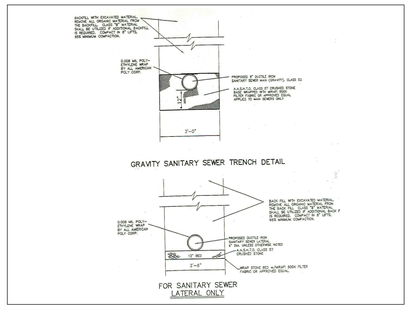


10 SANITARY SEWER TRENCH DETAILS

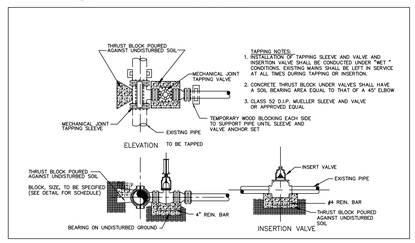
DIAMETER OF PIPE (d)	22 1/2" ELBOW "A"	45° ELBOW "A"	90° ELBOW "A"	TEE "A"	PLUG "A"
	"A"	"A"	"A"	"A"	"A"
6"	1.1	2.1	4.0	2.8	
8"	1.9	3.7	6.8	4.8	
10"	2.8	5.6	10.3	7.3	
12"	4.0	7.9	14.5	10.3	
16"	7.0	13.6	25.2	17.8	
20"	10.7	21.0	38.9	27.5	
24"	15.3	30.0	55.5	39.2	

"A" – CONTACT BEARING AREA OF BLOCK WITH EARTH, IN SQUARE FEET

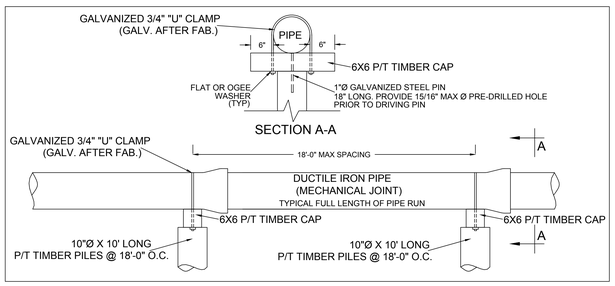
NOTES:

1. BEARING AREAS ARE BASED ON UNDISTURBED SOIL WITH A BEARING CAPACITY OF 2000 LBS. PER SQ. FT. FOR A LESSER SOIL BEARING CAPACITY, THESE AREAS SHALL BE INCREASED ACCORDINGLY.
2. ALL CONCRETE THRUST BLOCKS SHALL BE CLASS "C".
3. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH.
4. THE COST OF THRUST BLOCKS SHALL BE INCLUDED IN THE PRICE BID FOR WATER MAINS.
5. TEST PRESSURE = 150 P.S.I.

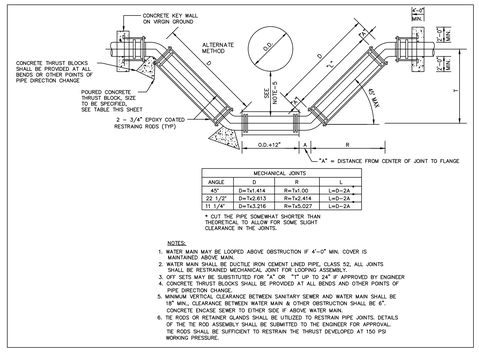
2 TABLE OF THRUST BLOCKS
NOT TO SCALE



3 TAPPING VALVE AND SLEEVE ASSEMBLY
NOT TO SCALE



15 PILE SUPPORTED PIPE DETAIL



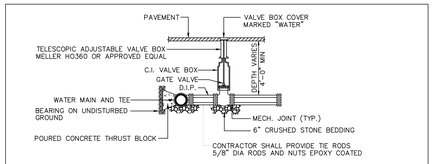
MECHANICAL JOINTS			
ANGLE	D	R	L
45°	D=Tx1.414	R=Tx1.00	L=D–2A
22 1/2°	D=Tx2.613	R=Tx2.414	L=D–2A
11 1/4°	D=Tx5.216	R=Tx5.027	L=D–2A

* CUT THE PIPE SOMEWHAT SHORTER THAN THEORETICAL TO ALLOW FOR SOME SLIGHT CLEARANCE IN THE JOINTS.

NOTES:

1. WATER MAIN MAY BE LOOPED ABOVE OBSTRUCTION IF 4'–0" MIN. COVER IS MAINTAINED ABOVE MAIN.
2. WATER MAIN SHALL BE DUCTILE IRON CEMENT LINED PIPE, CLASS 52. ALL JOINTS SHALL BE RESTRAINED MECHANICAL JOINT FOR LOOPING ASSEMBLY.
3. OFF SETS MAY BE SUBSTITUTED FOR "A" OR "T" UP TO 24" IF APPROVED BY ENGINEER
4. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS AND OTHER POINTS OF PIPE DIRECTION CHANGE.
5. MINIMUM VERTICAL CLEARANCE BETWEEN SANITARY SEWER AND WATER MAIN SHALL BE 18" MIN., CLEARANCE BETWEEN WATER MAIN & OTHER OBSTRUCTION SHALL BE 6". CONCRETE ENCASE SEWER TO EITHER SIDE IF ABOVE WATER MAIN.
6. TIE RODS OR RETAINER GLANDS SHALL BE UTILIZED TO RESTRAIN PIPE JOINTS. DETAILS OF THE TIE ROD ASSEMBLY SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. TIE RODS SHALL BE SUFFICIENT TO RESTRAIN THE THRUST DEVELOPED AT 150 PSI WORKING PRESSURE.

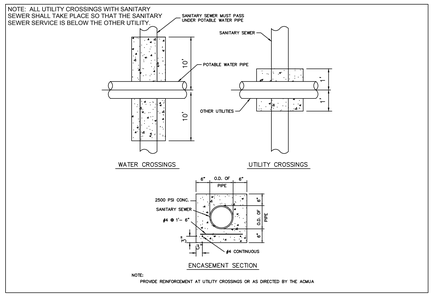
8 LOOPING WATER MAIN DETAIL
NOT TO SCALE



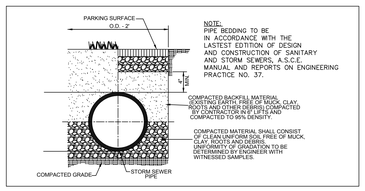
NOTES:

1. SIZE AND BEARING FOR THRUST BLOCK SHALL CONFORM TO CURRENT A.W.W.A. STANDARDS, OR SHALL BE DESIGNATED ON THE PLANS.
2. CONCRETE FOR THE THRUST BLOCKS TO BE N.J.D.O.T., CLASS "C".
3. ALL CONNECTIONS TO BE MECHANICAL JOINT, OR LOCK RING TYPE JOINTS, AS SPECIFIED.
4. GATE VALVES SHALL BE USED ON MAINS LESS THAN 16" IN DIAMETER.

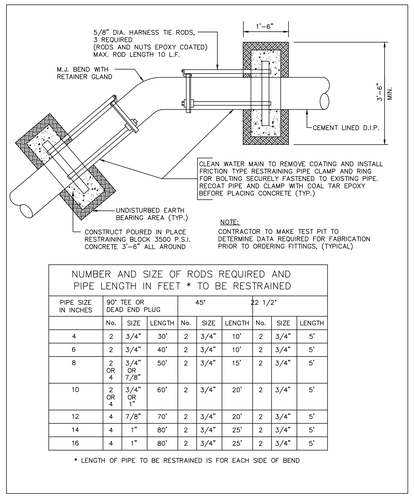
5 GATE VALVE ASSEMBLY
NOT TO SCALE



6 CONCRETE ENCASEMENT
NOT TO SCALE



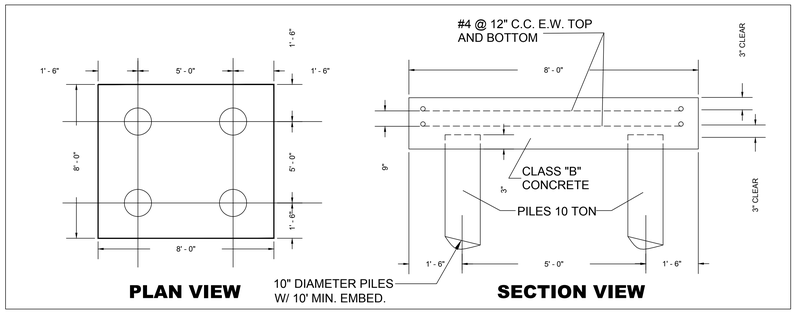
7 STORM SEWER BEDDING DETAIL



NUMBER AND SIZE OF RODS REQUIRED AND PIPE LENGTH IN FEET * TO BE RESTRAINED								
PIPE SIZE IN INCHES	90° TEE OR DEAD END PLUG			45°		22 1/2°		
	No.	SIZE	LENGTH	No.	SIZE LENGTH	No.	SIZE	LENGTH
4	2	3/4"	30'	2	3/4" 10'	2	3/4"	5'
6	2	3/4"	40'	2	3/4" 10'	2	3/4"	5'
8	2 OR 4	3/4" OR 7/8"	50'	2	3/4" 15'	2	3/4"	5'
10	2 OR 4	3/4" OR 1"	60'	2	3/4" 20'	2	3/4"	5'
12	4	7/8"	70'	2	3/4" 20'	2	3/4"	5'
14	4	1"	80'	2	3/4" 25'	2	3/4"	5'
16	4	1"	80'	2	3/4" 25'	2	3/4"	5'

* LENGTH OF PIPE TO BE RESTRAINED IS FOR EACH SIDE OF BEND

1 VERTICAL BEND RESTRAINTS
NOT TO SCALE



13 PILING CAP DETAIL
(FOR MANHOLE AND INLET STRUCTURES WITHIN PUBLIC CARTWAY)

SOSH
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PROFESSIONAL ENGINEER N.J. NO. GE43493
DATE

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Atlantic City, NJ 08401

ISSUE

CAFRA & NJCRDA SUBMISSION - 2017 12 01

REVISIONS

No.	Date	Description

DRAWING TITLE:
SITE DETAILS

DRAWN BY: N. ZURINSKAS
SCALE: N.T.S.
DATE: 2017 12 01
PROJECT NO.: 17013 33797 AWP
DRAWING NO.
C-25-006