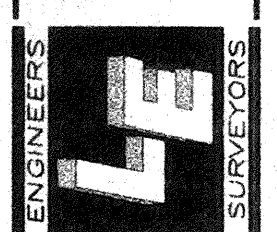


DATE	INITIALS	DESCRIPTION

DATE: 2/19/94	SCALE: NONE	DESIGN: STAFF	REVISION:
DRAWN: PWC	CHK'D: CJA	APPROVED:	

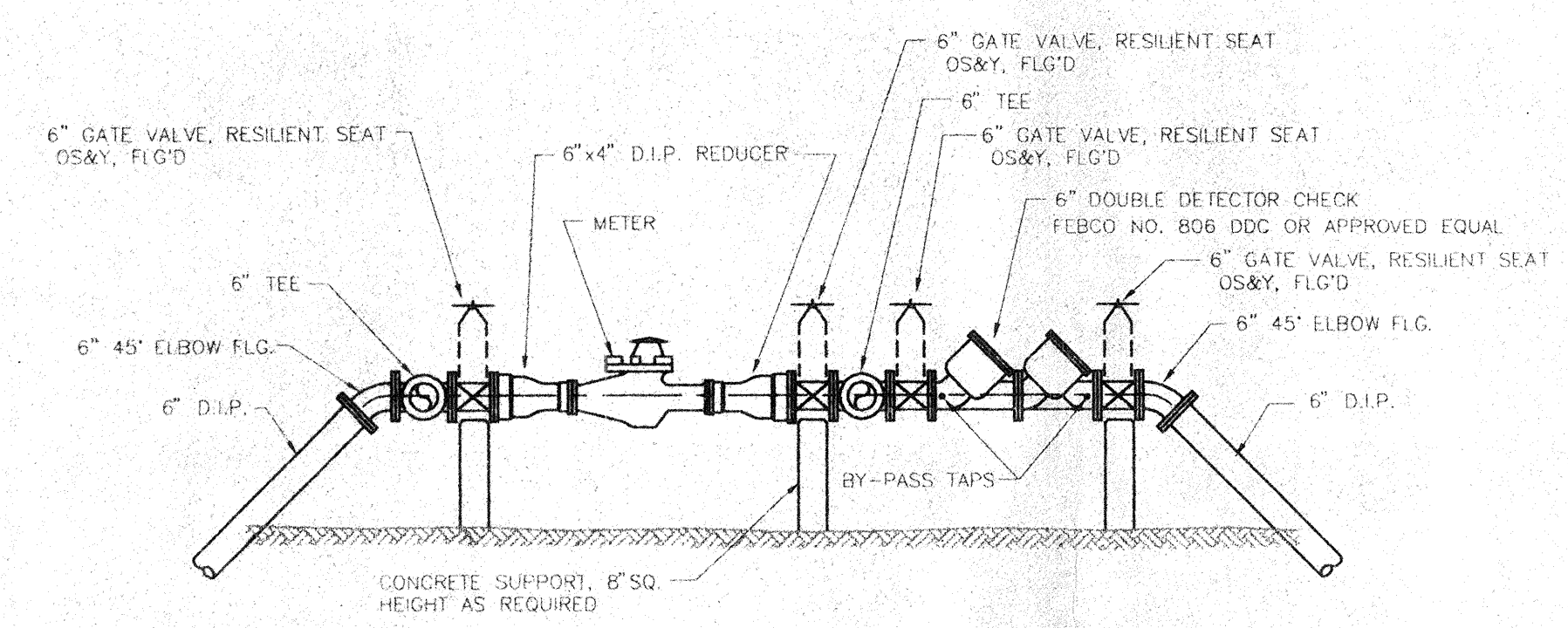
Landry & Eber
ENGINEERS - SURVEYORS
130 N. Tamiami Trail, Suite 301 Sarasota, Florida 34236
(941) 955-6004 FAX (941) 955-7501



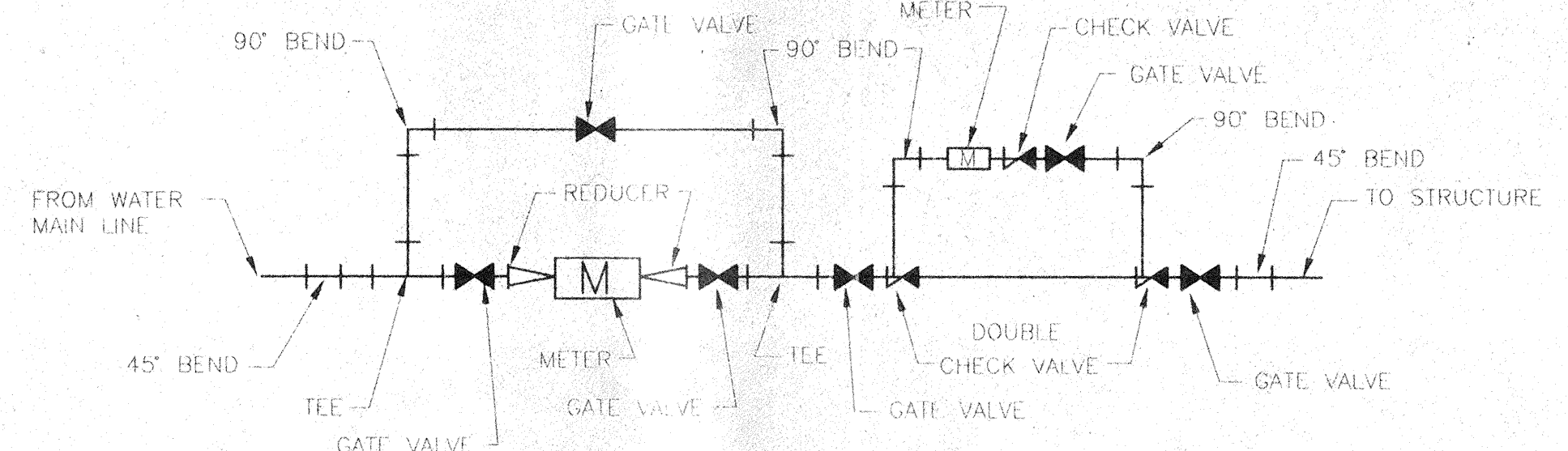
APPROVED: _____ DATE: _____
ENGINEER OF RECORD: _____
NOT SCALE FOR CONSTRUCTION
PROJECT NO: A00130
SHEET NO: C-6

NOTES:

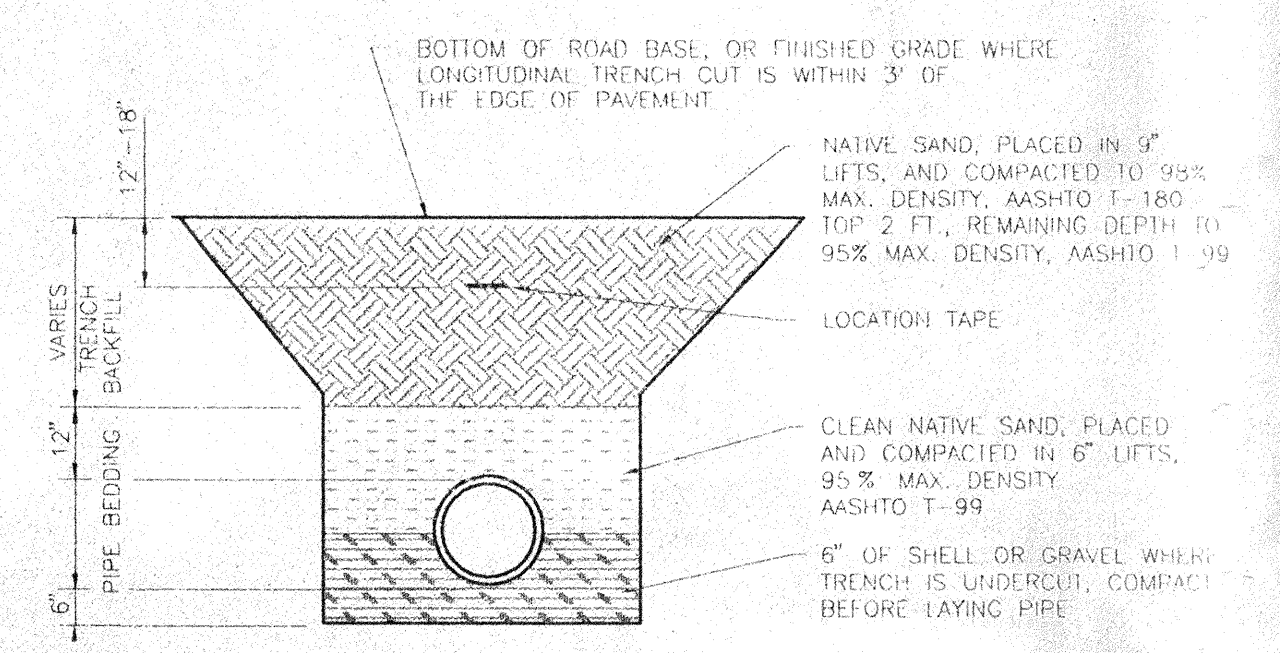
1. ALL P.V.C. WATERMAIN SHALL BE COLOR CODED BLUE W/CLASS DR-18,(AWWA C-900), W/36" COVER AND DETECTABLE TAPE.
2. CONTRACTOR TO CONTACT TOWN OF LONGBOAT KEY UTILITIES DIRECTOR FOR CHANGE OF MATERIALS.
3. ALL IRON PIPE & FITTINGS (WATER & WASTEWATER) SHALL BE COMPLETELY WRAPPED IN 8 MIL THICK BLACK PLASTIC FOR CORROSION PROTECTION.



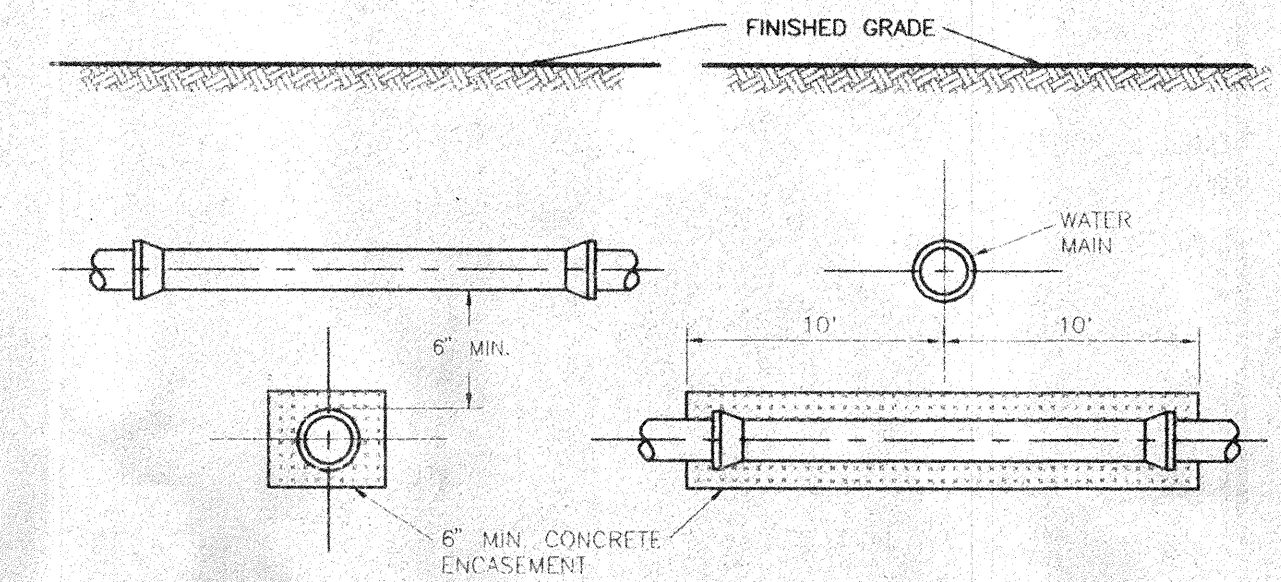
WATER METER INSTALLATION
N.T.S.



METER BOX SCHEMATIC



TRENCH "A" DETAIL
N.T.S.



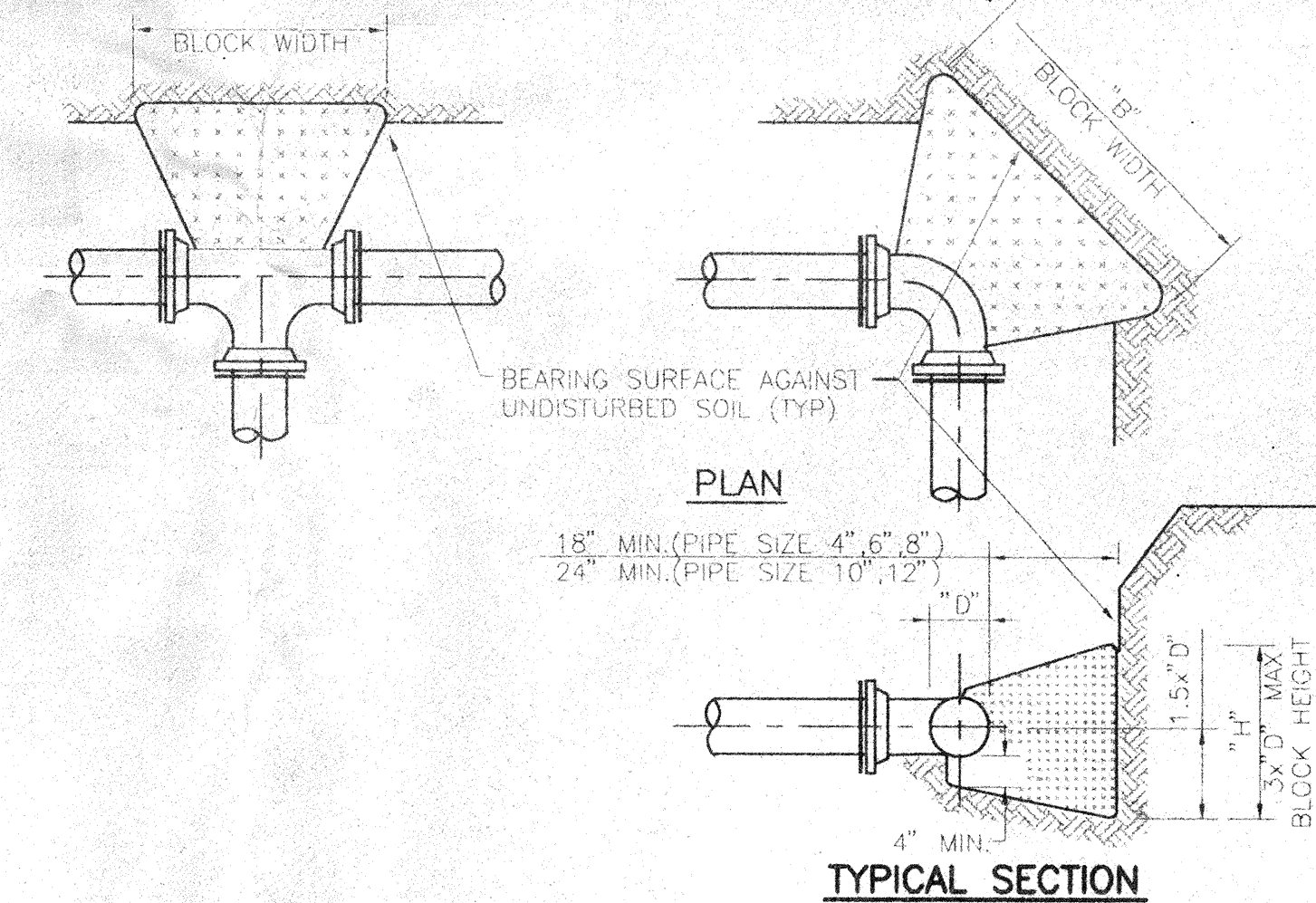
NOTES: PROTECTION OF WATER SYSTEMS

THE HORIZONTAL SEPARATION BETWEEN SANITARY SEWERS AND EXISTING OR PROPOSED WATER MAINS SHALL NOT BE LESS THAN 10 FEET. HOWEVER, SHOULD THE STIPULATED HORIZONTAL SEPARATION NOT BE POSSIBLE, THE SEWER MAIN SHALL BE COMPLETELY ENCASED IN CONCRETE (6 INCH MINIMUM), CONSTRUCTED OF DUCTILE IRON PIPE WITH PRESSURE TIGHT JOINTS OR PROTECTED BY OTHER METHODS AS APPROVED BY THE ENGINEER.

UNLESS SEWER MAINS CROSS BELOW WATER MAINS WITH A VERTICAL SEPARATION OF 18 INCHES BETWEEN THE BOTTOM OF THE WATER MAIN AND TOP OF THE SEWER MAIN, SPECIAL PROTECTION SHALL BE PROVIDED. SAID PROTECTION SHALL CONSIST OF COMPLETELY ENCASED THE SEWER MAIN IN CONCRETE (6 INCH MINIMUM) FOR A MINIMUM DISTANCE OF 10 FEET UNLESS APPROVED OTHERWISE BY THE ENGINEER. EACH SIDE OF THE WATER MAIN OR INSTALLATION OF DUCTILE IRON PIPE WITH PRESSURE TIGHT JOINTS FOR THE SAME DIMENSION.

IF A CROSSING WHERE THE SEWER MAIN IS LAID OVER THE WATER MAIN IS UNAVOIDABLE THEN THE ABOVE MENTIONED PRECAUTIONS SHALL BE OBSERVED REGARDLESS OF THE DISTANCE OF VERTICAL SEPARATION BETWEEN WATER MAINS AND SEWER MAINS.

ENCASEMENT DETAIL FOR WATER MAIN SYSTEMS



BEARING SURFACE AREA (SQ. FT.)

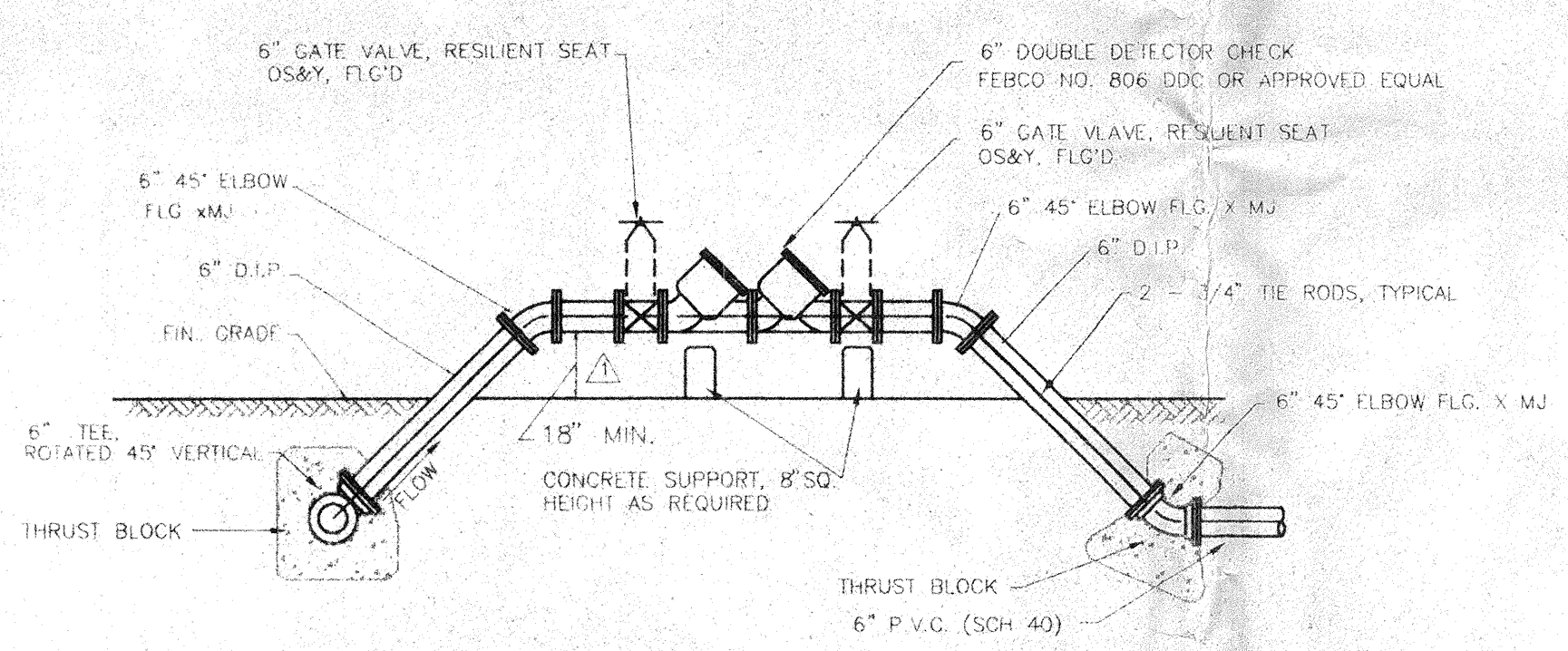
PIPE SIZE	90° ELB	45° ELB	22 1/2° ELB	TEE OR PLUG
4"	2.0	1.1	1.0	1.4
6"	4.5	2.4	1.2	3.2
8"	8.0	4.3	2.2	5.7
10"	12.5	6.8	3.5	8.8
12"	18.0	9.7	5.0	12.7

DESIGN PRESSURE = 150 PSI

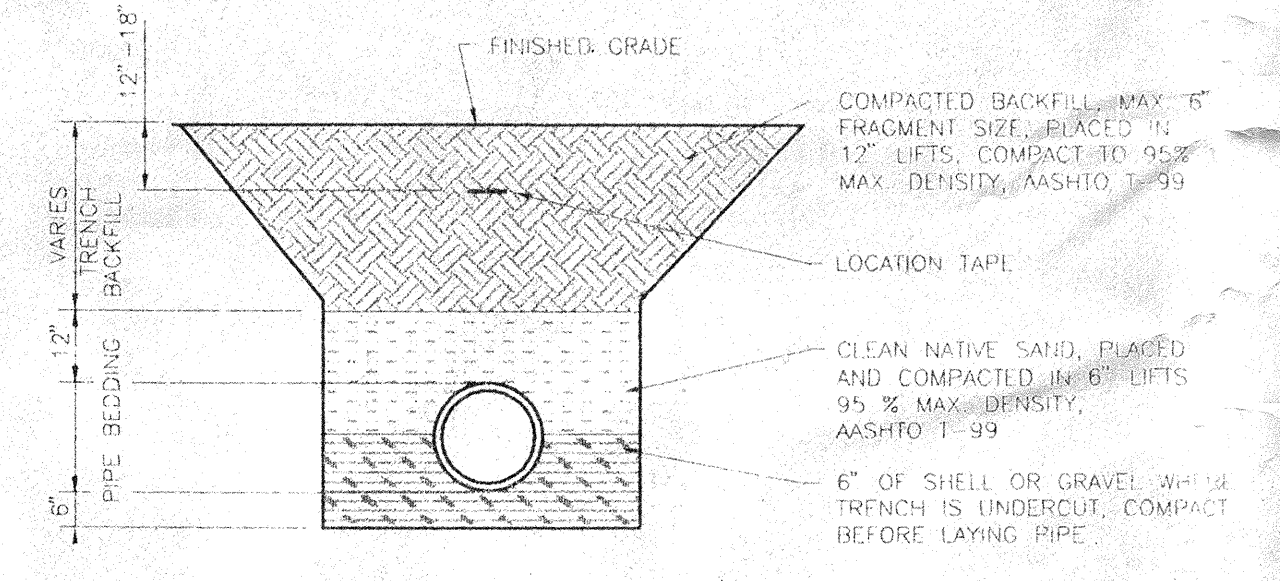
NOTES

1. THRUST BLOCK BEARING AREA BASED ON 2000 PSF SAFE SOIL BEARING. IF ACTUAL SOIL BEARING IS LESS THAN 2000 PSF, CONTRACTOR SHALL BE REQUIRED TO PLACE ADDITIONAL THRUST BEARING AS DETERMINED BY THE ENGINEER, AT NO ADDITIONAL COST.
2. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
3. CONCRETE SHALL BE KEPT CLEAR OF "T" BOLT AND PLACED BENEATH FITTINGS AS SHOWN OR SUPPORT WRAP ALL FITTINGS WITH PLASTIC BEFORE POURING THRUST BLOCK CONCRETE.
4. BEFORE POURING CONCRETE, PLUGS SHALL BE WRAP WITH PLASTIC AND A PRESSURE TREATED BOARD PLACED BETWEEN IT AND THE CONCRETE.
5. "B" SHALL NOT EXCEED 2' x "H".

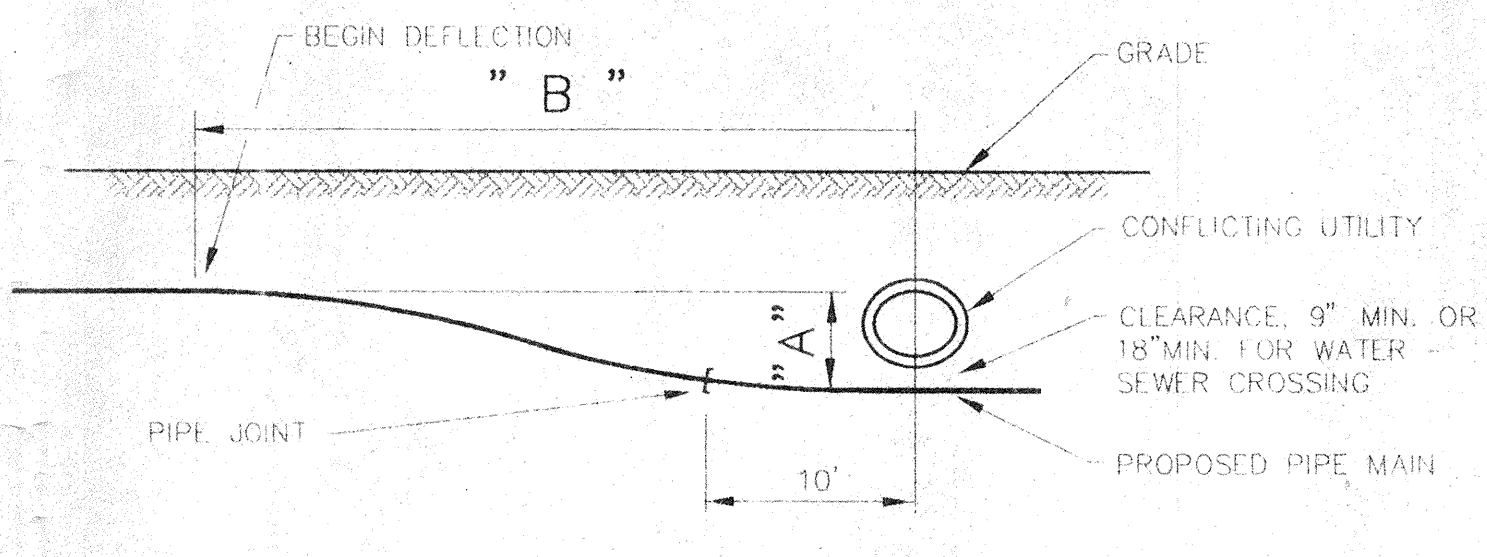
WATER MAIN THRUST BLOCK DETAIL



FIRE BACKFLOW PREVENTER DETAIL



TRENCH "B" DETAIL
N.T.S.



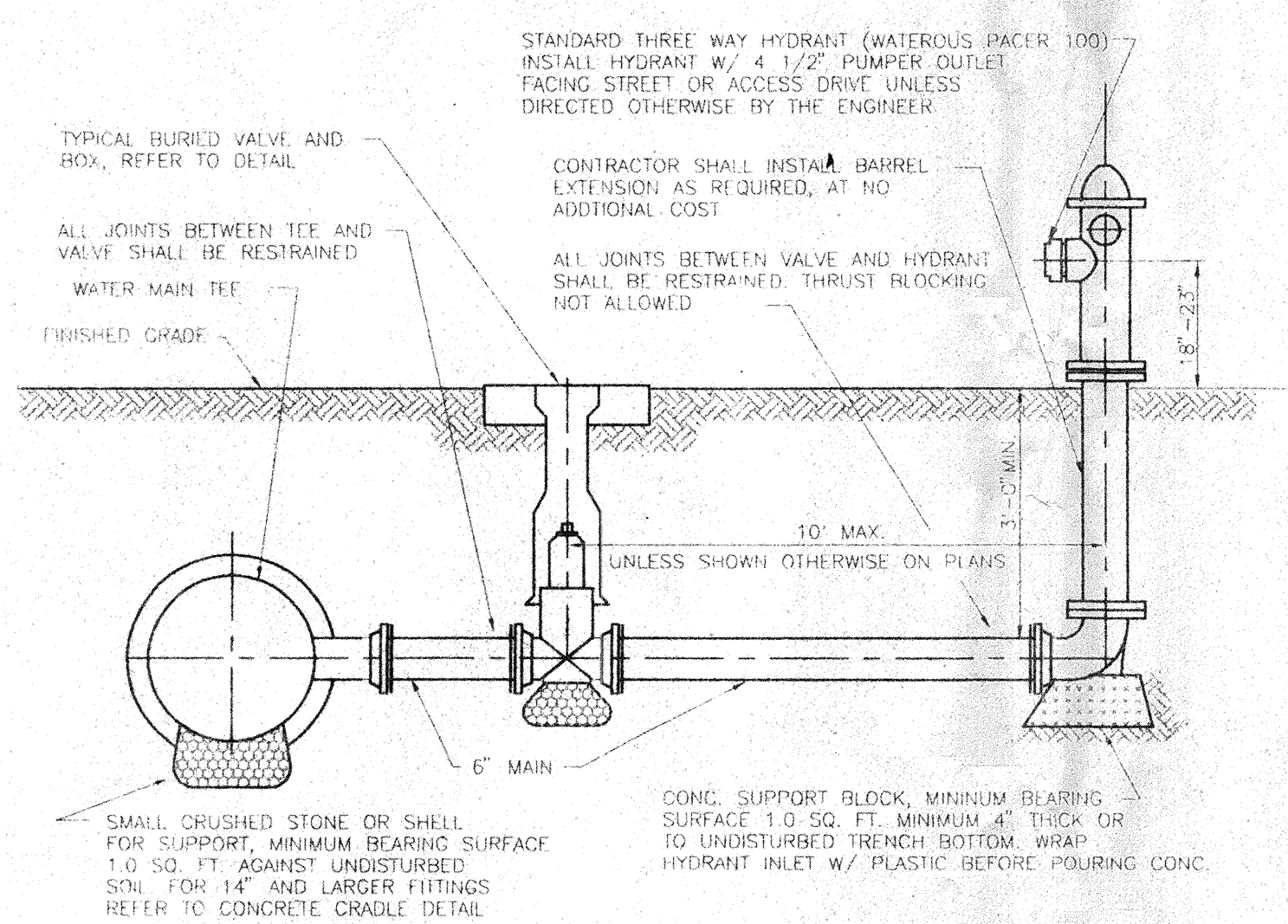
MINIMUM DISTANCE TO START DEFLECTION "B"

BENDING RADIUS OF PIPE (FT.)	70	80	100	120	150	200	250	300	350	400	500	550
TOTAL DEFLECTION "A" (FT.)	0.5	2.0	2.0	2.0	2.0	2.0	2.7	2.5	2.6	2.8	3.2	3.4
1.0	2.0	2.0	2.0	2.2	2.2	2.8	3.2	3.5	3.7	4.0	4.6	4.9
1.5	2.0	2.2	2.4	2.7	3.0	3.5	3.9	4.2	4.6	4.9	5.6	6.0
2.0	2.4	2.5	2.8	3.1	3.5	4.0	4.5	4.9	5.3	5.7	6.5	7.0
3.0	3.0	3.1	3.5	3.8	4.2	4.9	5.5	6.0	6.5	6.9	8.0	8.5

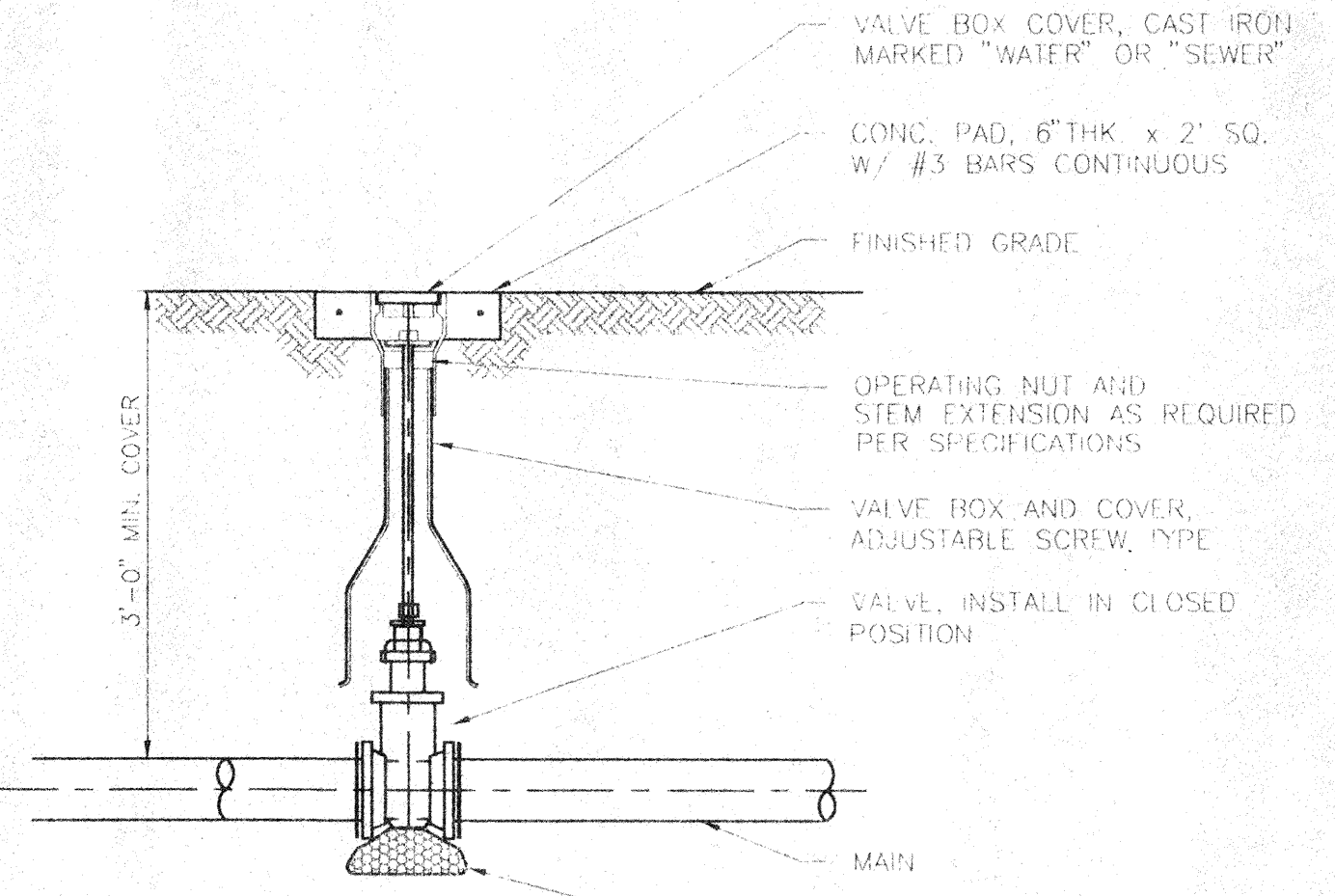
ALLOWABLE BENDING RADIUS DETERMINED FOR ASTM D2241, SDR 18 AND C-900

PIPE DIAMETER	1 1/2"	2"	2 1/2"	3"	4"	6"	8"	10"
ALLOWABLE BENDING RADIUS (FT.)	SDR 21	70	80	100	120	150	220	290
C-900	---	---	---	---	200	300	400	475

UTILITY CROSSING DETAIL



TYPICAL FIRE HYDRANT ASSEMBLY DETAIL



BURIED VALVE DETAIL