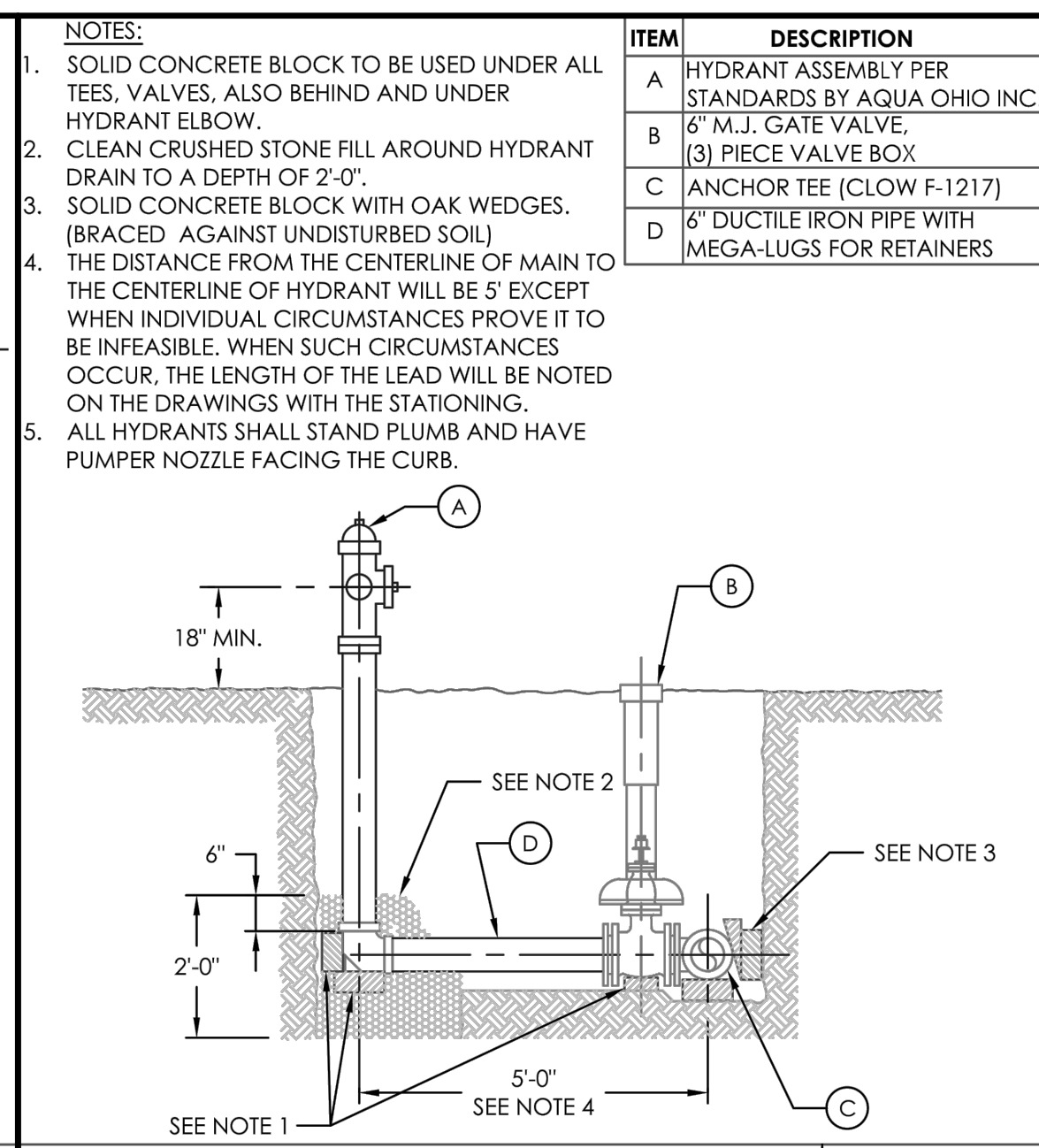
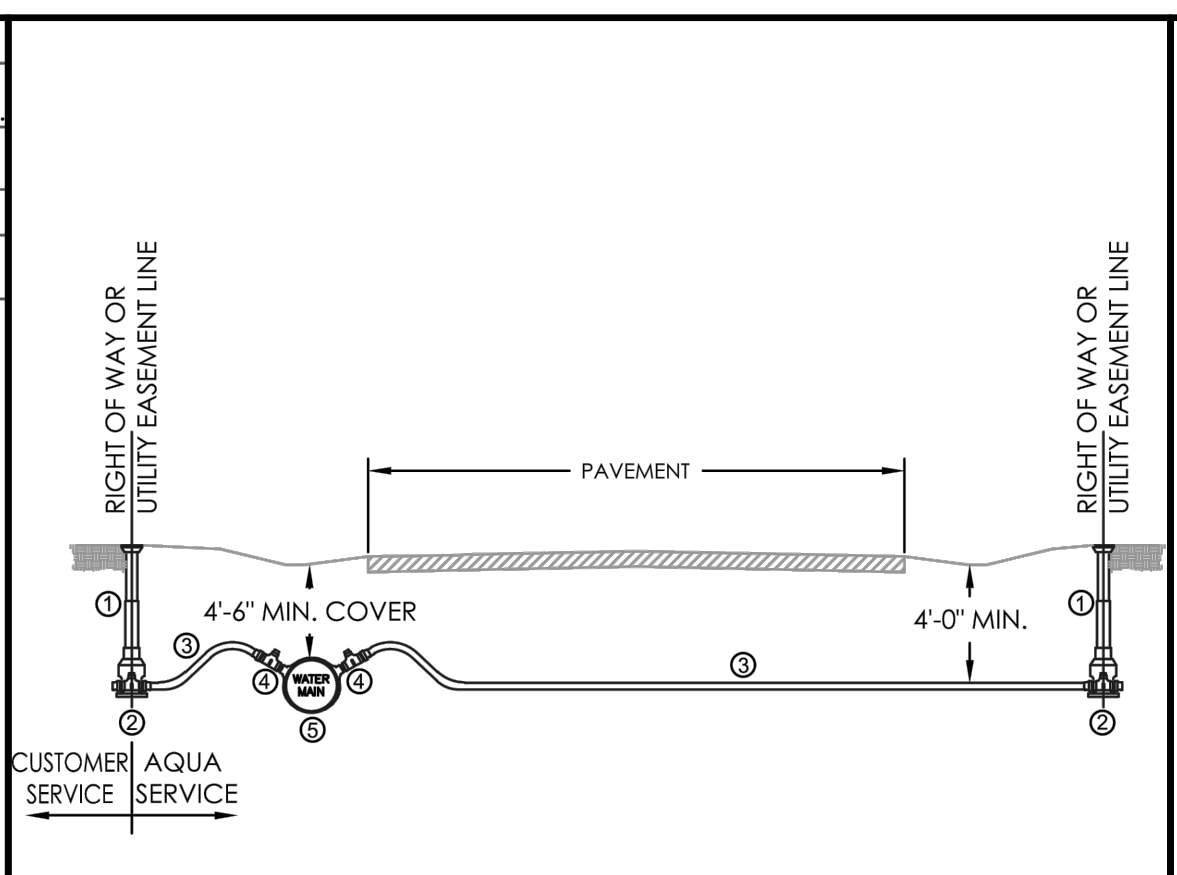


FITTINGS SIZES	BEARING AREA OF BLOCK ON UNDISTURBED SOIL FOR HORIZONTAL BENDS (S.F.) *				
	TEES & ENDS	90° BEND	45° BEND	22 1/2° BEND	11 1/2° BEND
4	1.5	2	1.5	1.5	1.5
6	3	4	3	3	3
8	4.5	7	3.5	2	1.5
10	7.5	10.5	5	3	1.5
12	10.5	15	8	4	2.5

- NOTES:
- ALL BLOCKING SHALL BE POURED AGAINST FIRM, UNDISTURBED SOIL.
 - BEARING AREA AT FITTINGS NOT GIVEN IN BEARING TABLE SHALL BE AS DIRECTED BY THE ENGINEER.
 - WHEN POURING AGAINST PLUGS AND BLIND FLANGES SET A PIECE OF 3 MIL PLASTIC AGAINST FITTING, TO KEEP CONCRETE OFF BOLTS.
 - LAYOUT TO BE APPROVED BY ENGINEER PRIOR TO CONCRETE POUR.
 - BASED ON 150 PSI STATIC PRESSURE PLUS 50 PSI WATER HAMMER AND 2000 PSF SOIL BEARING.
 - PIPE JOINTS AND BOLTS MUST BE ACCESSIBLE AFTER CONCRETE IS POURED.
 - THRUST BLOCK DETAILS ARE SHOWN AS MINIMUM AND MAY REQUIRE ADDITIONAL BLOCKING.
 - CONCRETE CINDER BLOCKS MAY BE USED IN PLACE OF POURED CONCRETE FOR WATER MAINS 12" AND SMALLER.



TYPICAL FIRE HYDRANT ASSEMBLY TYPE I DRAWING NUMBER: SD-108



TYPICAL SERVICE LINE INSTALLATION DRAWING NUMBER: SD-104

FIELD-LOK GASKETS OR OTHER APPROVED PIPE RESTRAINT SYSTEMS WILL BE USED TO RESTRAIN PIPE, OR WITH PRIOR APPROVAL BY AQUA FOR THE FOLLOWING SITUATIONS:

- FOR VERTICAL BENDS IN LIEU OF DEAD-MAN CONCRETE RESTRAINT
- FOR VERTICAL AND HORIZONTAL BENDS INSTALLED IN POOR SOIL CONDITIONS
- FOR HYDRANTS OR BENDS WITH SLOPING GROUND BEHIND THE POINT OF THRUST

NOTE: MEG-A-LUGS OR APPROVED EQUAL SHALL BE USED TO RESTRAIN FITTINGS AND VALVES

THRUST BLOCKS WILL NORMALLY BE USED FOR ALL HORIZONTAL BENDS. THE CONTRACTOR WILL GET WRITTEN PRIOR APPROVAL FROM AQUA TO SUBSTITUTE A RESTRAINT SYSTEM IN LIEU OF THRUST BLOCKING FOR HORIZONTAL BENDS.

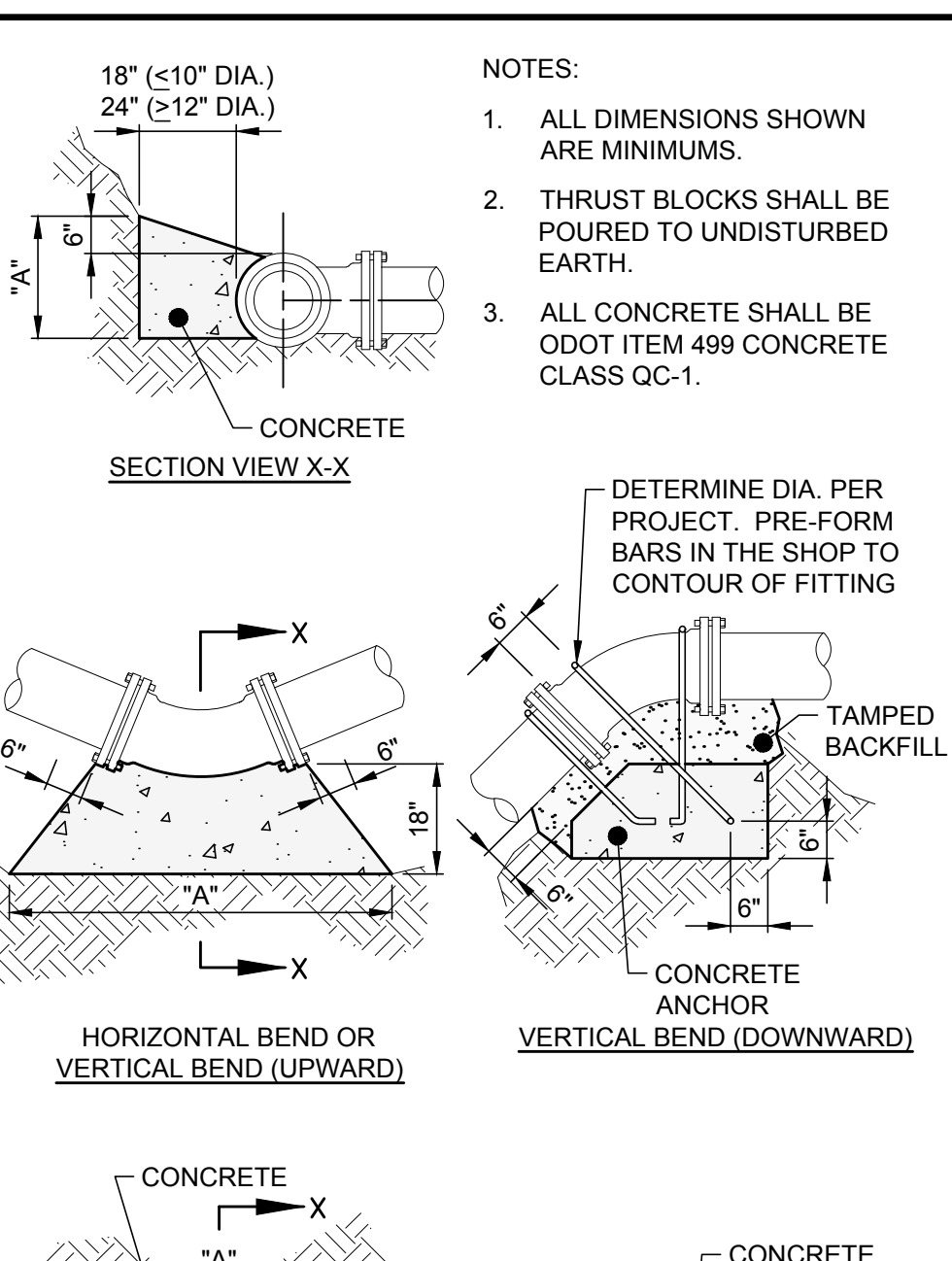
CONTRACTOR WILL SUPPLY ALL FIELD-LOK GASKETS

LINEAR FEET OF MECHANICAL PIPE RESTRAINT REQUIRED (EITHER SIDE OF FITTING)							
PIPE DIA. (IN.)	DEAD END	90°	45°	22.5°	11.25°	VERT. UP	VERT. DOWN
4	36	16	8	0	0	4	16
6	60	28	13	0	0	10	24
8	108	54	18	0	0	18	36
12	162	90	36	18	0	36	72
16	214	118	49	23	12	12	21
24	304	165	68	33	16	16	30

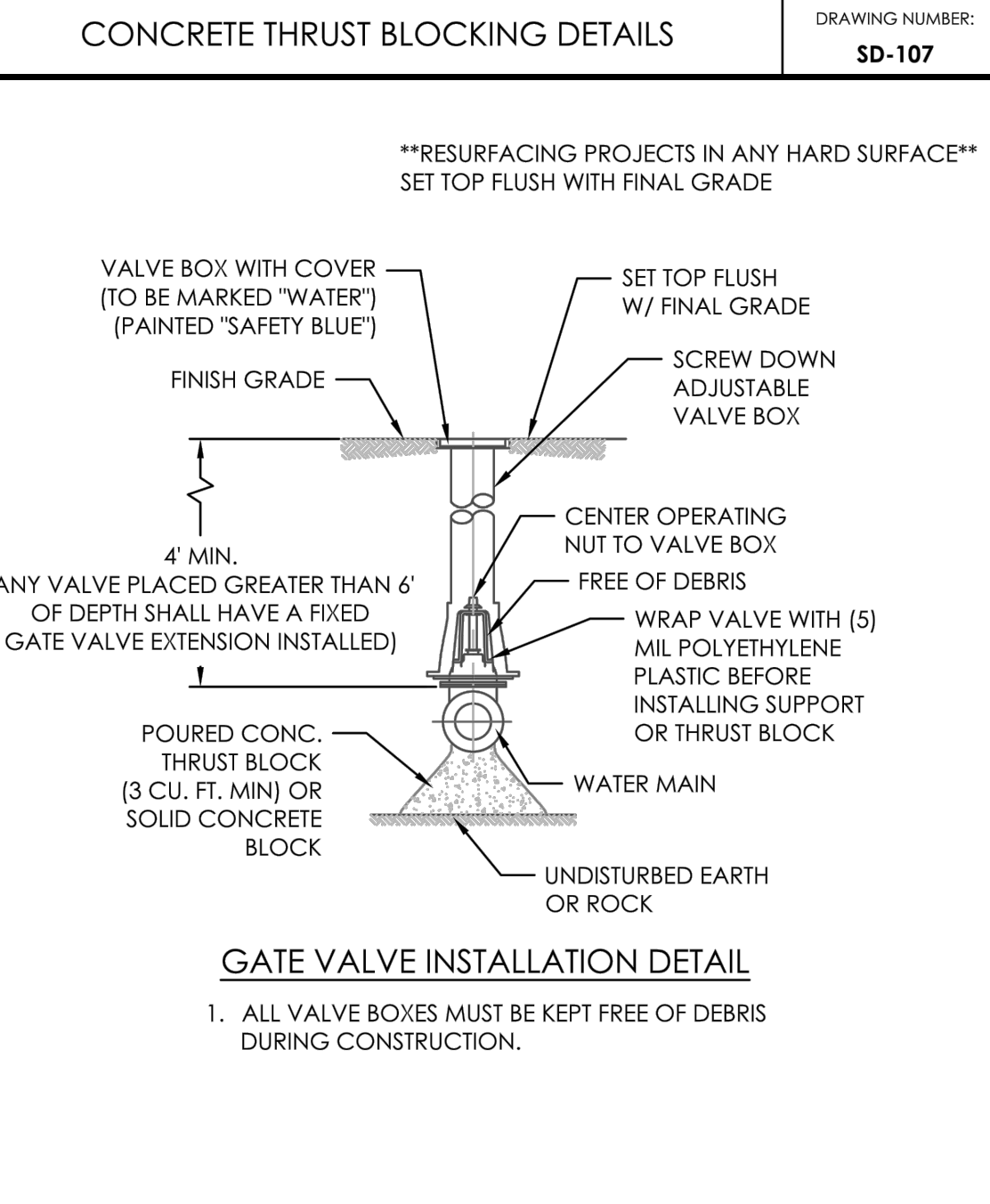
CONSTRUCTION CRITERIA:

- FOR WORKING AND/OR TEST PRESSURES < 150 PSI.
- TYPE 2 TRENCH WITH MINIMUM OF 4.0 FT. OF COVER
- POLYWRAPPED PIPE
- 18 FT. PIPE LENGTHS
- FITTINGS RESTRAINED WITH MEG-A-LUGS OR APPROVED EQUAL

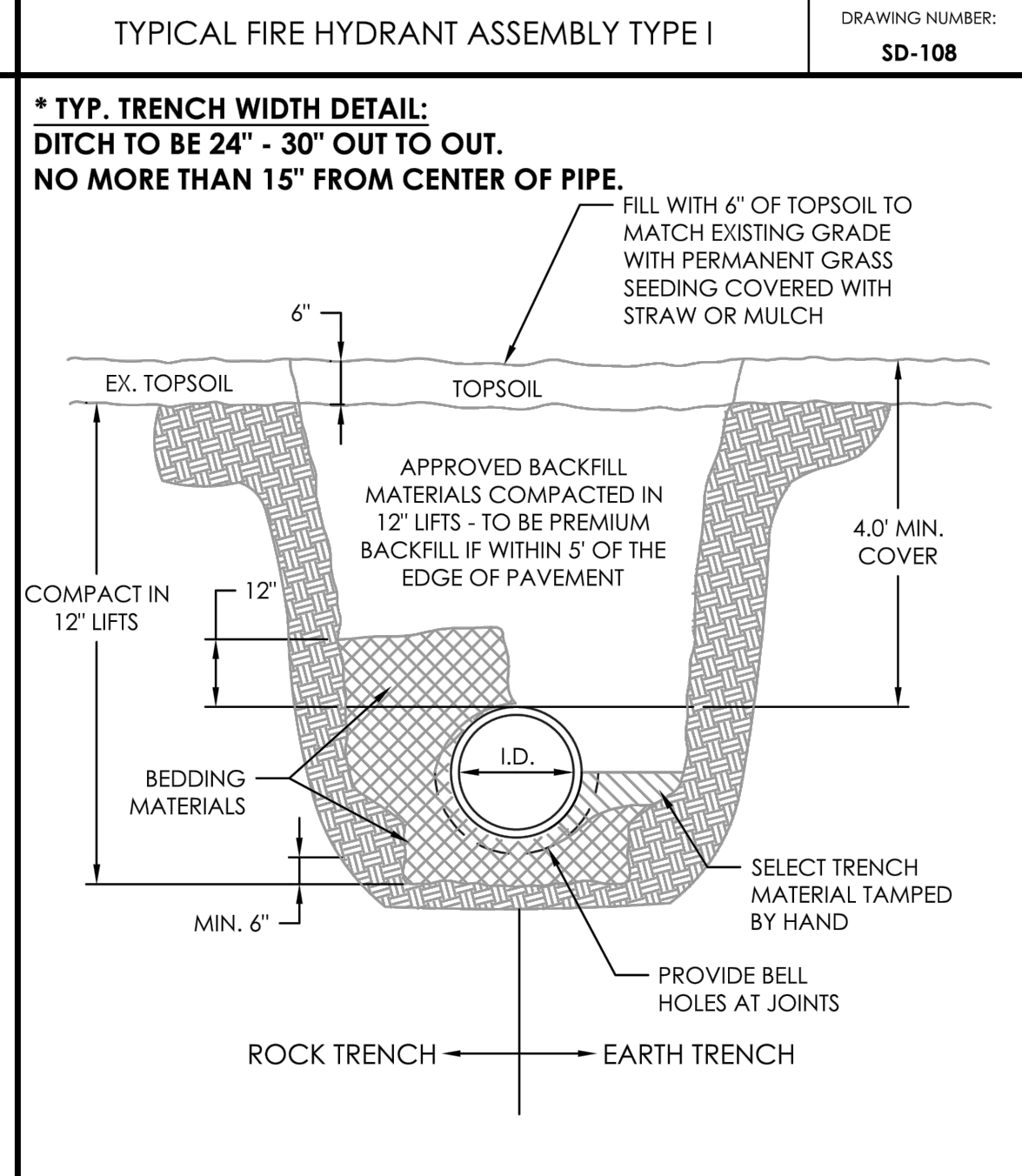
NOTE: IF FIELD CONDITIONS DO NOT CONFORM TO THE NOTED CONSTRUCTION CRITERIA, THE CONTRACTOR SHALL GET WRITTEN APPROVAL FROM AQUA FOR THE NUMBER OF RESTRAINED JOINTS.



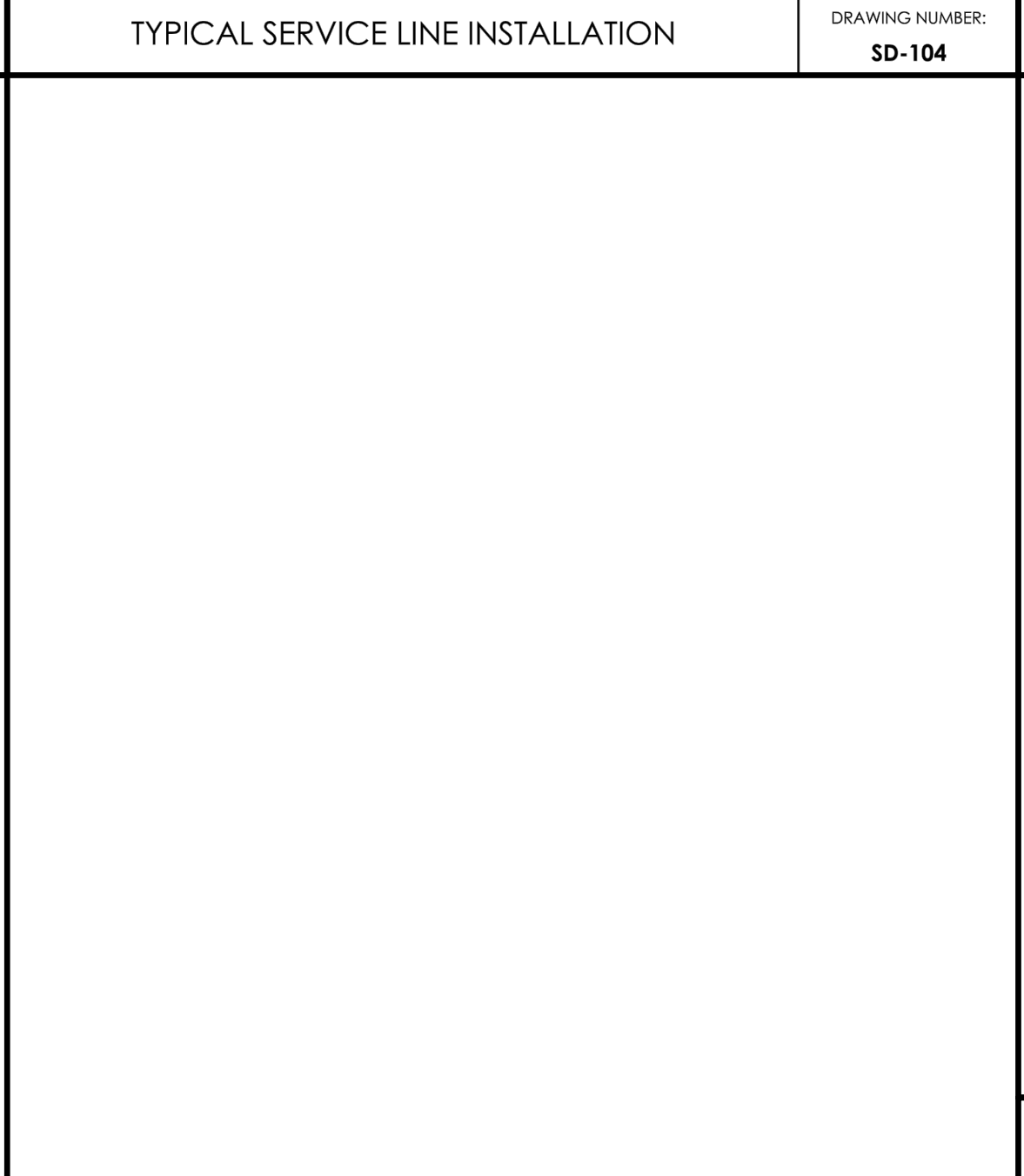
THRUST RESTRAINT WITH FIELD-LOK GASKETS DRAWING NUMBER: SD-105



GATE VALVE INSTALLATION DETAIL DRAWING NUMBER: SD-113



TYPICAL TRENCH DETAIL OUTSIDE OF PAVEMENT DRAWING NUMBER: SD-115



CUT-IN TEE DETAIL (DIP WATER MAIN) SCALE: NONE

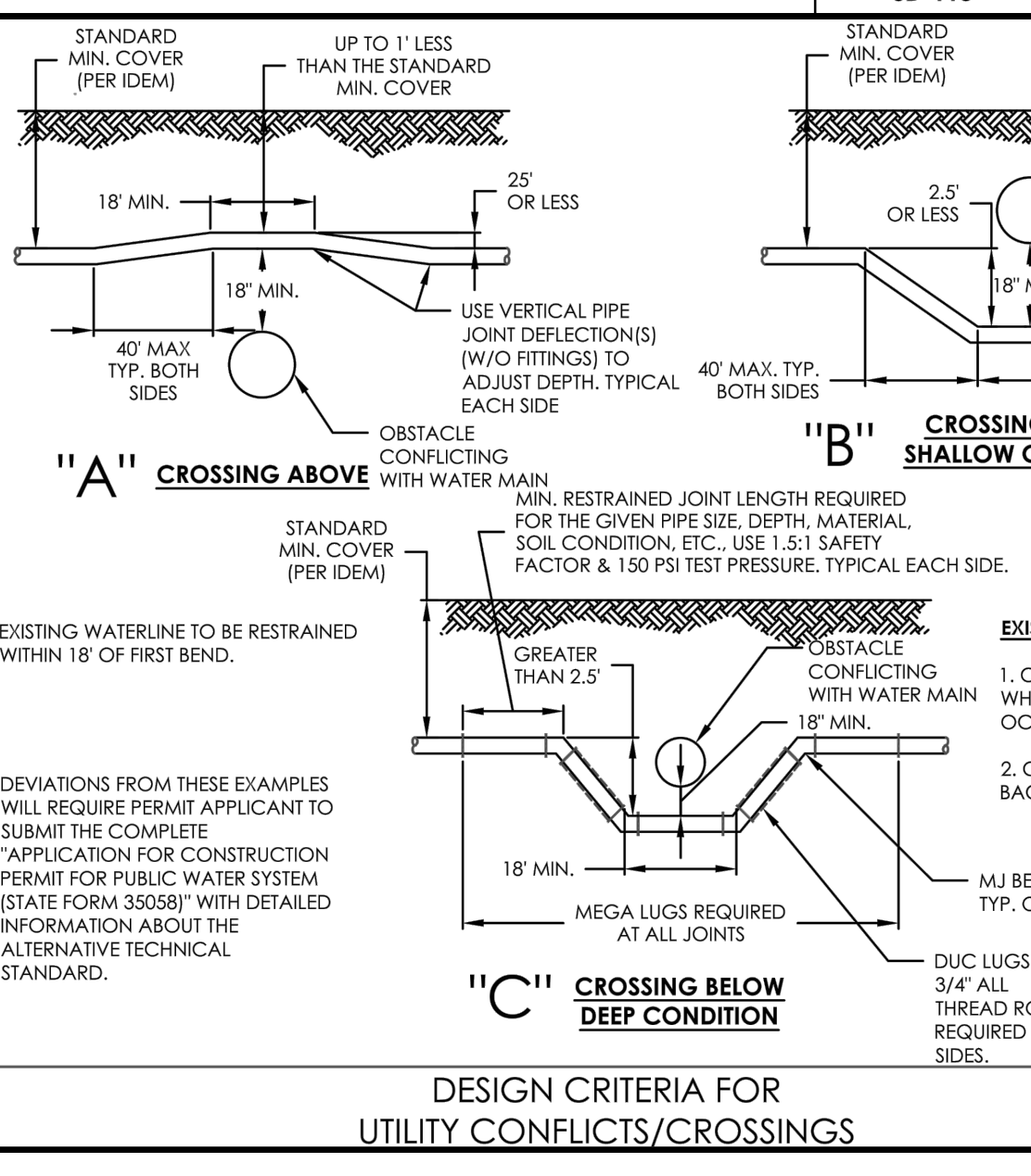
MIN. CONCRETE VOLUME FOR VERTICAL BENDS

DIA.	VOLUME
6"	4 C.F.
8"	11 C.F.
10"	22 C.F.
12"	37 C.F.
16"	71 C.F.

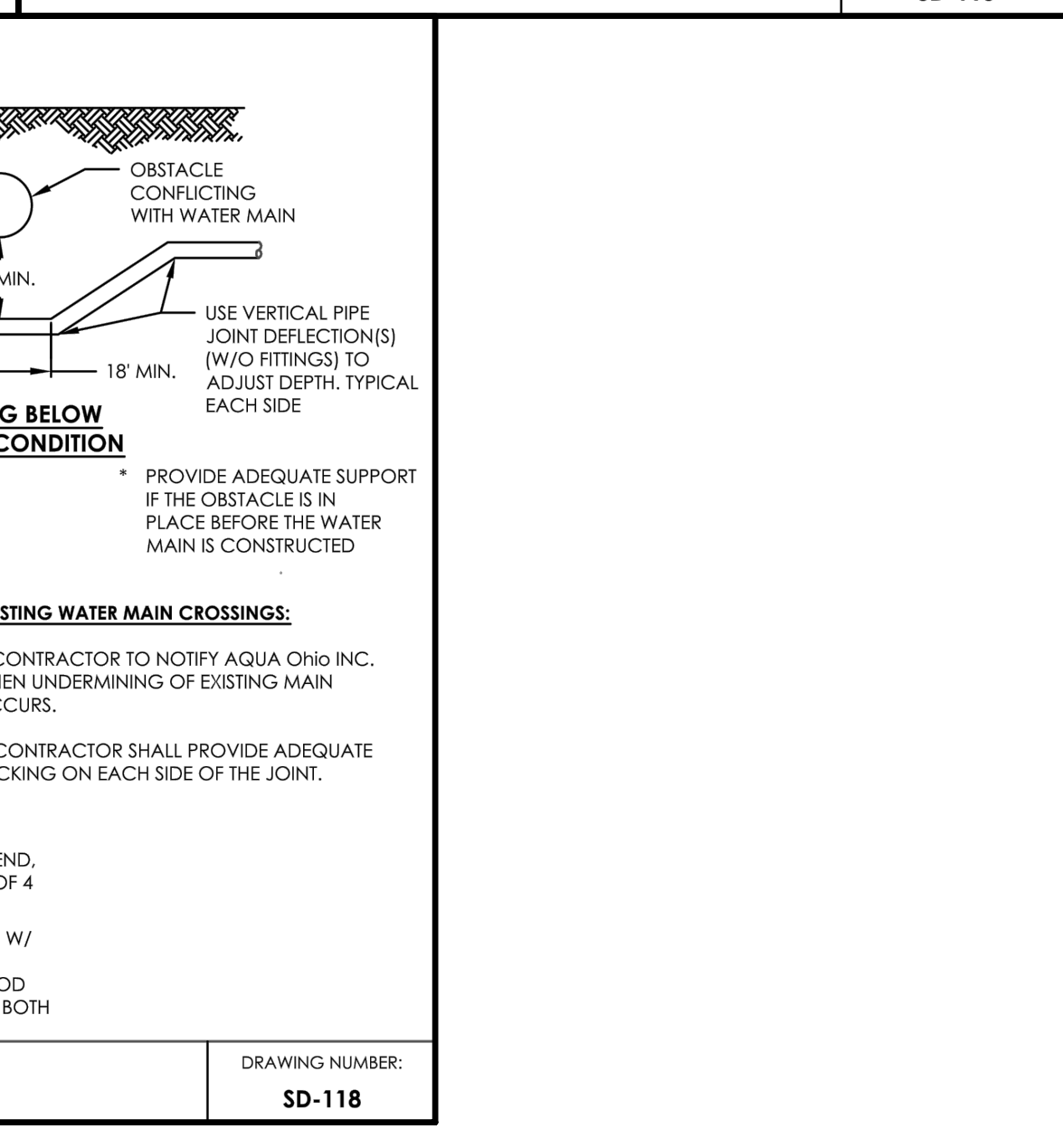
*"A" DIMENSIONS

DIA.	HORIZONTAL BENDS				TEE	PLUG
	90°	45°	22.5°	11.25°		
6"	17"	13"	9"	13"	14"	
8"	23"	17"	12"	17"	19"	
10"	28"	21"	15"	21"	24"	
12"	34"	25"	18"	25"	29"	
16"	45"	33"	24"	28"	38"	

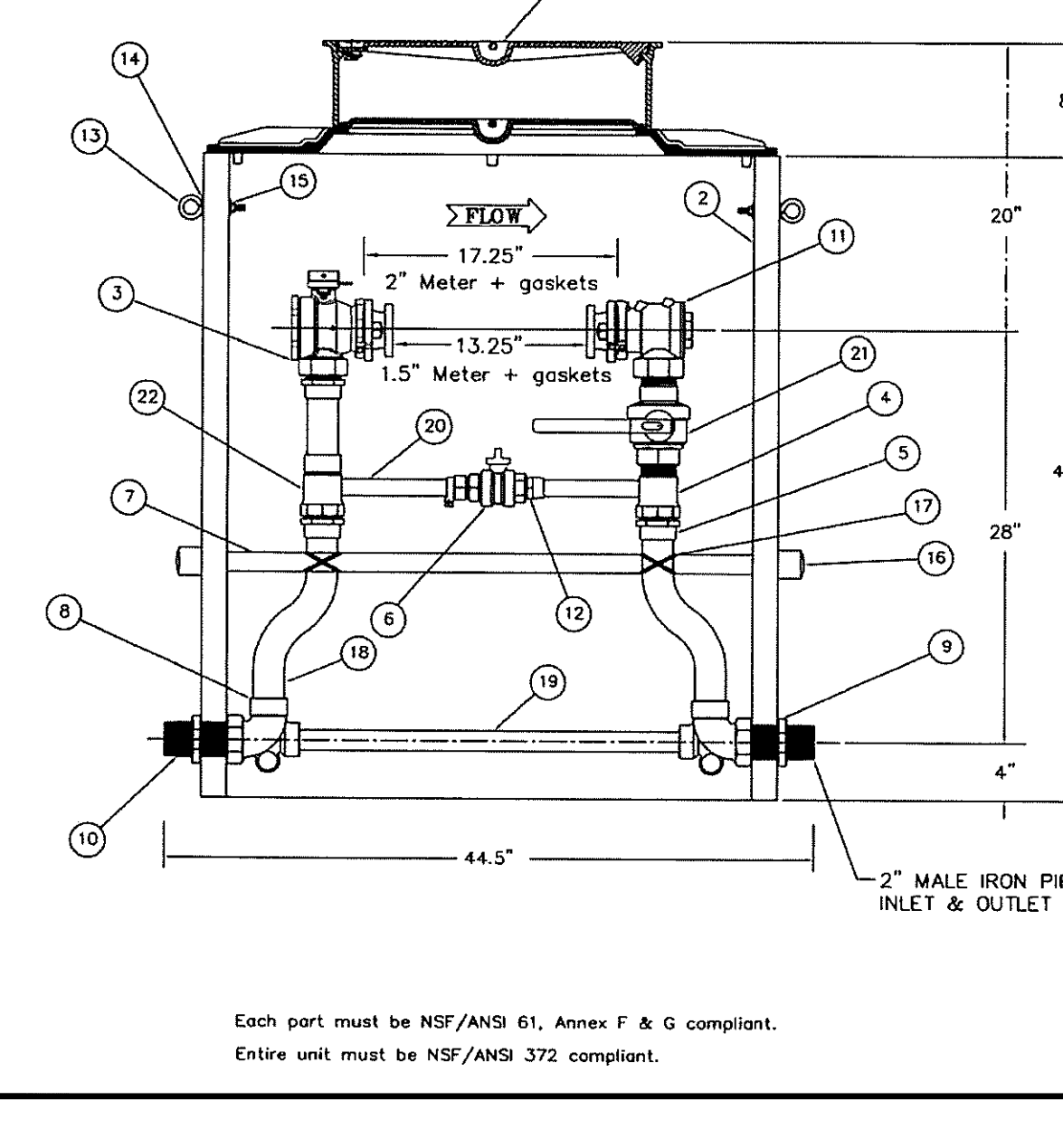
CONCRETE THRUST BLOCK DETAIL SCALE: NONE



DESIGN CRITERIA FOR UTILITY CONFLICTS/CROSSINGS DRAWING NUMBER: SD-118



DRAWING NUMBER: SD-118



Each part must be NSF/ANSI 61, Annex F & G compliant. Entire unit must be NSF/ANSI 372 compliant.

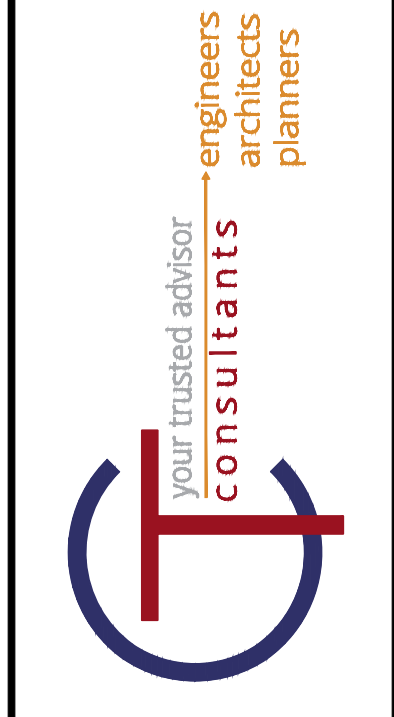
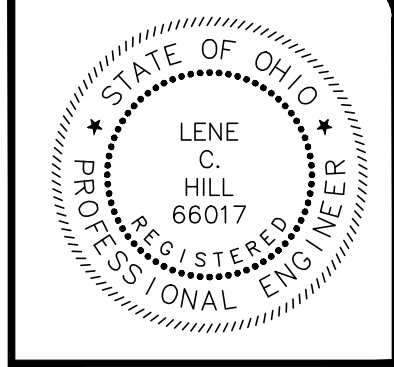
ITEM	DESCRIPTION	QTY.	QTY. OR P/N
1	Monitor Cover w/Inner Lid	1	MC-36-MB-T
2	36" Corrugated PVC Pit	1	300253
3	Angle Ball Valve	1	BA13-777W-MSB-NL
4	Tee	1	T184-774-NL
5	Solder Bushing	3	CS9-77-NL
6	Ball Valve	1	B41-444W-NL
7	1" PVC Brace bar	1	PS-BB-36
8	Elbow	2	CS12-7-5-NL
9	Lock Nut	2	800975
10	Nipple	2	A-4390B-09-NL
11	Angle Dual Check Valve	1	HFPA31-777-MSB-NL
12	Solder Bushing	1	CS9-44-NL
13	Eye Bolt	2	800975
14	Flat Washer	4	800976
15	Lock Nut	2	800977
16	1" PVC Cap	2	050424
17	Plastic Tie	4	300370
18	2 1/8" OD Copper Tube	2	
19	1 3/8" OD Copper Tube	1	
20	1 1/8" OD Copper Tube	2	
21	Ball Valve	1	BB1-777-HB-67-NL
22	Tee	1	T154-774-NL

* SOLD SEPARATELY

NOTE: ENTIRE UNIT SHALL COMPLY WITH NSF 372

ASSY. 1.5" & 2" FITSETTER W/BYPASS
BALL VALVE Inlet & Outlet, CHECK VALVE Outlet
REF. FORM METER BODY CO. DWG # 8-25455-11B-NL
DRAWN BY: DATE 4-15-13 DRAWING NO. CSD-I-H
CHKD BY: M.F. SCALE 1=10

3-17-14
AQUA



DATE	REVISION	NO.	CD	ISSUED FOR:	ISSUE DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
			8/5/2019	AS SHOWN	LCH / GMS	GMS	LCH		

LAKELAND TRANSFER CENTER
LAKELAND COMMUNITY COLLEGE
7601 CLOCKTOWER DR., KIRTLAND, OH 44094

CONSTRUCTION DETAILS
WATERMAIN & SERVICE

PROJECT NO.	18050002
DISCIPLINE	CIVIL
SHEET NAME	DT_3
SHEET	OF
19	55