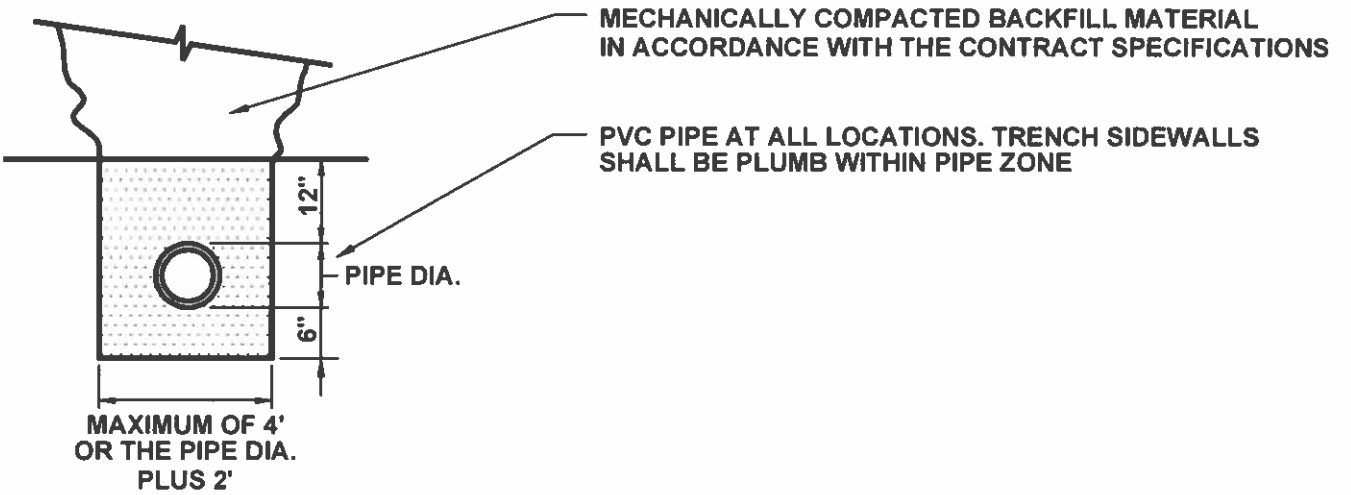
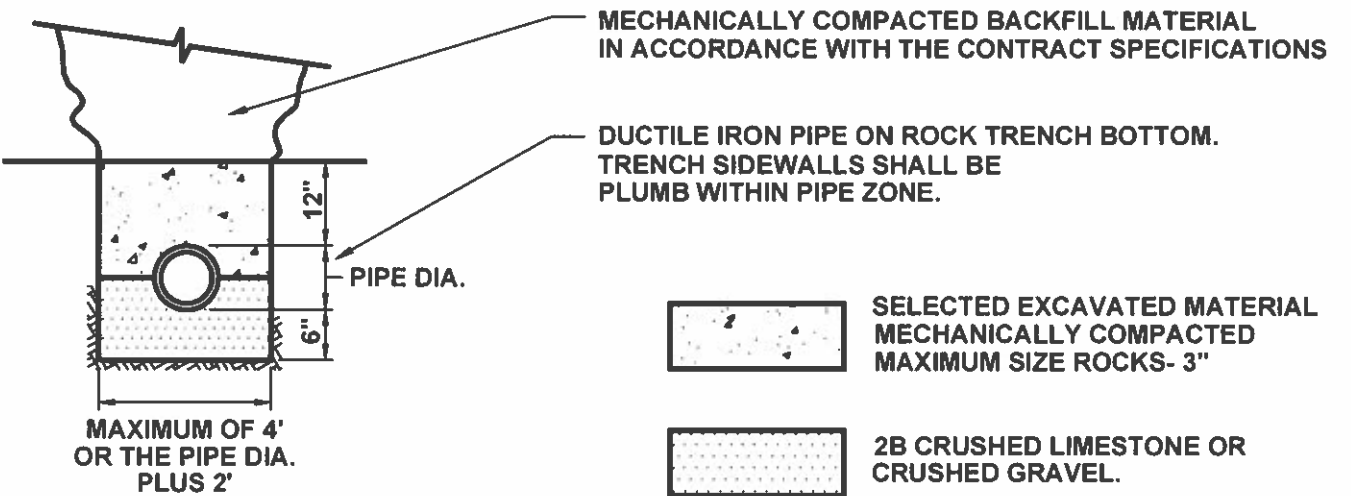


DETAIL A



DETAIL B



DETAIL C



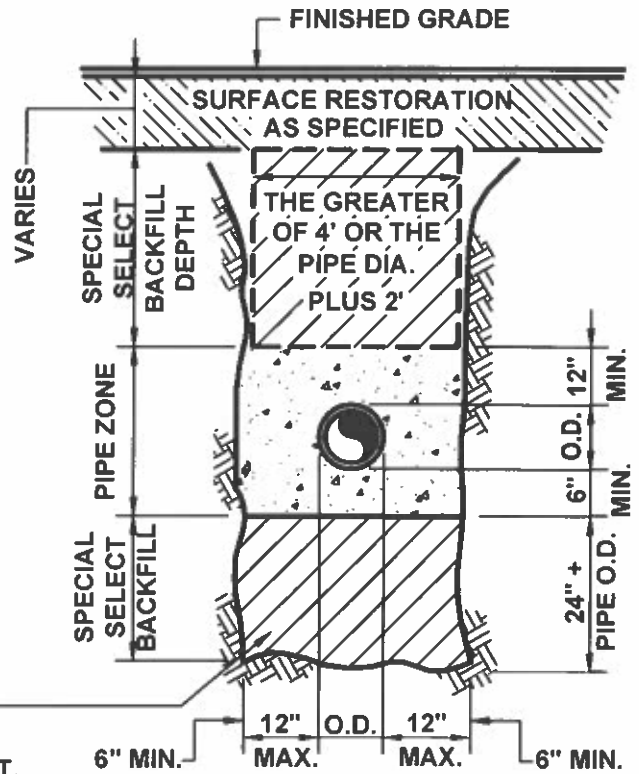
SELECTED EXCAVATED MATERIAL
MECHANICALLY COMPACTED
MAXIMUM SIZE ROCKS- 3"



2B CRUSHED LIMESTONE OR
CRUSHED GRAVEL.

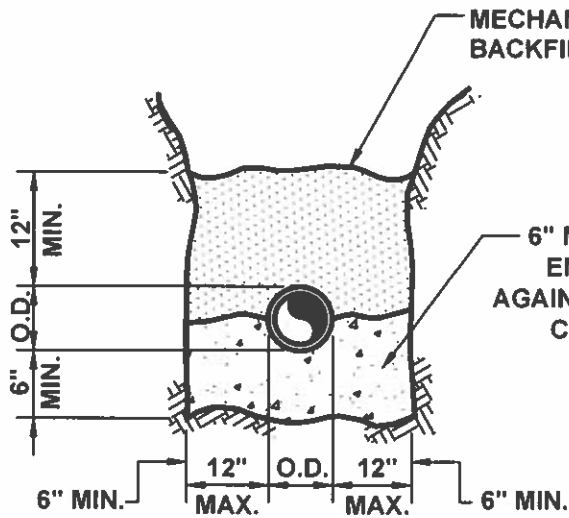
MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		TRENCH PIPE ZONE DETAIL
Not to scale	June 2016	Standard Detail SD-001

NOTE:
 WHERE SELECT BACKFILL IS REQUIRED BETWEEN THE PIPE ZONE AND THE SURFACE MATERIAL, THE PIPE ZONE SHALL EXTEND 12" ABOVE THE PIPE REGARDLESS OF PIPE MATERIAL

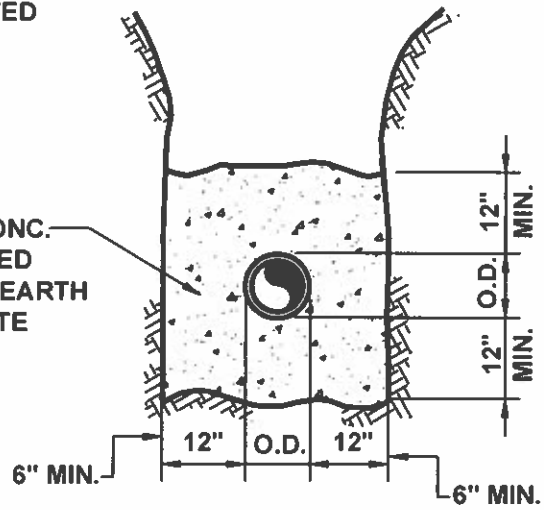


WHERE EXCAVATION EXPOSES THE BOTTOM OF PROPOSED TRENCHES AND REVEALS VERY SOFT OR OTHER UNSTABLE PIPE FOUNDATION MATERIALS EXIST, THE CONTRACTOR WILL BE DIRECTED BY M.T.M.A. REPRESENTATIVE TO OVERCUT OR STABILIZE/OVERCUT.

**SPECIAL BACKFILL
 DETAIL A**

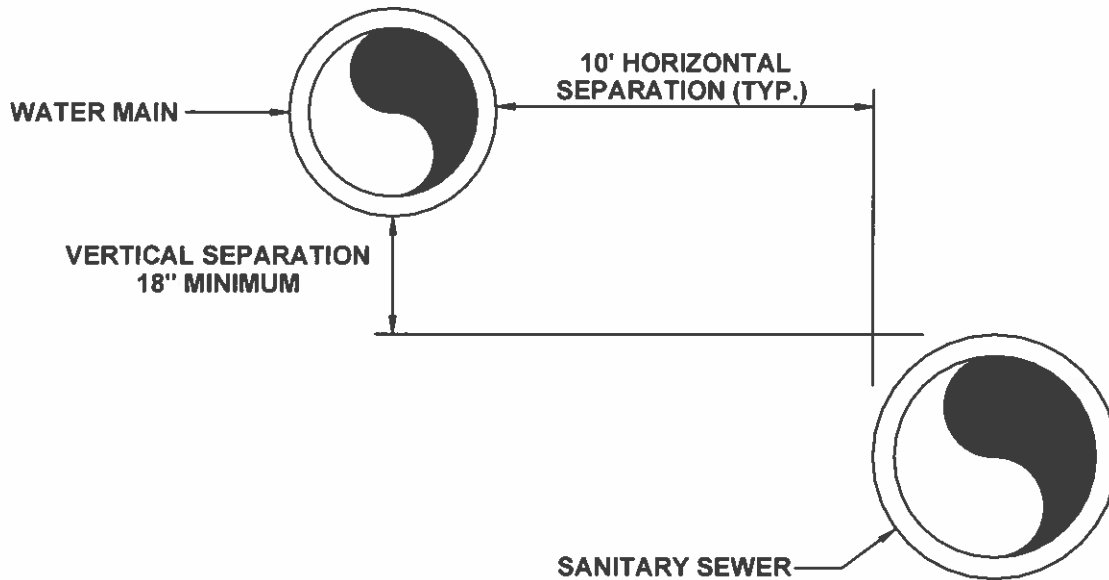


**TYPICAL CONCRETE CRADLE
 DETAIL B**



**TYPICAL CONCRETE ENCASEMENT
 FOR DUCTILE IRON PIPE
 DETAIL C**

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		TRENCH DETAILS
Not to scale	June 2016	Standard Detail SD-002

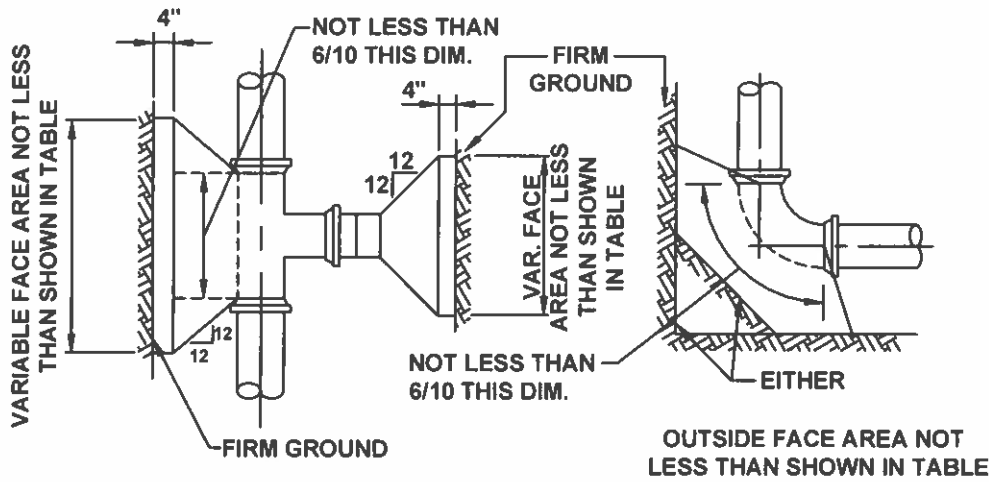


NOTES:

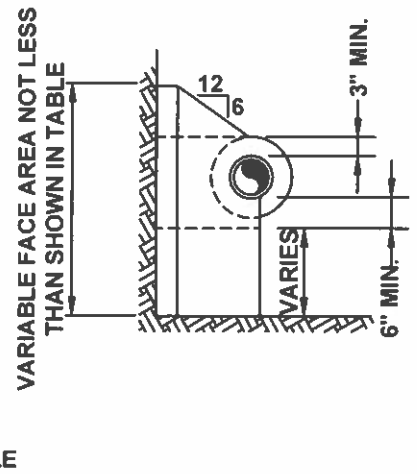
1. WHEN THE HORIZONTAL SEPARATION OF THE WATER MAIN AND SEWER LINE IS LESS THAN 10', THE VERTICAL SEPARATION BETWEEN THE TOP (CROWN) OF THE SEWER LINE O.D. AND THE BOTTOM (INVERT) OF THE WATER MAIN O.D. SHALL BE AT LEAST 18". SEWER LINE SHALL BE ENCASED IN CONCRETE WHERE SEWER/ WATER LINE CROSSINGS OCCUR AND WHERE CONDITIONS PREVENT AN 18" VERTICAL SEPARATION.

2. THERE SHALL BE AT LEAST A 10' HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER FORCE MAINS. FORCE MAINS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18" BETWEEN THE OUTSIDE OF THE FORCE MAIN AND THE OUTSIDE OF THE WATER MAIN.

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		DESIRED DISTANCES BETWEEN WATER AND SEWER PIPES
Not to scale	June 2016	Standard Detail SD-003



TEES AND PLUGS



BENDS

TEES, WYES, AND BENDS

NOTES:

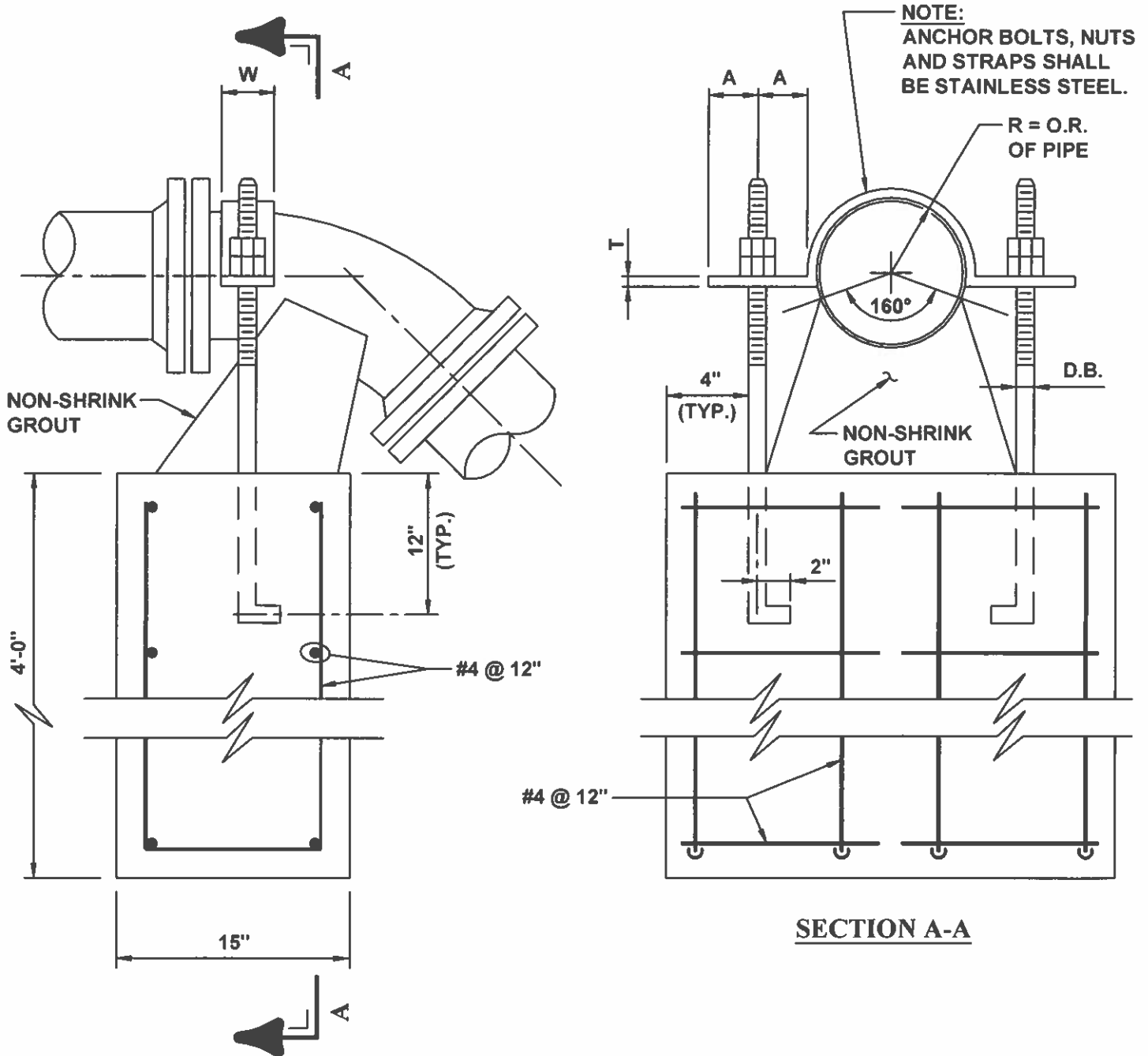
1. ALL TEES, WYES, CROSSES, PLUGS AND BENDS OF 10° OR MORE SHALL BE BLOCKED AGAINST FIRM EARTH WITH CONCRETE.
2. EARTH PRESSURE FIGURED AT 4000 PSF. IF EARTH ENCOUNTERED WILL NOT WITHSTAND THIS PRESSURE, THE AREA OF THE BLOCK MUST BE INCREASED PROPORTIONATELY.

PIPE SIZE (in)	AREA* (sq in)	TOTAL FORCE (lbs)	AREA OF BLOCK IN SQUARE FEET				
			TEES & PLUGS	90 DEGREE BENDS	45 DEGREE BENDS	22 1/2 DEGREE BENDS	11 1/4 DEGREE BENDS
4	19	4275	1.1	1.5	1.0	1.0	1.0
6	38	8550	2.2	3.0	1.6	1.0	1.0
8	65	14625	3.7	5.2	2.8	1.4	1.0
10	97	21825	5.5	7.7	4.2	2.1	1.1
12	137	30825	7.7	10.9	5.9	3.0	1.5
14	184	41400	10.4	14.6	7.9	4.0	2.1
16	238	53550	13.4	18.9	10.3	5.2	2.7
18	299	67275	16.8	23.8	12.9	6.6	3.4
20	367	82575	20.7	29.2	15.8	8.1	4.1
24	523	117675	29.4	41.6	22.5	11.5	5.9
30	805	96600	24.2	34.2	18.5	9.4	4.8
36	1152	138240	34.6	48.9	26.5	13.5	6.9

CALCULATIONS ARE BASED ON 225 PSI PRESSURE OR 150 PSI WORKING PRESSURE PLUS 50% INCREASE FOR WATER HAMMER FOR SIZES 4" TO 24" INCLUSIVE. FOR SIZES 30" & 36" THE TABLE IS BASED ON 120 PSI PRESSURE OR 75 PSI WORKING PRESSURE PLUS 50% WATER HAMMER.

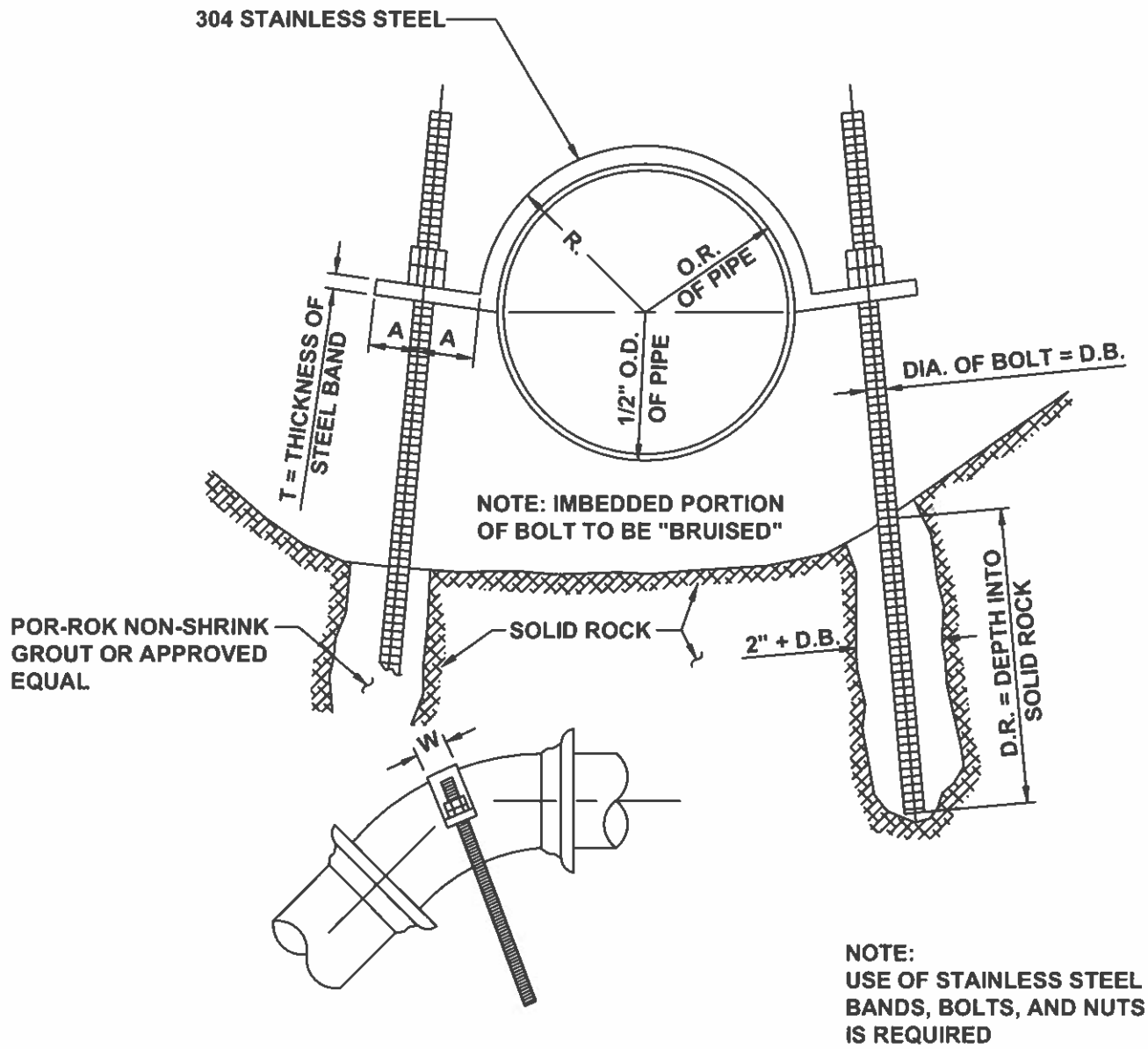
MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		CONCRETE THRUST BLOCKING
Not to scale	June 2016	Standard Detail SD-004

SIZE OF PIPE	4", 6", 8"			10" & 12"			14" & 16"			18" & 20"			24"		
DEGREE BEND	22½°	45°	90°	22½°	45°	90°	22½°	45°	90°	22½°	45°	90°	22½°	45°	90°
R = O.R.+	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	1/2"	3/4"	3/4"	1/2"	3/4"	1"	1/2"	1"	1 1/2"
W	2"	2"	2"	2"	2 1/2"	3"	2"	3"	4"	3"	3 1/2"	4"	4"	4"	6"
T	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	1/2"	3/4"	3/4"	1/2"	3/4"	1"	1/2"	1"	1 1/2"
A	2"	2"	2"	2"	2 1/2"	3"	2"	3"	3 1/2"	2 1/2"	3 1/2"	3 3/4"	3 1/2"	3 3/4"	4"
D.B.	3/4"	3/4"	3/4"	3/4"	1"	1 1/8"	3/4"	1 1/8"	1 1/2"	1"	1 3/8"	1 7/8"	1 1/4"	1 5/8"	2 1/4"

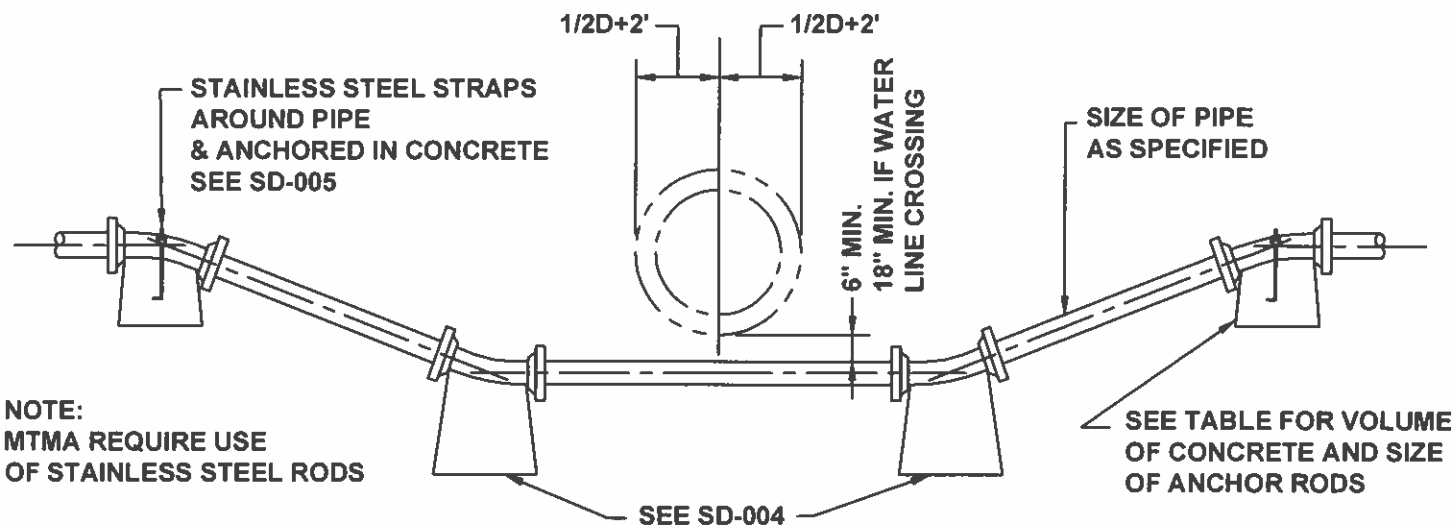


MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		STANDARD METHOD OF ANCHORING VERTICAL BENDS
Not to scale	June 2016	Standard Detail SD-005

SIZE OF PIPE	4", 6", 8"			10" & 12"			14" & 16"			18" & 20"			24"		
DEGREE BEND	22 1/2°	45°	90°	22 1/2°	45°	90°	22 1/2°	45°	90°	22 1/2°	45°	90°	22 1/2°	45°	90°
R = O.R.+	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	1/2"	3/4"	3/4"	1/2"	3/4"	1"	1/2"	1"	1 1/2"
W	2"	2"	2"	2"	2 1/2"	3"	2"	3"	4"	3"	3 1/2"	4"	4"	4"	6"
T	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	1/2"	3/4"	3/4"	1/2"	3/4"	1"	1/2"	1"	1 1/2"
A	2"	2"	2"	2"	2 1/2"	3"	2"	3"	3 1/2"	2 1/2"	3 1/2"	3 3/4"	3 1/2"	3 3/4"	4"
D.B.	3/4"	3/4"	3/4"	3/4"	1"	1 1/8"	3/4"	1 1/8"	1 1/2"	1"	1 3/8"	1 7/8"	1 1/4"	1 5/8"	2 1/8"
D.R.	6"	6"	6"	6"	8"	10"	6"	10"	10"	8"	10"	10"	10"	10"	10"



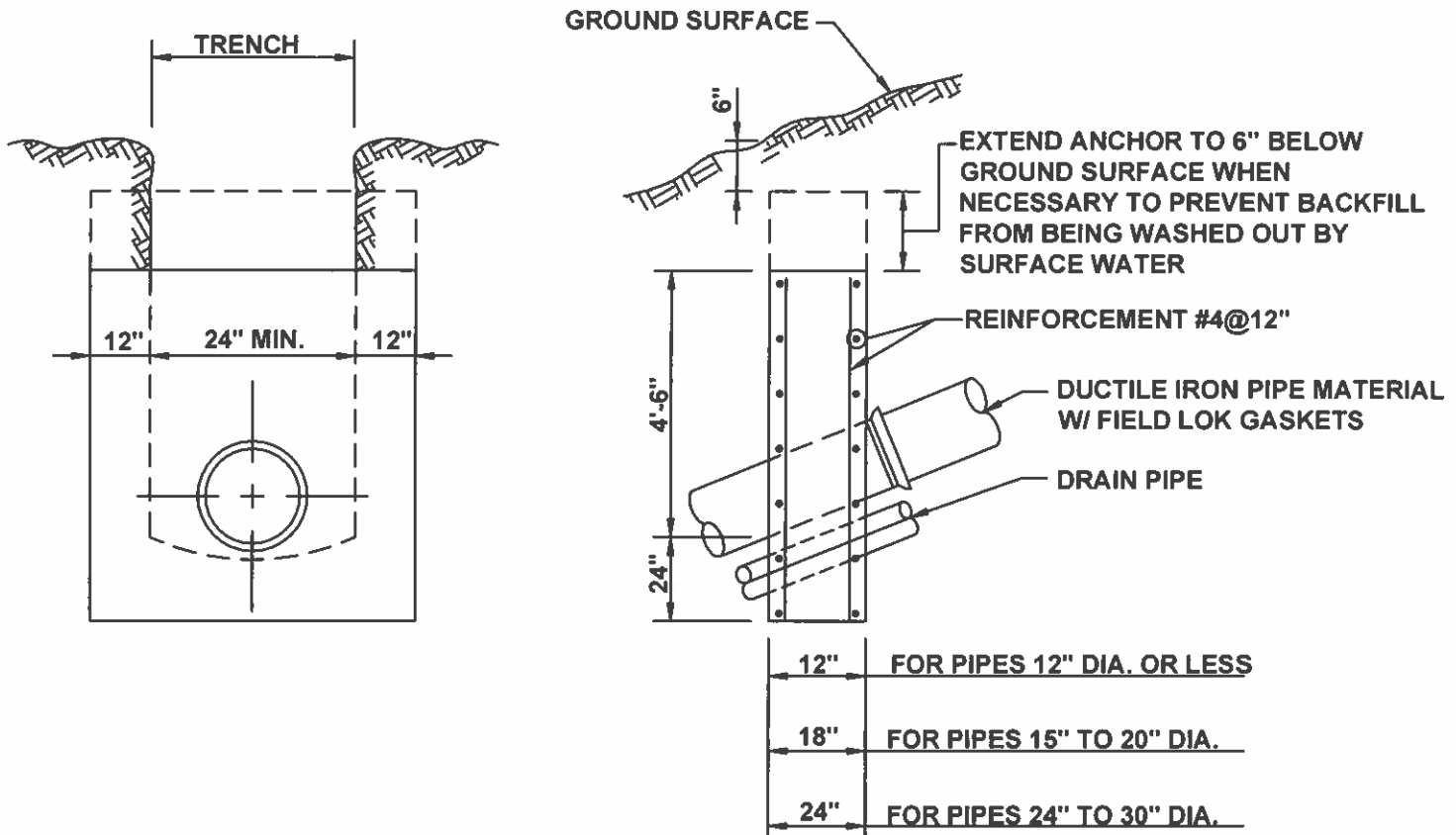
MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		STANDARD METHOD TO ANCHOR BENDS INTO SOLID ROCK
Not to scale	June 2016	Standard Detail SD-006



NOTE: THE TABLE IS BASED ON 225 PSI TEST PRESSURE. ALL BLOCKS HAVING LENGTH OF 3'-0" OR MORE TO BE REINFORCED WITH #4 @ 6" PLACED 3" FROM TOP OF BLOCK.

PIPE SIZE	TOTAL FORCE (lbs)	VOLUME IN CUBIC FEET			SIZE AND NO. OF ANCHOR RODS		
		45 DEGREE BENDS	22 1/2 DEGREE BENDS	11 1/4 DEGREE BENDS	45 DEGREE BENDS	22 1/2 DEGREE BENDS	11 1/4 DEGREE BENDS
4	4275	22.7	11.6	5.9	1-#4	1-#4	1-#4
6	8550	45.5	23.3	11.9	2-#4	1-#4	1-#4
8	14625	77.8	39.6	20.3	2-#4	2-#4	1-#4
10	21825	116.1	59.1	30.3	2-#4	2-#4	2-#4
12	30825	164.0	83.5	42.8	2-#5	2-#4	2-#4
14	41400	220.2	112.1	57.5	2-#6	2-#4	2-#4
16	53550	284.9	145.0	73.4	2-#7	2-#5	2-#4
18	67275	357.9	182.2	93.4	2-#7	2-#5	2-#4
20	82575	439.2	223.6	114.7	2-#8	2-#6	2-#4
24	117675	626.0	318.7	183.4	2-#9	2-#7	2-#5

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		CONCRETE ANCHORS AND METHOD OF LAYING MAINS UNDER OBSTRUCTIONS
Not to scale	June 2016	Standard Detail SD-007

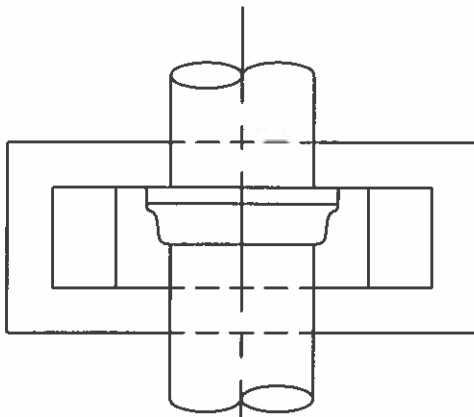


CONCRETE ANCHORS FOR PIPES ON STEEP GRADES

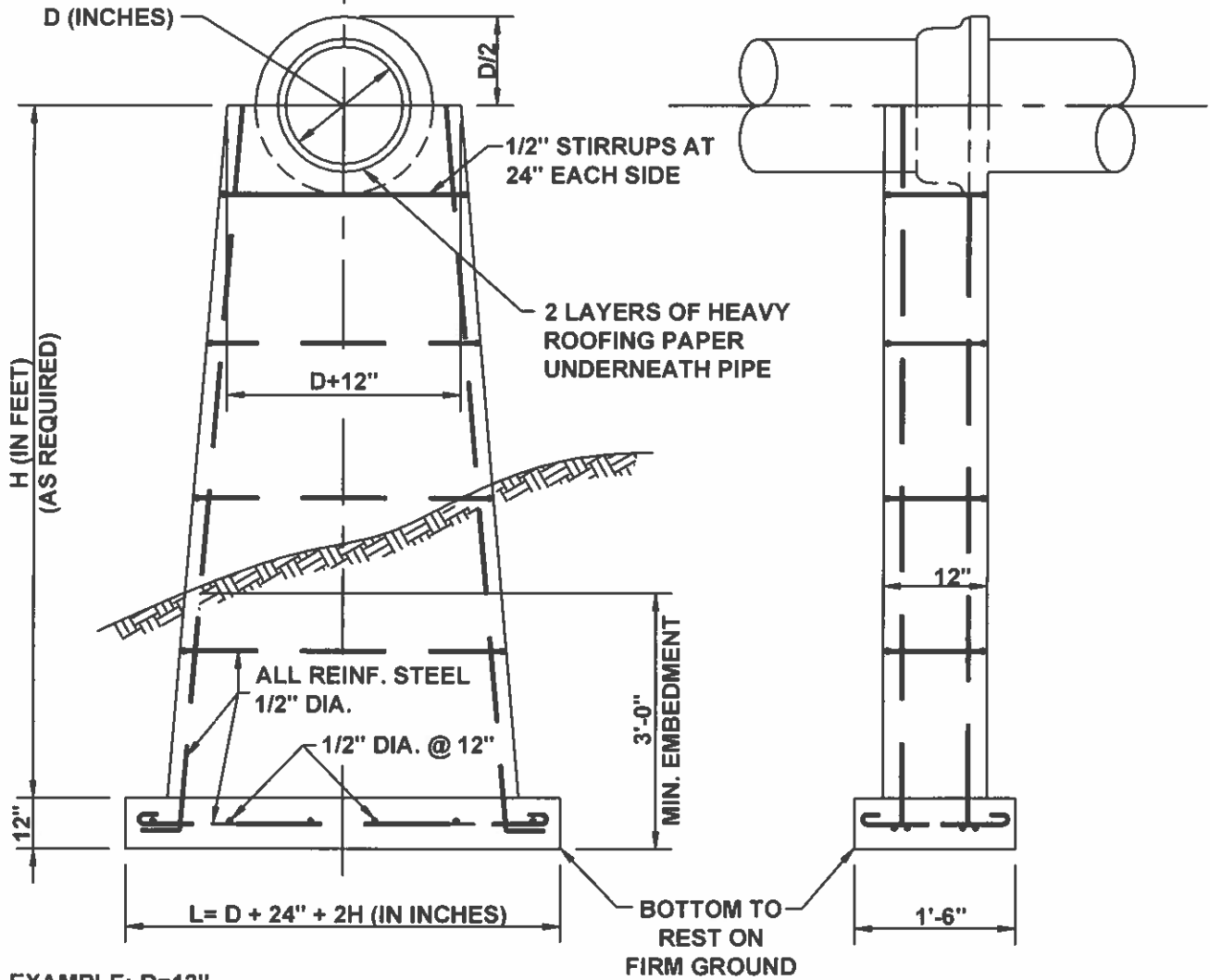
PROVIDE NO ANCHORS ON GRADES LESS THAN 20% UNLESS NOTED
 PROVIDE ANCHORS 36' O/C ON GRADES BETWEEN 20% AND 34%
 PROVIDE ANCHORS 18' O/C ON GRADES BETWEEN 34% AND 50%
 PROVIDE ANCHORS 9' O/C ON GRADES BETWEEN 50% AND 70%

FOR CONDITIONS OTHER THAN SHOWN HEREON ANCHORS SHALL BE PROVIDED AS REQUIRED BY THE CONTRACT PLANS OR ORDERED IN THE FIELD BY THE AUTHORITY'S REPRESENTATIVE.

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		CONCRETE ANCHORS FOR PIPELINES
Not to scale	June 2016	Standard Detail SD-008



THESE PIERS SHALL BE CONSTRUCTED AT ALL LOCATIONS WHERE PIPE ALIGNMENT OR PROFILE PROHIBITS PIPE SUPPORT ON ORIGINAL UNDISTURBED GROUND. SPACING BETWEEN PIERS SHALL ACCOMODATE PIPE JOINTS UNLESS OTHERWISE SHOWN ON THE THE PLANS OR DIRECTED IN THE FIELD



EXAMPLE: D=12"
 H=10'-0"
 $L=12''+24''+(2 \times 10' \times 12'')=56''$

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		PIPE SUPPORT PIERS FOR ALIGNMENTS ABOVE ORIGINAL UNDISTURBED GROUND
Not to scale	June 2016	Standard Detail SD-009

FIRE HYDRANT SHALL BE MODEL
 MUELLER SUPER CENT. 250 STD.
 PRESSURE

OPERATING NUT
 (OPEN COUNTER - CLOCKWISE)

2- 2 1/2" HOSE OUTLET

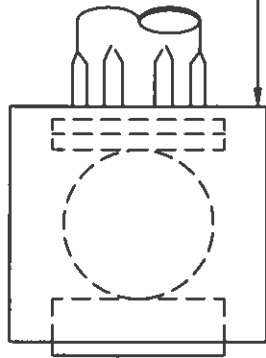
5" STORZ NOZZLE - STD. PRESSURE

FURNISH HYDRANTS WITH NATIONAL
 STANDARD THREADS

MIN. 2" AND MAX. 6" ABOVE
 FINISHED GRADE

FINISHED GRADE

18"x18"x6" CONC.
 BLOCKING MIN.



18"x 18"x 6" CONC. PAD

MECHANICAL JOINT ANCHORING
 COUPLING WITH ROTO GLAND

MECHANICAL JOINT

48" BURY AT
 HYDRANT (TYP.)

5 1/4" Ø 3-PIECE
 VALVE BOX

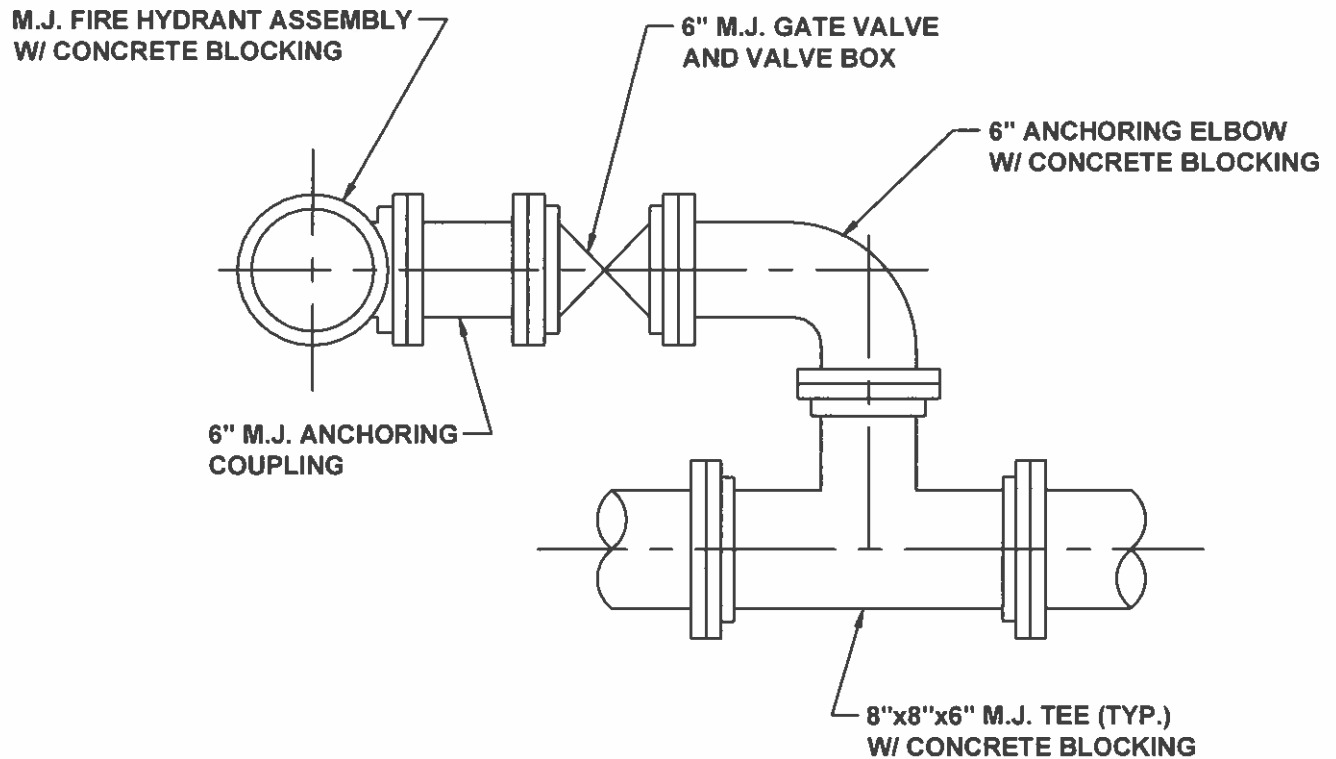
6" GATE VALVE
 (MECH. JOINT)

MECHANICAL JOINT ANCHORING
 TEE OR ELBOW WITH ROTO GLAND
 CONCRETE BLOCKING AT TEE

NOTES:

- 1.) IN THE INSTALLATION OF ALL FIRE HYDRANTS IN SLOPING AREAS THE CONTRACTOR SHALL EXCAVATE AROUND ALL SIDES OF THE HYDRANT FOR A DISTANCE OF AT LEAST 18" AND CONSTRUCT A SELF-SUSTAINING DRY STONE WALL IN THE EXCAVATED AREA TO PREVENT EARTH FROM MOVING INTO THE AREA.
- 2.) CONTRACTOR SHALL INSTALL 12 CUBIC FEET OF 3/4" CRUSHED STONE OR GRAVEL AROUND THE BASE OF HYDRANT AND COVER THE AGGREGATE WITH 40 MIL. POLYTHYLENE.
- 3.) ALL HYDRANTS PLACED IN EXCAVATED AREAS SHALL BE PROTECTED AND BE MADE COMPLETELY ACCESSIBLE.

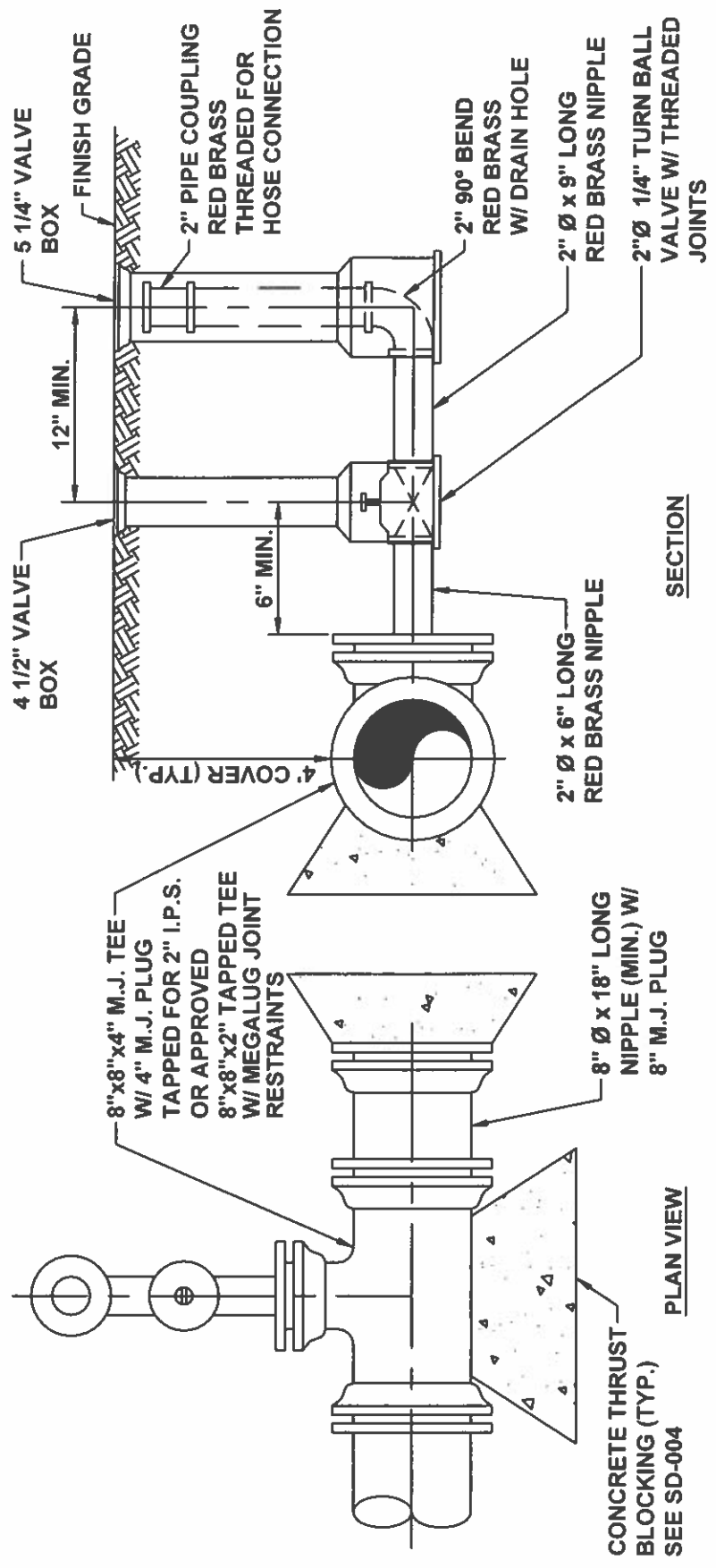
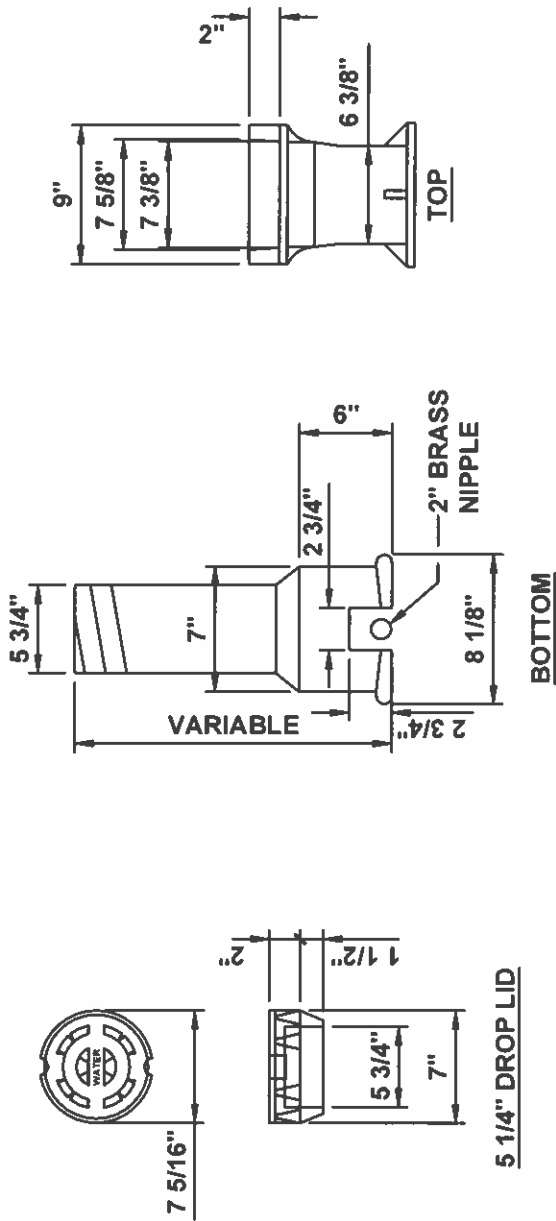
MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		FIRE HYDRANT ASSEMBLY
Not to scale	June 2016	Standard Detail SD-010



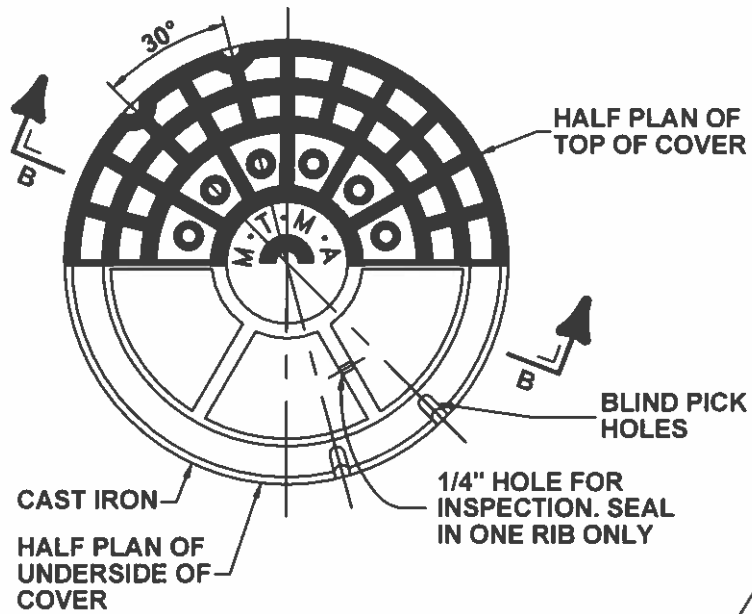
NOTES:

- 1.) FIRE HYDRANT TO FACE ROADWAY.
- 2.) FOR TYPICAL FIRE HYDRANT & APPURTENANCES SEE FIRE HYDRANT ASSEMBLY DETAIL (SD-010).
- 3.) STANDARD APPLIES TO DEVELOPMENTS WITH SIDEWALKS.

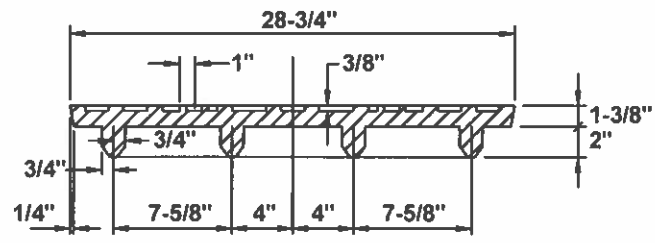
MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		90° FIRE HYDRANT ASSEMBLY DETAIL AS SHOWN OR OPPOSITE HAND
Not to scale	June 2016	Standard Detail SD-011



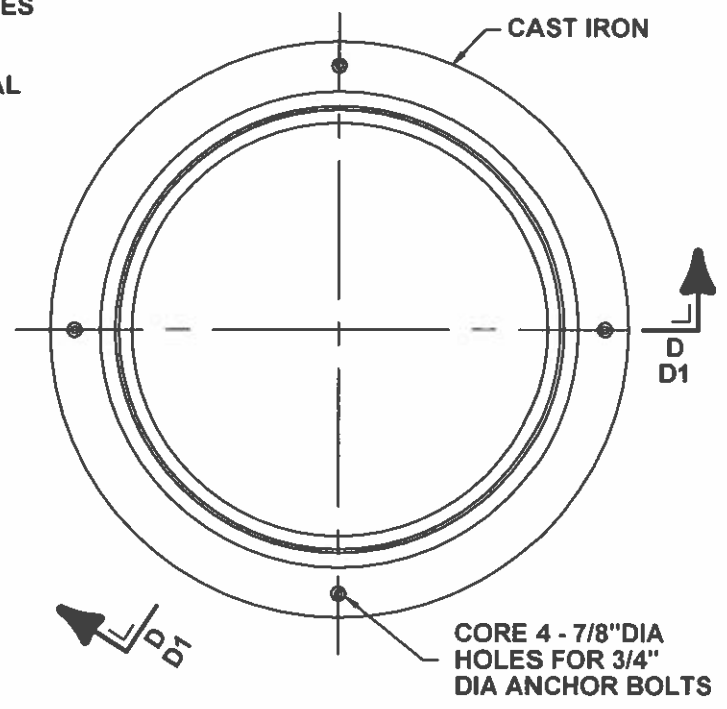
<p align="center">MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA</p>		<p>TYPICAL 2" BLOW-OFF</p>
<p>Not to scale</p>	<p>JUNE 2016</p>	<p>Standard Detail SD-012</p>



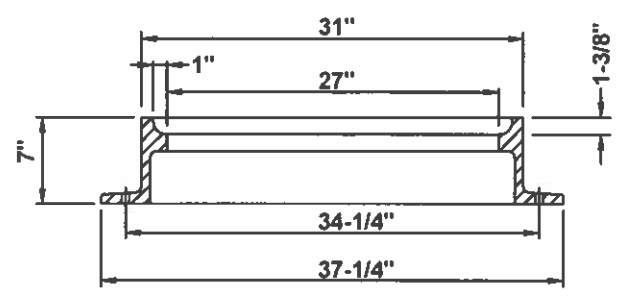
COVER PLAN A



COVER SECTION B-B



FRAME PLAN C



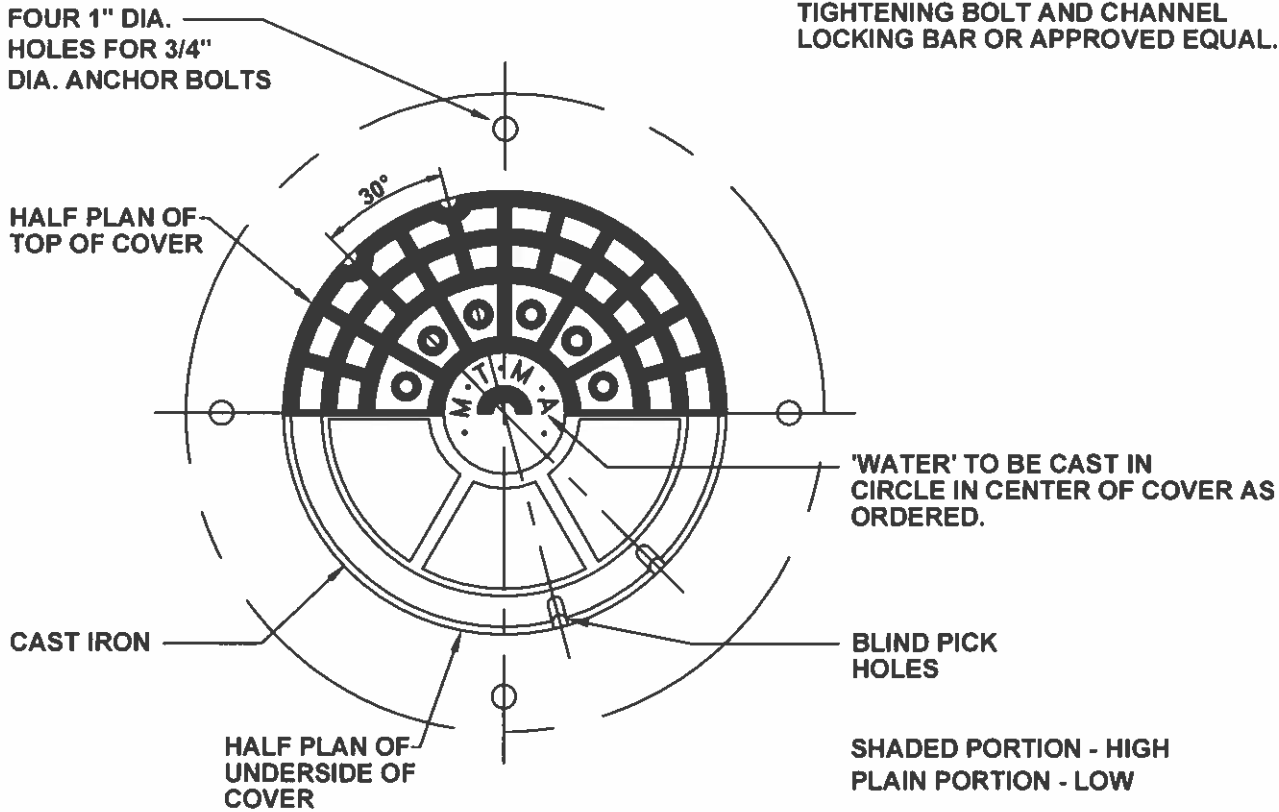
BOTTOM FLANGE - SECTION D-D

SHADED PORTION - HIGH
PLAIN PORTION - LOW

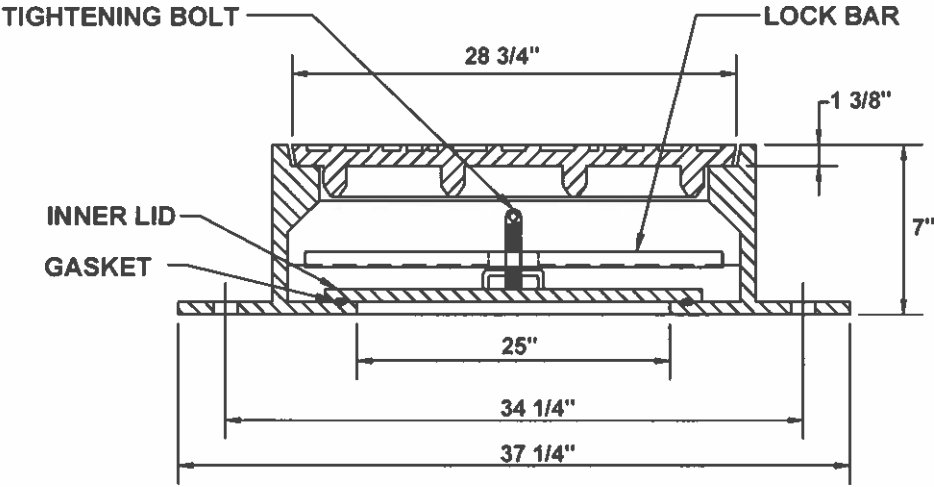
FRAME AND COVER TO BE 'NEENAH R-1753' WITH SELF-SEALING LID OR APPROVED EQUAL. 'WATER' TO BE CAST IN CIRCLE IN CENTER OF COVER AS ORDERED.

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		STANDARD CAST IRON MANHOLE FRAME AND COVER
Not to scale	JUNE 2016	Standard Detail SD-014

FRAME AND COVER SHALL BE 'NEENAH R-1755-F2' COMPLETE WITH NEOPRENE GASKET, BRONZE TIGHTENING BOLT AND CHANNEL LOCKING BAR OR APPROVED EQUAL.



PLAN



SECTION

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		WATERTIGHT MANHOLE (WT) FRAME AND COVER
Not to scale	June 2016	Standard Detail SD-015

CORE 4 - 7/8" DIA HOLES ON 34 1/4" DIA. B.C. FOR 3/4" DIA ANCHOR BOLTS

HALF PLAN OF TOP OF COVER

ALL KNOBS 1 1/4"

"WATER" TO BE CAST IN CIRCLE IN CENTER OF COVER AS ORDERED. 1" HIGH LETTERS.

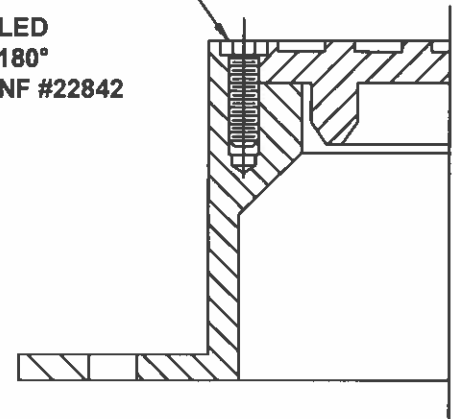
CAST IRON

HALF PLAN OF UNDERSIDE OF COVER

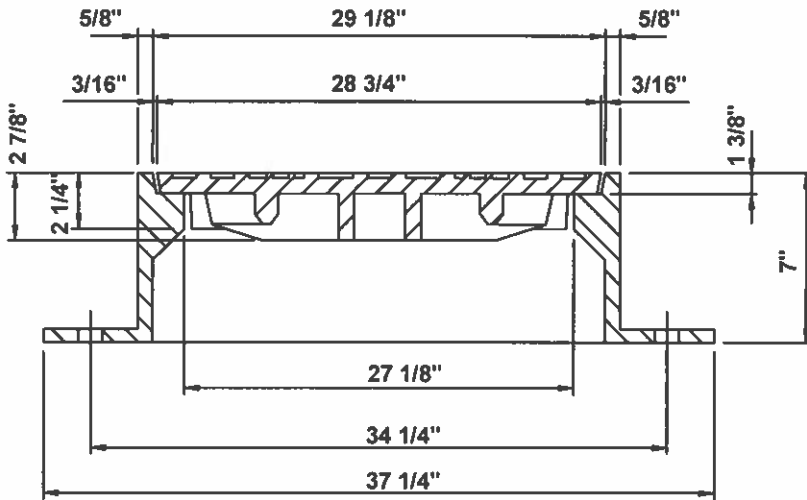
(2) CONCEALED PICKHOLES 180° APART PER NF #22842

PLAN

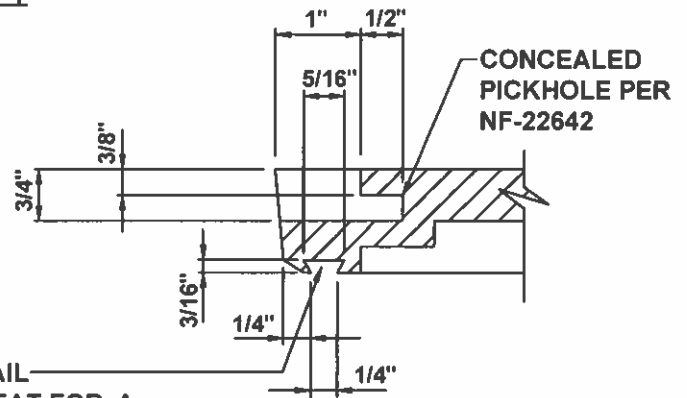
(4) 1/2" - 13 x 1 3/4" HEX HD S.S. CAP SCREWS W / WASHER



BOLTING DETAIL



SECTION



SELF SEAL DETAIL

MATERIAL:

CAST GRAY IRON ASTM A-48, CLASS 358

FINISH:

NO PAINT

WEIGHT:

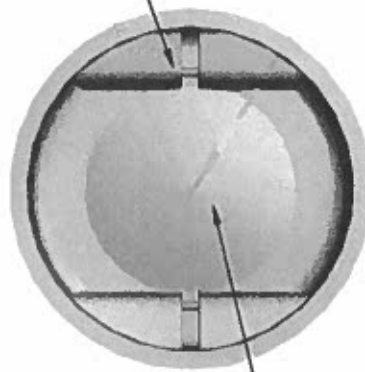
FRAME - 178 LBS.
LID - 213 LBS.

MACHINE DOVETAIL GROOVE IN LID SEAT FOR A 1/4" DIA. POLYISOPRENE GASKET (40 DUROMETER)

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		MANHOLE COVER AND FRAME SECURITY BOLT DETAILS
Not to scale	June 2016	Standard Detail SD-016

J HOOK LIFTING LUG FEATURE

HIGH QUALITY NEOPRENE SEAL



PATENT PENDING RIGID STRUCTURE

ANTI-CORROSIVE MATERIAL

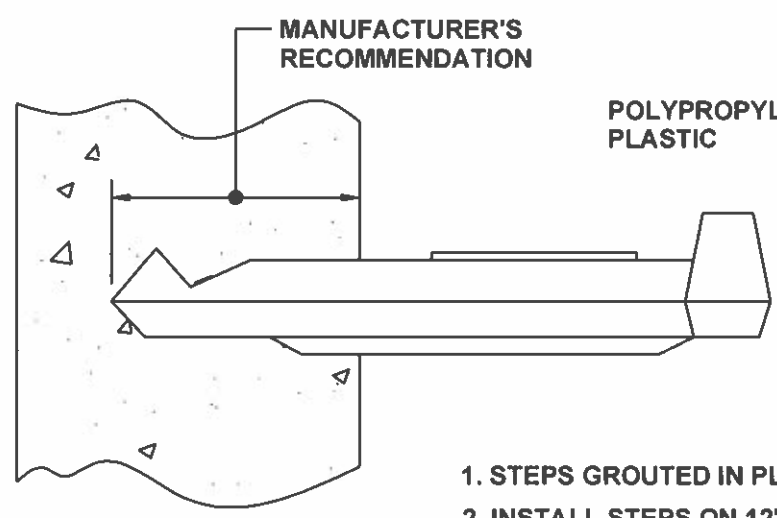
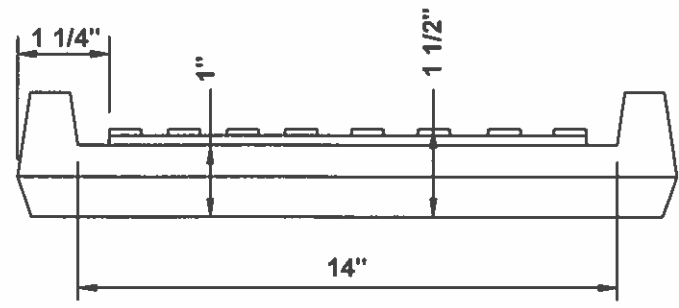
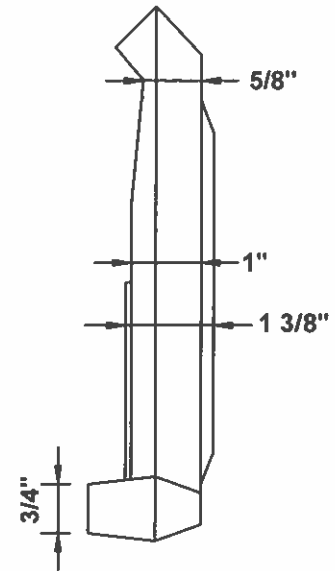
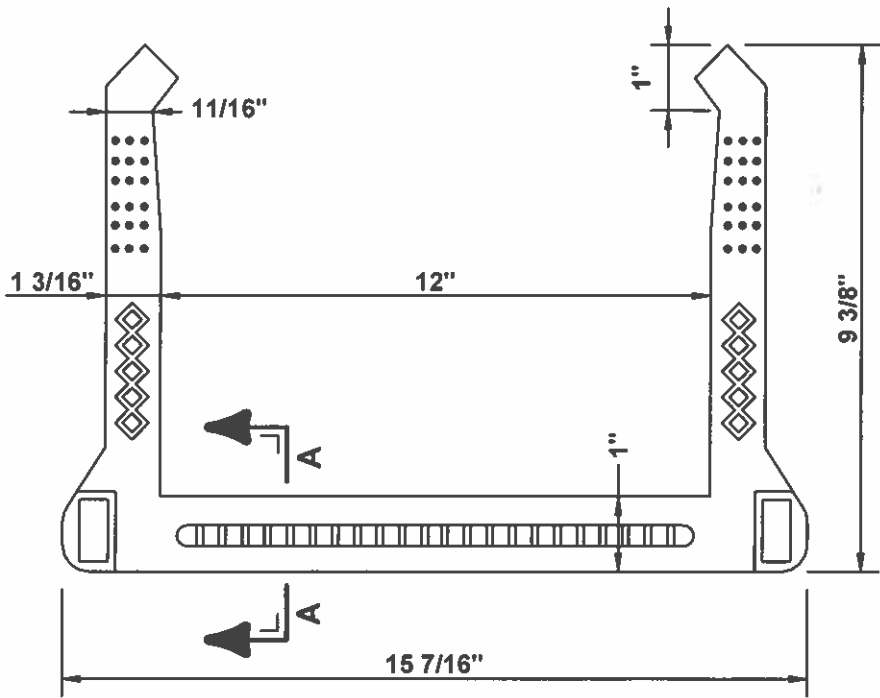
TOP VIEW

SIDE VIEW

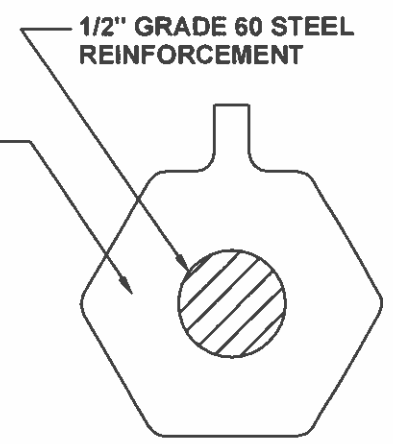
NOTES:

1. ABS INFLOW PROTECTOR SHALL BE MAN-PAN OR APPROVED EQUAL AND SHALL BE INSTALLED WHERE REQUIRED.
2. ALL INFLOW PROTECTORS SHALL BE INSTALLED WITH VENTS.

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		MANHOLE INFLOW PROTECTOR
Not to scale	June 2016	Standard Detail SD-017

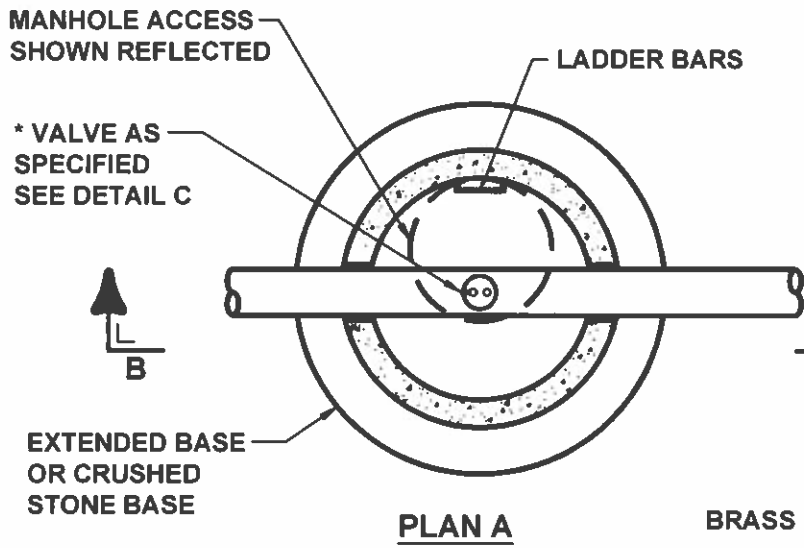


1. STEPS GROUTED IN PLACE
2. INSTALL STEPS ON 12" O/C

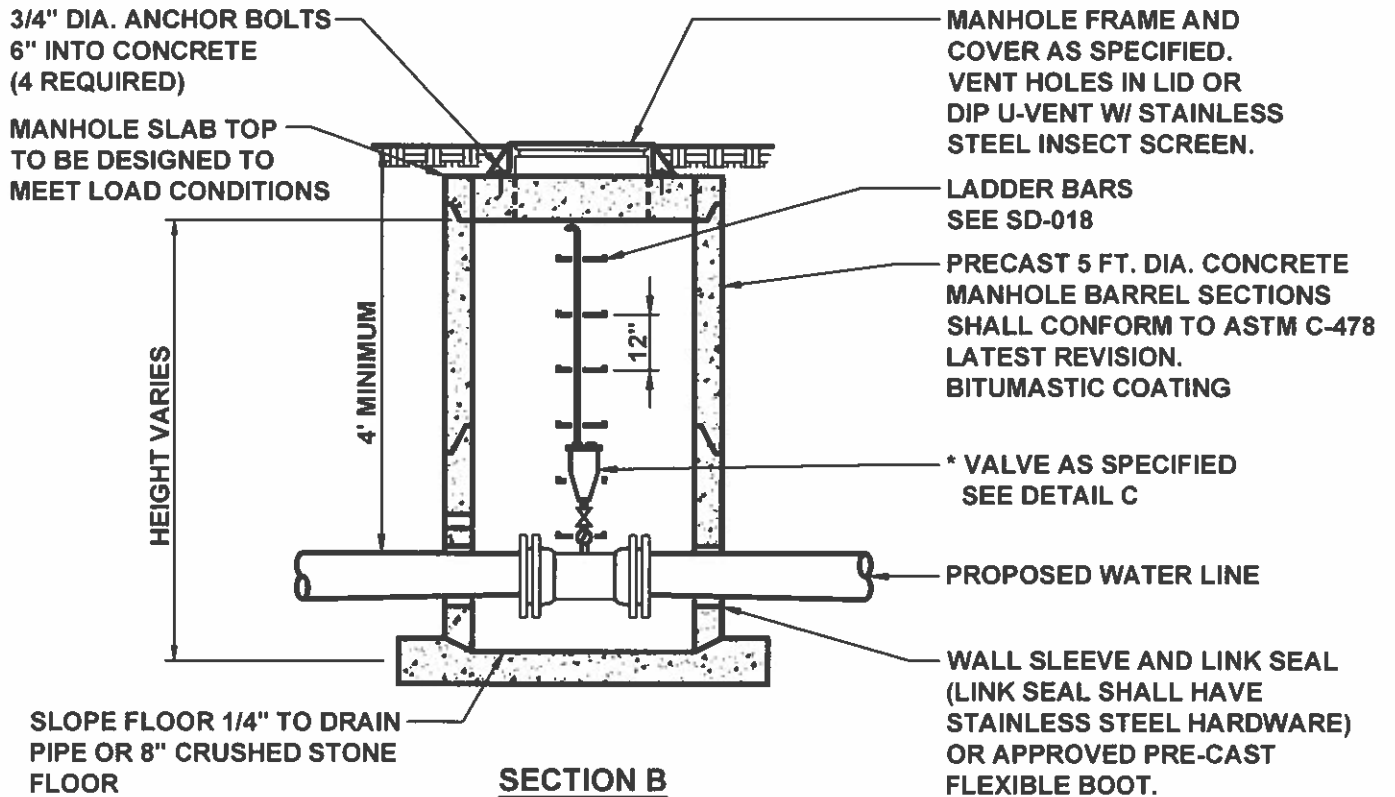
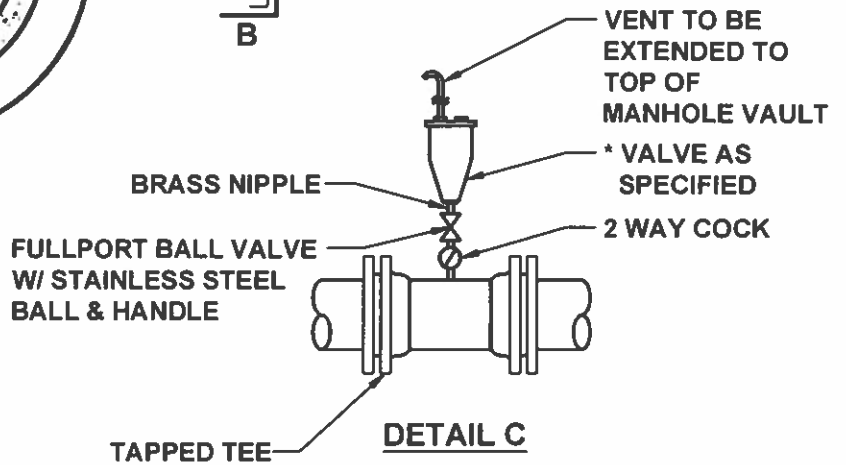


SECTION A

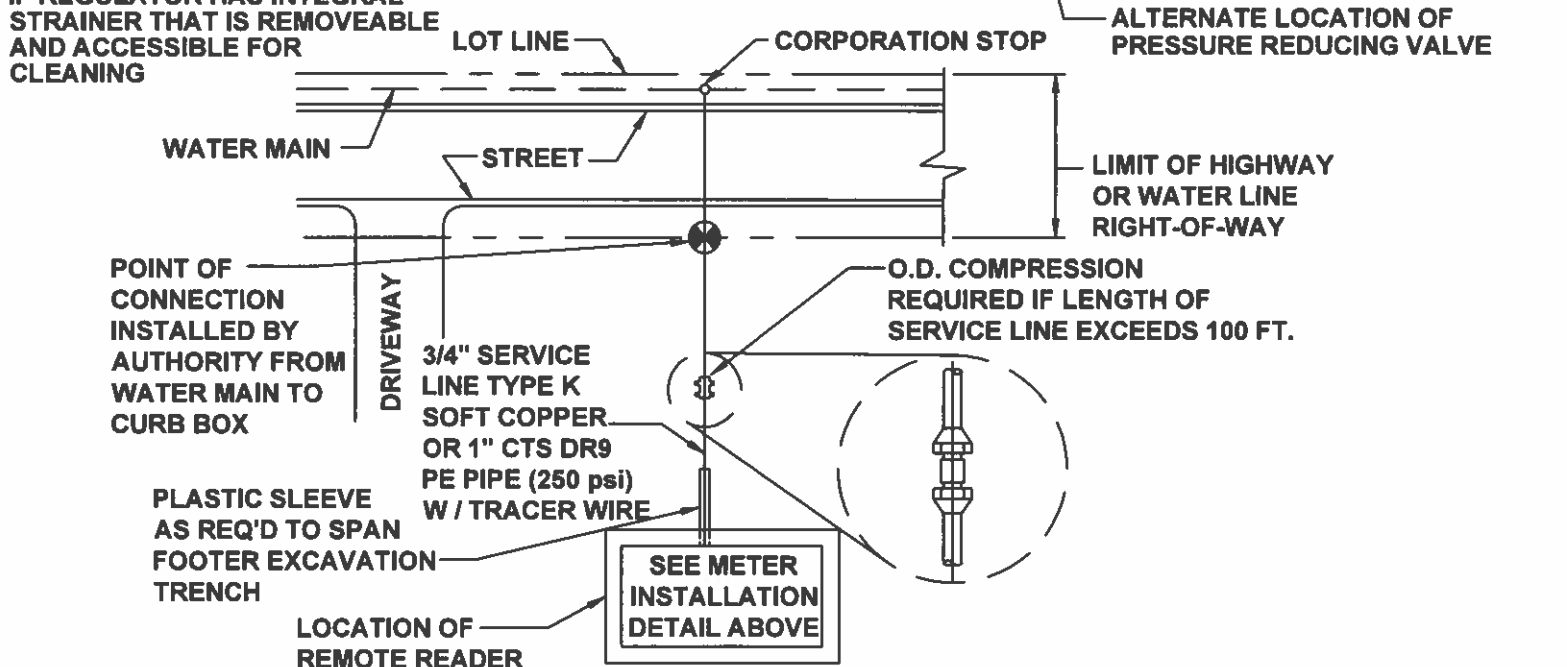
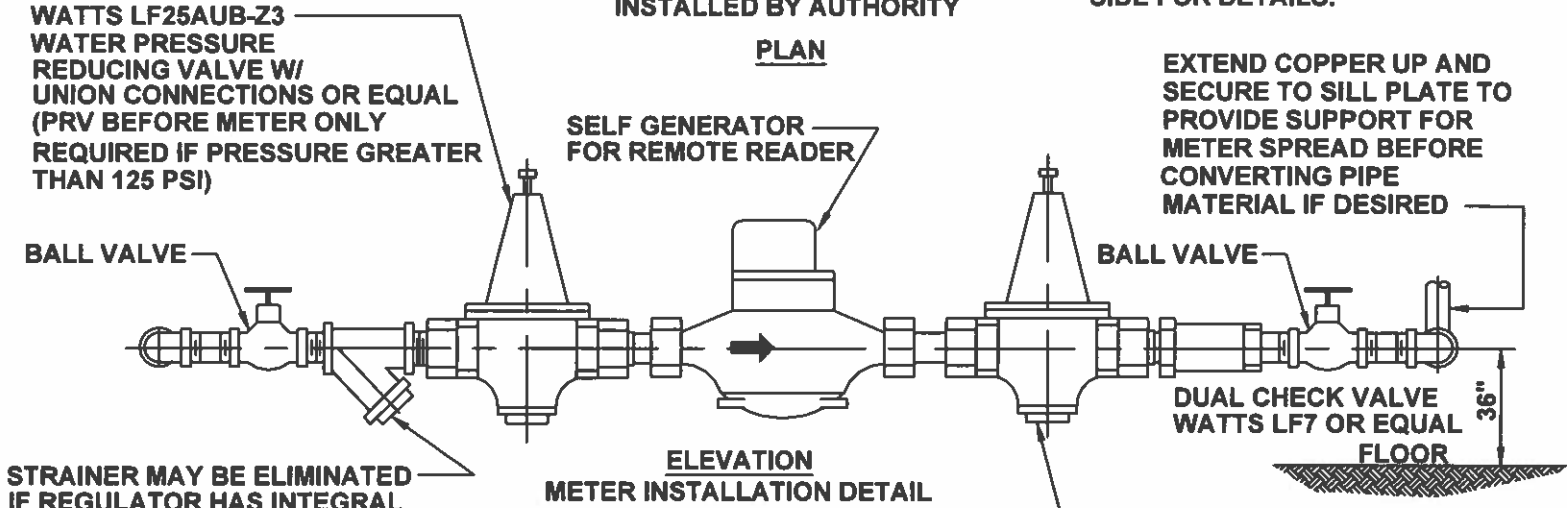
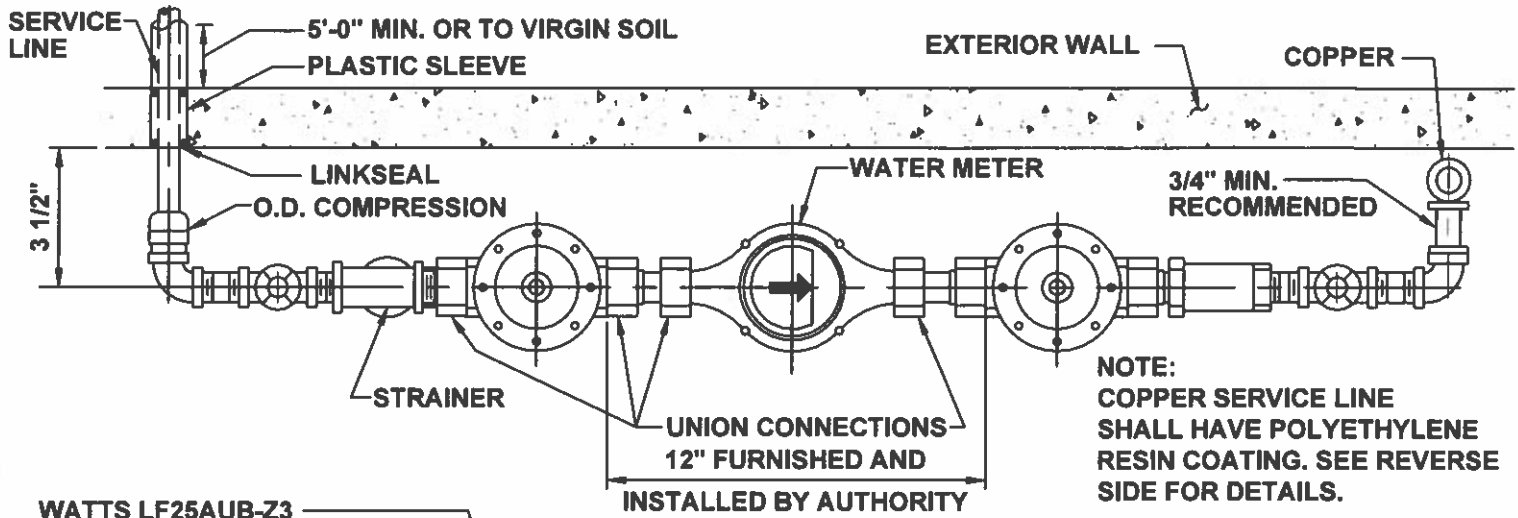
MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		POLYPROPYLENE PLASTIC MANHOLE STEP
Not to scale	June 2016	Standard Detail SD-018



- *TYPE OF VALVES TO BE INSTALLED IN MANHOLE AS REQUIRED BY THE AUTHORITY.
- 1.) AIR RELEASE VALVE
 - 2.) AIR AND VACUUM RELIEF VALVE
 - 3.) COMBINATION AIR VALVE



MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		WATER AIR RELEASE OR AIR AND VACUUM VALVE IN MANHOLE
Not to scale	June 2016	Standard Detail SD-019



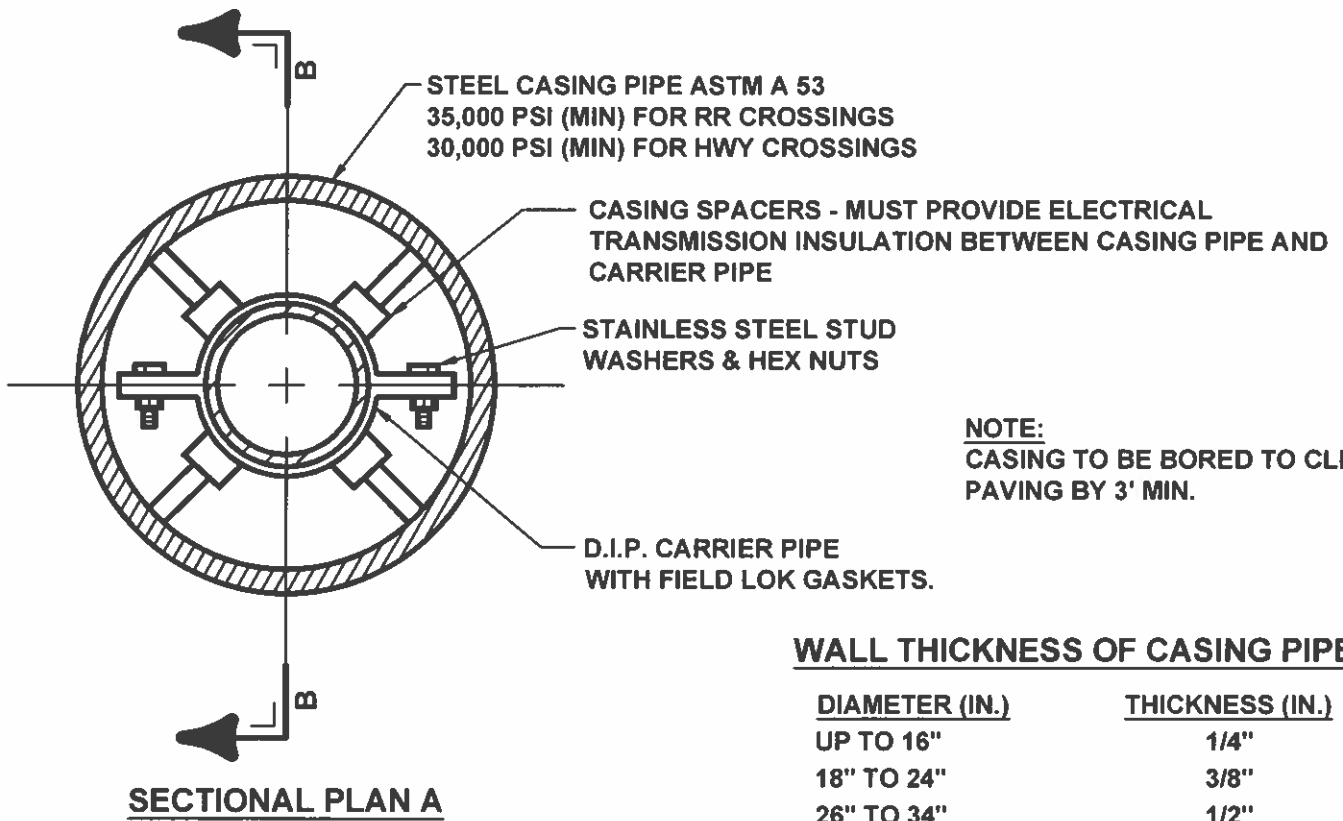
NOTE:
 WATER SERVICE LINE EXTENSION FROM CURB STOP TO METER SHALL BE INSTALLED BY SKILLED WORKMEN AT COST OF CUSTOMER IN ACCORDANCE WITH RULES & REGULATIONS AND DETAILED SPECIFICATIONS OF M.T.M.A. SEE (SD-022A) FOR CONDENSED INSTALLATION SPECIFICATION.

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		WATER DISTRIBUTION SYSTEM SERVICE LINE EXTENSION AND SERVICE LINE CONNECTION CONDENSED INSTALLATION SPECIFICATION
Not to scale	August 2019	Standard Detail SD-022

WATER DISTRIBUTION SYSTEM
SERVICE LINE EXTENSION AND SERVICE LINE CONNECTION
CONDENSED INSTALLATION SPECIFICATION

1. **GENERAL-** SERVICE LINE EXTENSION INCLUDES CONNECTION OF SERVICE LINE TO CURB STOP; SERVICE LINE FROM CURB STOP TO POINT WITHIN STRUCTURE HOUSING METER OR METER PIT IF APPROVED; ANGLE VALVE OR BALL VALVE/GATE VALVE SAME SIZE AS SERVICE LINE; PRESSURE REGULATOR AND A UNION IMMEDIATELY BEFORE THE METER; THE METER FOLLOWED BY A UNION; DUAL CHECK VALVE OR, IF REQUIRED BY AUTHORITY, A REDUCED PRESSURE ZONE BACKFLOW PREVENTER; AND A STOP AND WASTE VALVE; THE METER AND METER SPUDS AND REMOTE READ OUT SYSTEM INCLUDING GENERATOR AND REGISTER UNIT AND INTERCONNECTING WIRES SHALL BE FURNISHED AND INSTALLED BY THE AUTHORITY.
2. **SIZE-** MINIMUM SIZE SERVICE IS 3/4-INCH DIAMETER FOR COPPER LINES AND 1" FOR PE LINES.
3. **MATERIALS-** LINES TO BE DIRECT BURIED SHALL BE "TYPE K" SOFT COPPER TUBING PER FED. SPEC. XX-I-799 WITH MECHANICAL COUPLING JOINTS OR CTS DR9 PE (250 psi) PER NSF 14&61 WITH O.D. COMPRESSION COUPLING JOINTS USING THE APPROPRIATE STAINLESS STEEL STIFFENERS AND 12 GA AWG TRACER WIRE. COPPER PIPE SHALL BE AQUASHIELD "TYPE K" SOFT COPPER COATED WITH NOVA POL POLYETHYLENE LLDPE EXTRUSION RESIN PP-0118-F COATING TO MEET MINIMUM OF 0.025 INCHES THICKNESS, AS MANUFACTURED BY KAMCO PRODUCT INC., MUELLER INDUSTRIES, INC. PLUMBSHIELD, ON COPPER SERVICE LINES. **NO SOLDERED JOINTS** ARE TO BE USED OR APPROVED EQUAL.
4. **INSTALLATION-** LAY IN STRAIGHT LINE AS POSSIBLE AT RIGHT ANGLES TO STREET; MINIMUM 4 FEET COVER. BOTTOM OF TRENCH SHALL BE EXCAVATED TO CONFORM TO CURVATURE OF PIPE AND AFFORD UNIFORM BEARING SURFACE. DO NOT LAY ON ROCK BUT EXCAVATE MINIMUM OF 6 INCHES BELOW BOTTOM OF PIPE AND BACKFILL WITH SAND OR CLAY, WELL TAMPED, PE PIPE MUST BE INSTALLED WITH 12ga AWG TRACE WIRE.
SERVICE THROUGH WALL: THE REQUIRED SLEEVE SHALL BE TWICE THE DIAMETER OF THE SERVICE LINE. LINKSEAL SHALL BE USED ON INSIDE, FLUSH WITH THE WALL, TO SEAL BETWEEN PIPE AND CASING. FOR COPPER SERVICES, NO FERCOS WILL BE PERMITTED FOR NEW INSTALLATIONS. FOR PE SERVICES, A SHIELDED FERNCO IS REQUIRED ON THE OUTSIDE END OF CASING AND MAY BE ACCEPTED IN LIEU OF LINKSEAL ON THE INSIDE.
SERVICE THROUGH FLOOR: SERVICES SHALL BE BROUGHT TO METER SPREAD HEIGHT (30"-36"). COPPER SHALL BE INSTALLED BY BENDING, DISTORTION - FREE, WITH TUBING BENDER TOOL
5. **METER PITS-** ARE REQUIRED ON ALL SERVICE LINE EXTENSIONS 200 FEET OR GREATER.
6. **INSPECTION-** LINE TO REMAIN UNCOVERED UNTIL AFTER INSPECTION. HYDROSTATIC TESTING IS REQUIRED ON LINES WITH UNIONS/COUPLINGS OR WHERE OTHERWISE DEEMED NECESSARY BY THE AUTHORITY; NO LOSS DUE TO LEAKAGE IS PERMITTED. NOTIFY AUTHORITY OF NAME, LOCATION AND TIME WHEN WORK IS READY FOR INSPECTION. METER SPREADS MUST BE IN PLACE AT THE TIME OF INSPECTION.
7. **WATER PRESSURE REDUCING VALVE-** SUITABLE FOR MAXIMUM LINE PRESSURE OF 300 PSI, A DELIVERY PRESSURE OF 45 TO 55 PSI, AND MANUFACTURED IN ACCORDANCE WITH ASSE 1003-1. VALVE SHALL BE WATTS MODEL LF25AUB-Z3 OR EQUAL WITH AN EASILY REMOVEABLE STAINLESS STEEL INTEGRAL STRAINER OR SHALL BE PRECEDED BY A SEPARATE Y-STRAINER. STRAINERS MUST BE CONSTRUCTED WITH STAINLESS STEEL SCREEN AND MUST BE ACCESSIBLE FOR REMOVAL AND CLEANING.
8. THE ELECTRICAL SYSTEM MUST BE PROPERLY GROUND IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE. PRIOR TO REPLACING AN EXISTING METALLIC WATER SERVICE LINE WITH A NON-METALLIC PIPE, CONSULT WITH AN ELECTRICIAN REGARDING PROPER GROUNDING.
9. **METER SPREADS-** ALL FITTINGS, INCLUDING THE STOP AND WASTE VALVE, MUST BE BRASS WITH THREADED IPS. SOLDERED JOINTS ARE ONLY PERMITTED AFTER THE STOP AND WASTE VALVE. METER SPREADS MUST BE 30" TO 36" OFF OF FINISHED FLOOR LEVEL. METER SPREAD, WITH THE EXCEPTION OF THE METER, SHALL BE OWNED AND MAINTAINED BY THE PROPERTY OWNER. COMPRESSION JOINTS ARE REQUIRED BEFORE THE METER. NO PACK JOINTS ARE PERMITTED.

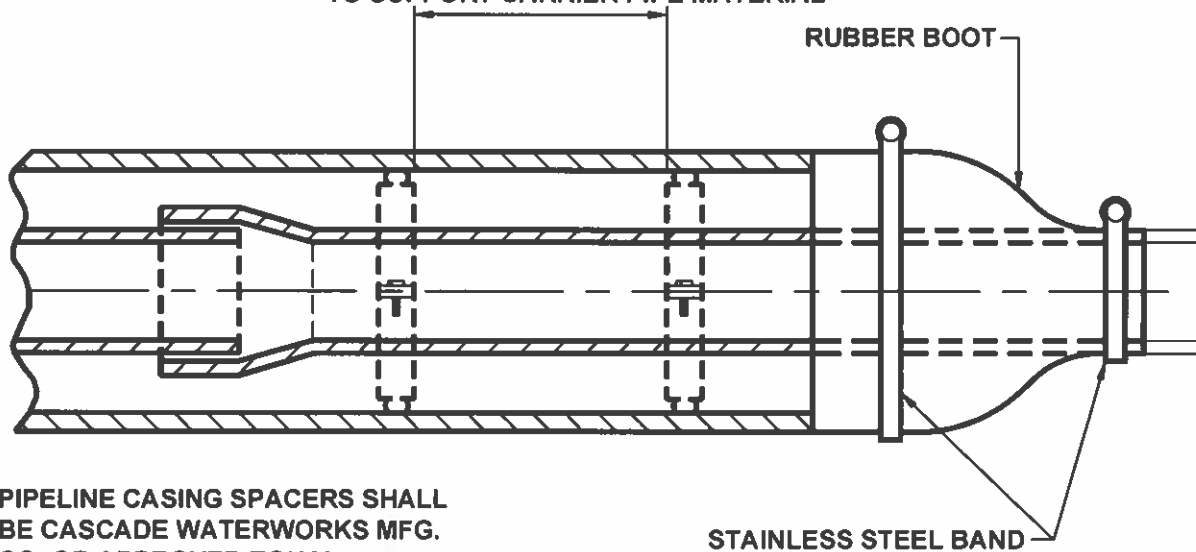
MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		WATER DISTRIBUTION SYSTEM SERVICE LINE EXTENSION AND SERVICE LINE CONNECTION CONDENSED INSTALLATION SPECIFICATION
Not to scale	August 2020	Standard Detail SD-022A



WALL THICKNESS OF CASING PIPE

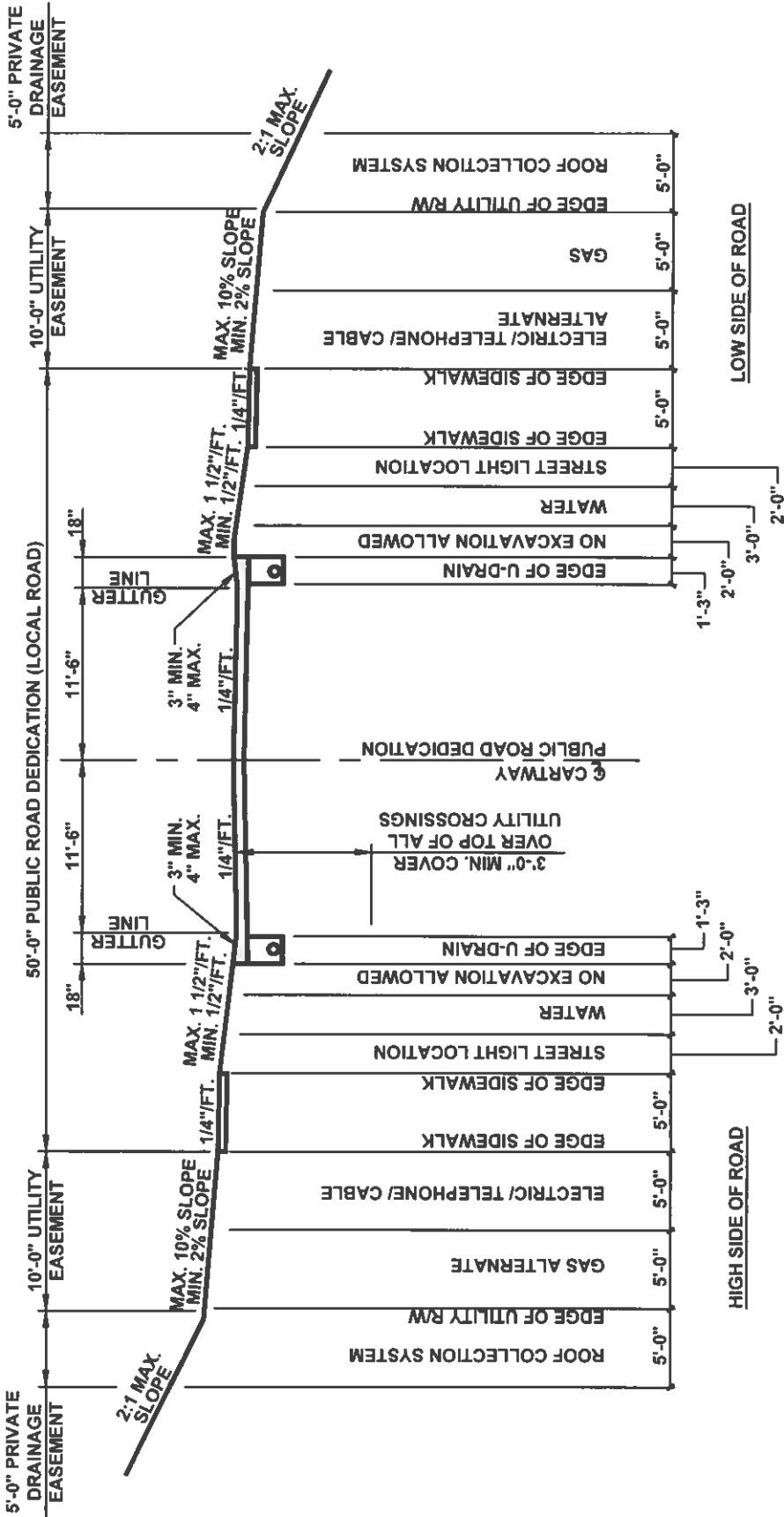
<u>DIAMETER (IN.)</u>	<u>THICKNESS (IN.)</u>
UP TO 16"	1/4"
18" TO 24"	3/8"
26" TO 34"	1/2"
36" TO 42"	5/8"

MANUFACTURER RECOMMENDS
10' MAX. SPACING W / END SPACERS
2' FROM END OF CASING OR AS
DIRECTED BY SPACER MANUFACTURER
TO SUPPORT CARRIER PIPE MATERIAL



SECTION B

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		STEEL CASING AND D.I. CARRIER PIPES INSTALLED BY BORING
Not to scale	JUNE 2016	Standard Detail SD-026



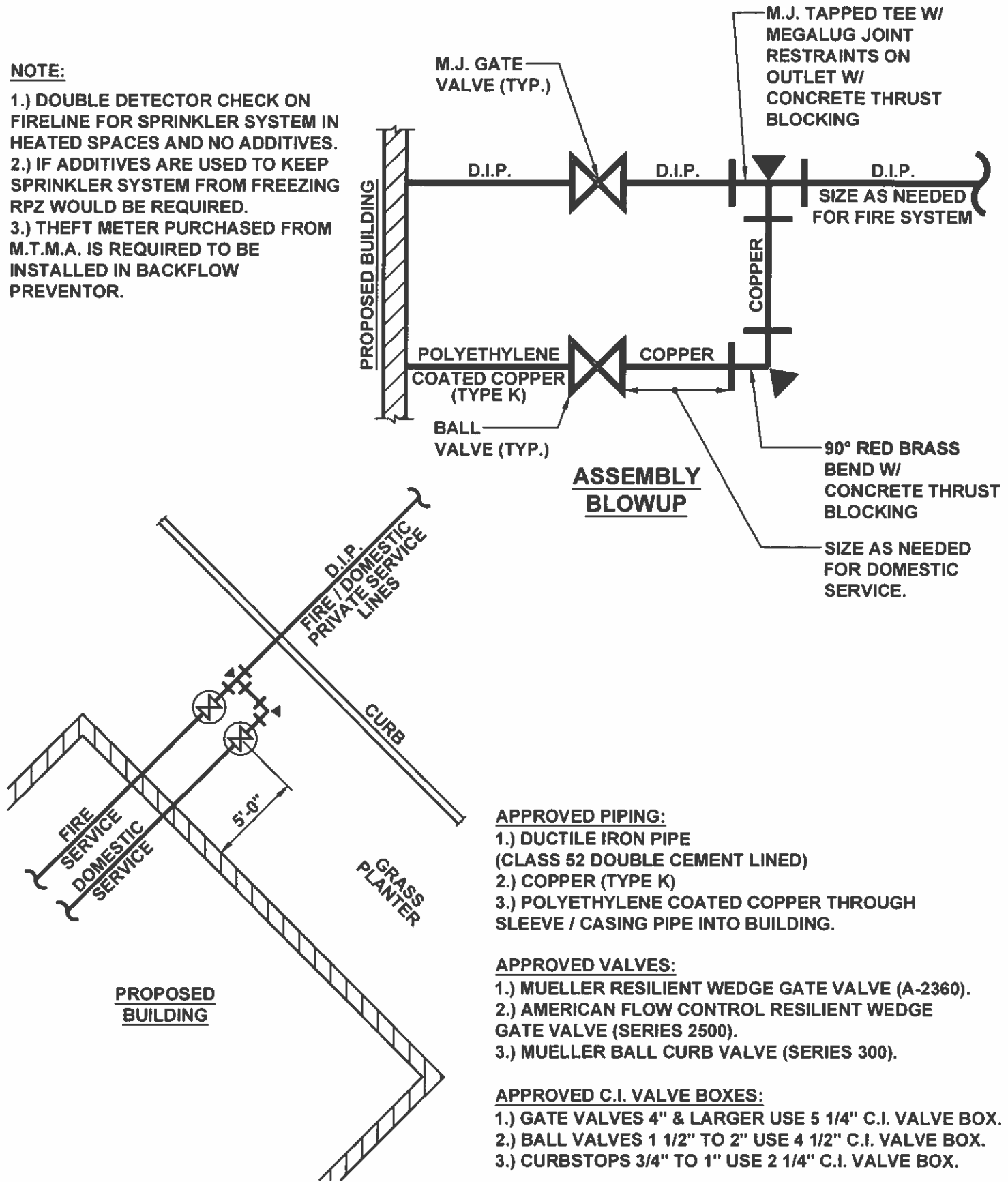
NOTES:

1. THESE LOCATIONS ARE TYPICAL FOR STRAIGHT AWAY- SITE AND/ OR EXISTING CONDITIONS AT TIME OF INSTALLATION MAY WARRANT CHANGES. ANY CHANGES MUST BE INDICATED ON SPECIFIC CONSTRUCTION DOCUMENTS WITH PRIOR APPROVAL OF TOWNSHIP ENGINEER IN WRITING. SUBMIT CROSS-SECTION SHOWING LOCATIONS FOR APPROVAL.
2. UNDERDRAIN SHALL BE INSTALLED ON BOTH SIDES IN ALL CASES.
3. THE DEVELOPER SHALL INDICATE UNDERDRAIN LOCATIONS ON THE PLANS.
4. SLAG IS NOT PERMITTED AS BACKFILL.
5. 100% STONE BACKFILL IS REQUIRED FULL WIDTH OF RIGHT-OF-WAY.
6. IN SETTING MAIL BOX POST, DO NOT DAMAGE FRENCH DRAIN. SET BOTTOM OF POST A MAXIMUM OF 20" BELOW CURB. DO NOT PERMIT CONCRETE COLLAR TO EXCEED 12" BELOW TOP OF CURB. MAIL BOX SHALL BE MAXIMUM 4"x4" WOOD POST (OR TOWNSHIP APPROVED EQUAL). BRICK OR CONCRETE PILLARS ARE NOT PERMITTED.
7. SANITARY SEWER LOCATION TO BE DETERMINED DURING APPROVAL PROCESS.
8. ALL UTILITY CROSSINGS MUST BE MADE PERPENDICULAR TO THE ROAD CARTWAY.
9. ALL UTILITY LINES MUST BE STAKED IN THE FIELD AND REVIEWED BY THE TOWNSHIP PRIOR TO THE INSTALLATION OF THE UTILITY.

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		TYPICAL UTILITY LOCATION
Not to scale	June 2016	Standard Detail SD-028

NOTE:

- 1.) DOUBLE DETECTOR CHECK ON FIRELINE FOR SPRINKLER SYSTEM IN HEATED SPACES AND NO ADDITIVES.
- 2.) IF ADDITIVES ARE USED TO KEEP SPRINKLER SYSTEM FROM FREEZING RPZ WOULD BE REQUIRED.
- 3.) THEFT METER PURCHASED FROM M.T.M.A. IS REQUIRED TO BE INSTALLED IN BACKFLOW PREVENTOR.



APPROVED PIPING:

- 1.) DUCTILE IRON PIPE (CLASS 52 DOUBLE CEMENT LINED)
- 2.) COPPER (TYPE K)
- 3.) POLYETHYLENE COATED COPPER THROUGH SLEEVE / CASING PIPE INTO BUILDING.

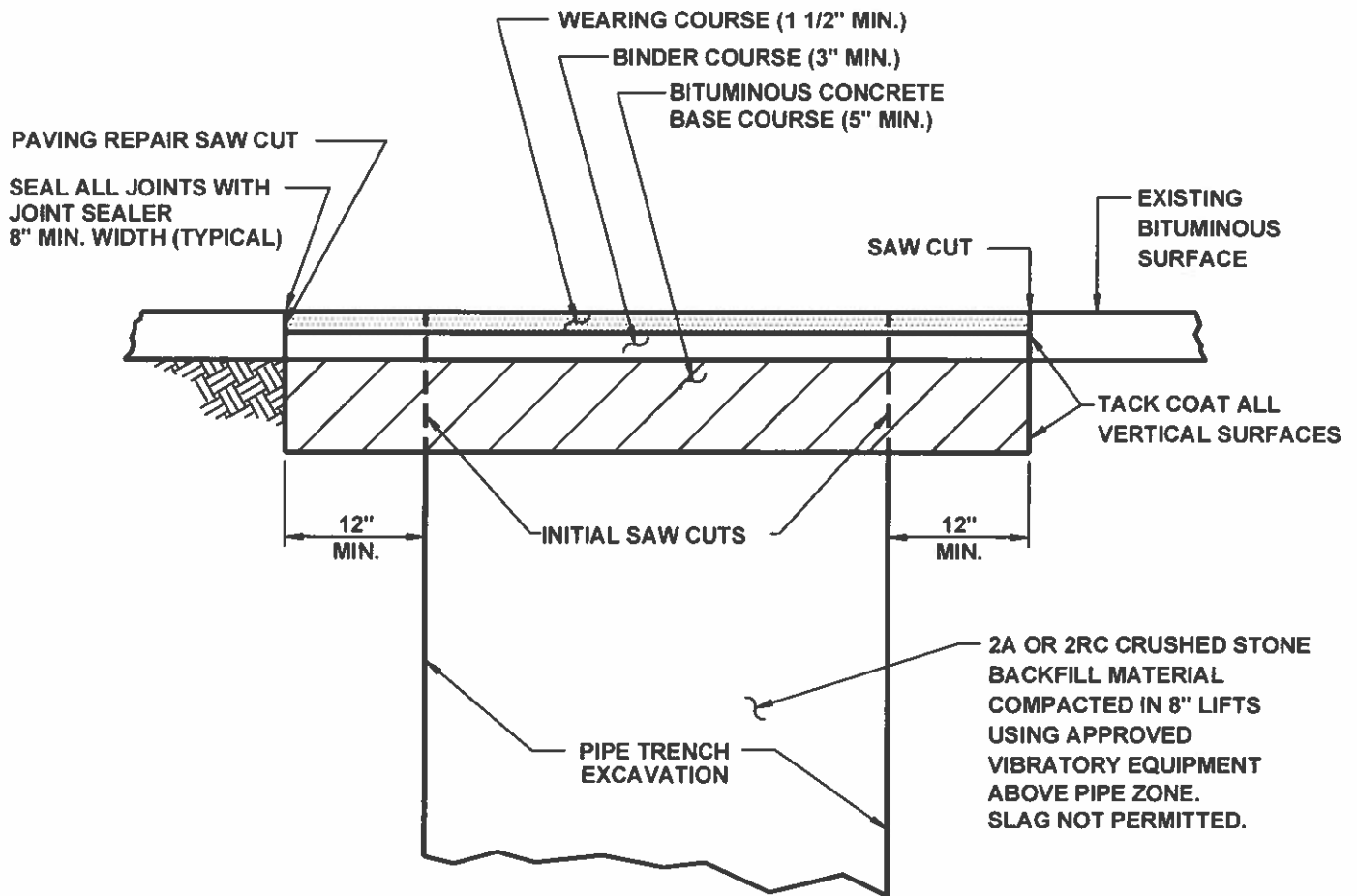
APPROVED VALVES:

- 1.) MUELLER RESILIENT WEDGE GATE VALVE (A-2360).
- 2.) AMERICAN FLOW CONTROL RESILIENT WEDGE GATE VALVE (SERIES 2500).
- 3.) MUELLER BALL CURB VALVE (SERIES 300).

APPROVED C.I. VALVE BOXES:

- 1.) GATE VALVES 4" & LARGER USE 5 1/4" C.I. VALVE BOX.
- 2.) BALL VALVES 1 1/2" TO 2" USE 4 1/2" C.I. VALVE BOX.
- 3.) CURBSTOPS 3/4" TO 1" USE 2 1/4" C.I. VALVE BOX.

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		FIRE PROTECTION CONNECTION DETAIL
Not to scale	June 2016	Standard Detail SD-029



- WEARING COURSE:** SUPERPAVE HWA IN ACCORDANCE WITH PA DOT SPECIFICATIONS. DEPTH EQUAL TO OR GREATER OF EXISTING OR 1 1/2" MIN. AFTER COMPACTION
- BINDER COURSE:** SUPERPAVE HWA IN ACCORDANCE WITH PA DOT SPECIFICATIONS. DEPTH EQUAL TO OR GREATER OF EXISTING OR 3" MIN. AFTER COMPACTION
- BASE COURSE:** SUPERPAVE HWA IN ACCORDANCE WITH PA DOT SPECIFICATIONS. DEPTH EQUAL TO OR GREATER OF EXISTING OR 5" MIN. AFTER COMPACTION
- TACK COAT:** SEC. 401.3(f) OF PUB. 408 LATEST EDITION.

NOTES:

1. 2 SEPARATE SAW CUTS. INITIAL SAW CUT FOR TRENCH EXCAVATION, PAVING REPAIR SAW CUT FOR PAVING RESTORATION.
2. DURING COLD WEATHER MONTHS, PROVIDE AND MAINTAIN A TEMPORARY BITUMINOUS COLD PATCH SURFACE UNTIL WEATHER PERMITS BITUMINOUS PAVING.
3. NOTIFY MOON TOWNSHIP PUBLIC WORKS DIRECTOR MIN. 24 HOURS IN ADVANCE OF EXCAVATION AND RESTORATION.
4. SLAG IS NOT PERMITTED AS BACKFILL.
5. 100% STONE BACKFILL IS REQUIRED FULL WIDTH OF RIGHT-OF-WAY.
6. TEMPORARY PIPE BACKFILL USING EXCAVATED MATERIAL IS NOT PERMITTED. MUST BE BACKFILLED WITH SUITABLE STONE AS PER NOTE 5 ABOVE IMMEDIATELY.

MOON TOWNSHIP MUNICIPAL AUTHORITY ALLEGHENY COUNTY PENNSYLVANIA		RESTORATION OF MOON TOWNSHIP FLEXIBLE BASE PAVEMENT STREETS AND ROADS
Not to scale	June 2016	Standard Detail SD-034