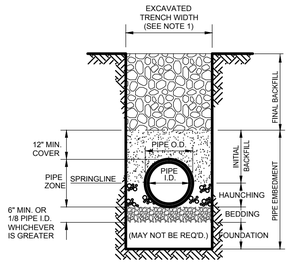


CLASS `A` PIPE EMBEDMENT

CLASS `B` PIPE EMBEDMENT

NOTES:

1. MAXIMUM EXCAVATED TRENCH WIDTH: THE MAXIMUM EXCAVATED TRENCH WIDTH FROM THE BOTTOM OF THE TRENCH TO 12" OVER THE TOP OF THE PIPE (WITHIN PIPE EMBEDMENT) SHALL BE O.D. + 24"

2. FOUNDATION: WHERE AN UNSTABLE TRENCH BOTTOM CONDITION IS ENCOUNTERED, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH MATERIAL AS DIRECTED BY THE ENGINEER.

3. PIPE EMBEDMENT:

   CLASS B: CLASS B PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNLESS OTHERWISE NOTED ON THE PLANS OR AUTHORIZED BY THE ENGINEER. THE BEDDING AND HAUNCHING SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT. IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 STONE GRANULAR PIPE EMBEDMENT. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER FOR ONLY REINFORCED CONCRETE PIPE AND DUCTILE IRON PIPE. THE INITIAL BACKFILL FOR ALL OTHER PIPES SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.

4. FINAL BACKFILL: IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE THE FINAL BACKFILL SHALL BE O.D.O.T. ITEM 304 CRUSHED LIMESTONE OR GRAVEL (NO SLAG) BACKFILL MATERIAL. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE FINAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER.

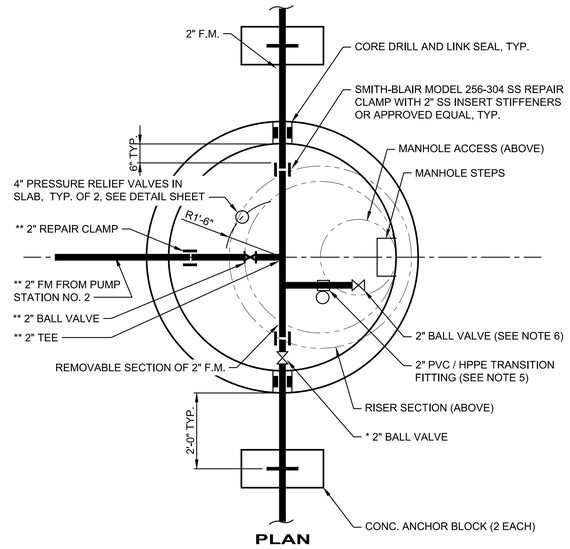
5. SPECIFICATIONS: ALL TRENCHING, PIPE EMBEDMENT AND BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH SPECIFICATION 02300CT - EARTHWORK.

6. CLAY TRENCH DAMS: CLAY TRENCH DAMS SHALL BE REQUIRED AS SHOWN ON PLANS OR WHEN AND WHERE NECESSARY AS DIRECTED BY THE ENGINEER.

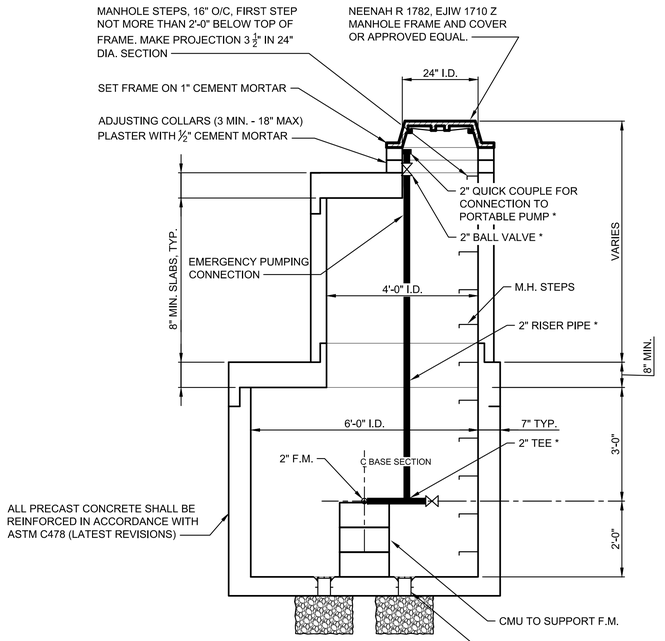
7. DETECTOR TAPE: IF REQUIRED IN THE SPECIFICATIONS, INSTALL DETECTABLE WARNING TAPE ABOVE UTILITIES, 12" BELOW FINISHED GRADE, EXCEPT 6 INCHES BELOW SUBGRADE UNDER PAVEMENT AND SLABS.

TRENCHING, EMBEDMENT AND BACKFILL DETAIL

6/04 NO SCALE SD-1-1



PLAN



SECTION

* FLUSHING MANHOLE No. 1 AND No. 10 ONLY

** FLUSHING MANHOLE No. 5 ONLY

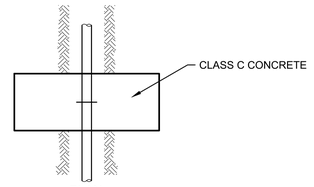
FLUSHING MANHOLE DETAIL

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

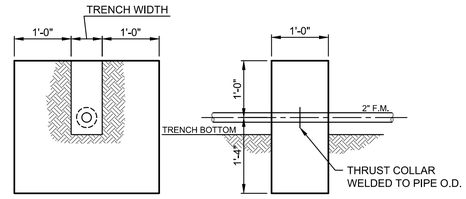
GENERAL NOTES

GENERAL NOTES

1. Contractor shall follow all requirements of Norfolk Southern's NSCE-8 Specifications.
2. Pipeline and crossing to be installed and maintained in accordance with the last approved AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION Specifications for Pipelines Conveying Flammable and Non-flammable Substances.
3. Blasting is not permitted.
4. Signs delineating the location of the pipeline shall be installed in accordance with the following:
   a. The Contractor shall provide and install durable, weatherproof signs over the centerline of the force main at intervals not to exceed 500 feet.
   b. Sign size and construction to be in accordance with Norfolk Southern standards.
   c. The sign at Sta. 34+85 must be located to the north of the force main to avoid installation within the existing ditch or embankment. The final location for this sign shall be approved by Norfolk Southern.
   d. Additional signs, if required by Norfolk Southern, shall be provided by the Contractor at no additional cost to the Owner.
   e. Each sign shall contain the following information:
      - Owners Name & Address: Perry Joint Economic Development District, 3740 Center Road, Perry, Ohio
      - Pipe Contents: Sanitary Sewage
      - Pipe Pressure:
      - Depth below grade at point of sign: *To be added per depth at each sign location*
      - Emergency Telephone Number in event of a pipe rupture: (440) 259-5140
5. PVC/HDPE transition fitting to be Series 735 as manufactured by Poly-Cam or approved equal.
6. 2" Single Union PVC Ball Valve to be Model 1120 MG as manufactured by Res Flag Products or approved equal. Position each valve in a manner where it can be opened from above by a "Tee Handle" wrench. Provide one (1) Tee handle wrench that is long enough to operate all of the valves without need for entering the Flushing Manholes. Provide additional support for each valve so that the valve can be operated by the tee handle wrench. Wrench to be fabricated from 404 stainless steel tubing and rolled bars.



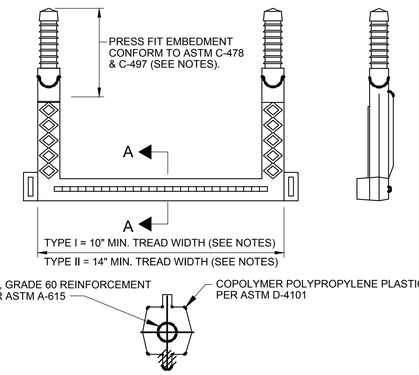
PLAN



SECTION PROFILE

CONCRETE ANCHOR BLOCK

SCALE: 3/4" = 1'-0"



SECTION A - A

NOTES:

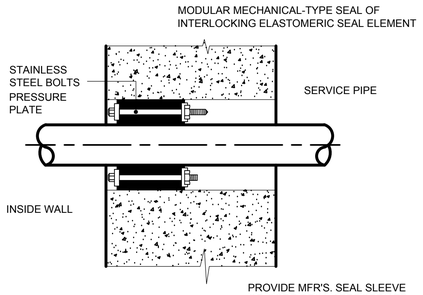
1.) USE TYPE I STEP FOR MANHOLES OR CIRCULAR STRUCTURES OF 5'-0" DIA. OR LESS - USE 16" C/C SPACING.

2.) USE TYPE II STEP FOR FLAT WALL STRUCTURES SUCH AS VAULTS, WELLS, ETC. OR CIRCULAR STRUCTURES OVER 5'-0" DIA. - USE 12" C/C SPACING.

3.) MOUNTING REQUIREMENTS SHALL BE IN ACCORDANCE WITH MFR'S RECOMMENDATIONS.

TYPICAL MANHOLE STEP DETAIL

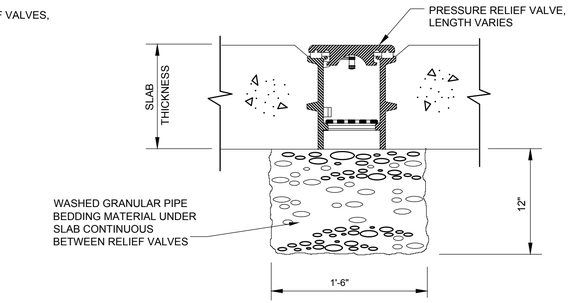
7/91 (N.T.S.) SD-3-27E



NOTE:
CONCRETE SHALL BE PLACED IN & VIBRATED TO ELIMINATE ALL VOIDS IN CONC.-IF VOIDS DO REMAIN, FILL WITH GROUT BEFORE INSTALLING PIPE & RUBBER SEALS.

MODULAR MECHANICAL SLEEVE DETAIL (LINK SEAL)

(N.T.S.)



PRESSURE RELIEF VALVE IN SLAB

N.T.S.

STATE OF OHIO
SHAWN
ROBERT
AIKEN
62788
REGISTERED
PROFESSIONAL ENGINEER

your trusted advisor consultants engineers architects planners

REVISIONS

REV.	DESCRIPTION	DATE

ISSUE DATE: 9/14/2018
SCALE: AS NOTED
DESIGNED BY: GBS
DRAWN BY: RLM
CHECKED BY: GBS

PERRY JOINT ECONOMIC DEVELOPMENT DISTRICT
MIDWEST MATERIALS SANITARY SEWAGE IMPROVEMENT
LAKE COUNTY PERRY, OHIO
FLUSHING M.H.
FLUSHING MANHOLE AND MISCELLANEOUS DETAILS

PROJECT NO. 170415
DISCIPLINE CIVIL
SHEET NAME SD
SHEET 21 OF 22

H:\2017\170415\DWG\SHEETS\GENERAL NOTES AND DETAILS.DWG - LAYOUT1 - 9/14/2018 11:41:02 AM - BOB MARANO