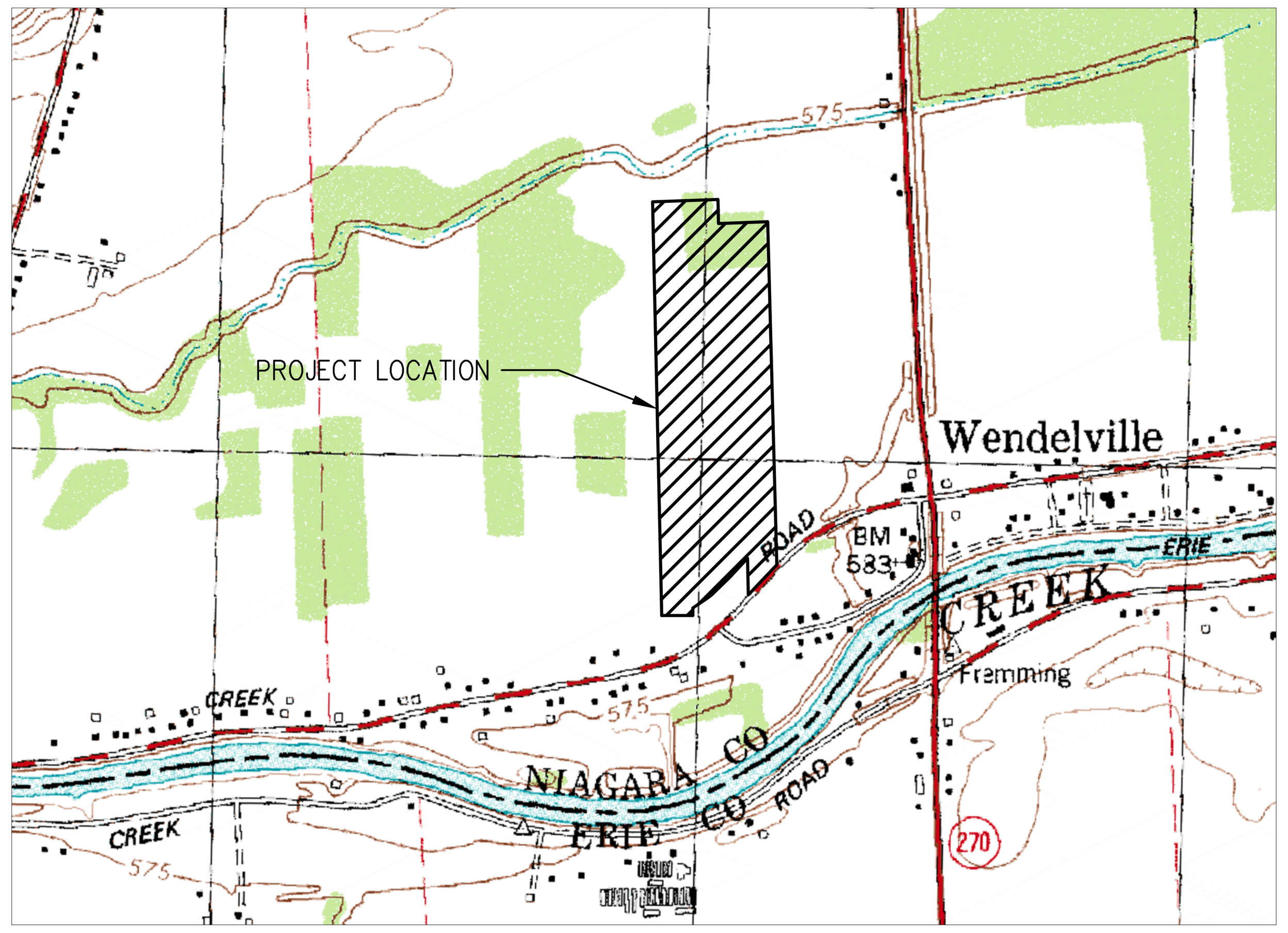


NOTES:

1. WATERLINE SHALL BE INSTALLED, FLUSHED, PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH TOWN OF PENDLETON CONSTRUCTION SPECIFICATIONS AND DETAILS; AND AWWA STANDARD C605. PROVIDE 4.5' MIN. COVER OVER WATERLINE FROM PROPOSED GRADE.
2. SANITARY SEWERS TESTING SHALL BE IN ACCORDANCE WITH TOWN OF PENDLETON STANDARDS.
3. WATERLINES SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651 (EXCEPTION: TABLET METHOD IS NOT ALLOWED).

TESTS ON PRESSURE SEWERS AND FORCEMAINS

GENERAL:

1. FLUSH AND TEST PRIOR TO CONNECTION TO EXISTING PRESSURE SEWERS AND FORCEMAINS AS SPECIFIED BELOW, EXCEPT AS OTHERWISE AUTHORIZED BY THE ENGINEER.
2. THE LENGTH OF PIPING AND SECTIONS INCLUDED IN THE TESTS SHALL MEET THE APPROVAL OF THE ENGINEER; HOWEVER, THE LENGTH SHALL NOT EXCEED 5,000 FEET IN ANY CASE. PRESSURE TEST OF PIPE SECTION SHALL BE FROM VALVE TO VALVE REGARDLESS OF PIPE SIZE.
3. NOTIFY THE ENGINEER 72 HOURS IN ADVANCE OF TESTING.
4. EQUIPMENT IN OR ATTACHED TO THE PIPES BEING TESTED SHALL BE PROTECTED. ANY DAMAGE TO SUCH EQUIPMENT DURING THE TEST SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
5. CONDUCT ALL TESTS PER AWWA C-600 AND C-651, LATEST EDITIONS IN THE PRESENCE OF THE ENGINEER. REPEAT TESTS IN THE PRESENCE OF LOCAL AUTHORITIES HAVING JURISDICTION IF REQUIRED BY THEM.
6. CONTRACTOR SHALL HAVE SUFFICIENT PERSONNEL AT THE SITE FOR THE ENTIRE DURATION OF ALL TESTS.
7. WHEN PIPING IS TO BE INSULATED OR CONCEALED IN A STRUCTURE, TESTS SHALL BE MADE BEFORE THE PIPE IS COVERED.
8. PROVIDE OUTLETS TO FLUSH LINE, EXPEL AIR AND PERFORM SPECIFIED TESTS.
9. WHERE CONNECTIONS TO EXISTING LINES ARE CALLED FOR ONLY ONE SUCH CONNECTION WILL BE ALLOWED.
10. ALL FITTINGS, VALVES AND APPURTENANCES MUST BE PROPERLY BRACED AND HARNESSED BEFORE THE PRESSURE IS APPLIED. THRUST RESTRAINING DEVICES WHICH WILL BECOME A PART OF THE SYSTEM MUST ALSO BE TESTED AT THE TEST PRESSURE.
11. WHEN TESTING ABSORBENT PIPE MATERIALS SUCH AS CEMENT OR CONCRETE, THE PIPELINE SHALL BE FILLED WITH WATER AT LEAST 24 HOURS BEFORE THE TEST IS MADE.
12. THE CONTRACTOR MUST SUPPLY ALL MATERIALS AND MANPOWER TO PERFORM THE TESTS AS SPECIFIED HEREIN.
13. TESTING SHALL BE ACCEPTABLE AND APPROVED BY THE AGENCY OF JURISDICTION BEFORE ANOTHER CONNECTION IS MADE.

INITIAL FLUSHING:

1. CONTRACTOR SHALL EITHER FILL AND FLUSH OR PIG THE NEW PIPELINE TO REMOVE DIRT AND MISCELLANEOUS DEBRIS FROM THE INSIDE OF THE PIPING SYSTEM.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL ENTRAPPED AIR DURING FLUSHING.
3. FLUSHING MUST HAVE SUFFICIENT FLOWRATE TO ACHIEVE A FLUID VELOCITY OF 2.5 FEET PER SECOND INSIDE THE PIPELINE. CONTRACTOR SHALL PROVIDE FLUSHING CALCULATIONS PREPARED BY A NJ LICENSED PROFESSIONAL ENGINEER TO VERIFY THE FLUSHING VELOCITIES ALONG WITH THE REQUIRED NUMBER AND LOCATION OF PROPOSED TAPS TO PRODUCE THE FLUSHING VELOCITIES REFERENCED HEREIN.
4. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A WATER SOURCE FOR FLUSHING. WITH THE PERMISSION OF THE OWNER, AN EXISTING WATERMAIN MAY BE USED AS A WATER SOURCE; HOWEVER, THE FOLLOWING RESTRICTIONS APPLY:
   a. THE CONTRACTOR IS NOT ALLOWED TO OPERATE ANY VALVES OR HYDRANTS OR OPERATE ANY COMPONENTS WHICH BELONG TO THE OWNER.
   b. IF WATER IS DRAWN FROM THE EXISTING SYSTEM, AN APPROPRIATE BACKWATER PREVENTER SUCH AS A REDUCED-PRESSURE ZONE (RPZ) DEVICE MUST BE USED. THE RPZ MUST BE TESTED WITHIN ONE (1) YEAR AND APPROVED PRIOR TO USAGE.
   c. WATER FROM FLUSHING PROCEDURES MUST BE DISPOSED OF PROPERLY. WATER MAY BE PIPED OR GRAVITY-FED TO AN EXISTING STORM SEWER WITH THE ENGINEER'S AND THE OWNER'S PERMISSION IF PROPER EROSION CONTROL METHODS TO MINIMIZE SEDIMENT BUILD-UP ARE USED. DISCHARGE OF WATER INTO A ROADWAY IS STRICTLY PROHIBITED.
5. CONTRACTOR SHALL PARTIALLY OPEN AND CLOSE VALVES SEVERAL TIMES UNDER EXPECTED LINE PRESSURE TO FLUSH FOREIGN MATERIAL OUT OF THE VALVES AND PIPELINES.

PRESSURE TEST:

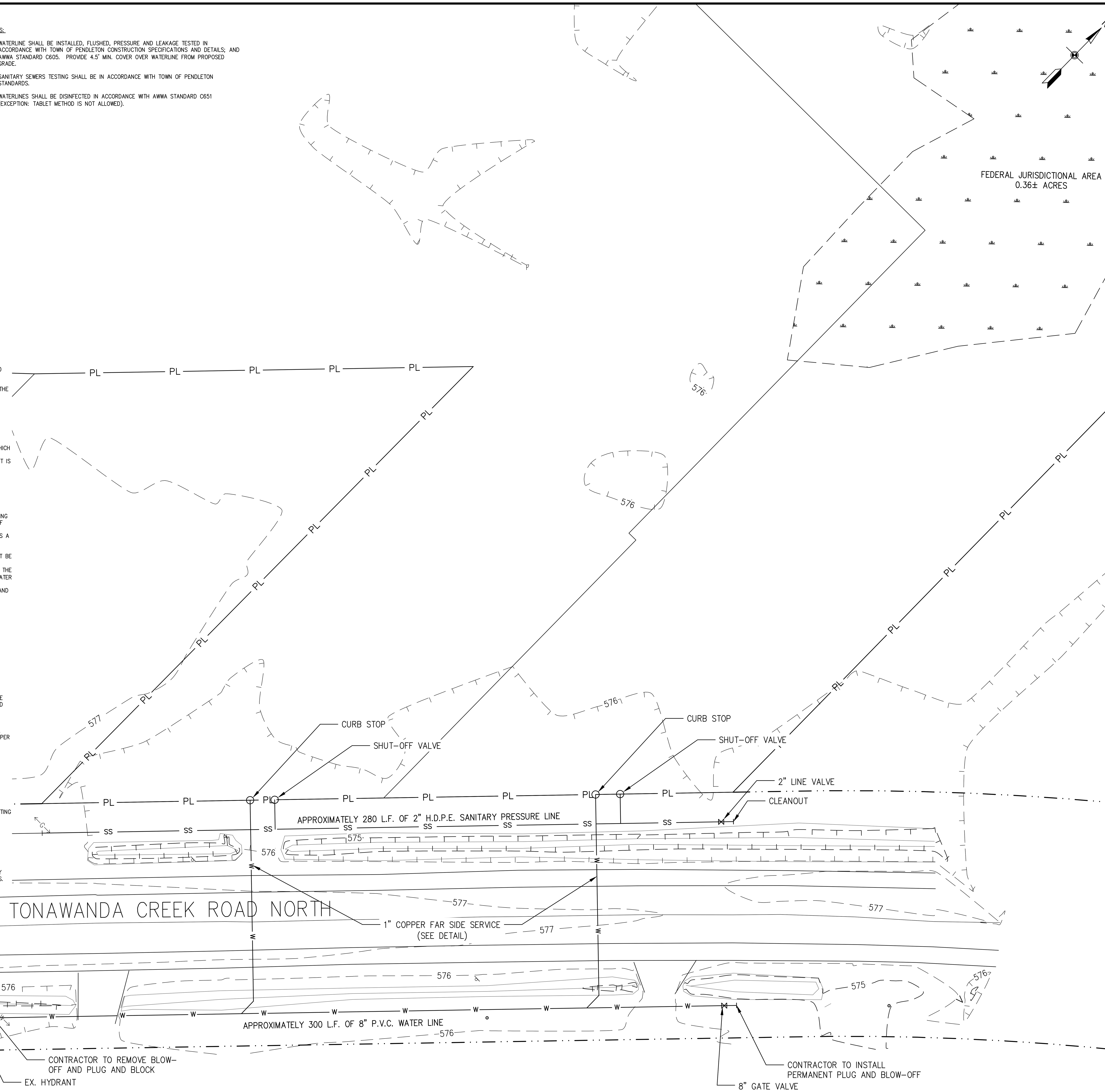
1. PRESSURE TEST APPARATUS SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS, AT THE LOWEST POINT IN THE LINE.
2. ALL NEW PRESSURE SEWERS AND FORCEMAINS SHALL BE TESTED AT A PRESSURE OF 115 PSI AS OUTLINED HEREIN.
3. TEST PRESSURE SHALL BE HELD ON THE PIPING FOR A PERIOD OF AT LEAST 4 HOURS, UNLESS A LONGER PERIOD IS REQUESTED BY THE ENGINEER. PRESSURE SHALL NOT FLUCTUATE BY MORE THAN 5 PSI DURING TESTING.
4. PRESSURE GAUGE SHALL BE IN GOOD WORKING CONDITION AND MUST BE DEMONSTRATED TO BE ACCURATE TO THE ENGINEER PRIOR TO ANY TESTING.
5. GAUGE SHALL HAVE MARKINGS AT NO GREATER THAN 2 PSI INCREMENTS TO ALLOW ACCURATE READINGS.
6. ENGINEER MAY TAP PRESSURE GAUGE AT EACH READING TO ENSURE NEEDLE IS MEASURING PRESSURE ACCURATELY.
7. ENGINEER SHALL RECORD PRESSURE AT 15 OR 30 MINUTE INTERVALS TO DETERMINE IF THE PRESSURE LOSS IS STABILIZING.
8. THE CONTRACTOR WILL INFORM THE ENGINEER WHEN TO BEGIN THE TEST.
9. IF THE PRESSURE DROP IS GREATER THAN 5 PSI IN 4 HOURS, OR IF THE ENGINEER BELIEVES THE LINE IS SUSPECT, THE CONTRACTOR SHALL EXPLORE FOR THE CAUSE OF THE EXCESSIVE LEAKAGE AND AFTER REPAIRS HAVE BEEN MADE, THE LINE SHALL BE RETESTED. THIS PROCEDURE SHALL BE REPEATED UNTIL THE PRESSURE LOSS IS LESS THAN THE MAXIMUM ALLOWABLE AND THE ENGINEER IS SATISFIED.
10. IF THE PRESSURE DROP IS 3 PSI OR GREATER BUT LESS THAN 5 PSI IN 4 HOURS, THE CONTRACTOR SHALL CONTINUE THE TEST FOR ANOTHER 4 HOURS. IF THE PRESSURE DROP OVER THE 8 HOUR PERIOD IS GREATER THAN 5 PSI, THE TEST FAILED AND MUST BE REPEATED AFTER THE CAUSE OF THE LEAKAGE IS EXPLORED AND THE NECESSARY REPAIRS HAVE BEEN MADE
11. THE ENGINEER SHALL MAKE A PRELIMINARY DETERMINATION IF THE TEST PASSES OR FAILS BASED ON THE PRESSURE AND VOLUME LOSSES RECORDED DURING TESTING.
12. AFTER EACH TEST, THE CONTRACTOR MUST DEMONSTRATE THAT THE TEST APPARATUS, INCLUDING THE PRESSURE GAUGE, IS FULLY FUNCTIONAL AND ACCURATE. INACCURATE GAUGES OR NON-SATISFACTORY EQUIPMENT WILL BE GROUNDS FOR TEST FAILURE, REGARDLESS OF TEST RESULTS. CONTRACTOR WILL RESUPPLY PROPER EQUIPMENT AND RETEST, AT HIS EXPENSE.
13. THE PRESSURE LOSS RECORDED OVER THE 4- OR 8-HOUR TEST MUST BE ACCEPTABLE TO THE ENGINEER FOR FINAL HYDROSTATIC TESTING APPROVAL TO BE GIVEN.

LEAKAGE TEST:

1. THE LEAKAGE TEST SHALL BE CONDUCTED CONCURRENTLY WITH THE PRESSURE TEST.
2. THE RATE OF LEAKAGE SHALL BE DETERMINED AT 15-MINUTE INTERVALS BY MEANS OF VOLUMETRIC MEASUREMENT OF THE MAKEUP WATER ADDED TO MAINTAIN THE TEST PRESSURE. THE TEST SHALL PROCEED UNTIL THE RATE OF LEAKAGE HAS STABILIZED OR IS DECREASING BELOW AN ALLOWABLE VALUE, FOR THREE CONSECUTIVE 15-MINUTE INTERVALS. AFTER THIS, THE TEST PRESSURE SHALL BE MAINTAINED FOR AT LEAST ANOTHER 15 MINUTES.
   a. AT THE COMPLETION OF THE TEST THE PRESSURE SHALL BE RELEASED AT THE FURTHERMOST POINT FROM THE POINT OF APPLICATION.
3. ALL EXPOSED PIPING SHALL BE EXAMINED DURING THE TEST AND ALL LEAKS, DEFECTIVE MATERIAL OR JOINTS SHALL BE REPAIRED OR REPLACED BEFORE REPEATING THE TESTS.
4. THE LEAKAGE FOR PRESSURE PIPELINES SHALL NOT EXCEED THE FOLLOWING ALLOWABLE RATES IN GALLONS PER HOUR PER 1,000 FEET OF PIPE AT THE TEST PRESSURE SPECIFIED UNDER ITEM 3.1.C ABOVE:

PIPE DIAMETER	PIPE MATERIAL	ALLOWABLE LEAKAGE
30-INCH	HDPE (FUSED)	0.00

5. REGARDLESS OF THE ABOVE ALLOWABLES, ANY VISIBLE LEAKS SHALL BE PERMANENTLY STOPPED.
6. THE CONTRACTOR SHALL PROVIDE A METER CERTIFIED WITHIN THE LAST YEAR OR A SOURCE-WATER TANK/BARREL OF SMALL ENOUGH CROSS SECTION SO THAT MEASURABLE CHANGES IN WATER DEPTH CAN BE ACCURATELY RECORDED. IF THE CHANGE IN WATER DEPTH CANNOT BE PROPERLY MEASURED, THE ENGINEER MAY REQUIRE THE TEST TO BE RUN MORE THAN 4 HOURS UNTIL AN ACCURATE DEPTH CHANGE CAN BE RECORDED AND THE ENGINEER IS SATISFIED WITH THE RESULTS.
7. THE LEAKAGE VOLUME RECORDED OVER THE 4- OR 8-HOUR TEST MUST BE ACCEPTABLE TO THE ENGINEER FOR FINAL FORCEMAIN APPROVAL TO BE GIVEN.



Greenman-Pedersen, Inc.
Engineering and Construction Services

In Western New York:
BUFFALO (716) 633-4844 • ROCHESTER (585) 486-4859 • JAMESTOWN (716) 488-2803

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STATE OF NEW YORK — GREENMAN-PEDERSEN, INC. — No. 131 — LICENSED PROFESSIONAL ENGINEER

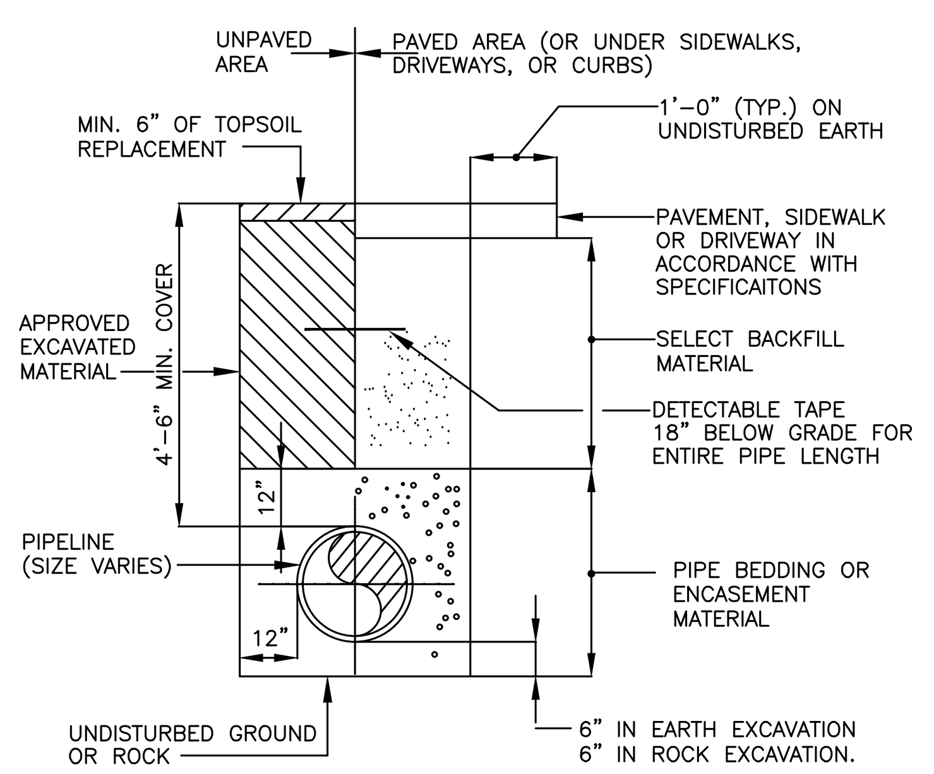
SCALE:	1" = 20'	DRAWN BY:	THM
DATE:	AUGUST 2019	CHECKED BY:	DFP
DWG NO.:	###	JOB NO.:	BUF-2015006.01

NO.	REVISIONS:	BY	DATE
1	ADDED SAN. PRESSURE TESTING INFO	THM	08/18/2020

UTILITY PLAN

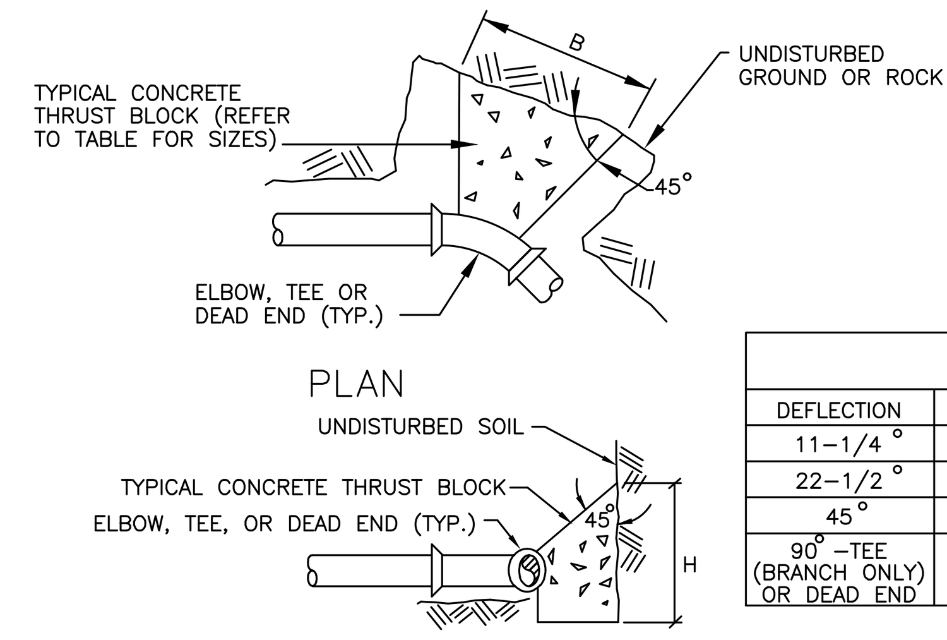
2 LOT SUBDIVISION
4829 TONAWANDA CREEK ROAD
PENDLETON NY, 14120

SHEET NO.
1



TYPICAL TRENCH DETAIL

SCALE: N.T.S.



MINIMUM REQUIRED HORIZONTAL THRUST BLOCK SIZE D.I.P. & P.V.C WATERLINE								
DEFLECTION ANGLE	PIPE DIAMETER (in.) (AT 170 PSI TEST)							
	6"		8"		10"		12"	
	B	H	B	H	B	H	B	H
90° / TEE	2.00'	1.25'	2.50'	1.50'	3.00'	2.00'	4.00'	2.00'
DEAD END	2.00'	1.25'	2.50'	1.50'	3.00'	2.00'	4.00'	2.00'
45°	1.75'	1.00'	2.25'	1.25'	3.00'	1.75'	3.50'	1.75'
22-1/2°	1.25'	0.75'	2.00'	1.00'	2.00'	1.25'	2.25'	1.50'
11-1/4°	1.00'	0.50'	1.50'	1.00'	1.75'	1.00'	1.75'	1.00'

NOTE: THRUST BLOCKS PERMITTED ONLY WHERE SHOWN OR IN LOCATION APPROVED BY ENGINEER.

TYPICAL THRUST BLOCK DETAIL

SCALE: N.T.S.

MIN. REQUIRED HARNESSING LENGTHS (AT 170 PSI TEST PRESSURE AND 4'-6" COVER)								
DEFLECTION	6" PVC	8" PVC	10" PVC	12" PVC	6" D.I.P.	8" D.I.P.	10" D.I.P.	12" D.I.P.
11-1/4°	13'	13'	15'	18'	12'	12'	14'	16'
22-1/2°	25'	25'	30'	34'	23'	23'	28'	32'
45°	48'	48'	57'	67'	45'	45'	54'	63'
90° -TEE (BRANCH ONLY) OR DEAD END	99'	99'	120'	140'	94'	94'	112'	130'

NOTES:
1. THRUST RESTRAINT SHALL BE PROVIDED BY MECHANICAL METHODS IN ACCORDANCE WITH SPECIFICATIONS FOR THE LENGTHS SHOWN IN THE TABLE. THRUST BLOCKS SHALL BE USED AT ALL BENDS AND AS SHOWN ON THE DRAWINGS OR ORDERED BY THE ENGINEER. HARNESSING LENGTHS SHOWN ARE TO BE INSTALLED ON BOTH SIDES OF THE FITTINGS.
2. CONTRACTOR SHALL PROVIDE ALL REQUIRED HARNESSING NECESSARY FOR TESTING PURPOSES. LENGTH AND LOCATION OF HARNESSING SHALL BE DETERMINED BASED UPON CONTRACTORS OPERATIONS.

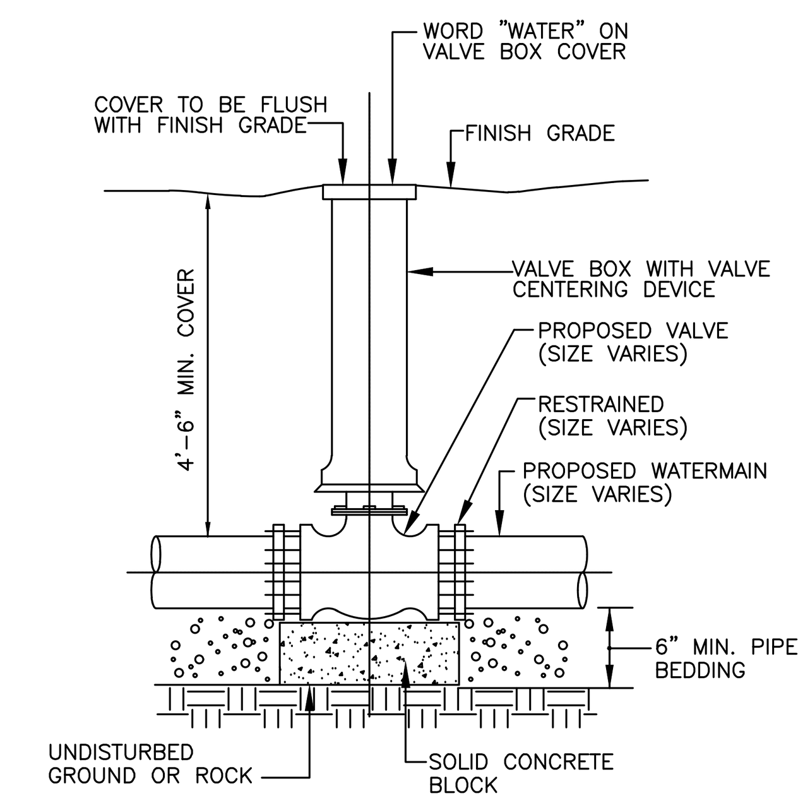
HARNESSING TABLE

GENERAL CONSTRUCTION NOTES:

ALL UTILITIES, INCLUDING ELECTRIC, GAS, AND PHONE, SHALL BE INSTALLED PRIOR TO FINAL PAVING OF TOP COURSE.

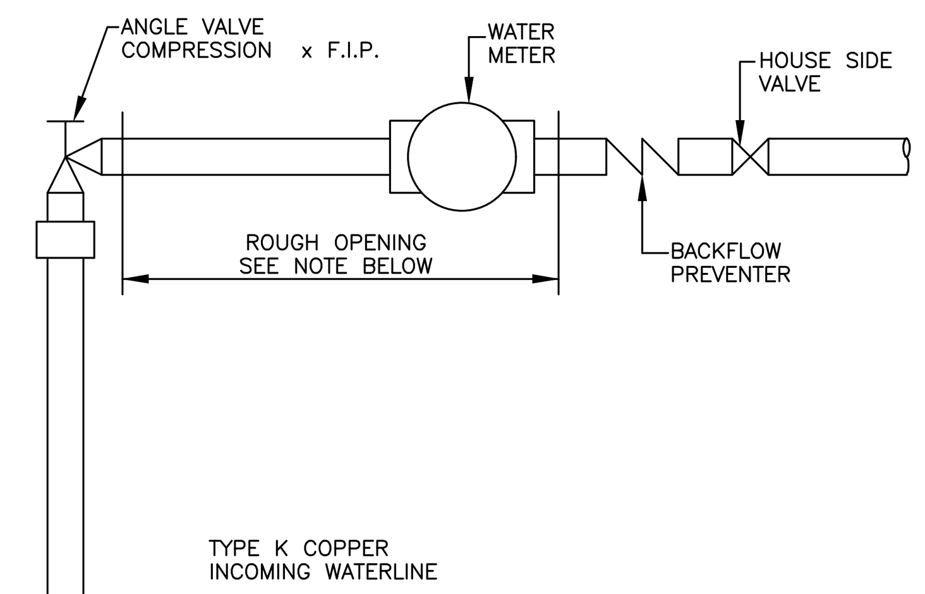
ALL LOTS MUST BE ROUGH GRADED TO WITHIN 6" OF FINISH GRADE AS PART OF THE PIP PERMIT CONSTRUCTION.

ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE APPROVED SWPPP.



TYPICAL BURIED VALVE DETAIL

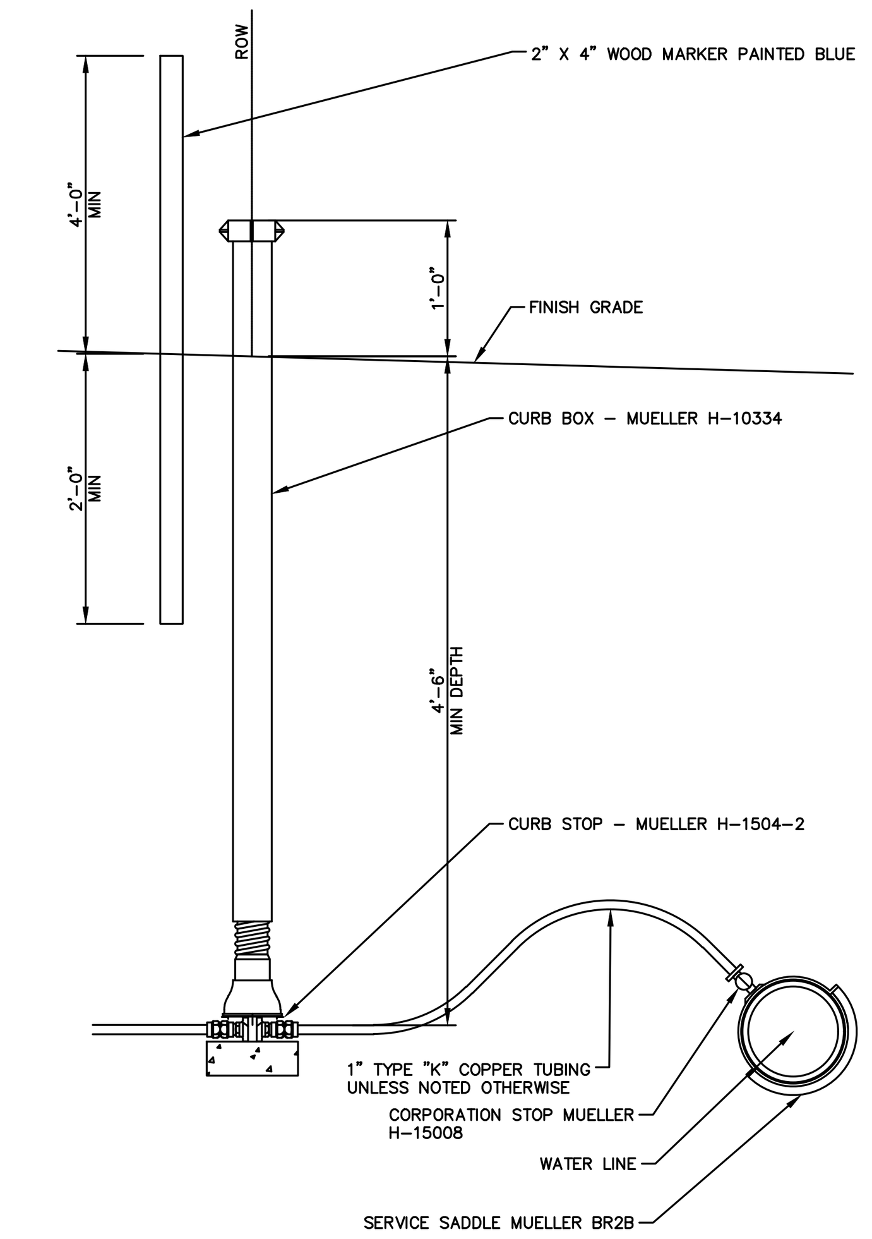
SCALE: N.T.S.



NOTE:
ROUGH OPENING SHALL BE:
A) 12" FOR 3/4" METER
B) 14" FOR 1" METER

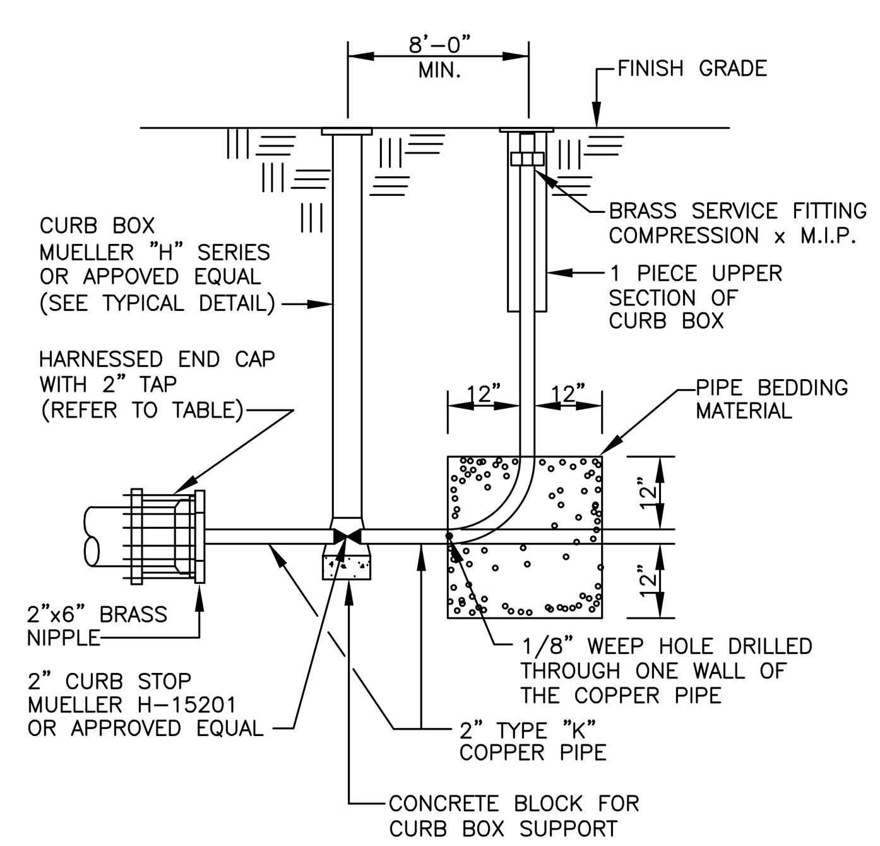
TYPICAL HOUSE WATER METER SET-UP (FOR BADGER METER)

SCALE: N.T.S.



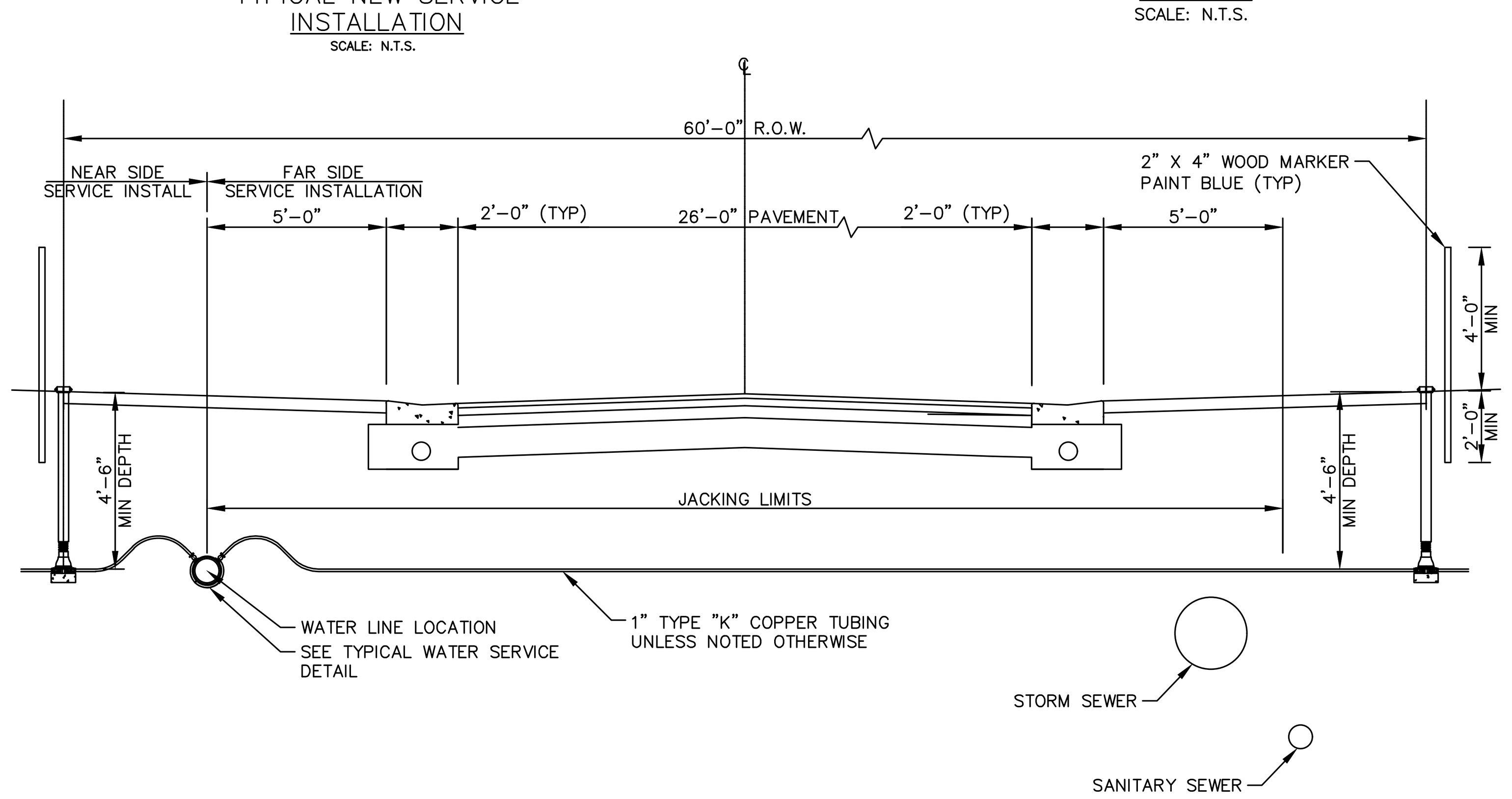
TYPICAL NEW SERVICE INSTALLATION

SCALE: N.T.S.



TYPICAL PERMANENT BLOW OFF DETAIL

SCALE: N.T.S.



NEAR AND FAR SIDE WATER SERVICE CONNECTION DETAIL

SCALE: N.T.S.

1. WATERLINE AND APPURTENANCES

A. PIPE AND FITTINGS

1. PIPE FOR WATERMAINS SHALL BE POLYVINYL CHLORIDE (PVC) PRESSURE PIPE OR DUCTILE IRON PIPE.

2. POLYVINYL CHLORIDE (PVC) PIPE SHALL BE SUITABLE FOR PRESSURE SERVICE AND SHALL BE TYPE DR-18, CLASS 150 CONFORMING TO THE REQUIREMENTS OF ASTM D2241 AND AWWA C-900 LATEST REVISION. PIPE SHALL BE MANUFACTURED WITH A "LOCKED-IN" GASKET MEETING REQUIREMENTS OF ASTM F-477. OUTSIDE DIAMETER SHALL CONFORM WITH OUTSIDE DIAMETER OF DUCTILE IRON PIPE.

3. DUCTILE IRON PIPE SHALL BE CENTRIFUGALLY CAST CONFORMING TO REQUIREMENTS OF ANSI/AWWA A21.15/C-151 LATEST REVISION. MINIMUM THICKNESS CLASS SHALL BE CLASS 52. DUCTILE IRON PIPE SHALL BE PROVIDED WITH MECHANICAL JOINTS MEETING THE REQUIREMENTS OF ANSI/AWWA A21.11/C-111 AND A21.51/C-151. GASKETS SHALL BE PLAIN TIP MADE OF NEOPRENE.

4. DUCTILE IRON FITTINGS SHALL BE INSTALLED FOR BOTH PVC PIPE OR DUCTILE IRON PIPE INSTALLATIONS. FITTINGS SHALL BE MECHANICAL JOINT DUCTILE IRON FITTINGS, COMPACT TYPE, MEETING THE REQUIREMENTS OF ANSI/AWWA A21.53/C-153 LATEST REVISION AND SHALL BE CLASS 350. MECHANICAL JOINTS SHALL BE IN ACCORDANCE WITH ANSI/AWWA A21.11/C-111.

5. BOLTS AND NUTS FOR MECHANICAL JOINT FITTINGS SHALL BE "COR-TEN" MATERIAL AND SHALL CONFORM TO REQUIREMENTS OF ANSI/AWWA A21.11/C-111.

6. COATINGS AND LININGS: ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE LINED WITH A BITUMINOUS SEAL COATED CEMENT-MORTAR LINING IN ACCORDANCE WITH ANSI/AWWA A21.4/C-104 LATEST REVISION. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE COATED ON OUTSIDE WITH A BITUMINOUS COATING IN ACCORDANCE WITH ANSI/AWWA A21.51/C-151.

7. RESTRAINED JOINTS:

a. RESTRAINED JOINTS FOR MECHANICAL JOINT PIPE TO FITTING INSTALLATIONS SHALL BE ACCOMPLISHED BY THE USE OF A MECHANICAL JOINT RETAINER GLAND IN LIEU OF THE STANDARD FOLLOWER GLAND. RETAINER GLANDS SHALL BE MANUFACTURED OF DUCTILE IRON. SET SCREWS SHALL BE BITUMINOUS COATED DUCTILE IRON. NUTS AND BOLTS SHALL BE AS SPECIFIED ABOVE.

b. RESTRAINED BELL AND SPIGOT JOINTS FOR PVC PIPING SHALL BE ACCOMPLISHED BY THE USE OF A DUCTILE IRON SPLIT CLAMPING RING AND BACK-UP RING ASSEMBLY. RESTRAINED JOINT ASSEMBLY SHALL BE MANUFACTURED BY EBAA IRON, SERIES 1500 RESTRAINER, UNI-FLANGE SERIES 1350 RESTRAINER, OR EQUAL.

c. RESTRAINED JOINTS FOR PVC PIPE TO DUCTILE IRON FITTING CONNECTIONS SHALL BE ACCOMPLISHED BY THE USE OF A RESTRAINER ASSEMBLY. RESTRAINED JOINT ASSEMBLY SHALL BE MANUFACTURED BY EBAA IRON SERIES 2000 PV MEGALUG, UNI-FLANGE, SERIES 1300, OR EQUAL.

B. GATE VALVES

1. GATE VALVES SHALL HAVE MECHANICAL JOINT ENDS CONFORMING TO ANSI/AWWA A21.11/C-111 AS MANUFACTURED BY MUELLER COMPANY.

2. GATE VALVES SHALL BE RESILIENT SEAT TYPE MEETING REQUIREMENTS OF AWWA C-509, LATEST REVISION. VALVES SHALL HAVE CAST IRON BODY CONFORMING WITH ASTM A126, CLASS B WITH AN INTERNAL RESISTANT COATING. A NON-RISING BRONZE STEM AND STEM NUT, SPECIAL THRUST WASHERS AND "O" RING SEALS SHALL BE PROVIDED. PROVIDED VALVE COUNTERCLOCKWISE DIRECTION OF OPENING.

3. VALVES SHALL PROVIDE BUBBLE-TIGHT, NO-LEAKAGE SEAL AT A 200 PSI DIFFERENTIAL FROM BOTH DIRECTIONS, AND SHALL BE ABLE TO WITHSTAND A MAXIMUM WORKING PRESSURE OF 150 PSI AND A TEST PRESSURE OF 300 PSI. GATE VALVES SHALL BE FIELD TESTED AT A PRESSURE OF 170 PSI FOR FLOW IN BOTH DIRECTIONS.

4. BURIED GATE VALVES SHALL BE PROVIDED WITH A VALVE BOX AS SPECIFIED BELOW:

a. VALVE BOXES SHALL BE OF TWO OR THREE PIECE TYPE AND SHALL HAVE A SCREW TYPE ADJUSTMENT.

b. PROVIDE EXTENSION STEM FOR EACH VALVE WITH A 150 FT.-LB. SHEAR PIN INSTALLED AS CLOSE TO THE TOP OF THE EXTENSION STEM AS POSSIBLE. TERMINATE EXTENSION STEM TWO FEET BELOW FINISHED GRADE.

c. VALVE BOXES SHALL BE MANUFACTURED BY BIBBY-ST. CROIX FOUNDRY, MODEL NO. B-5001 WITH NUMBER 6 BASE OR EQUAL.

C. TAPPING SLEEVES AND VALVES

1. TAPPING VALVES SHALL BE CAST IRON BODY, BRONZE MOUNTED, DOUBLE DISK, NON-RISING STEM WITH "O" RING SEALS AND CONFORM WITH AWWA C-500, LATEST REVISION. INLETS SHALL BE FLANGED AND DRILLED TO PROPERLY MATE WITH TAPPING SLEEVE. OUTLETS SHALL BE MECHANICAL JOINT.

2. VALVES SHALL OPEN COUNTERCLOCKWISE AND BE PROVIDED WITH A 2-INCH SQUARE OPERATING NUT. VALVES SHALL BE DESIGNED FOR A WORKING PRESSURE OF 125 PSI AND A TEST PRESSURE OF 170 PSI.

3. TAPPING SLEEVE FOR DUCTILE IRON, CAST IRON, PVC, OR ASBESTOS-CEMENT PIPE MUST BE INSTALLED AND TESTED ON THE PIPE PRIOR TO TAPPING. CONTRACTOR SHALL VERIFY PIPE CLASS, TYPE AND MATERIAL BEFORE ORDERING SLEEVE.

4. PAINTING SHALL BE AS OUTLINED UNDER GATE VALVE SPECIFICATION.

5. TAPPING VALVES SHALL BE MANUFACTURED BY MUELLER CO., CATALOG NO. H-667. TAPPING SLEEVE FOR 4-INCH THROUGH 24-INCH CAST IRON, DUCTILE IRON OR 4-INCH THROUGH 12-INCH PVCE PIPE SHALL BE MUELLER MODEL H-615. FOR 4-INCH THROUGH 12-INCH ASBESTOS CEMENT PIPE, THE SLEEVE SHALL BE MUELLER MODEL H-619.

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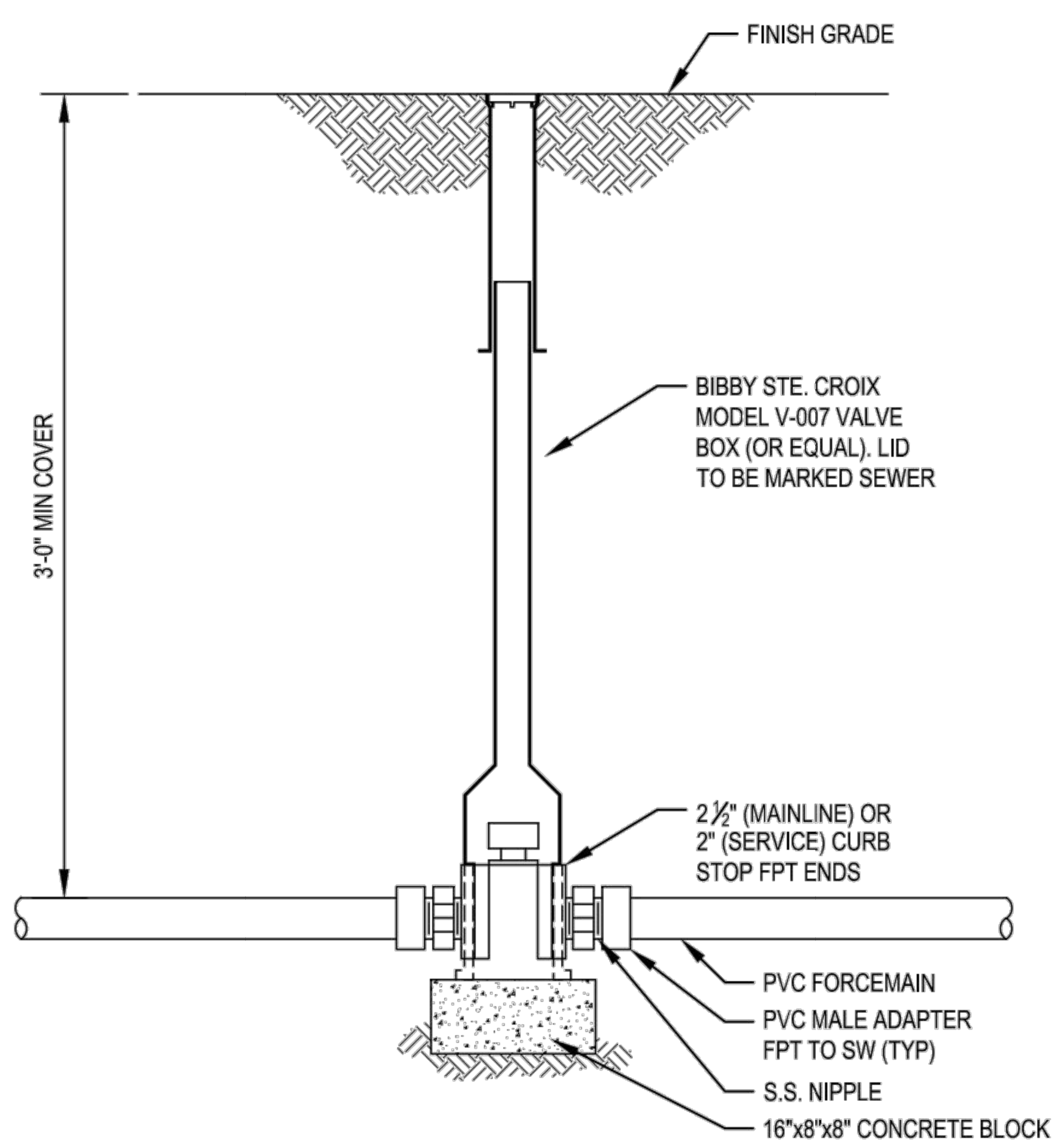
STATE OF NEW YORK · GREENMAN PEDERSEN INC. · No. 131 · LICENSED PROFESSIONAL ENGINEER

SCALE: NTS	DRAWN BY: THM		
DATE: AUGUST 2019	CHECKED BY: DFP		
DWG NO.: 2	JOB NO.: BUF-2015006.01		
NO.	REVISIONS:	BY	DATE

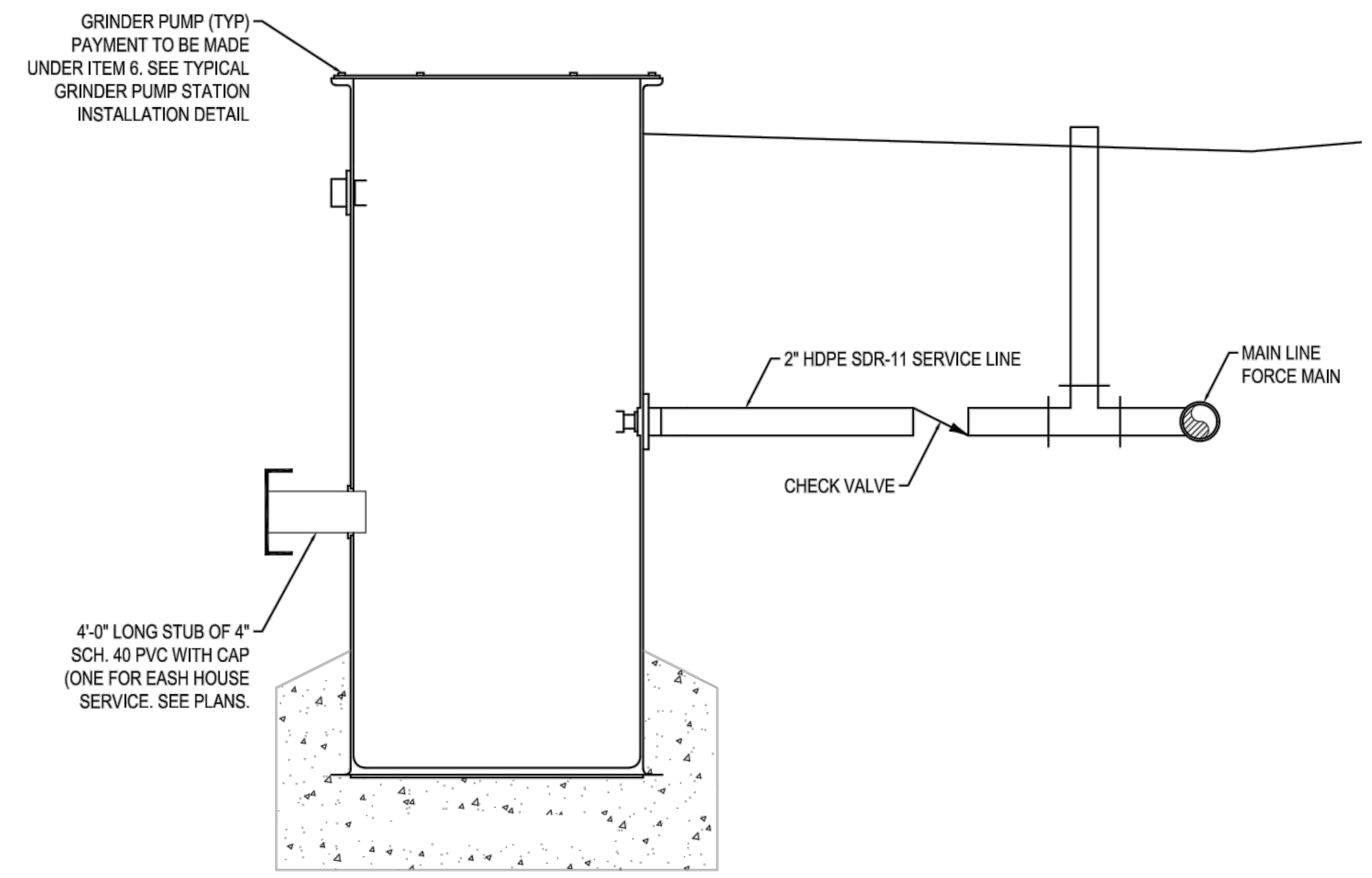
WATERLINE DETAILS

2 LOT SUBDIVISION
4829 TONAWANDA CREEK ROAD
PENDLETON NY, 14120

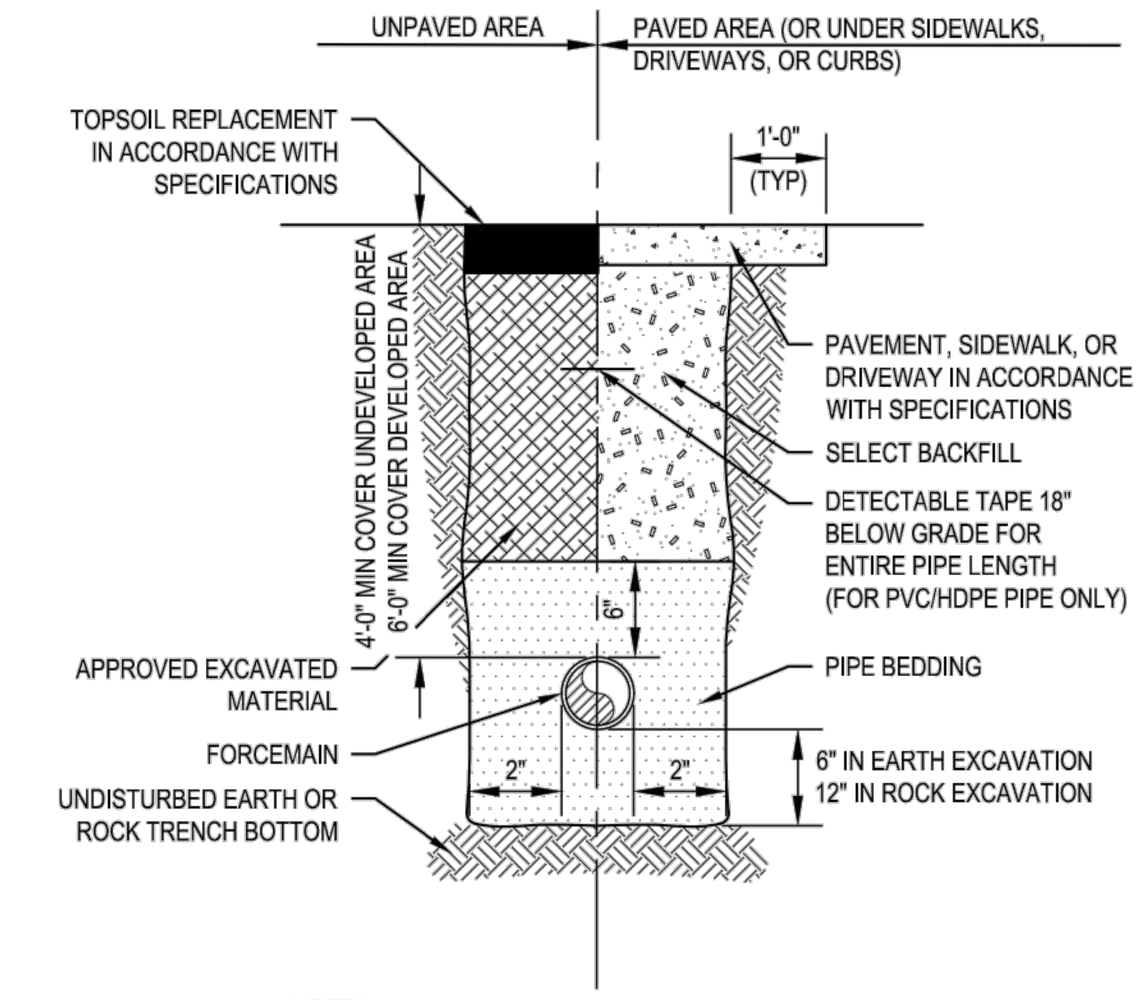
SHEET NO.
2



1 **BALL VALVE DETAIL**
SCALE : 1" = 1'-0"



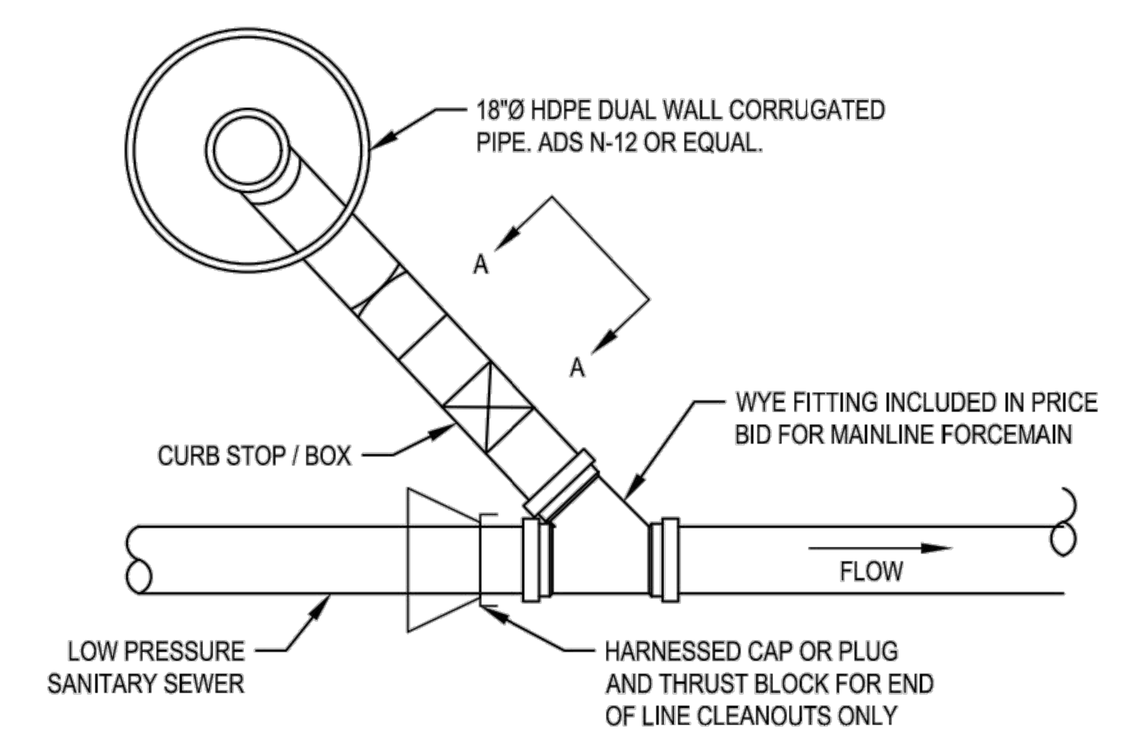
2 **TYPICAL GRINDER P.S. SERVICE LATERAL**
SCALE : 6" = 1'-0"



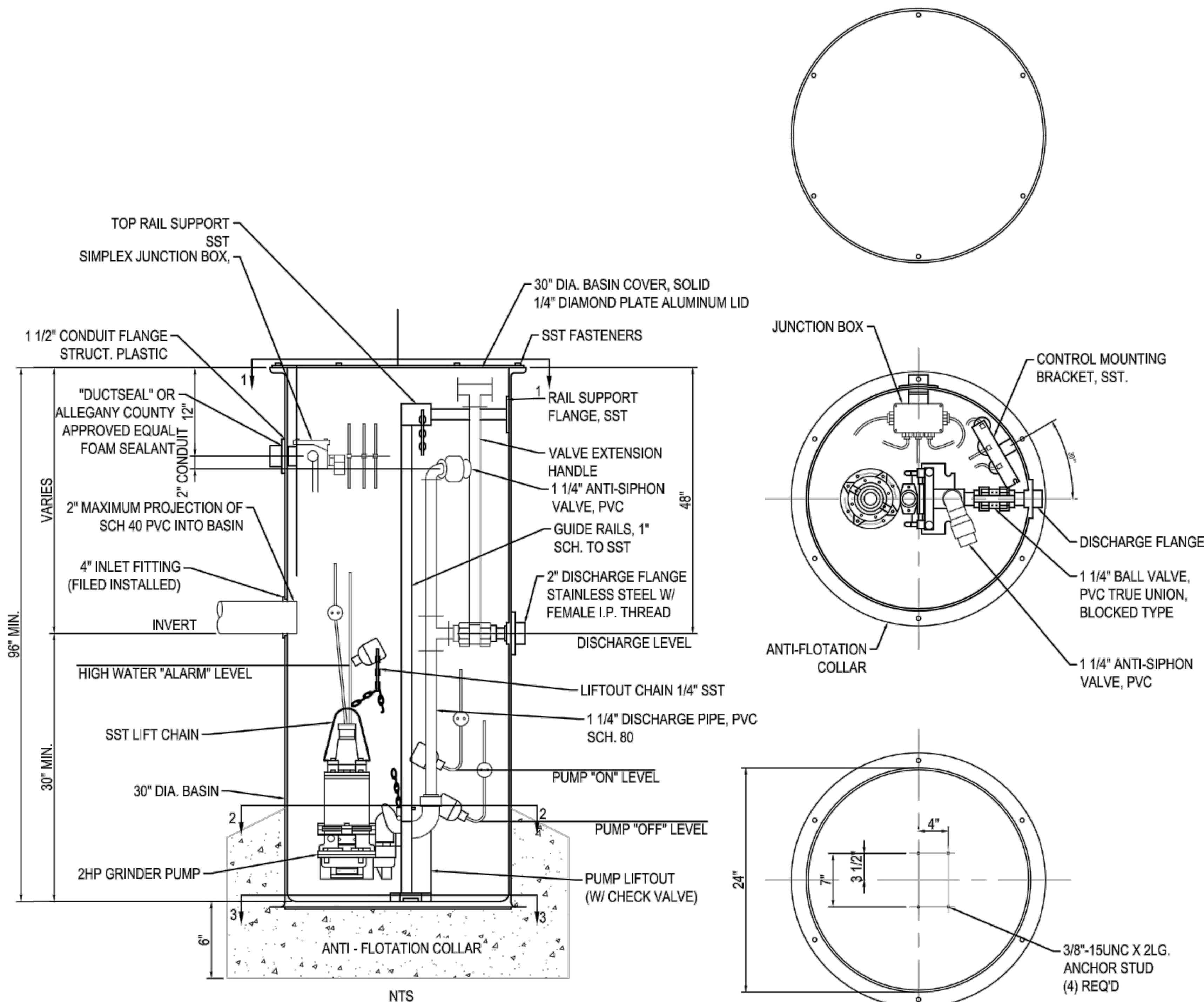
NOTES:

1. DIMENSIONS ARE PAVEMENT LIMITS WHERE APPROPRIATE.

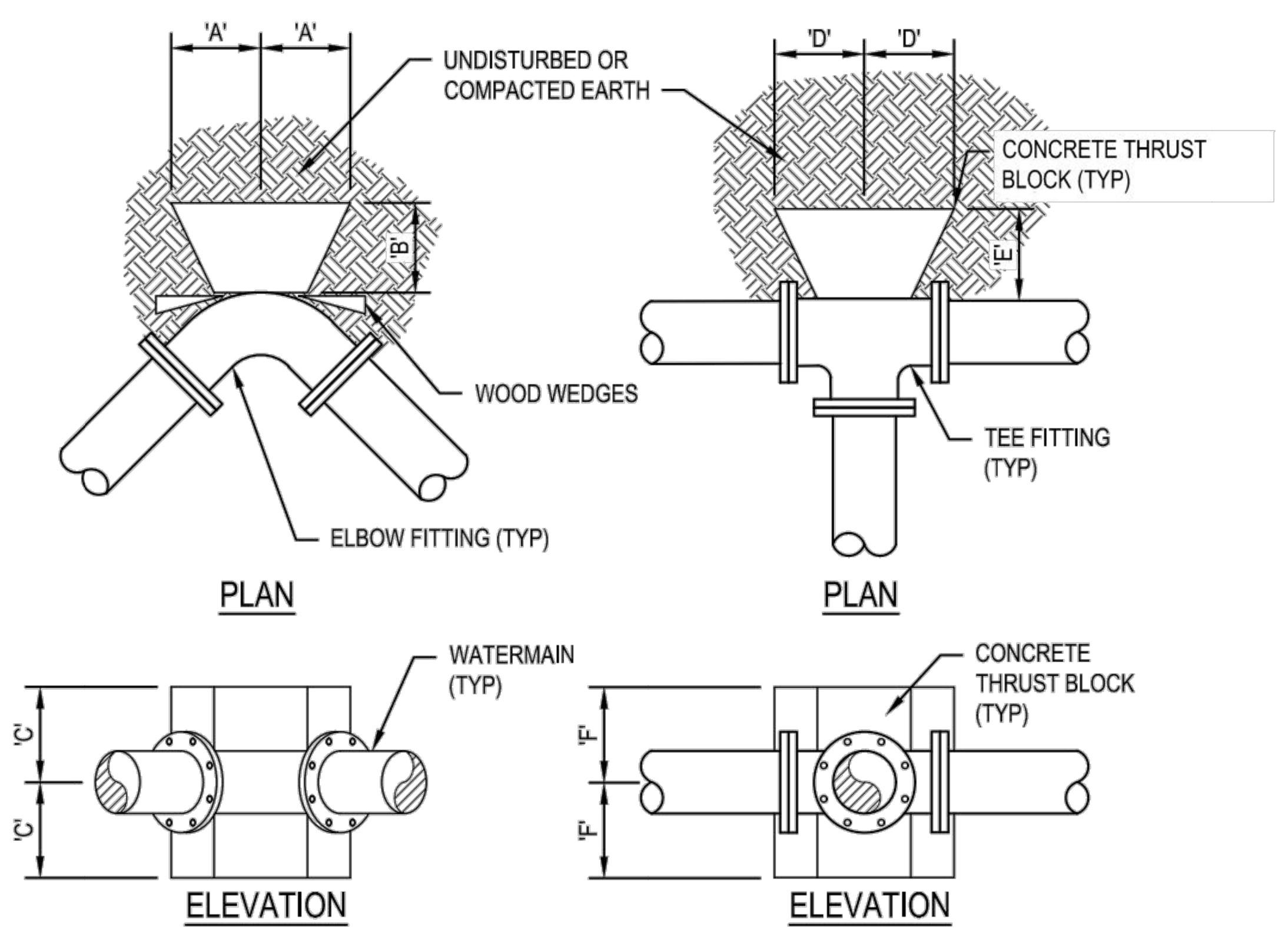
3 **TYPICAL TRENCH DETAIL ≤ 4" Ø**
SCALE : 1/2" = 1'-0"



PLAN VIEW
NTS



4 **TYPICAL SIMPLEX GRINDER PUMP STATION**
SCALE : 6" = 1'-0"
*SEE ENGINEERS REPORT FOR MORE SPECIFIC INFORMATION

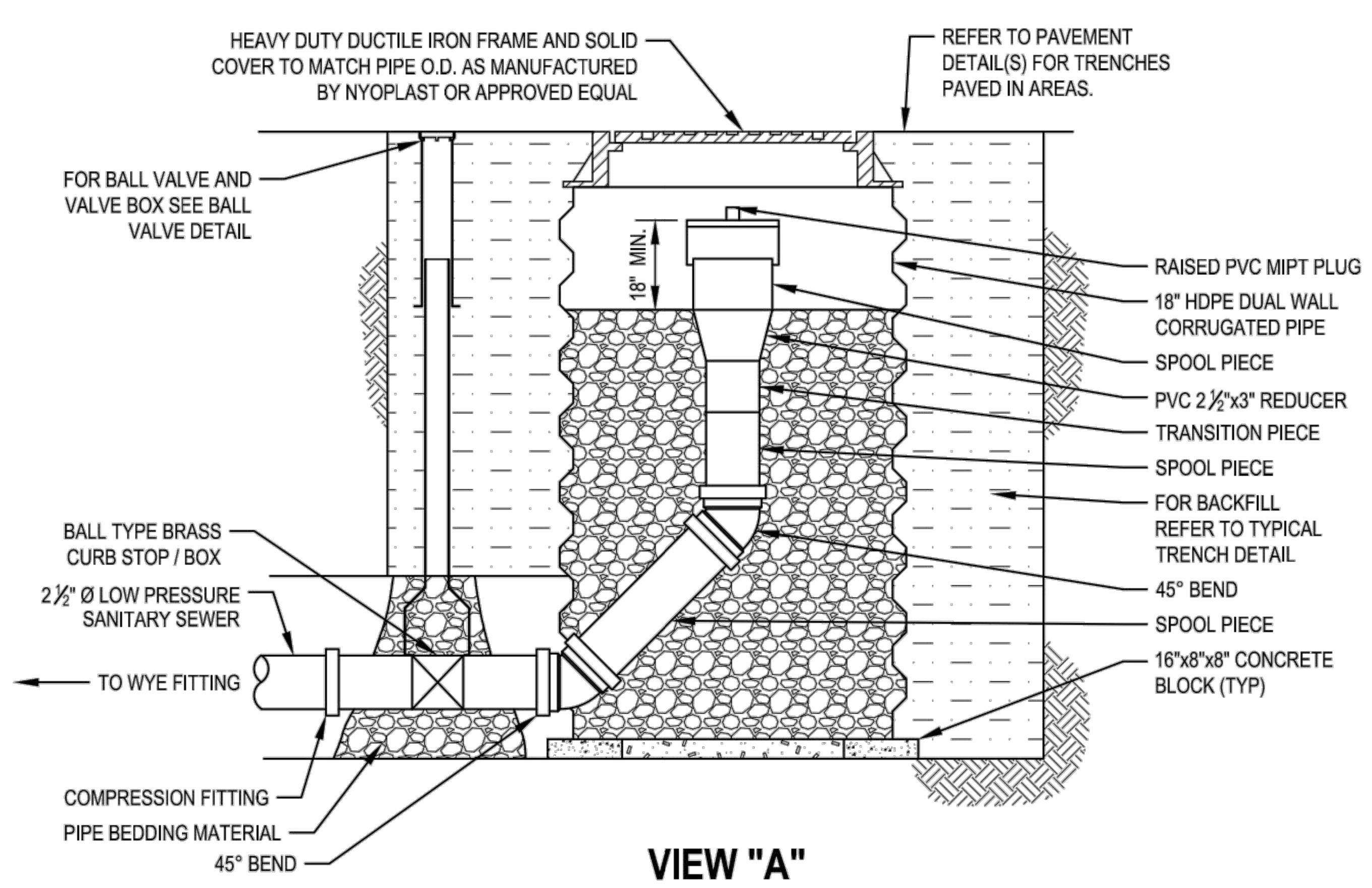


DIMENSION SCHEDULE															
PIPE SIZE	PIPE DIAMETER (IN) (AT 100 PSI TEST)														
	11.25° ELBOW			22.5° ELBOW			45° ELBOW			90° ELBOW			TEE		
	'A'	'B'	'C'	'A'	'B'	'C'	'A'	'B'	'C'	'A'	'B'	'C'	'D'	'E'	'F'
2"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"

NOTES:

1. THRUST BLOCKS ARE REQUIRED AT ALL BENDS, OFFSETS, AND TEES.
2. THRUST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED TRENCH WALLS AND BOTTOMS.
3. THRUST BLOCKS SHALL BE CONSTRUCTED OF 3,000 PSI CONCRETE.
4. FITTING TO BE POLYETHYLENE WRAPPED PRIOR TO BEDDING AND CONCRETE BLOCK PLACEMENT.
5. THRUST BLOCKS SHALL BE CONSTRUCTED TO ALLOW REMOVAL OF ALL JOINT BOLTS.

5 **TYPICAL THRUST BLOCK**
SCALE : 1/2" = 1'-0"

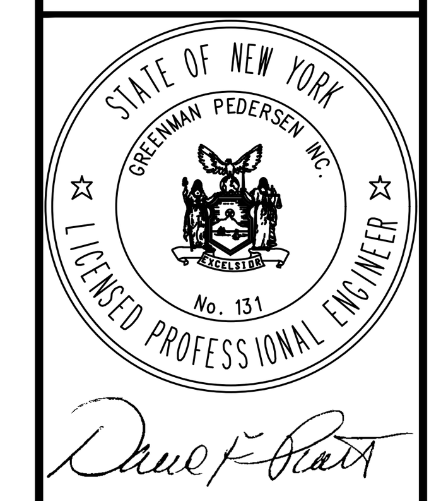


VIEW "A"
NTS

6 **CLEANOUT ASSEMBLY DETAIL**
SCALE : 1" = 1'-0"

Greenman-Pedersen, Inc.
Engineering and Construction Services
In Western New York:
BUFFALO (716) 633-4844 • ROCHESTER (585) 486-4859 • JAMESTOWN (716) 488-2803

GPI



DRAWN BY:	THM
CHECKED BY:	DFP
JOB NO.:	BUF-2015006.01
SCALE:	NONE
DATE:	August 2020
DWG NO.:	###

NO.	REVISIONS:	BY	DATE

Sanitary Sewer Details

2 Lot Subdivision
4829 Tonawanda Creek Road
Pendleton NY, 14120

SHEET NO.

3