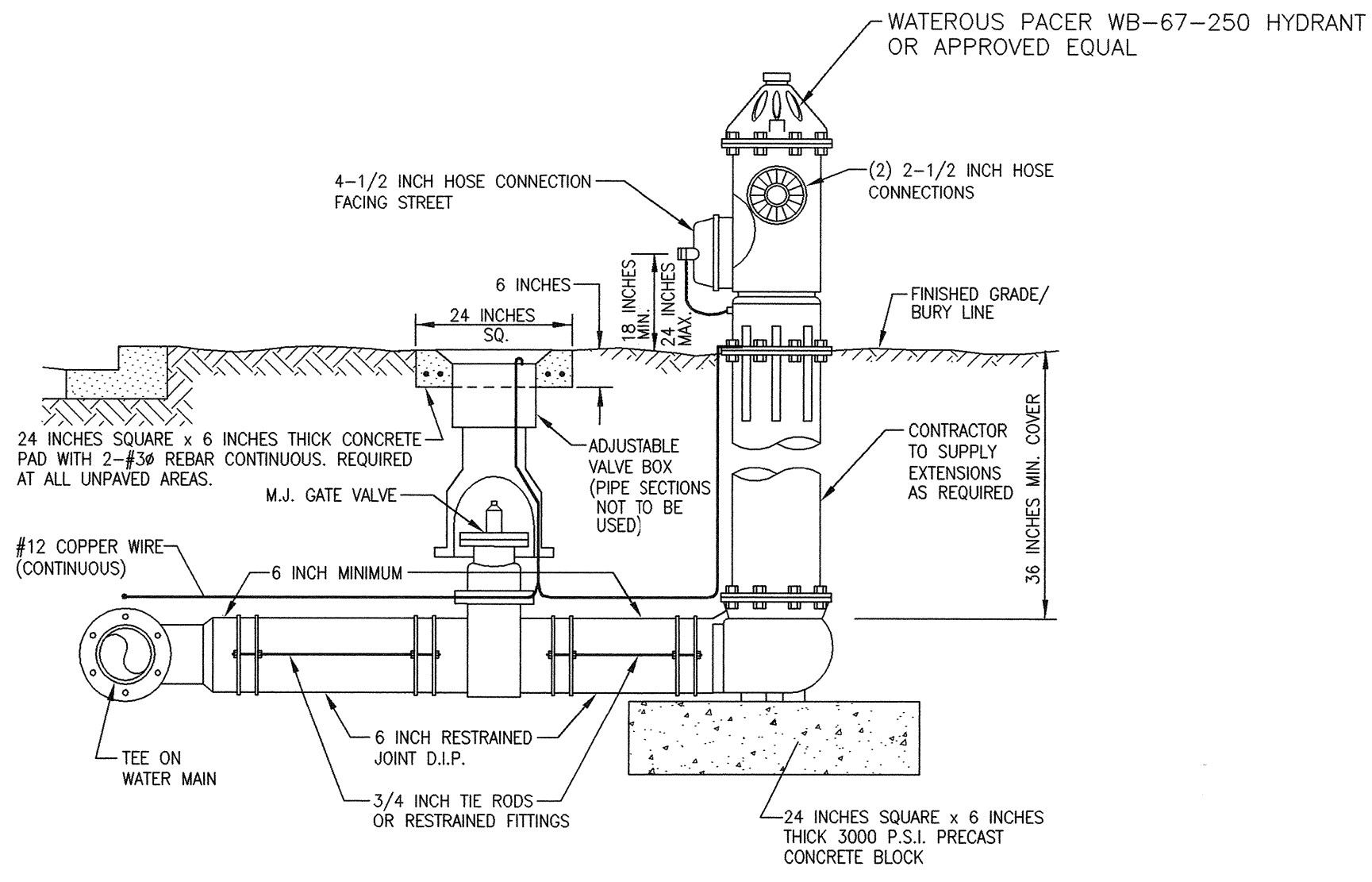


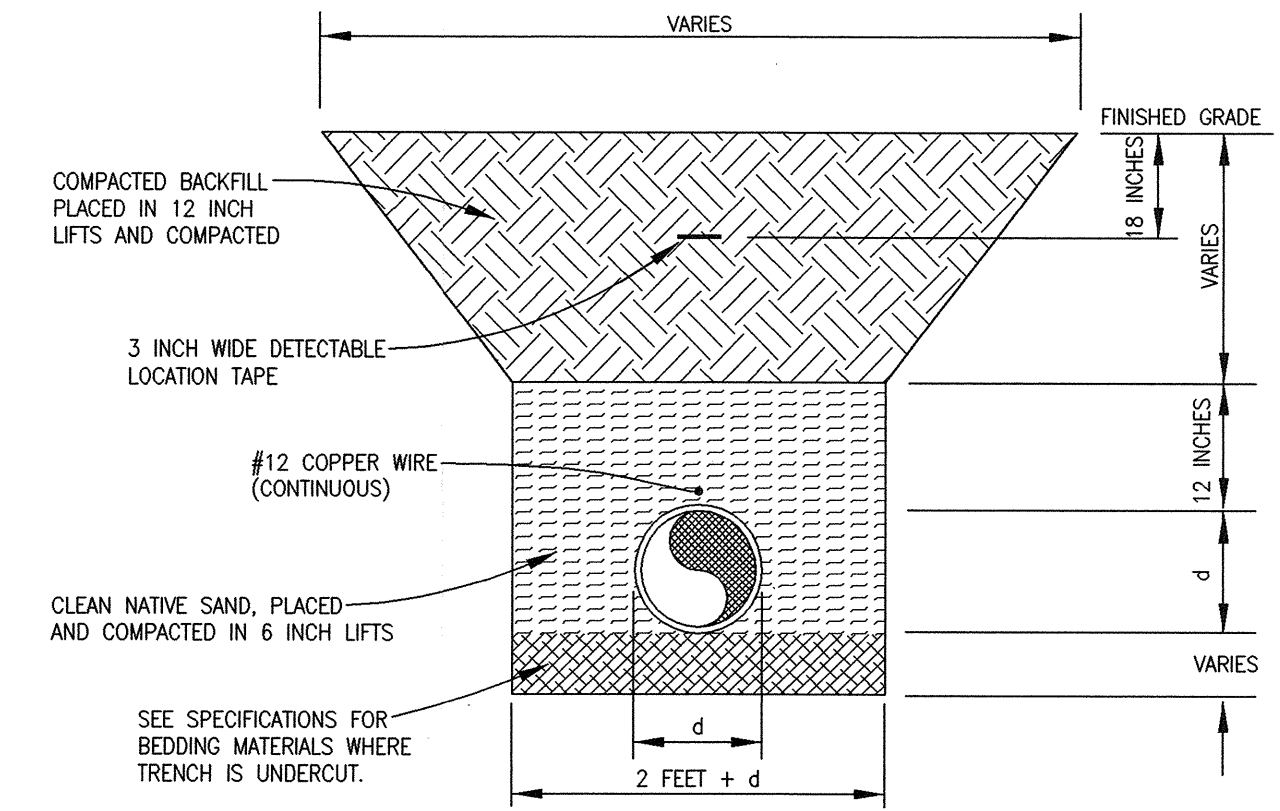
- NOTES:
1. VALVE STEM MAXIMUM DEPTH 36 INCHES TO FINISHED GRADE.
 2. VALVE STEM EXTENSION SHALL BE SECURED WITH A STAINLESS STEEL SET SCREW TO THE OPERATING NUT, AND SUPPLIED WITH A STAINLESS STEEL CENTERING RING(S).
 3. VALVE BOX RISER SHALL BE SUPPLIED BY VALVE BOX MANUFACTURER. P.V.C. RISER SHALL NOT BE ALLOWED.

TYPICAL VALVE AND VALVE BOX
N.T.S.



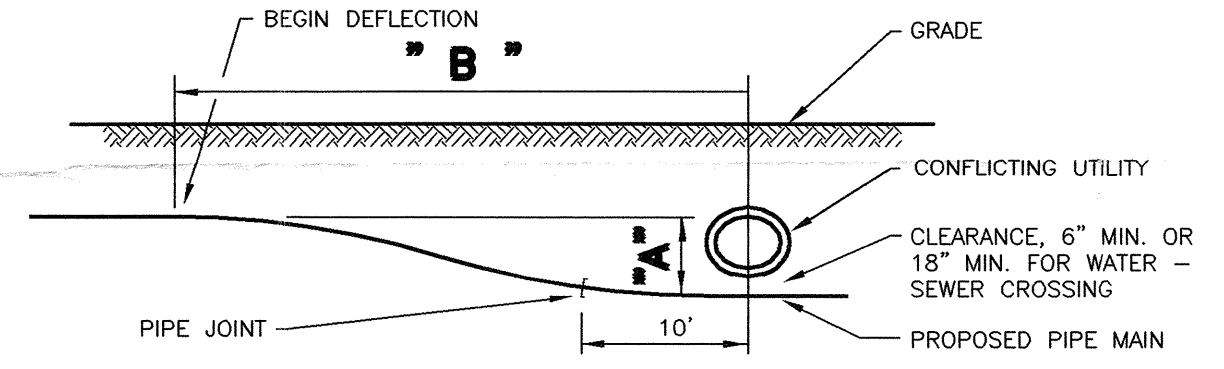
- NOTES:
- THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL, HIS METHOD OF RESTRAINING THE VALVE OR HYDRANT PRIOR TO ORDERING MATERIAL.
- DRAIN HOLES SHALL BE PLUGGED.
- WHERE MINIMUM DISTANCE REQUIRED USE CLOW-F-1217 (OR EQUAL) ANCHORING TEE WITHOUT ANCHORING COUPLING BETWEEN TEE & GATE VALVE.
- BURY LINE AS MARKED ON HYDRANT BY THE MANUFACTURER.
- CONTRACTOR WILL PROVIDE AND INSTALL BLUE HYDRANT DELINEATORS AT LOCATIONS DESIGNATED BY THE ENGINEER.
- CONTRACTOR WILL UTILIZE VARIOUS ADJUSTMENT TECHNIQUES, GRADLOCK, SPECIAL TEES OR OTHER A.W.W.A. APPROVED FITTINGS.
- ALL FIRE HYDRANTS SHALL BE PAINTED PER TOWN OF LONGBOAT KEY STANDARDS.
- ONLY ONE (1) FIRE HYDRANT ASSEMBLY RISER KIT SHALL BE ALLOWED PER FIRE HYDRANT AND SHALL BE SUPPLIED BY FIRE HYDRANT MANUFACTURER.
- GATE VALVE STEM EXTENSION SHALL BE SECURED WITH A STAINLESS STEEL SET SCREW TO THE OPERATING NUT, AND SUPPLIED WITH A STAINLESS STEEL CENTERING RING(S).

TYPICAL FIRE HYDRANT ASSEMBLY
N.T.S.



- NOTES:
1. TRENCH WIDTH SHALL BE APPROX. EQUAL TO THE PIPE DIA. + 2 FEET OR AS PER AWWA AND THE MANUFACTURERS RECOMMENDATIONS.
 2. PROVIDE SHEETING AND SHORING AS NECESSARY FOR SAFETY.
 3. BACKFILL MATERIALS SHALL BE APPROVED BY THE ENGINEER WHERE THE PIPE IS UNDERCUT.
 4. WATER, SEWER, AND REUSE MAINS TO BE INSTALLED WITH A MINIMUM 36 INCHES OF COVER.
 5. REFER TO LAND DEVELOPMENT REGULATIONS FOR DENSITY REQUIREMENTS.

WATERMAIN TRENCH DETAIL
N.T.S.



MINIMUM DISTANCE TO START DEFLECTION "B"

BENDING RADIUS OF PIPE	70	80	100	120	150	200	250	300	350	400	500	550
TOTAL DEFLECTION (FT.)	0.5	20	20	20	20	20	22	25	26	28	32	34
"A"	1.0	20	20	20	22	28	32	35	37	40	46	48
	1.5	20	22	24	27	30	35	39	42	46	56	60
	2.0	24	25	28	31	35	40	45	49	53	67	70
	3.0	30	31	35	38	42	49	55	60	65	80	85

ALLOWABLE BENDING RADIUS DETERMINED FOR ASTM D2241, SDR 21 AND C-900

PIPE DIAMETER	1 1/2"	2"	2 1/2"	3"	4"	6"	8"	12"
ALLOWABLE BENDING RADIUS (FT.)	70	80	100	120	150	220	290	430
	C-900					200	300	550

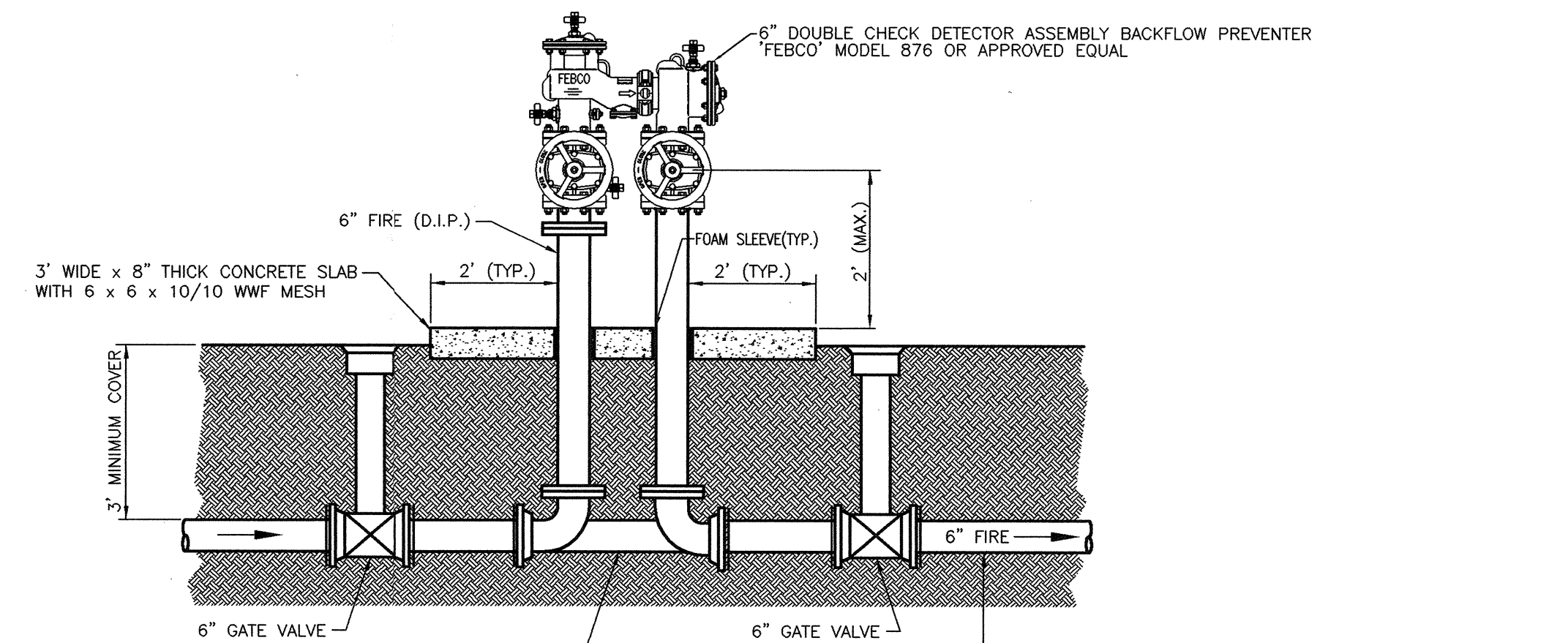
UTILITY CROSSING DETAIL
N.T.S.

- NOTES:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER APPLICATION OF THRUST RESTRAINT SYSTEM TO PREVENT MOVEMENT OF PIPE AND FITTINGS.
 - 1.5 - SAFETY FACTOR
 - 150 P.S.I. - RESTRAIN PRESSURE FOR PIPE & FITTINGS
 - 3 FT. - SOIL COVER ON TOP OF THE PIPE
 - SM - SOIL TYPE
 - 4 - TRENCH TYPE
 3. WHERE OTHER CONDITIONS EXIST, CONTRACTOR SHALL SUBMIT DETAILS OF ALTERNATE SYSTEM FOR REVIEW AND APPROVAL.
 4. FITTINGS SHALL BE RESTRAINED JOINTS UNLESS OTHERWISE INDICATED.
 5. INSTALL FULL LENGTH JOINTS WITH TOTAL LENGTH EQUAL TO OR GREATER THAN SHOWN IN THE TABLE.
 6. WHERE TWO OR MORE FITTINGS ARE TOGETHER, USE FITTING WHICH YIELDS GREATEST LENGTH OF RESTRAINED PIPE.

MINIMUM PIPE LENGTHS TO BE RESTRAINED ON EACH SIDE OF FITTINGS (6" PVC PIPE)

90° HORIZONTAL BEND	21 FEET
45° HORIZONTAL BEND	9 FEET
22.5° HORIZONTAL BEND	4 FEET
11.25° HORIZONTAL BEND	2 FEET
45° VERTICAL UP BEND	27 FEET
22.5° VERTICAL UP BEND	13 FEET
6" x 6" TEE BRANCH	4 FEET
6" IN-LINE VALVE	65 FEET
6" DEAD END	65 FEET
6" REDUCER (ONE SIZE)	34 FEET
6" REDUCER (TWO SIZES)	48 FEET

RESTRAINED JOINT LENGTH TABLE



6" FIRE PROTECTION SUPPLY DETAIL
N.T.S.

NO.	BY	DATE	DESCRIPTION
1	PSN	12-1-00	REVISIONS TO FIRE SERVICE PER TOWN OF LONGBOAT KEY
2			
3			
4			
5			

NO.	BY	DATE	DESCRIPTION
6			
7			
8			
9			
10			

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ENGINEER OF RECORD
John A. Kittle
12-1-00
DATE

TASK INITIALS DATE
DESIGN G.A.R. 11-20-00
DRAWN P.S.N. 11-20-00
CHECKED
QUALITY CHK.
SCALE 1"=20'

PREPARED FOR:
TOWN OF LONGBOAT KEY FLORIDA

THE LONGBOAT KEY CENTER FOR THE ARTS FIRE SERVICE DETAILS

JOB NO. 0073003701
SHEET NO. C2