | 4'-4" | 2'-2" | 9'-9" | 4'-11" |
| 18 | 13'-0" | 6'-6" | 9'-7" | 4'-9" | 6'-10" | 3'-5" | 4'-10" | 2'-5" | 11'-0" | 5'-6" |
| 20 | 14'-5" | 7'-3" | 10'-7" | 5'-4" | 7'-7" | 3'-9" | 5'-4" | 2'-8" | 12'-2" | 6'-1" |
| 24 | 17'-3" | 8'-8" | 12'-8" | 6'-4" | 9'-0" | 4'-6" | 6'-5" | 3'-3" | 14'-6" | 7'-3" |

HORIZONTAL THRUST BLOCK

January 2023 Scale: 3/8"=1'-0"



GRAVITY THRUST BLOCK

NOTES:

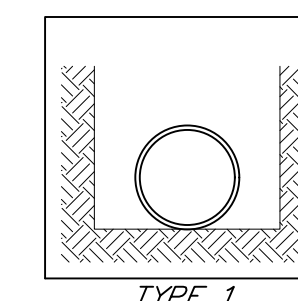
1. Thrust restraint table is based on pipeline pressure of 200 psi and earth bearing capacity of 1500psf. During construction, the specific soil type may be evaluated and concrete thrust block size revised at the discretion of the Engineer.
2. On large diameter pipes where space limitations or construction difficulties render concrete thrust blocks not feasible or impractical, a joint restraint system may be used. This restrained joint system must be approved by the Engineer.
3. Concrete shall be 3000 psi minimum conforming to KTC Specifications 601.
4. Accessibility to fittings and bolts must be maintained.
5. Wrap fittings in plastic prior to placing concrete.

VERTICAL THRUST BLOCK SCHEDULE

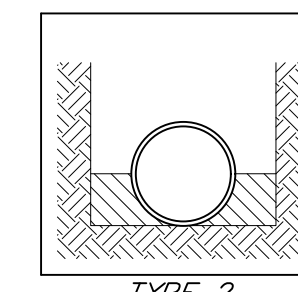
| PIPE SIZE (INCHES) | 90° BEND | | 45° BEND | | 22 1/2° BEND | | 11 1/4° BEND | |
|--------------------|----------|----|----------|----|--------------|---|--------------|---|
| | V | A | V | A | V | A | V | A |
| 3 & 4 | 29 | 2 | 20 | 1 | 11 | 1 | 6 | 1 |
| 6 | 64 | 5 | 46 | 2 | 25 | 1 | 13 | 1 |
| 8 | 114 | 8 | 81 | 4 | 43 | 1 | 23 | 1 |
| 10 | 174 | 12 | 123 | 5 | 66 | 2 | 35 | 1 |
| 12 | 248 | 17 | 176 | 8 | 95 | 2 | 50 | 1 |
| 14 | 337 | 23 | 238 | 10 | 128 | 3 | 67 | 1 |
| 16 | 439 | 29 | 311 | 13 | 167 | 4 | 88 | 1 |
| 18 | 555 | 37 | 393 | 16 | 211 | 5 | 111 | 1 |
| 20 | 685 | 46 | 484 | 20 | 260 | 6 | 137 | 2 |
| 24 | 985 | 66 | 696 | 29 | 374 | 8 | 197 | 2 |

VERTICAL THRUST BLOCK

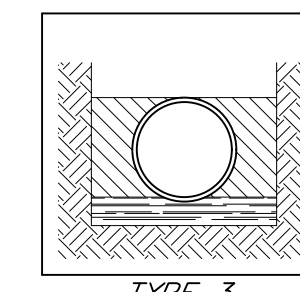
January 2023 Scale: 1/2"=1'-0"



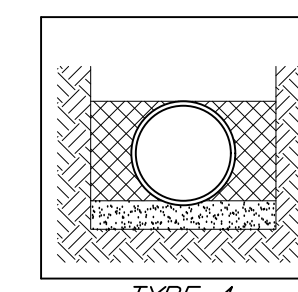
TYPE 1 Flat-bottom trench Loose Backfill



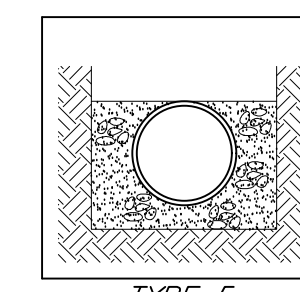
TYPE 2 Flat-bottom trench in undisturbed earth. Backfill lightly consolidated to centerline of pipe



TYPE 3 Pipe bedded in 4" minimum loose soil, as approved. Backfill lightly consolidated to top of pipe



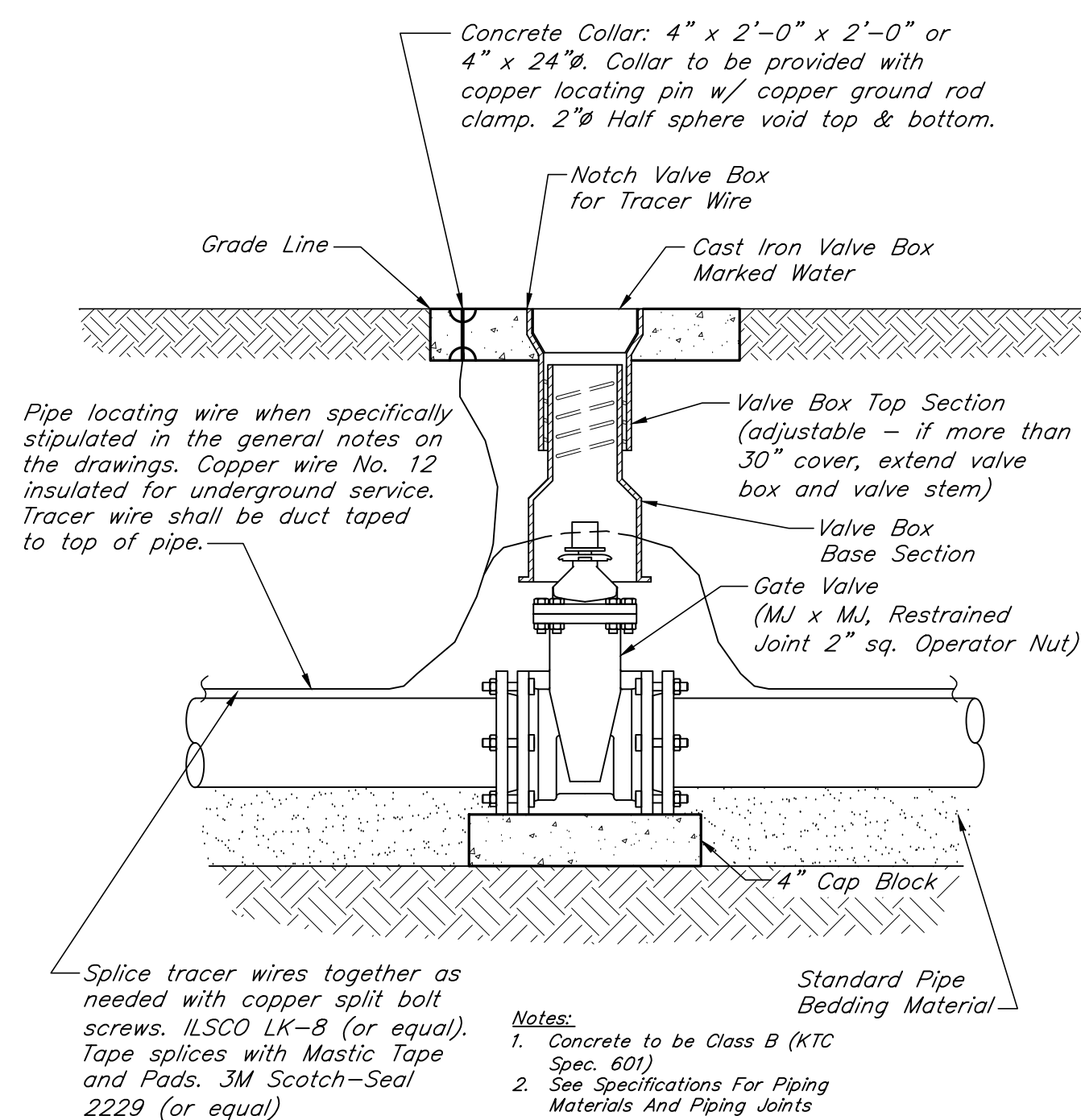
TYPE 4 Pipe bedded in sand, gravel, or crushed stone to depth of 4" minimum. Backfill hand compacted to top of pipe (approximately 80 percent Standard Proctor).



TYPE 5 Pipe bedded in compacted granular material to centerline of pipe, 4" minimum under pipe. Compacted to top of pipe (approximately 90 percent Standard Proctor).

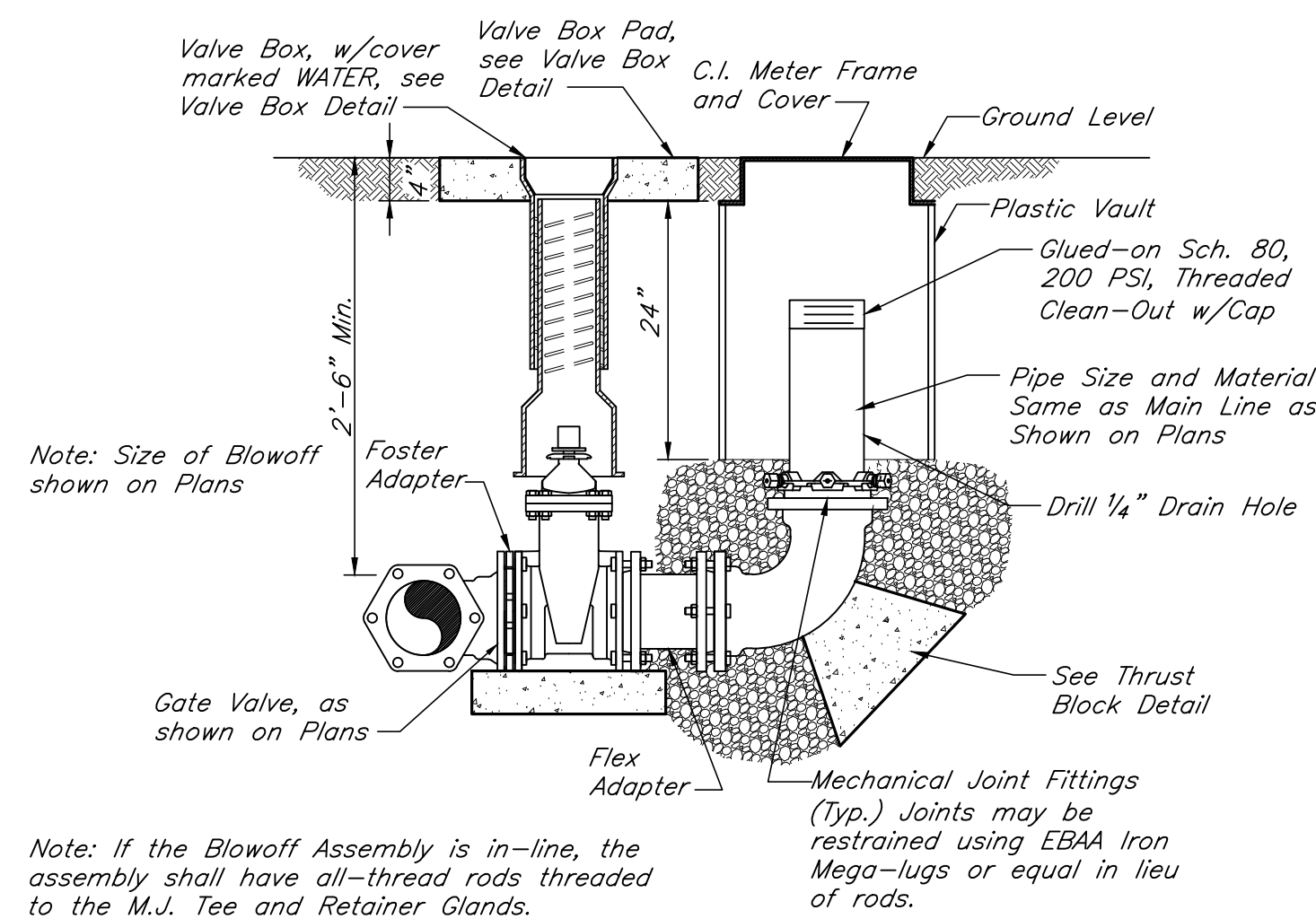
LAYING CONDITIONS FOR DUCTILE IRON PIPE

Dec., 2010 N.T.S. Ref. AWWA C150



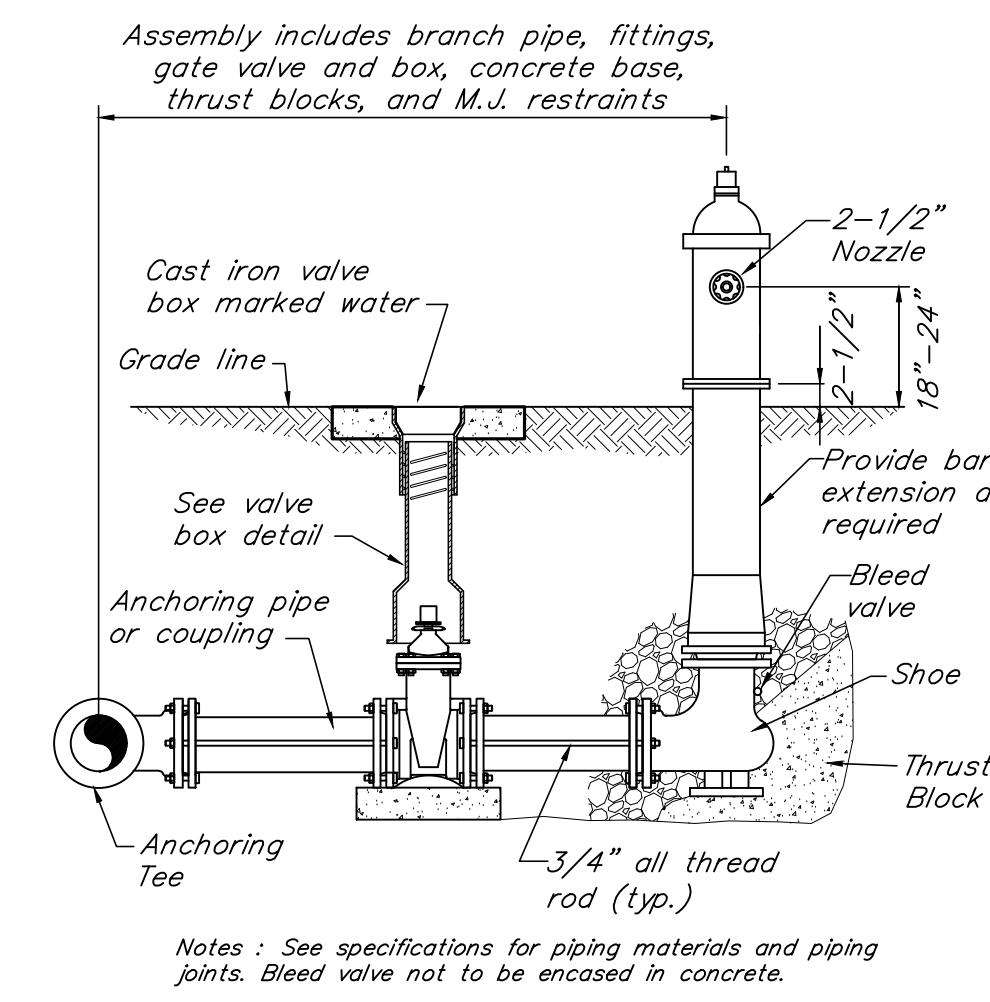
VALVE BOX INSTALLATION

July 2015 Scale: 1"=1'-0"



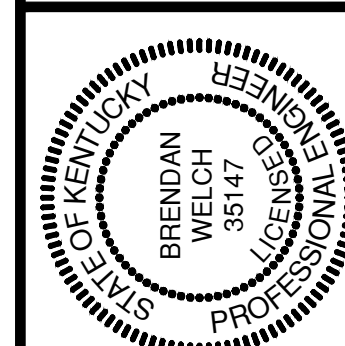
BLOWOFF ASSEMBLY DETAIL

January 2023 Scale: 3/4"=1'-0"



POST HYDRANT

N.T.S.



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| DRAWN BY: JKP |
| CHECKED BY: BRW |
| DATE: MAY 2020 |
| SCALE: As Noted |
| REVISIONS |