

**CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
BAYSIDE SEWER SYSTEM PRESSURE SEWER
CONTRACT 86B
ADDENDUM NO. 2**

January 8, 2020

The following information is provided as part of the Contract Documents as Addendum No. 2.

CONTRACT SPECIFICATIONS

DIVISION 01 – EARTHWORK

1. Section 01800 – Archaeological Provisions, Part 5 Execution.

Add:

2.5 MOBILIZATION

- A. Should an unanticipated discovery be made during construction work requiring remobilization, the Contractor shall remobilize work to an alternative location. Contractor shall include 10 such re-mobilizations for unanticipated discoveries within Contract Bid Item 1 Site Preparation and Mobilization. Payment for additional remobilizations will be paid on time and materials basis.

DIVISION 03 – EARTHWORK

1. Section 03350 – Excavation and Fill, Section 3.1 Trenches and Other Excavation

Add: Excavated trenches may be left open overnight only with the use of steel plate cover. The use of steel plates shall be approved by the Engineer. Contractor shall submit for approval the method for utilizing plates in accordance with shop drawing submittals requirements. The plate shall be capable of supporting HS-25 loads. The plates shall be secured with bituminous wedges or bolted down. Traffic signs shall be provided in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).

DIVISION 05 – UTILITIES

1. Section 05812 – Horizontal Directional Drilling, Subsection 1.7 – Submittals, Subsection C, 2., i.,

Delete:

- i. Disposal of excess drilling fluids and drill/bore cuttings and method of transporting drilling fluids and cuttings offsite.

Replace:

- i. Disposal location of excess drilling fluids and drill/bore cuttings and method of transporting drilling fluids and cuttings offsite.

1. Section 05812 – Horizontal Directional Drilling, Section 3.9, Item I. Prereaming, Reaming Pilot Hole, and Pulling Pipe

Delete:

- i. Pull pipe so that minimum of 20 feet of pipe is exposed at both ends of bore.

Replace:

- i. Pull pipe so that minimum of 20 feet of pipe is exposed at both ends of bore. In confined work areas, the minimum exposed pipe may be reduced at the discretion of the Engineer.

CONTRACT PLANS

1. Plan Sheet No. 58 Details – 1, Open Excavation, Delete and Replace with the attached Plan.
2. Plan Sheet No. 60 Details – 3, Pavement and Water, Delete and Replace with the attached Plan
3. Plan Sheet No. 62 Details – 5, Open Trench Excavation, Delete and Replace with the attached Plan.

CLARIFICATIONS

1. Comment: Where can drill spoils and excavated fill be disposed?

Response: Reference Specifications Section 05812 – Horizontal Directional Drilling subsection 1.3 – Description of Work, Subsection 12, *Removal of all drilling fluids and spoils from the construction area, and transporting them to an approved disposal site.*

2. Comment: How is rock excavation paid for in directional drilling. What provisions are provided for retrieval if the drilling operation is obstructed?

Response: Reference Section 01025 Measurement and Payment, see excerpt below. Rock excavation for retrieval will be paid under Item 3. Rock excavation for drilling will be paid at an additional premium cost.

<u>BID ITEM</u>	<u>DESCRIPTION</u>	<u>PAY UNIT</u>
3	Rock Excavation (Trenchless - Open Cut Excavation)	Cubic Yard (CY)

Measurement: Rock excavation to facilitate trenchless technologies will be measured on a volume basis as computed from the area in its original position. **Trenchless technology rock excavation will include excavations for operation and reception pits, and for rock removal required to retrieve or facilitate directional drilling runs using open cut excavation.** Rock excavation for trenchless open cut excavations will consist of the removal of intact bedrock and boulders or detached bedrock fragments which have a minimum volume of 1 cubic yard.

Payment: The accepted quantity of Rock Excavation for trenchless open cut removal will be paid for at the contract unit price per cubic yard as listed in the Proposal. The payable quantity will be the number of cubic yards of ledge rock or boulders drilled and mechanically split, or split by hand, as measured before excavation, that would have been removed if the excavation had been made everywhere. The price so-stated constitutes full and complete compensation for all labor, materials and equipment, including excavation within the prescribed limits of the work, formation of embankments, grading, removal of bituminous pavement, compaction, disposal of surplus materials, preparation of subgrade, and all other incidentals required to finish the work complete and accepted by the Engineer.

<u>BID ITEM</u>	<u>DESCRIPTION</u>	<u>PAY UNIT</u>
4	Rock Excavation (Trenchless – Drilling – All Diameters)	Linear Foot (LF)

Measurement: Rock excavation to facilitate directional drilling through boulders or ledge rock encountered during operations will be measured in linear feet of continuous run.

Payment: The accepted quantity for rock drilling via trenchless technologies will be paid for at the contract unit price per linear foot for all pipe size diameters as listed in the Proposal. **The linear foot price shall be the additional premium cost to facilitate directional drill through boulders or ledge rock.** The price so-stated constitutes full and complete compensation for all labor, materials and equipment, including all other incidentals required to finish the work complete and accepted by the Engineer.

3. Comment: Can AutoCad files of the project be provided?

Response: AutoCad files will not be provided. However, we have enclosed Table – 1 Quantity Distribution Summary. The table provides a distribution of pipe length and size by street.

ATTACHMENTS

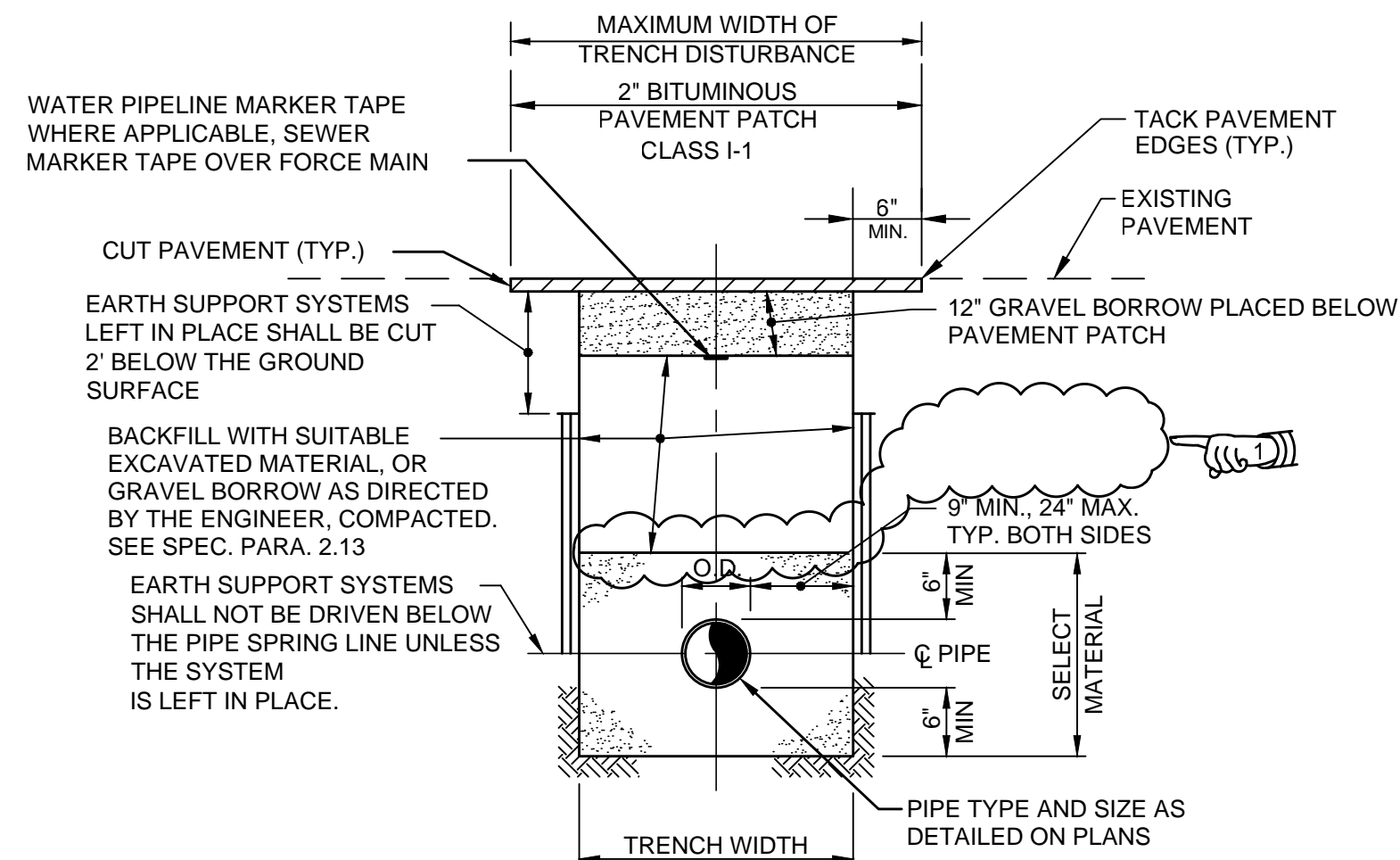
- Contract Plan Sheets (3)
- Table - 1 Pipe Quantity Distribution (1)

Warwick Sewer Authority - City of Warwick
Bayside Sewer Project
Contract - 86B - Addendum No. 2
Table - 1 - Pipe Quantity Distribution

Item	Unit	Alden Avenue	Arlington Avenue	Avon Avenue	Basset Avenue	Beatrice Avenue	Beatrice Terrace	Bolster Street	Bourne Street	Boylston Street	Brinton Avenue	Burnett Road	Cady Avenue	Camp Street	Channing Street	Chapin Avenue	Clara Avenue	Cliff Road	Curry Place	Friendship Avenue
1 1/2" Pipe Open Cut Excavation - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2" Pipe - Open Cut Excavation - Lateral	L.F.	445	599	-	-	-	449	-	220	325	330	520	-	455	260	505	206	-	-	-
3" Pipe - Open Cut Excavation - Lateral	L.F.	535	560	-	-	129	-	-	-	505	1,000	-	-	-	-	600	-	510	-	-
4" Pipe - Open Cut Excavation - Lateral	L.F.	-	-	-	-	-	-	-	-	-	230	-	-	-	-	-	-	-	-	-
6" Pipe - Open Cut Excavation - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 1/4" Trenchless - Service	L.F.	2,220	2,140	527	672	904	720	544	80	940	1,660	960	2,282	800	400	1,420	675	720	342	779
2" Trenchless - Lateral	L.F.	-	-	457	535	-	-	320	-	-	-	-	625	-	-	-	437	-	175	443
3" Trenchless - Lateral	L.F.	-	-	-	-	570	-	-	-	-	-	-	1,000	-	-	-	-	-	230	-
4" Trenchless - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6" Trenchless - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8" Trenchless - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

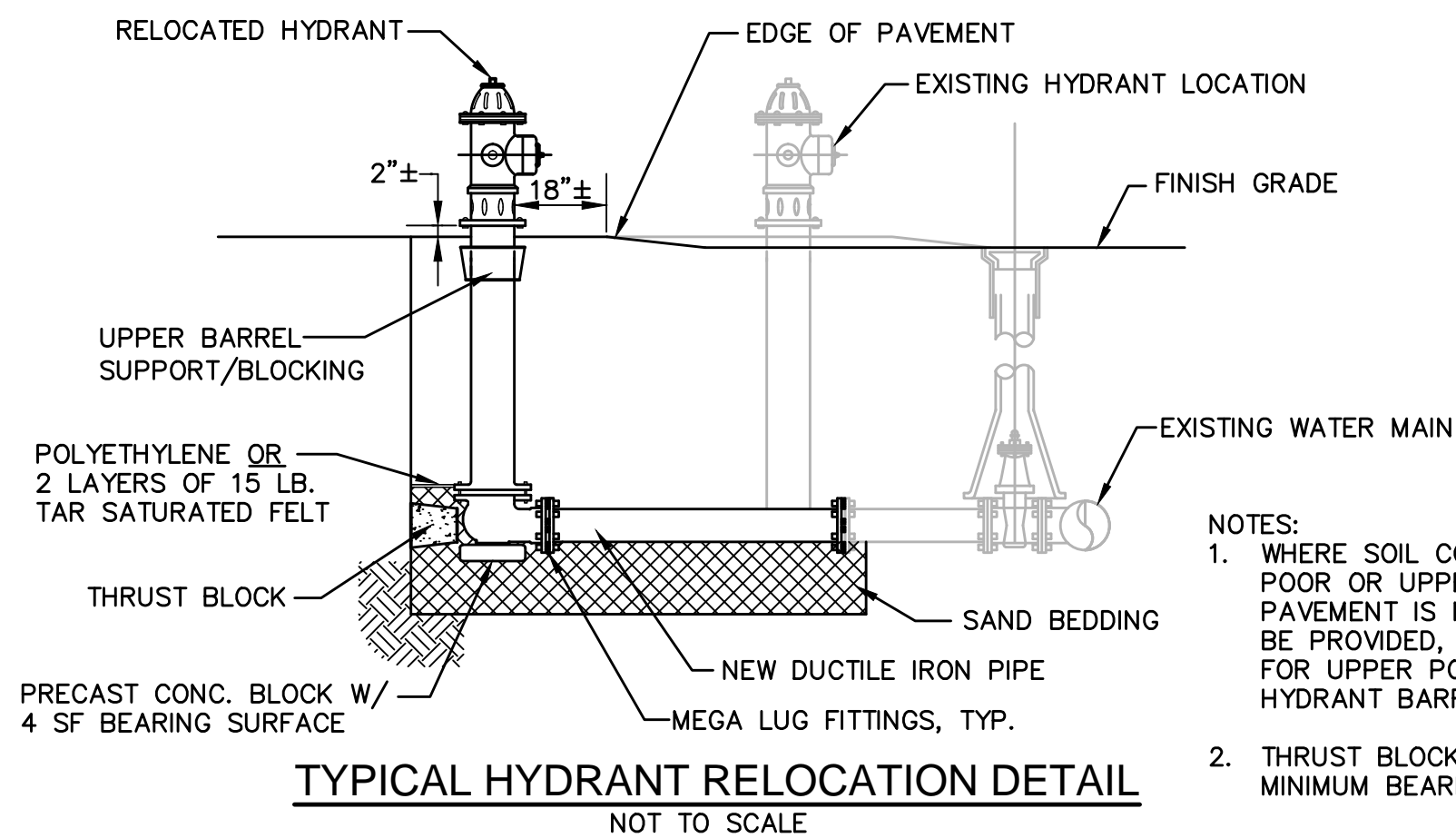
Item	Unit	Grove Avenue	Hamlin Avenue	Harbor View Drive	Height Avenue	Hope Avenue	Lighthouse Lane	Lippitt Avenue	Longmeadow Avenue	Lyndon Avenue	Mayflower Avenue	Mayor Lane	Medford Street	Melrose Street	Mill Cove Road	Ocean Avenue	Ogden Avenue	Palmer Avenue	Park Avenue	Payton Avenue
1 1/2" Pipe Open Cut Excavation - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2" Pipe - Open Cut Excavation - Lateral	L.F.	635	-	-	-	526	440	-	46	-	130	-	290	330	-	156	915	360	140	205
3" Pipe - Open Cut Excavation - Lateral	L.F.	583	-	-	-	784	-	-	-	-	-	-	400	-	-	-	572	1,225	-	-
4" Pipe - Open Cut Excavation - Lateral	L.F.	-	-	635	-	-	-	-	-	-	-	-	-	-	-	-	-	1,300	-	-
6" Pipe - Open Cut Excavation - Lateral	L.F.	-	-	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 1/4" Trenchless - Service	L.F.	2,140	347	1,100	851	1,020	480	2,409	3,042	530	320	85	940	320	2,245	761	2,140	2,220	2,037	1,658
2" Trenchless - Lateral	L.F.	-	339	-	372	-	-	782	1,453	465	-	243	-	-	970	186	-	-	430	295
3" Trenchless - Lateral	L.F.	-	-	-	343	-	-	566	405	-	-	-	-	-	1,362	200	-	-	578	715
4" Trenchless - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6" Trenchless - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8" Trenchless - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Item	Unit	Pender Avenue	Possner Avenue	Priscilla Avenue	Ridge Road	Riverside Avenue	River Vue Avenue	Sable Street	Samuel Gorton Avenue	Seacrest Lane	Shore Avenue	Standish Avenue	Surf Avenue	Tidewater Drive	Van Zandt Avenue	Webb Avenue	Wentworth Avenue	Whipple Avenue	Project Wide	Total
1 1/2" Pipe Open Cut Excavation - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100.00
2" Pipe - Open Cut Excavation - Lateral	L.F.	-	-	595	100	486	-	-	-	364	-	-	450	-	-	-	-	-	-	10,482.00
3" Pipe - Open Cut Excavation - Lateral	L.F.	-	-	765	776	-	-	-	-	295	-	270	300	-	-	-	-	-	-	9,809.00
4" Pipe - Open Cut Excavation - Lateral	L.F.	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,465.00
6" Pipe - Open Cut Excavation - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	555	-	-	-	-	-	1,115.00
1 1/4" Trenchless - Service	L.F.	2,188	359	1,900	800	2,073	2,250	161	1,799	1,020	662	160	1,260	2,965	1,325	1,197	716	2,921	-	67,186.00
2" Trenchless - Lateral	L.F.	311	254	-	-	615	516	-	335	-	574	-	-	-	606	425	543	370	-	13,076.00
3" Trenchless - Lateral	L.F.	1,224	-	-	-	365	1,340	-	865	-	-	-	-	-	405	565	482	1,520	-	12,735.00
4" Trenchless - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100.00
6" Trenchless - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	2,427	-	-	-	-	-	2,427.00
8" Trenchless - Lateral	L.F.	-	-	-	-	-	-	-	-	-	-	-	-	1,425	-	-	-	-	-	1,425.00



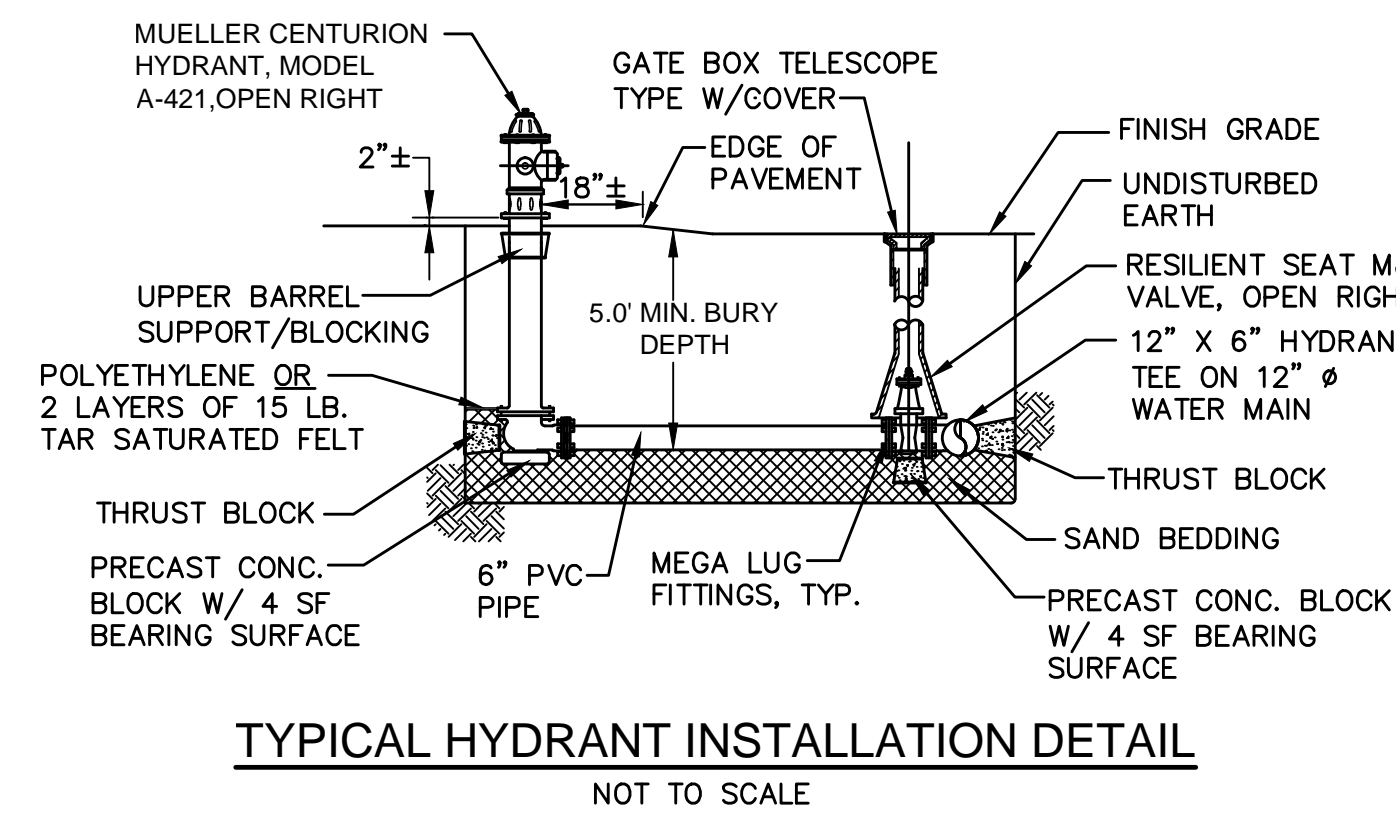
OPEN CUT TYPICAL TRENCH DETAIL FOR SEWER LATERALS, FORCE MAIN, WATER MAIN & SERVICES, AND STORM WATER DRAINAGE PIPE
NOT TO SCALE

- NOTES:**
1. THE HORIZONTAL LIMIT FOR ROCK EXCAVATION IN TRENCHES SHALL BE 27" BEYOND THE O.D. OF THE PIPE. THE VERTICAL LIMIT SHALL BE 6" BELOW THE O.D. OF THE PIPE. SEE PARAGRAPH 2.3 OF PROJECT SPECIFICATIONS. CONTRACTOR TO TAKE ALL ROCK QUANTITIES INDEPENDENT OF THE ENGINEER AND CONFIRM THESE QUANTITIES ON A WEEKLY BASIS WITH THE ENGINEER FOR APPROVAL. ALL APPROVED CALCULATIONS AND QUANTITIES SHALL BE SUBMITTED TO THE WSA CONSTRUCTION DIVISION WITH MONTHLY PROGRESS PAYMENT FOR REVIEW.
 2. CONTRACTOR SHALL ADJUST THE WIDTH OF SAW CUT OF EXISTING PAVEMENT BASED ON ACTUAL EQUIPMENT AND EARTH SUPPORT SYSTEM USED. MAXIMUM WIDTH OF DISTURBANCE SHALL BE WIDTH OF EARTH SUPPORT SYSTEM PLUS 1'-0".
 3. THE MINIMUM BURY DEPTH FOR WATER PIPE SHALL BE 5'-0" TO THE PIPE INVERT.
 4. BEDDING MATERIAL FOR SEWER PIPE SHALL BE SELECT MATERIAL.
 5. BEDDING MATERIAL FOR WATER PIPE SHALL BE SAND.
 6. CONTRACTOR SHALL PROTECT ALL UTILITIES FROM DAMAGE AND IS RESPONSIBLE FOR REPAIR OF ALL UTILITIES DAMAGED OUTSIDE THE LIMIT OF DISTURBANCE.



TYPICAL HYDRANT RELOCATION DETAIL
NOT TO SCALE

- NOTES:**
1. WHERE SOIL CONDITIONS ARE POOR OR UPPER RESTRAINT BY PAVEMENT IS NOT LIKELY TO BE PROVIDED, USE BLOCKING FOR UPPER PORTION OF HYDRANT BARREL.
 2. THRUST BLOCKS SHALL HAVE A MINIMUM BEARING SURFACE

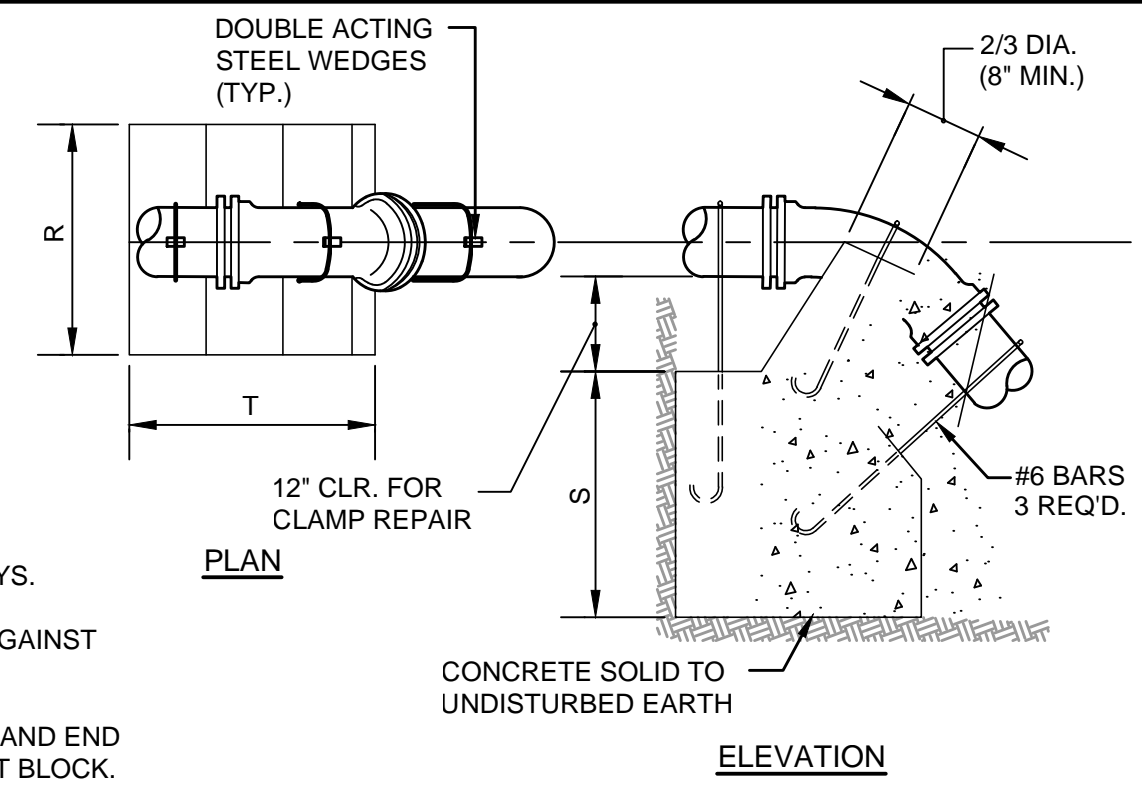


TYPICAL HYDRANT INSTALLATION DETAIL
NOT TO SCALE

- NOTES:**
1. WHERE SOIL CONDITIONS ARE POOR OR UPPER RESTRAINT BY PAVEMENT IS NOT LIKELY TO BE PROVIDED, USE BLOCKING FOR UPPER PORTION OF HYDRANT BARREL.
 2. THRUST BLOCKS SHALL HAVE A MINIMUM BEARING SURFACE OF 4 SQ. FT.
 3. GATE VALVE REACTION BACKING SHALL HAVE A MINIMUM BEARING SURFACE OF 1 SQ. FT.

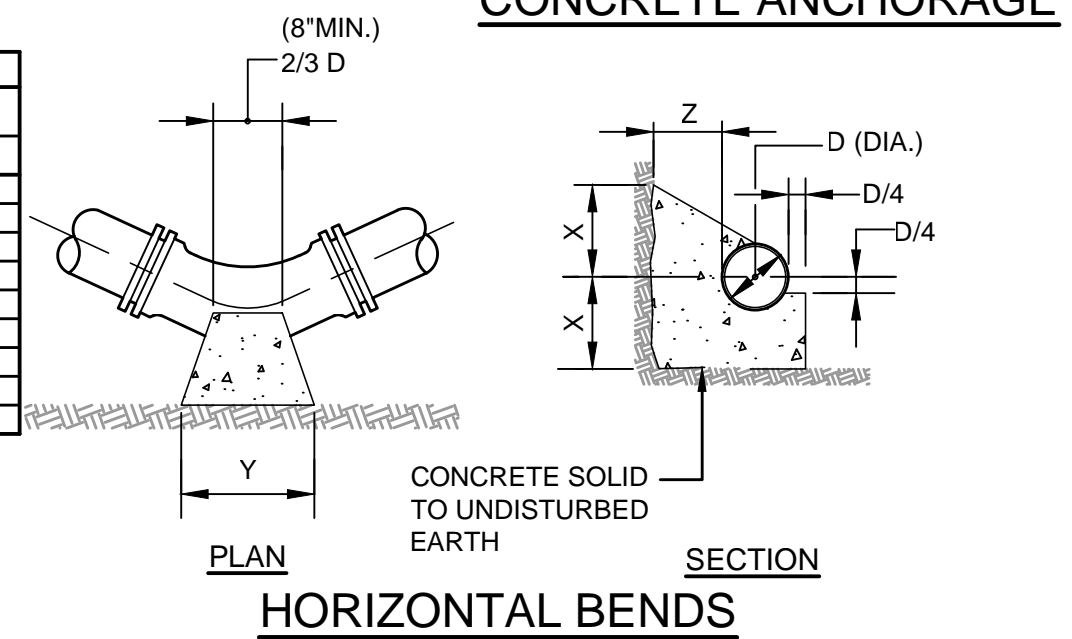
ANCHORAGES		PIPE SIZE-D (DIA.)				
BEND		6"	8"	12"	16"	20"
1/8	R	2'-6"	3'-0"	4'-6"	5'-4"	6'-0"
	S	2'-6"	2'-9"	3'-6"	2'-6"	5'-6"
1/16	R	3'-0"	4'-0"	4'-9"	7'-0"	9'-6"
	S	2'-0"	2'-8"	4'-0"	4'-6"	5'-0"
1/32	R	1'-6"	2'-0"	3'-0"	3'-8"	4'-3"
	S	1'-3"	1'-9"	2'-0"	2'-4"	2'-8"
	T	2'-0"	2'-6"	3'-0"	4'-6"	5'-9"

- NOTES:**
1. ALL CONCRETE SHALL BE 3000 PSI @ 28 DAYS.
 2. CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.
 3. ALL FORCE MAIN BENDS, TEES, MAIN TAPS, AND END CAPS SHALL REQUIRE A CONCRETE THRUST BLOCK.



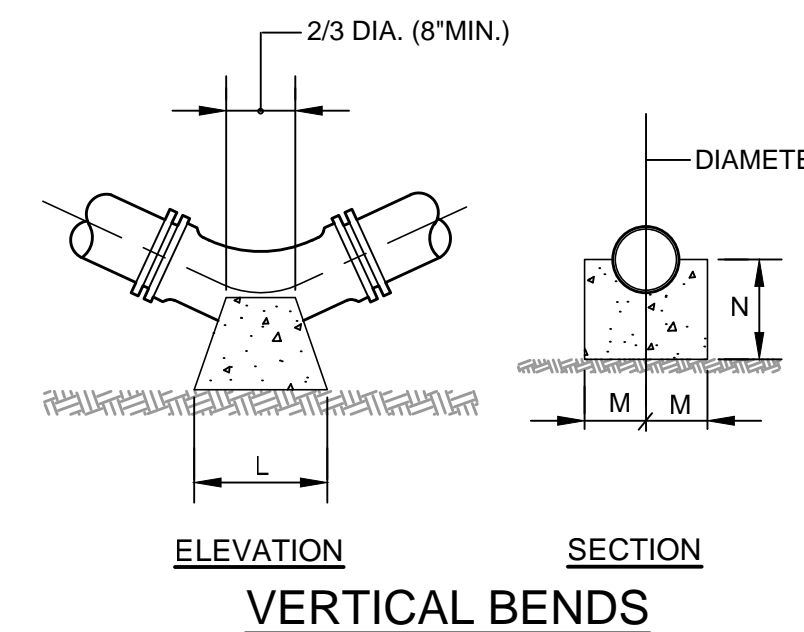
CONCRETE ANCHORAGE

HORIZONTAL BENDS		PIPE SIZE-D (DIA.)				
BEND		6"	8"	12"	16"	20"
1/8	X	1'-0"	1'-0"	1'-0"	1'-3"	1'-6"
	Y	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"
	Z	8"	10"	1'-2"	1'-4"	1'-6"
1/16	X	1'-0"	1'-4"	1'-6"	1'-9"	2'-6"
	Y	8"	10"	1'-2"	1'-4"	1'-6"
	Z	8"	10"	1'-2"	1'-4"	1'-6"
1/32	X	1'-0"	1'-0"	1'-2"	1'-4"	1'-6"
	Y	1'-0"	1'-0"	1'-2"	1'-4"	1'-6"
	Z	8"	10"	1'-2"	1'-4"	1'-6"



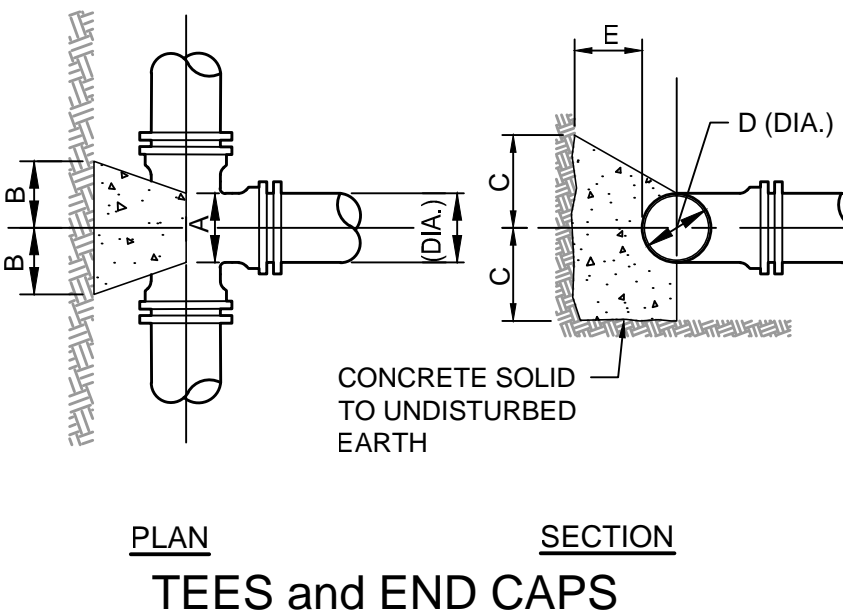
HORIZONTAL BENDS

VERTICAL BENDS		PIPE SIZE-D (DIA.)				
BEND		6"	8"	12"	16"	20"
1/8	L	1'-3"	1'-8"	2'-6"	3'-6"	4'-8"
	M	7"	8"	11"	1'-4"	1'-6"
	N	7"	8"	11"	1'-4"	1'-6"
1/16	L	9"	1'-0"	1'-9"	2'-6"	3'-0"
	M	7"	7"	10"	1'-0"	1'-2"
	N	7"	7"	8"	10"	1'-0"
1/32	L	6"	8"	1'-0"	1'-4"	1'-9"
	M	7"	7"	10"	1'-0"	1'-2"
	N	7"	7"	8"	10"	1'-0"

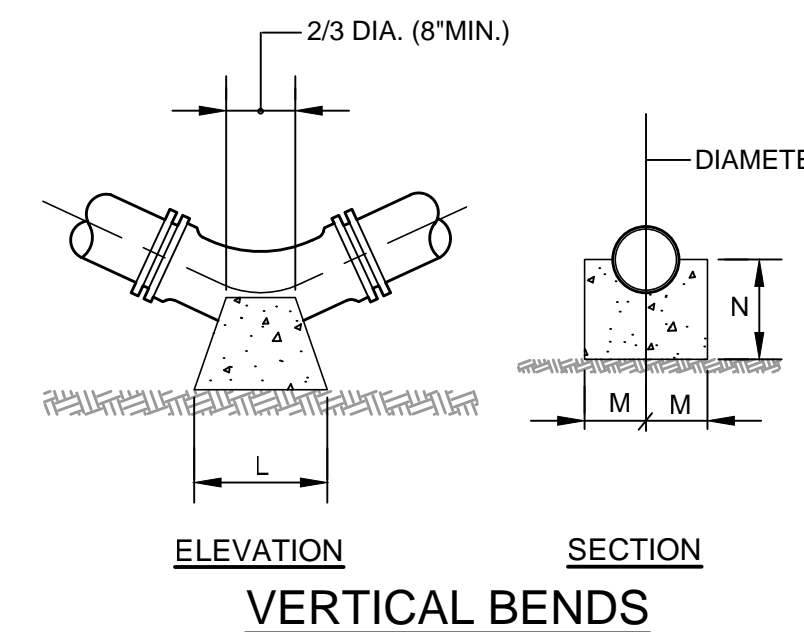


VERTICAL BENDS

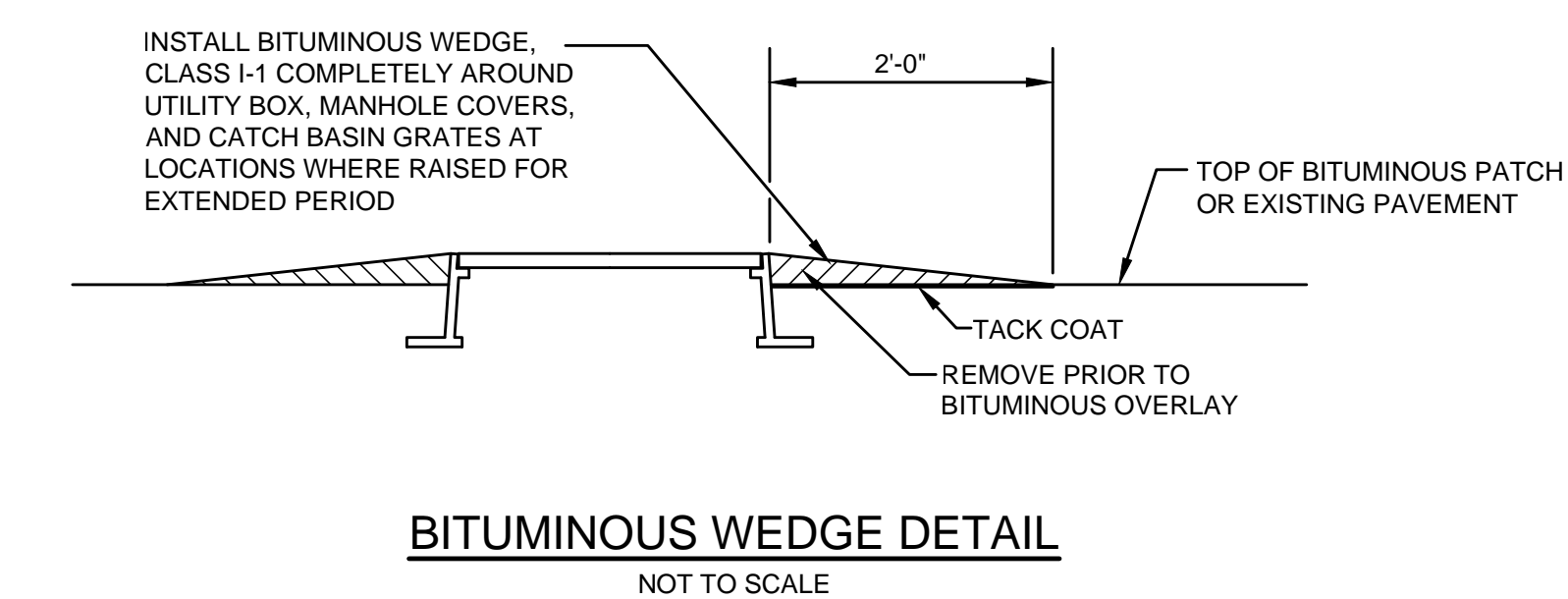
TEES		PIPE SIZE-D (DIA.)				
		6"	8"	12"	16"	20"
A	8"	10"	1'-0"	1'-3"	1'-6"	
B	8"	10"	1'-2"	1'-4"	1'-6"	
C	10"	1'-0"	1'-3"	1'-6"	1'-8"	
E	8"	10"	1'-2"	1'-6"	1'-10"	



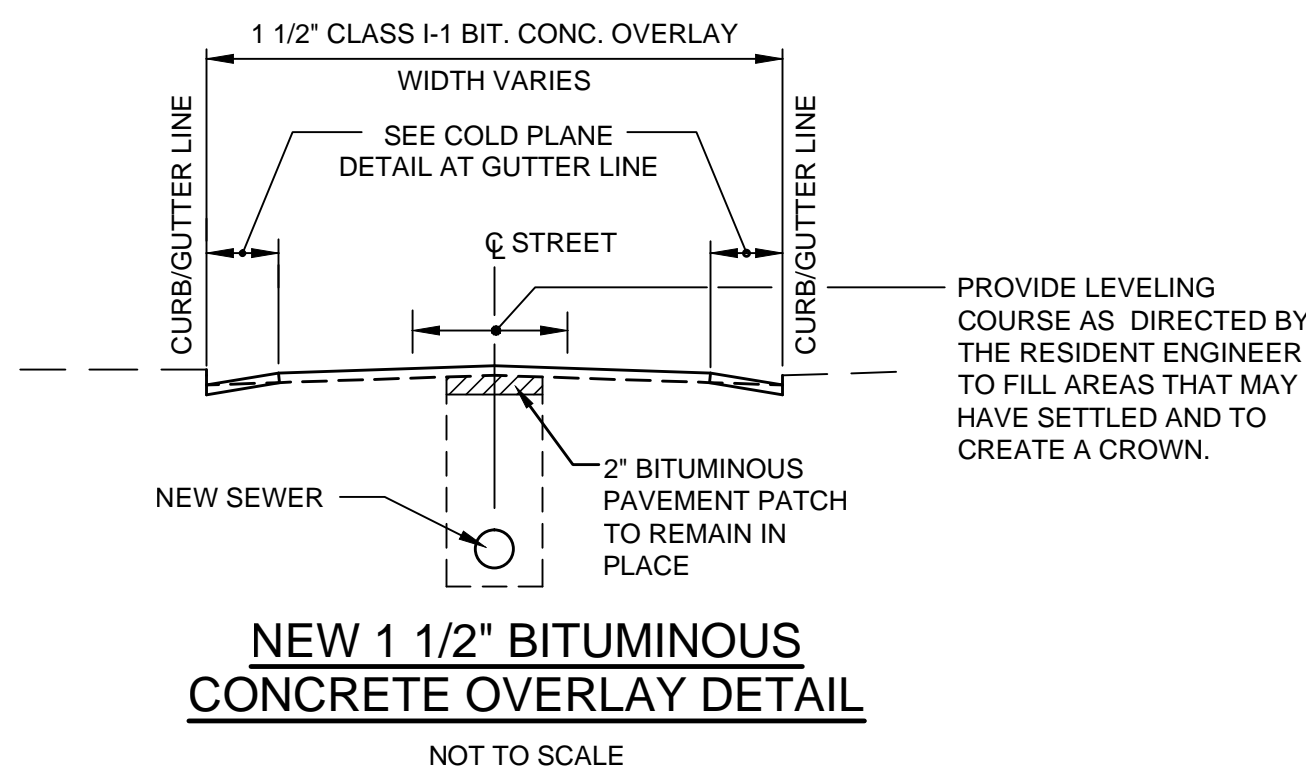
TEES and END CAPS



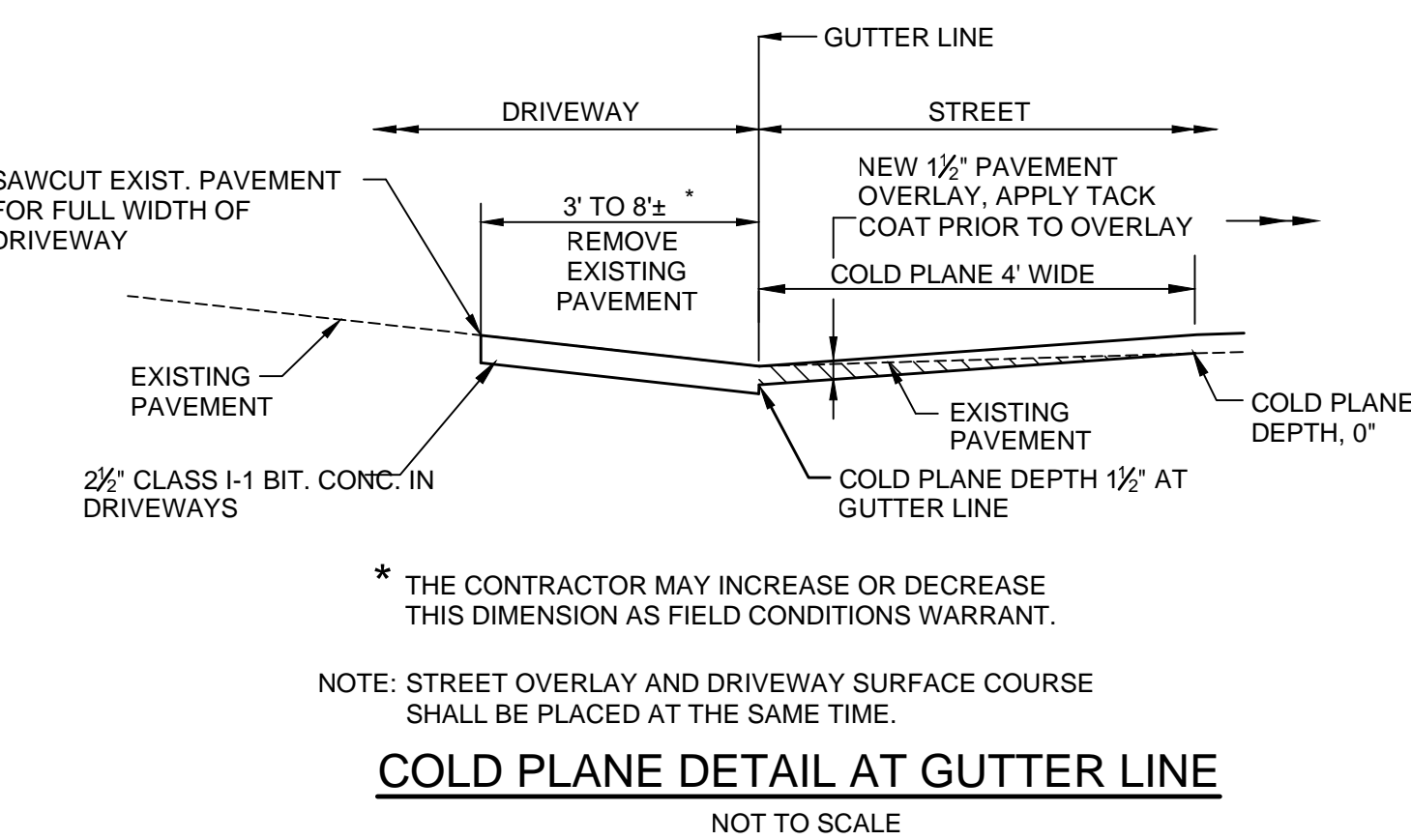
WATER MAIN THRUST BLOCK DETAILS
NOT TO SCALE



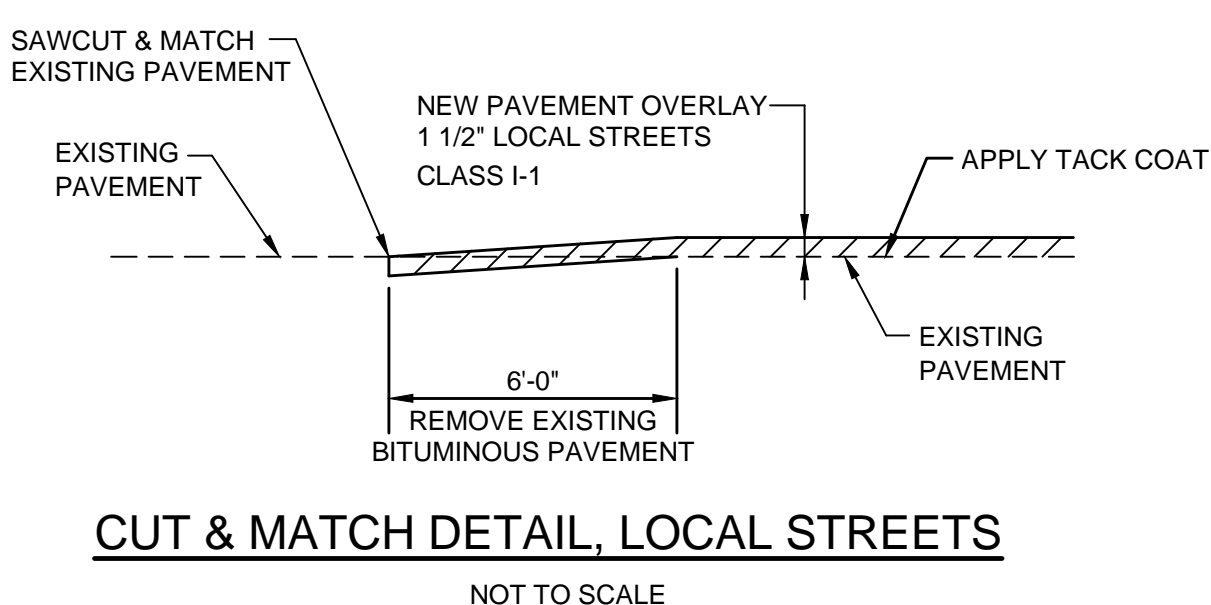
BITUMINOUS WEDGE DETAIL
NOT TO SCALE



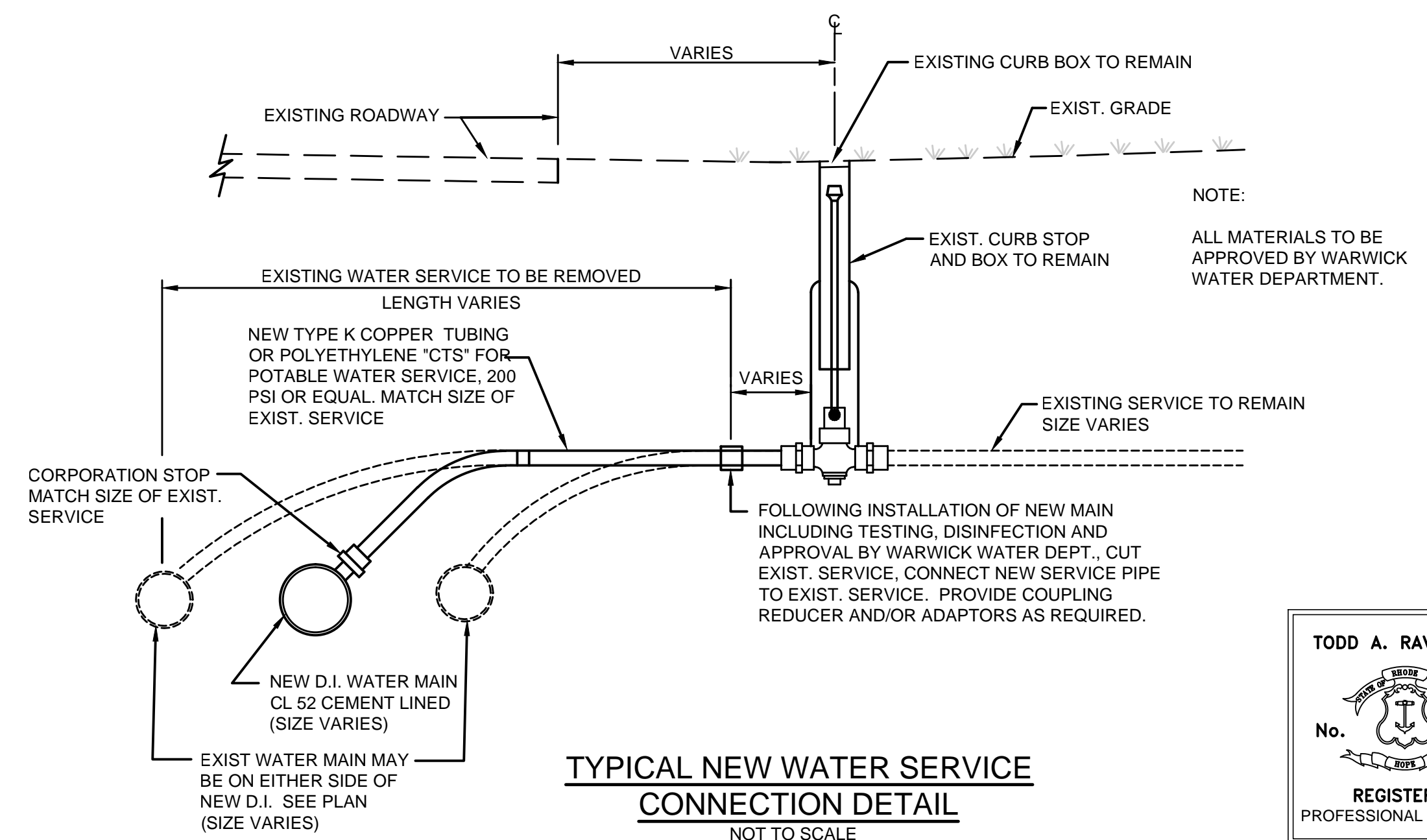
NEW 1 1/2" BITUMINOUS CONCRETE OVERLAY DETAIL
NOT TO SCALE



COLD PLANE DETAIL AT GUTTER LINE
NOT TO SCALE



CUT & MATCH DETAIL, LOCAL STREETS
NOT TO SCALE



TYPICAL NEW WATER SERVICE CONNECTION DETAIL
NOT TO SCALE

REV. NO.	DESCRIPTION	DATE	INT.
1	ADDENDUM 2	1/8/2020	TAR
APPROVED			

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

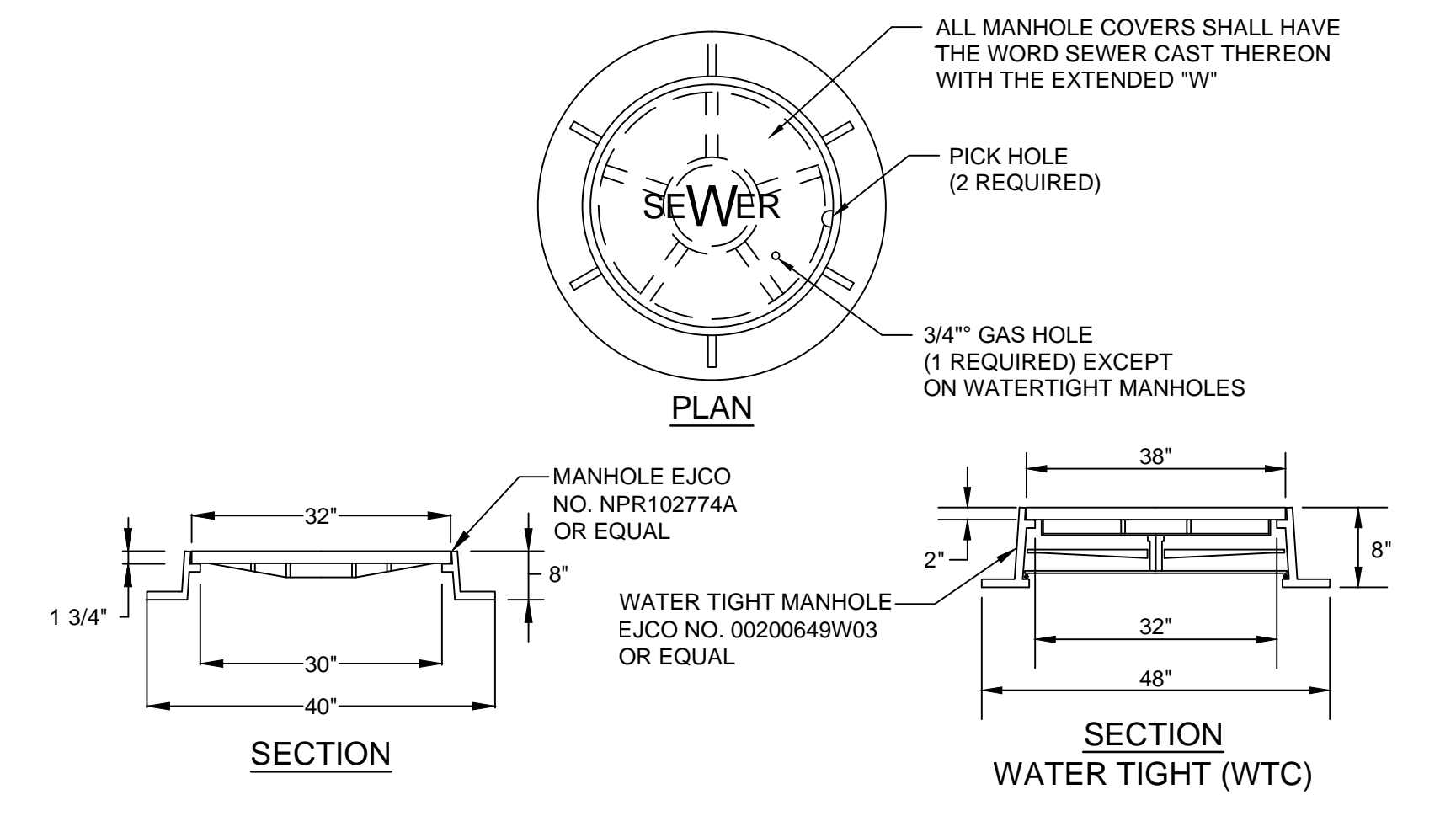
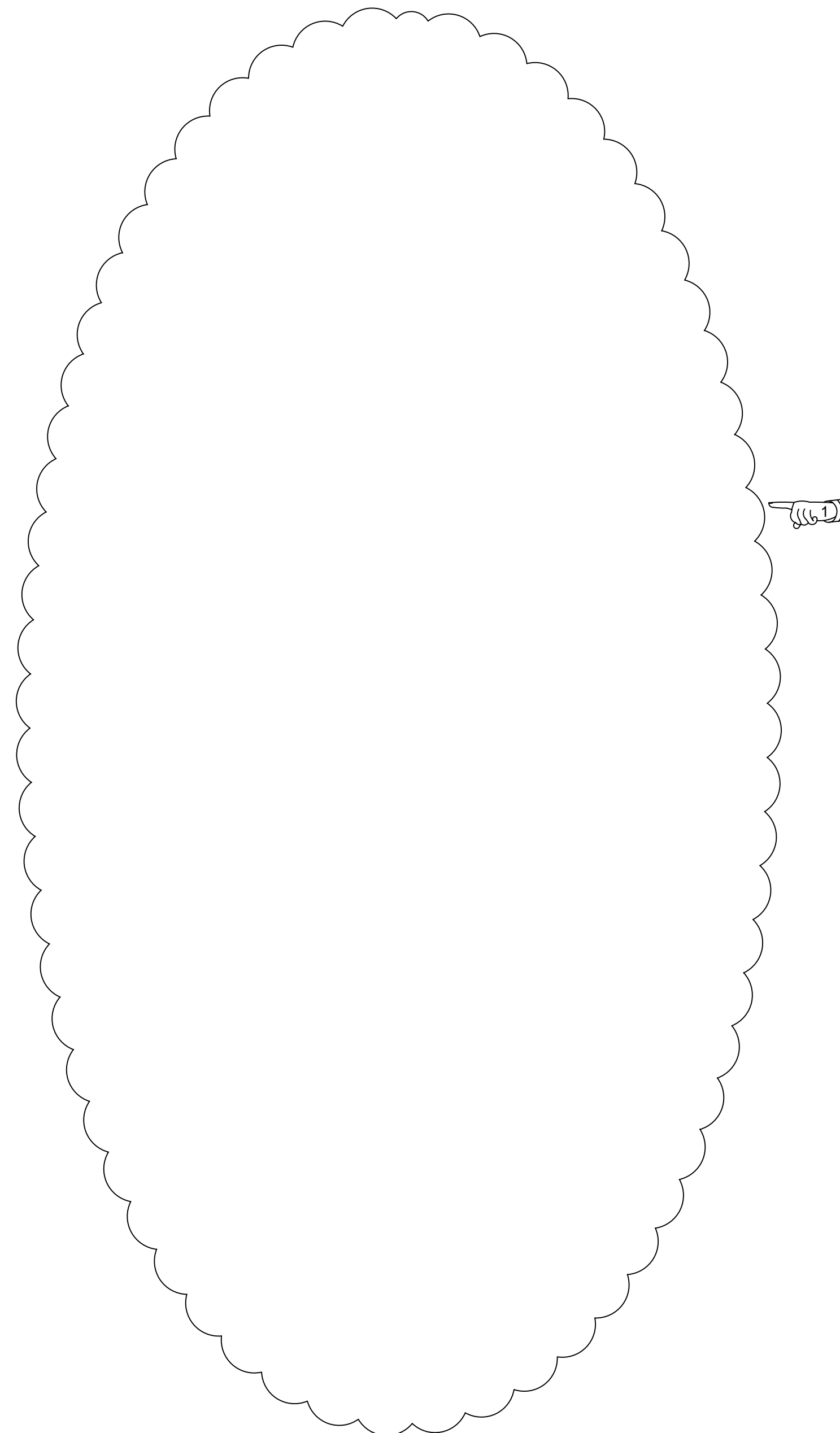
DETAILS - 3
PAVEMENT & WATER

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

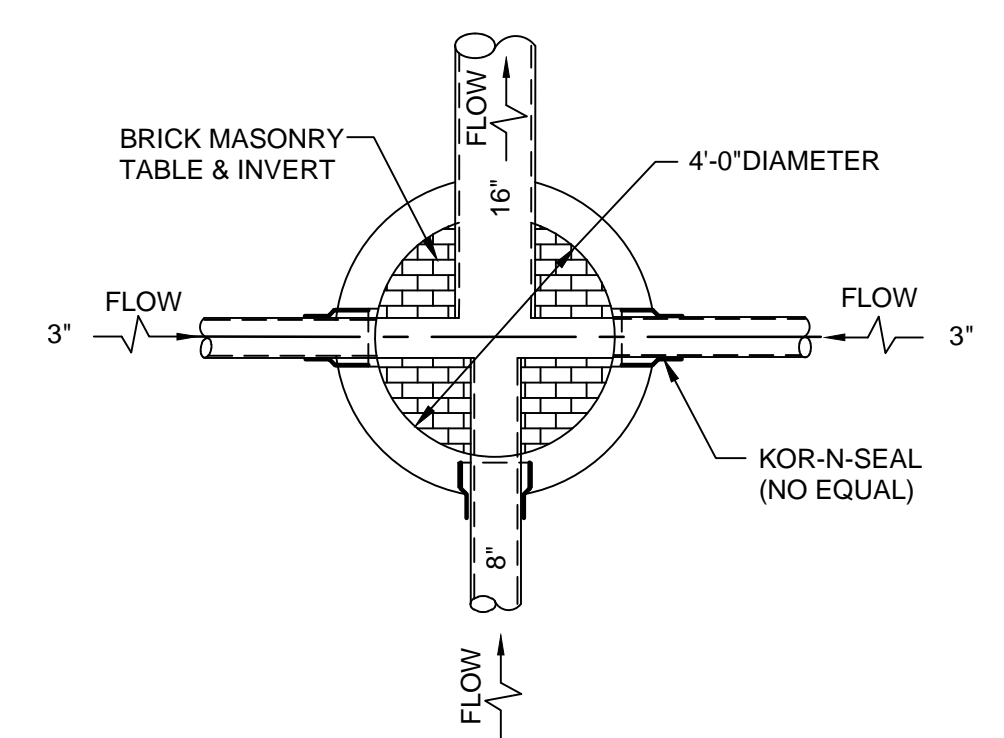
TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

WARWICK SEWER AUTHORITY FILE NO. 998

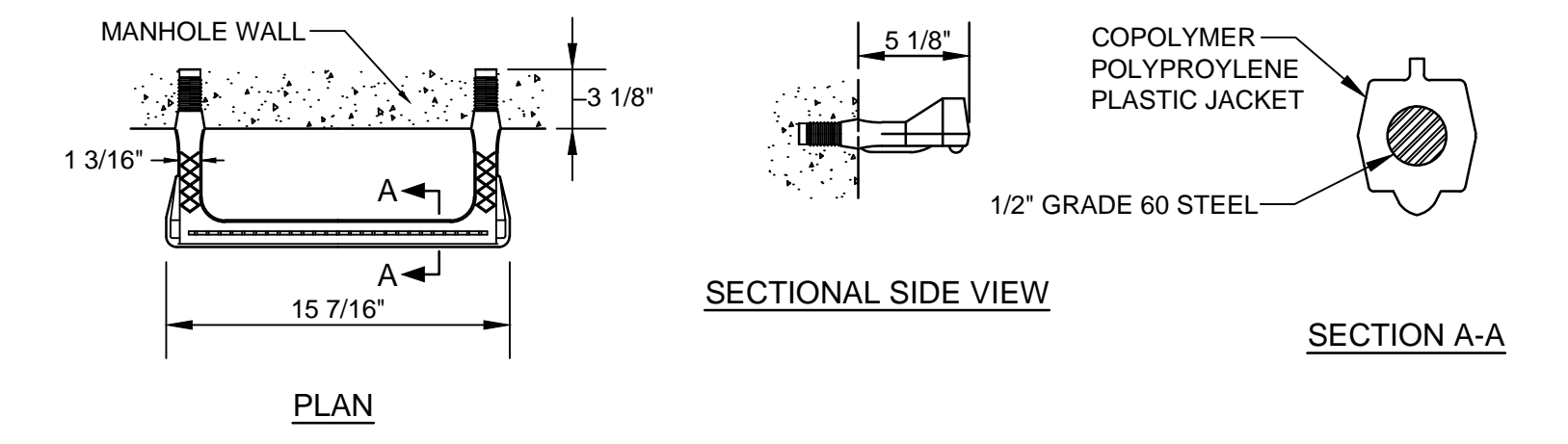
SHT. NO. 60 OF 75



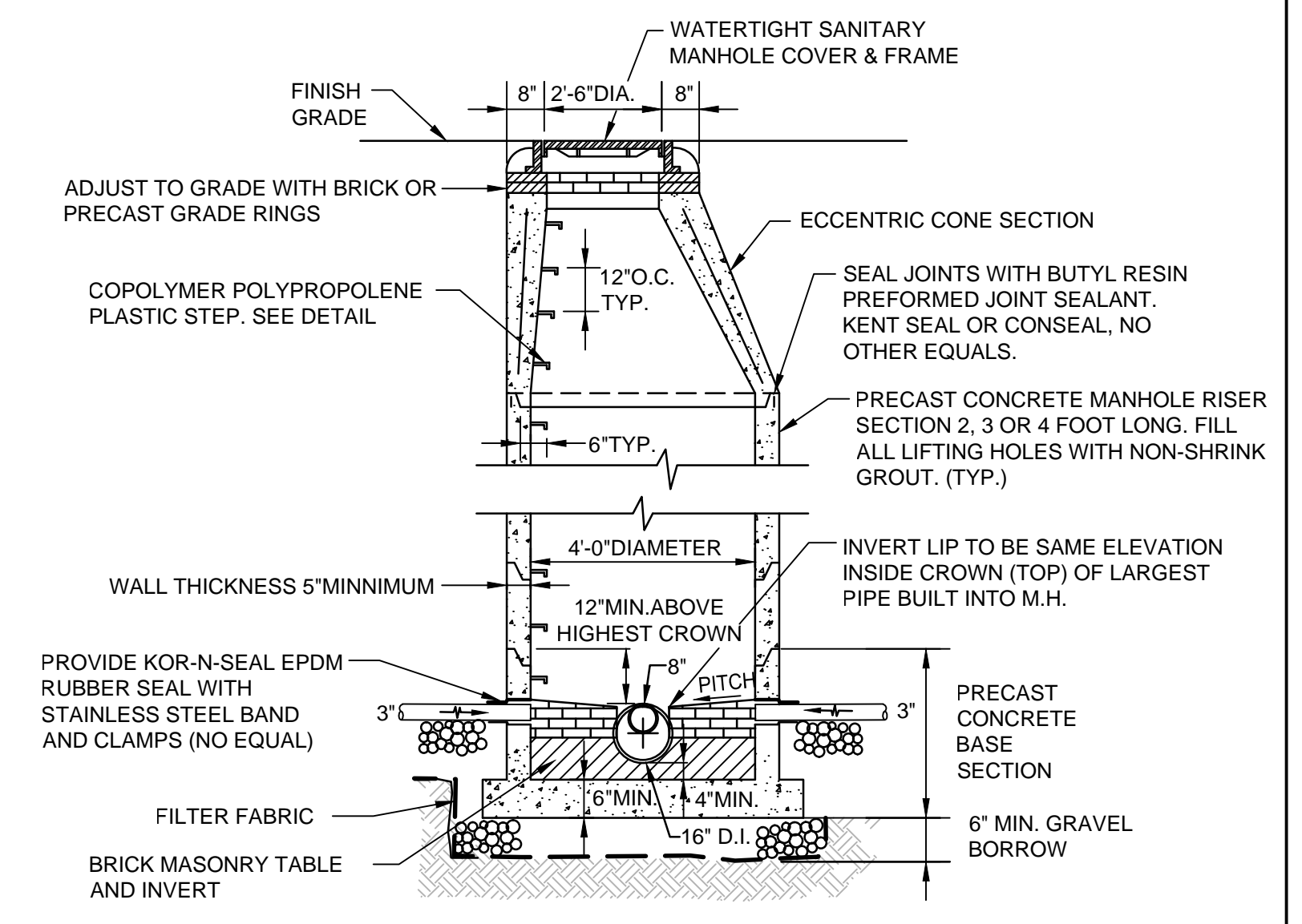
STANDARD MANHOLE COVER DETAILS
N.T.S.



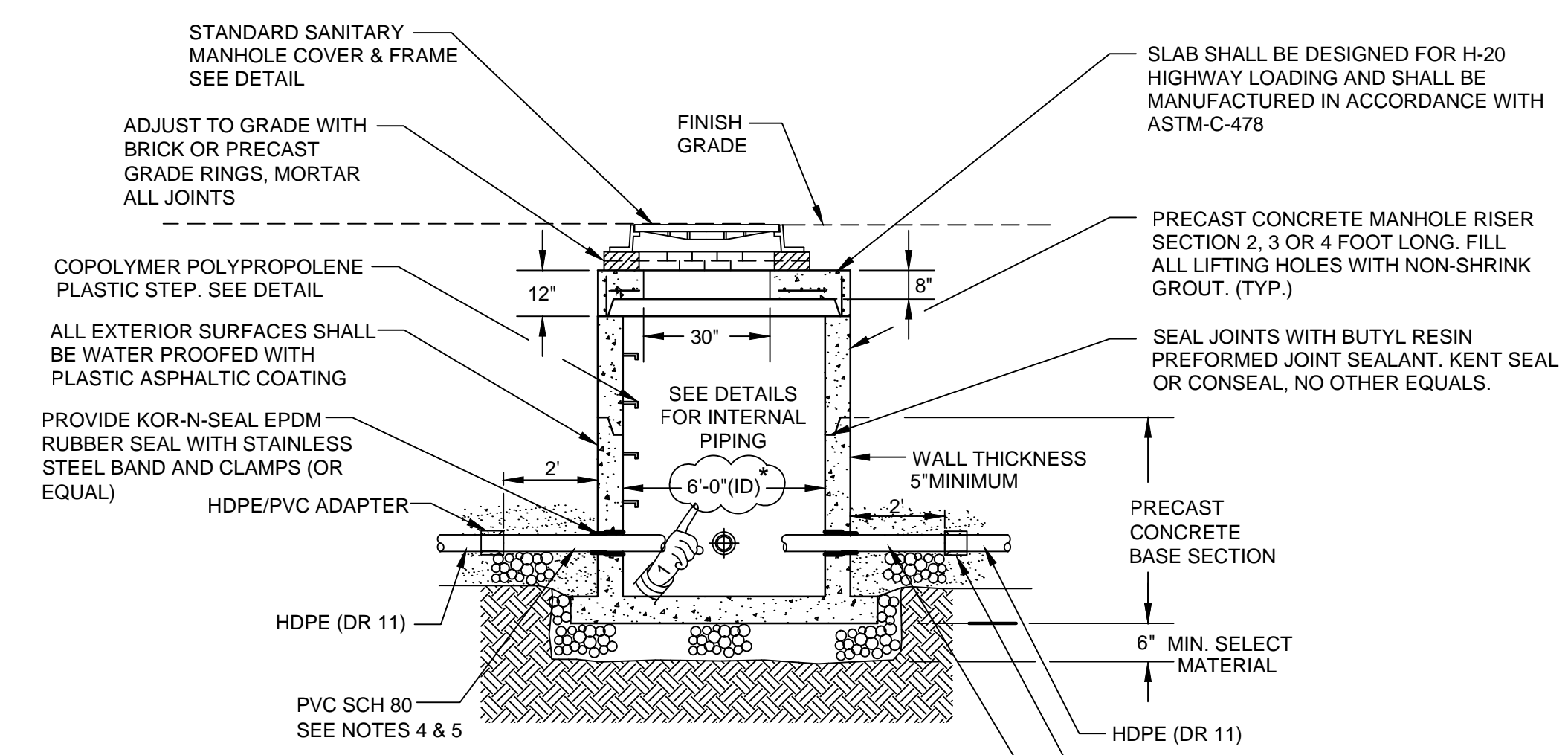
SANITARY SEWER MANHOLE PLAN-INVERT TABLE
NOT TO SCALE



SANITARY SEWER MANHOLE STEP DETAIL
N.T.S.

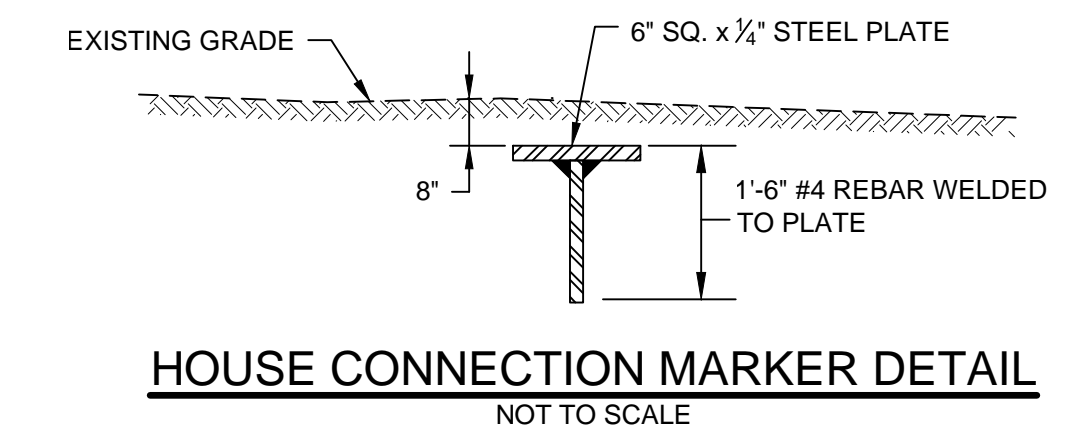


SANITARY SEWER MANHOLE DETAIL
(1 LOCATION ONLY - TIDEWATER DRIVE & FRIENDSHIP / HEIGHT AVENUES)
NOT TO SCALE

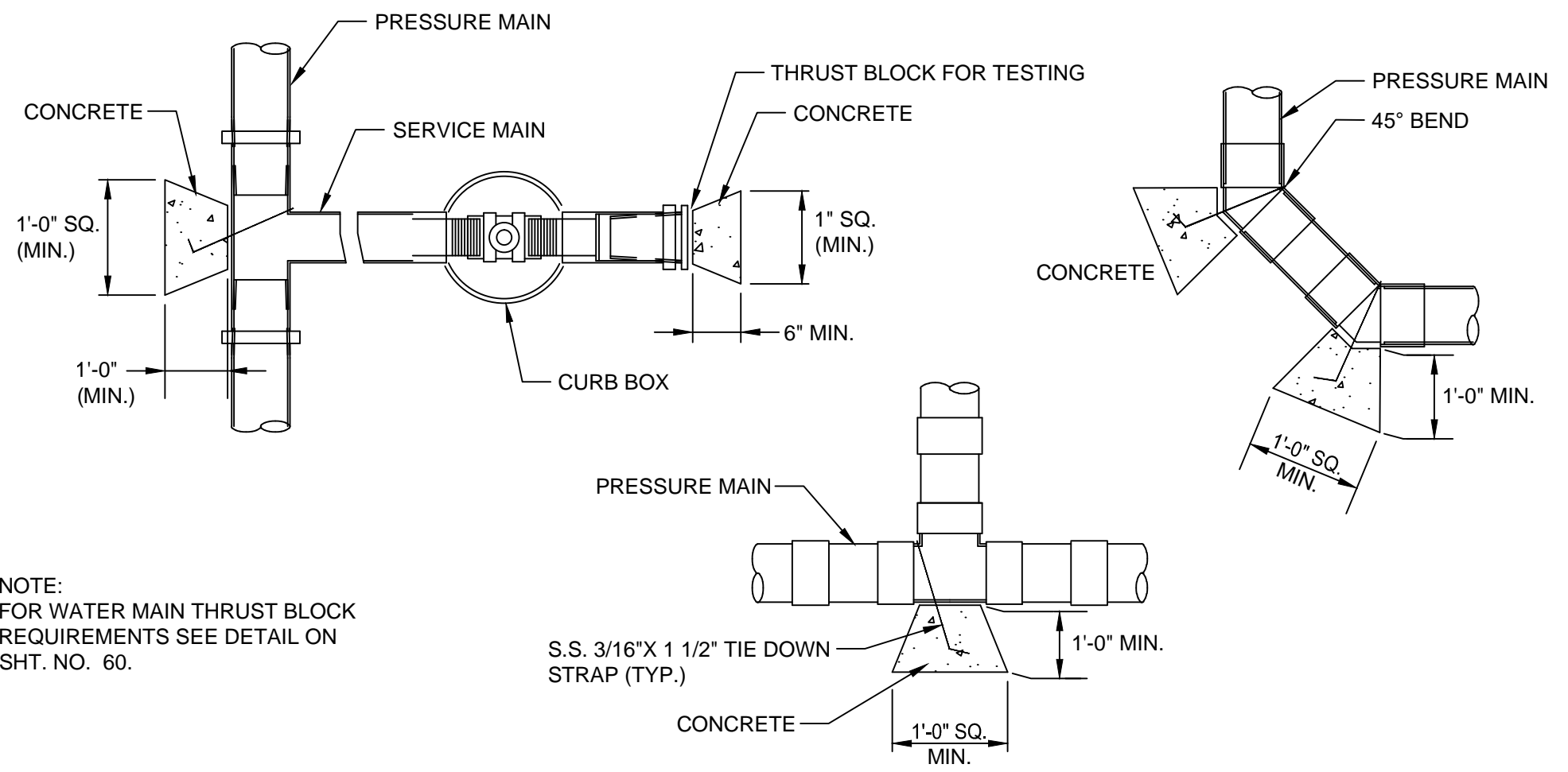


MANHOLE STRUCTURE DETAILS FOR OPEN CUT EXCAVATION
NOT TO SCALE

NOTE: LESSER MANHOLE DIAMETERS MAY BE PERMITTED IF DEMONSTRATED THAT PROPOSED FITTINGS, VALVES, AND CONNECTIONS CAN BE PROPERLY FIT WITHIN THE STRUCTURE. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH SUBMITTAL REQUIREMENTS FOR APPROVAL.



HOUSE CONNECTION MARKER DETAIL
NOT TO SCALE



TYPICAL THRUST BLOCK DETAILS
NOT TO SCALE

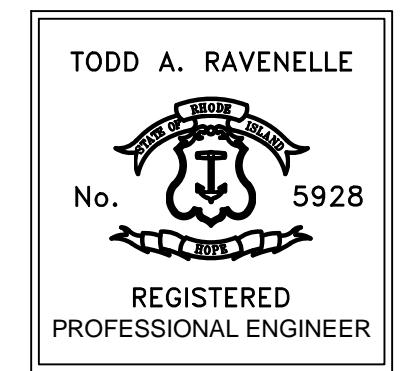
NOTE: FOR WATER MAIN THRUST BLOCK REQUIREMENTS SEE DETAIL ON SHT. NO. 60.

ABBREVIATIONS

- MIPT - MALE IRON PIPE THREADED
- FIPT - FEMALE IRON PIPE THREADED
- S - SOLVENT WELD JOINT
- G - GASKET JOINT
- ARV - AIR RELEASE VALVE M.H.

NOTES

1. ALL CONCRETE SHALL BE 4000 PSI @ 28 DAYS.
2. CONCRETE THRUST BLOCKS SHALL BEAR AGAINST M.H. WALL OR UNDISTURBED EARTH AS APPLICABLE.
3. ALL FORCE MAIN BENDS, TEES, MAIN TAPS, AND END CAPS SHALL REQUIRE A CONCRETE THRUST BLOCK.
4. ALL PIPING AND FITTING INSIDE MANHOLE SHALL BE PVC SCH 80 AS SHOWN. PIPING BEYOND 2' OF MANHOLE WALL SHALL BE BUTT FUSED HDPE PIPE (DR 11).
5. WHERE PRESSURE SEWER MAIN CHANGES SIZE, PROVIDE REDUCER 2' OFF MANHOLE WALL AT JUNCTION OF SCH 80 AND DR 11 PIPE. SEE PLAN & PROFILE SHEETS FOR LOCATIONS.
6. BALL VALVES ON PRESSURE MAIN SHALL BE SAME SIZE AS PRESSURE SEWER MAIN.
7. A 1 1/2" SS CHECK VALVE SHALL BE INSTALLED IN EACH SERVICE PIPE NEAR THE PUMP CHAMBER.



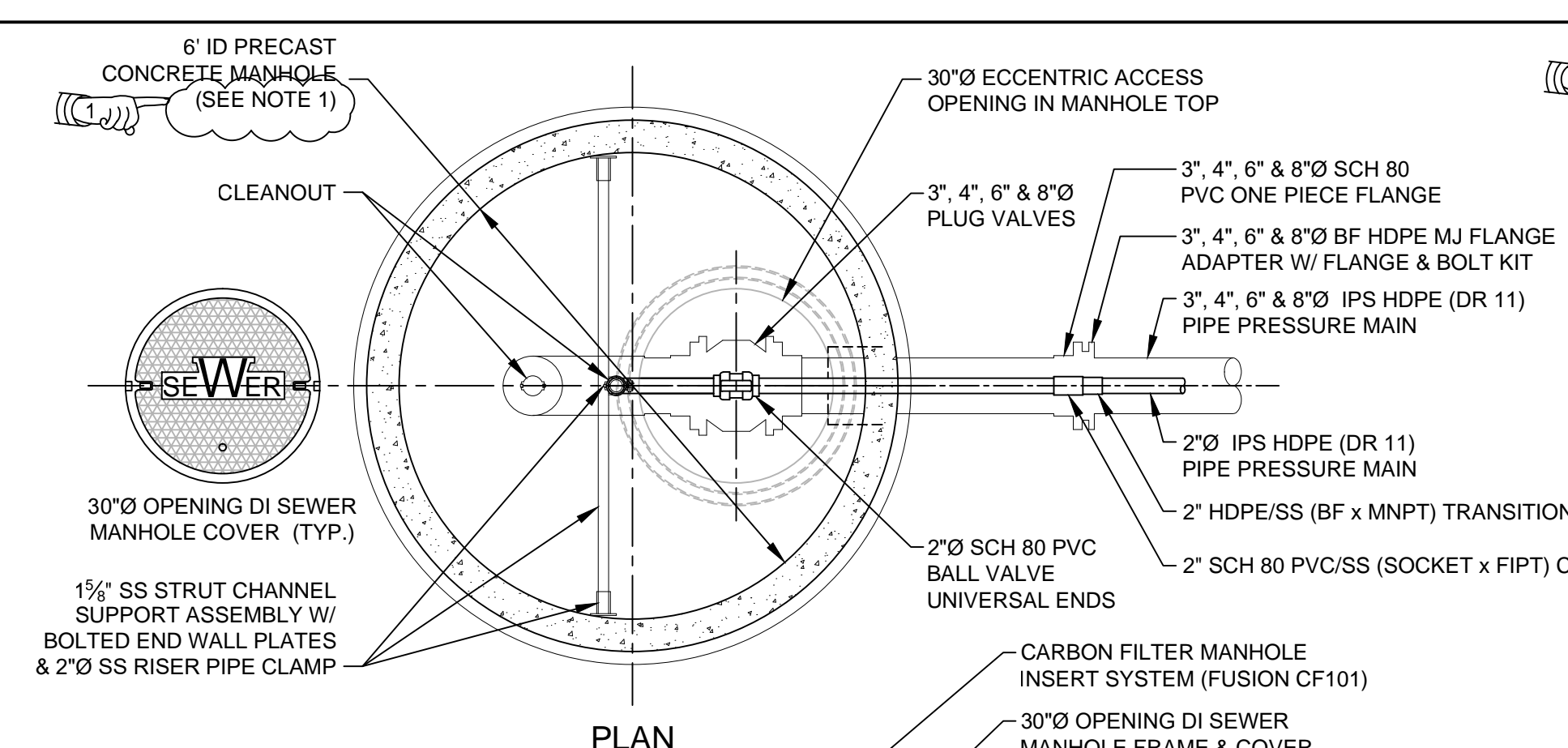
1	ADDENDUM 2	1/8/2020	TAR	DRAWN LBD	CHECKED TAR	APPROVED	DATE NOV 2019	SCALE AS SHOWN	SHT. NO. 58 OF 75
APPROVED				WARWICK SEWER AUTHORITY					
				FILE NO. 998					

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

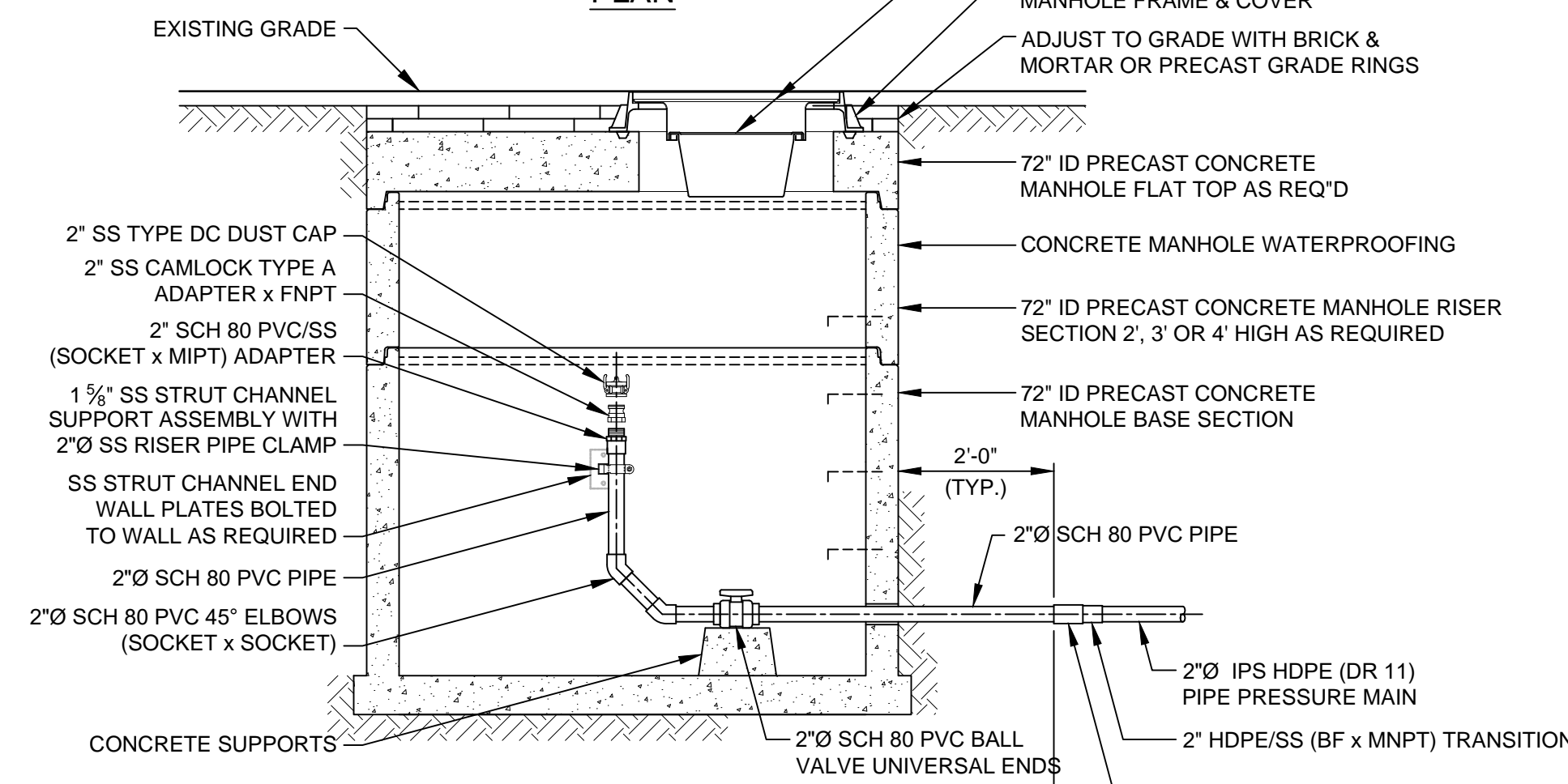
DETAILS - 1
OPEN TRENCH EXCAVATIONS



P:\FILES\CAD\9861_2019\BA\98610319 SEWER PLAN\9861.DWG: DETAIL 0319 ADD.DWG: 17/2020 12:42:08 PM: US2867

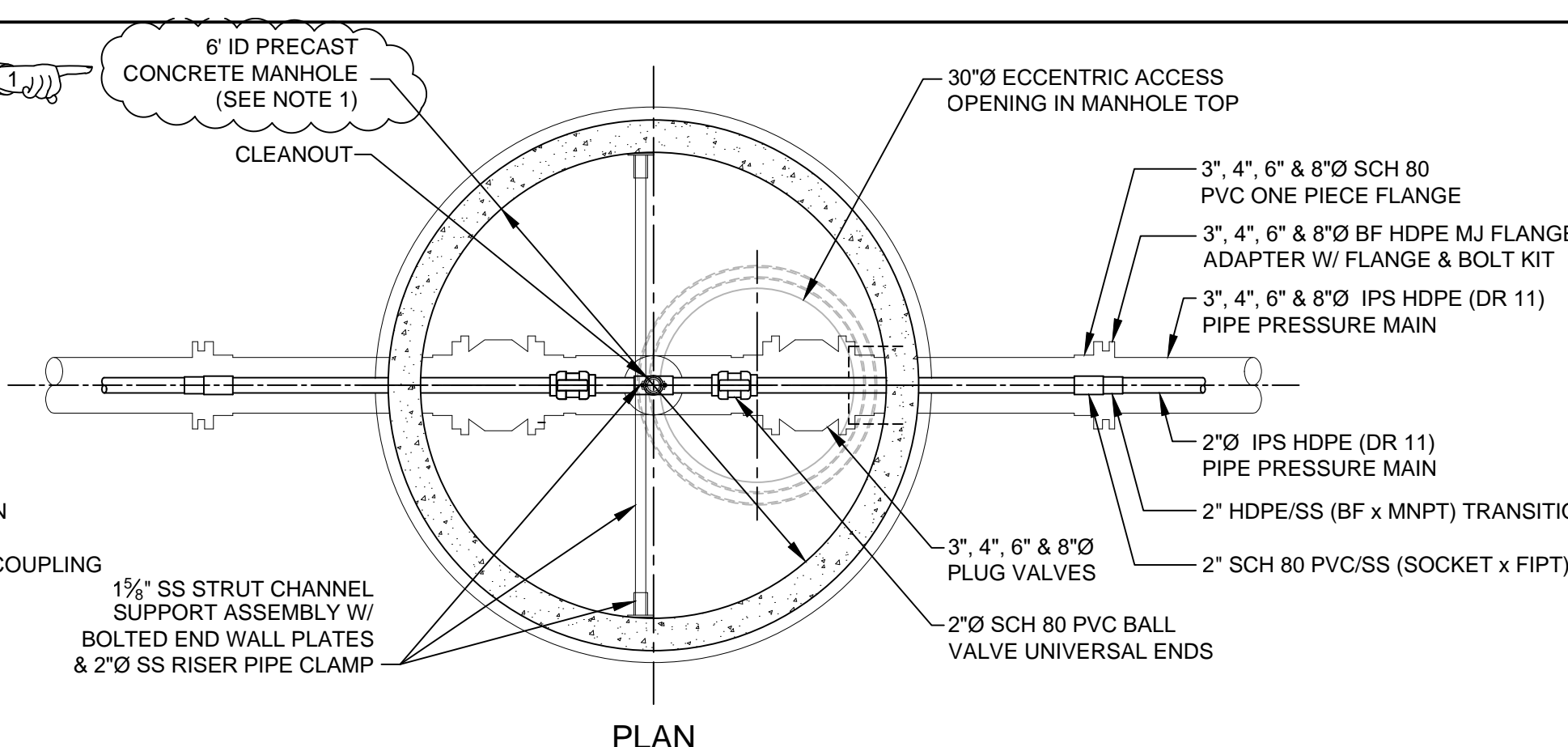


PLAN

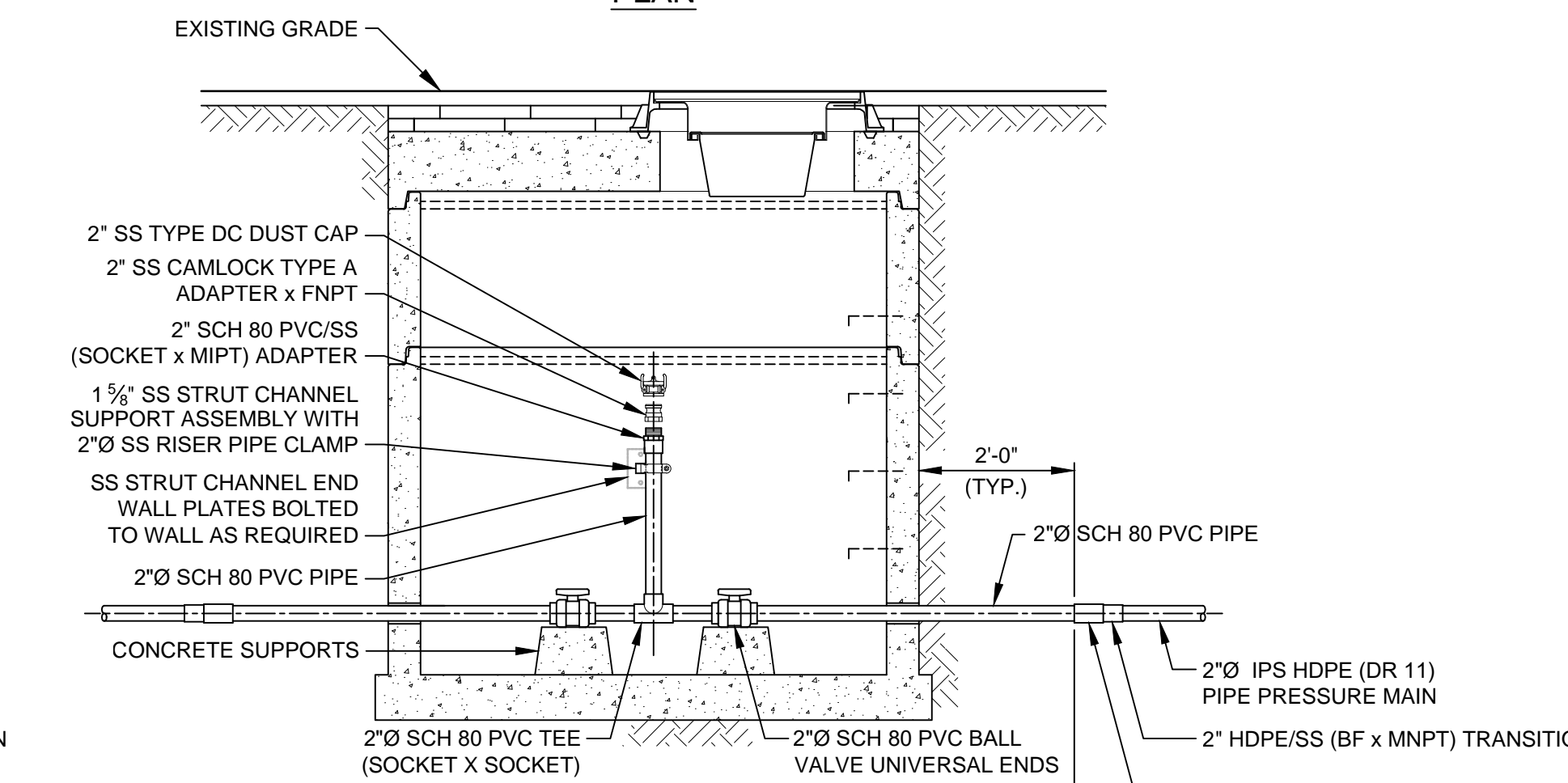


SECTIONS

DEAD END MAIN CLEANOUT AND VALVE DETAILS

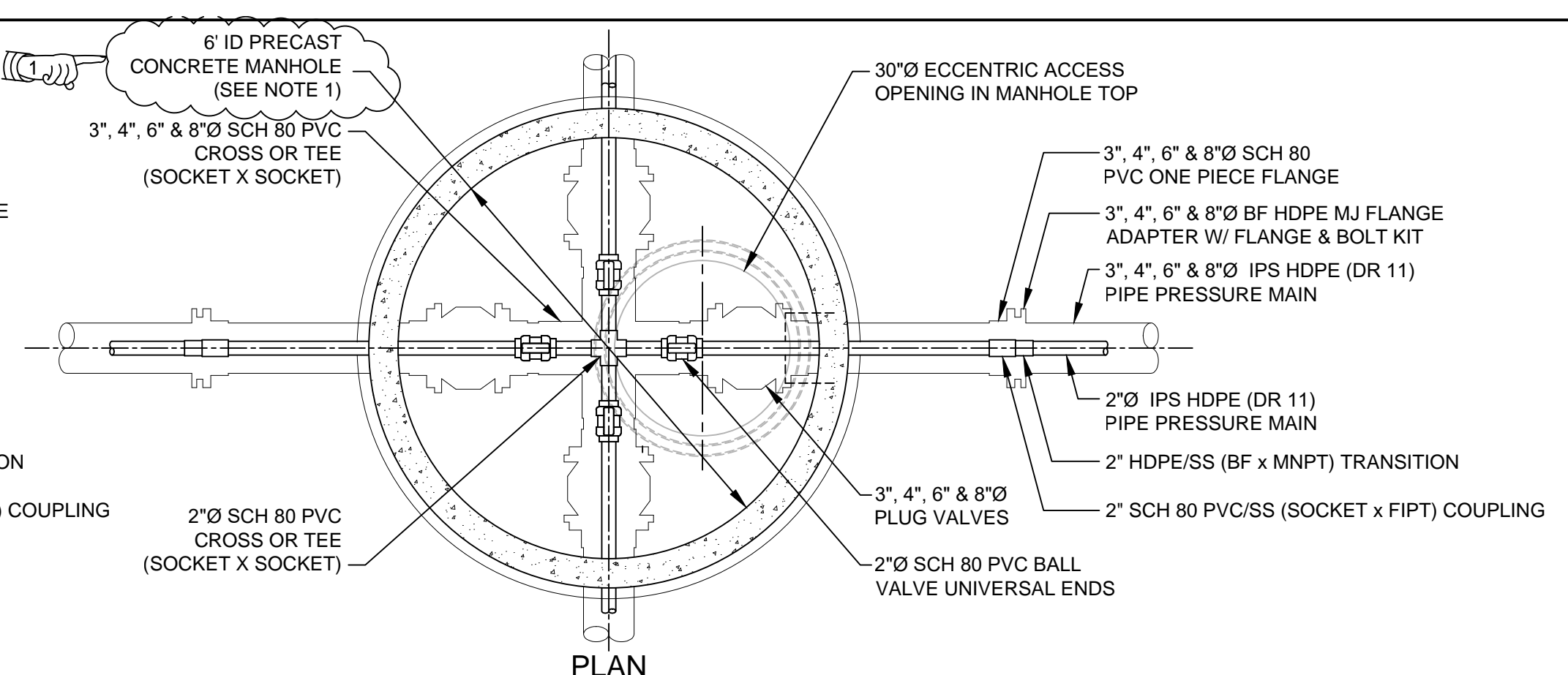


PLAN

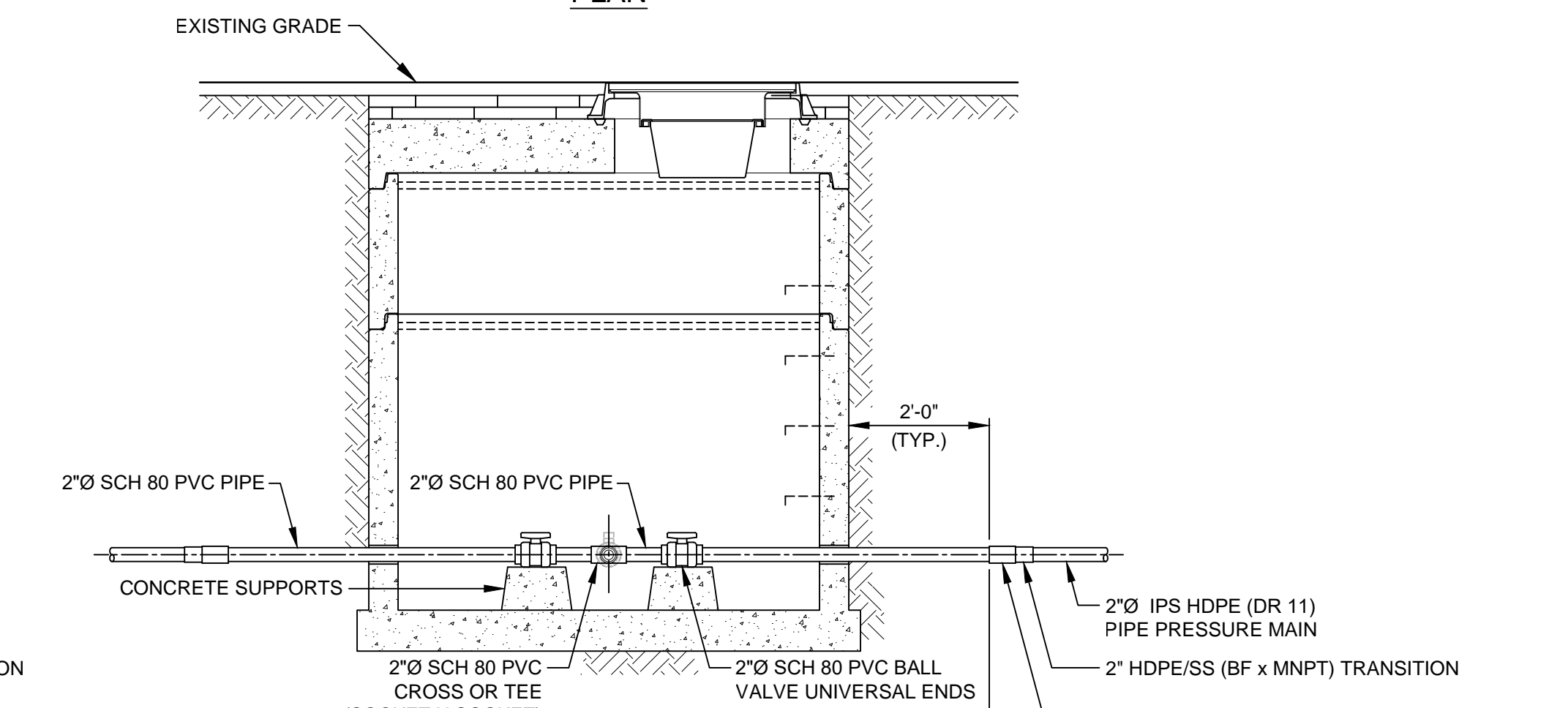


SECTIONS

IN-LINE MAIN CLEANOUT AND VALVE DETAILS



PLAN



SECTIONS

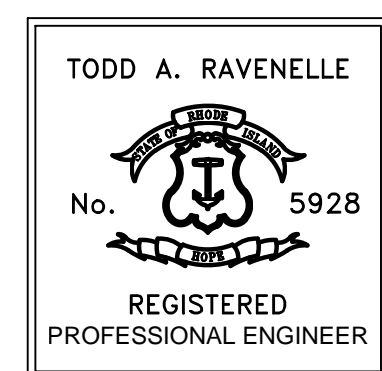
INTERSECTING MAINS AND VALVE DETAILS

NOTE:
1. LESSER MANHOLE DIAMETERS MAY BE PERMITTED IF DEMONSTRATED THAT PROPOSED FITTINGS, VALVES, AND CONNECTIONS CAN BE PROPERLY FIT WITHIN THE STRUCTURE. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH SUBMITTAL REQUIREMENTS FOR APPROVAL.

OPEN TRENCH EXCAVATIONS MANHOLE DETAILS

NOT TO SCALE

LEGEND
BF - BUTT FUSION
EF - ELECTRO FUSION
MJ - MECHANICAL JOINT



1	ADDENDUM 2	1/8/2020	TAR	DRAWN LBD
				CHECKED TAR
				APPROVED
				DATE NOV 2019
				SCALE AS SHOWN
REV. NO.	DESCRIPTION	DATE	INT.	
APPROVED				
				SHT. NO. 62 OF 75
				WARWICK SEWER AUTHORITY
				FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

DETAILS - 5
OPEN TRENCH EXCAVATIONS

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

P:\FILES\CAD\9861_2019\BA\98612019 SEWER PLAN\DWG\OPENING LAYOUT DTLS - 1.dwg, 1/7/2020 12:35:35 PM, USBS27