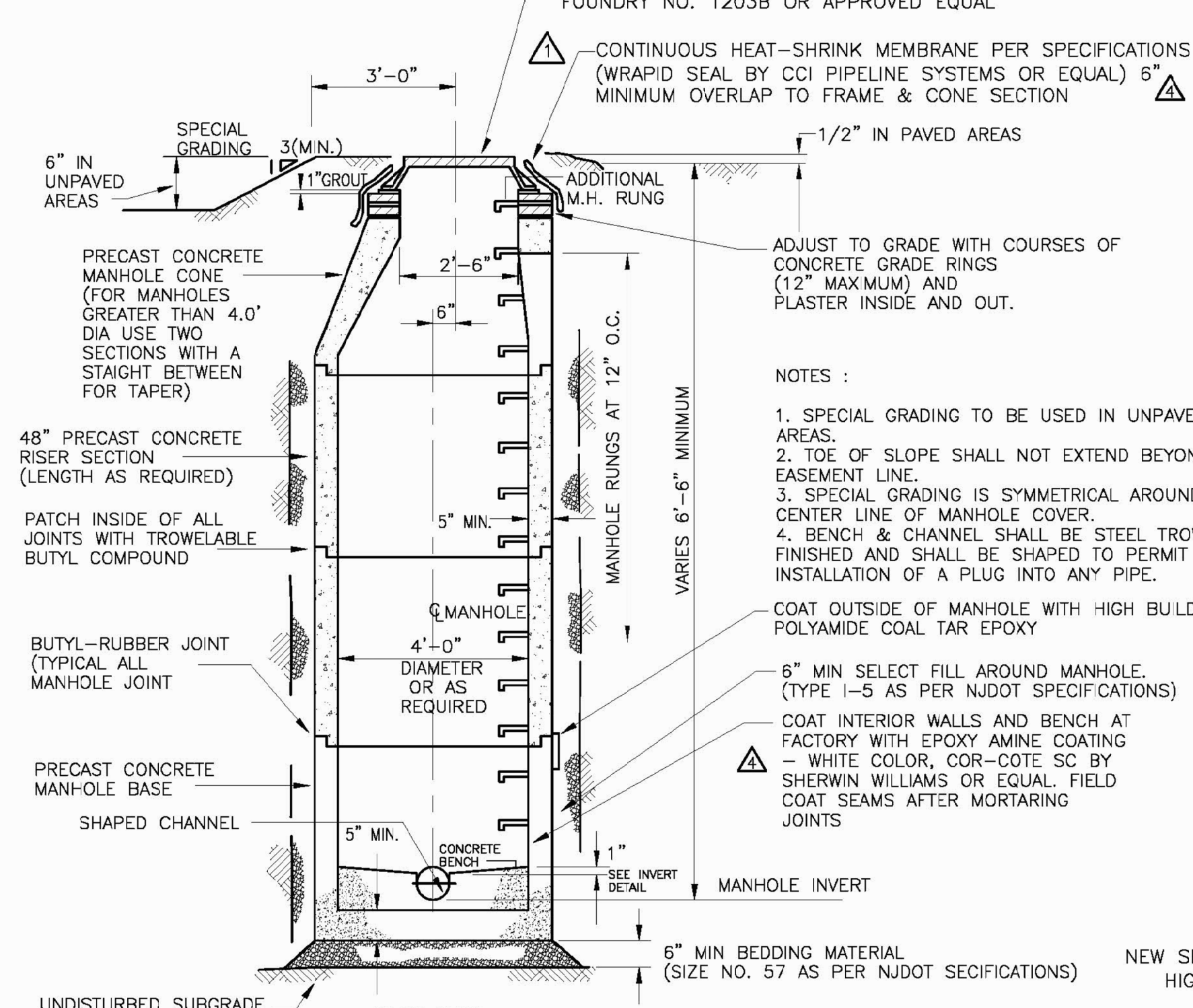
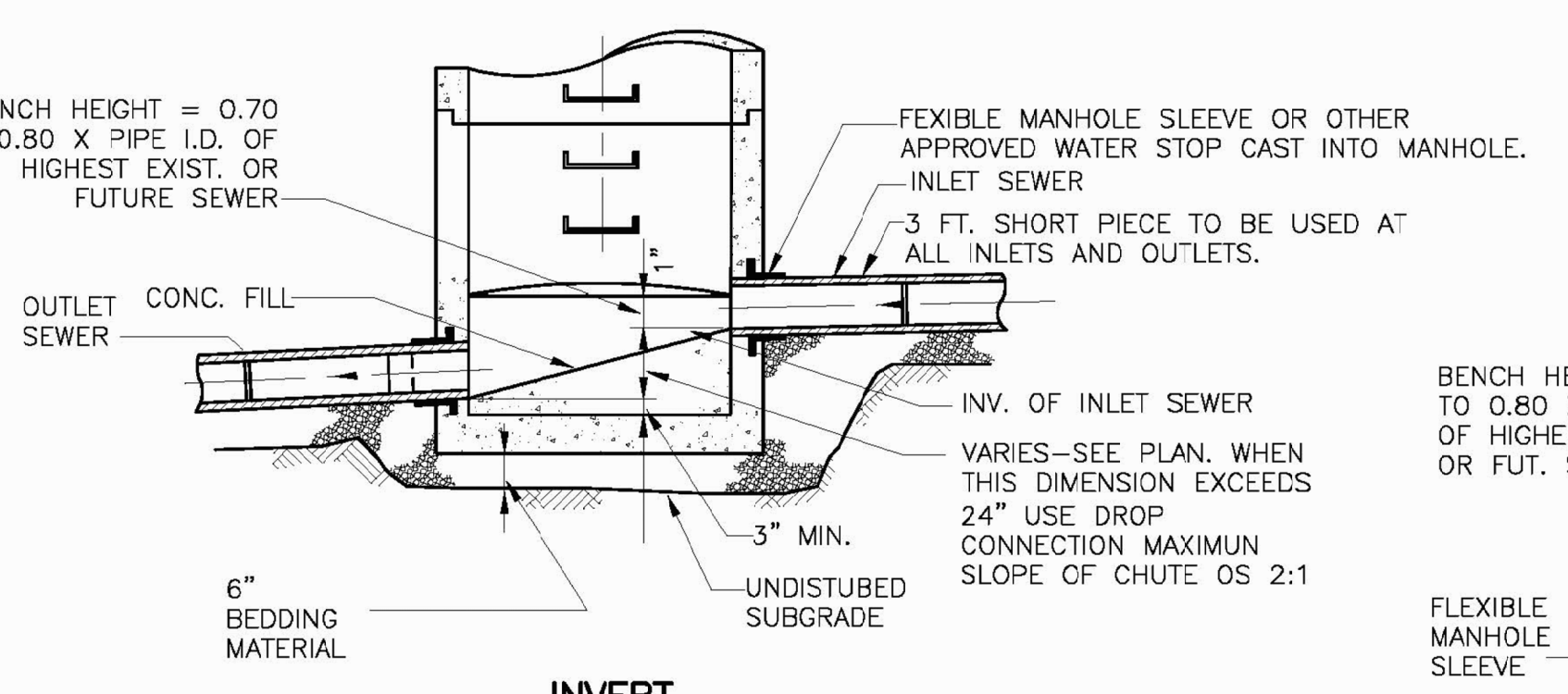


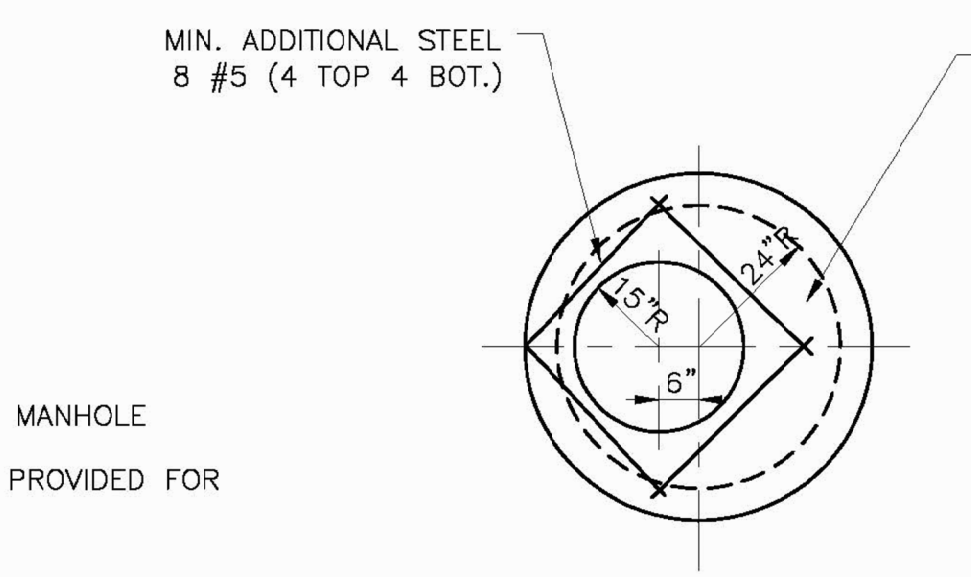
PLAN



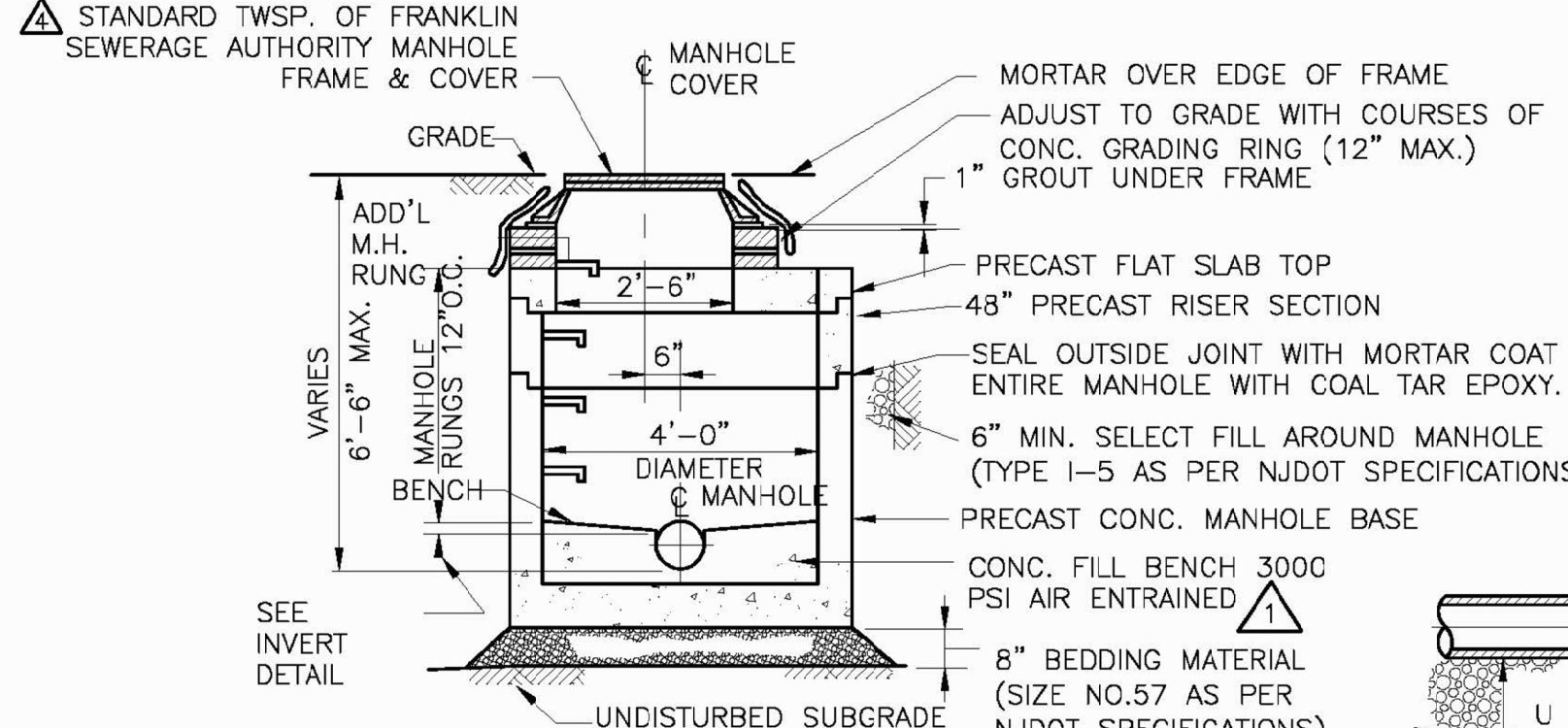
SECTION
STANDARD MANHOLE
DETAIL A
N.T.S.



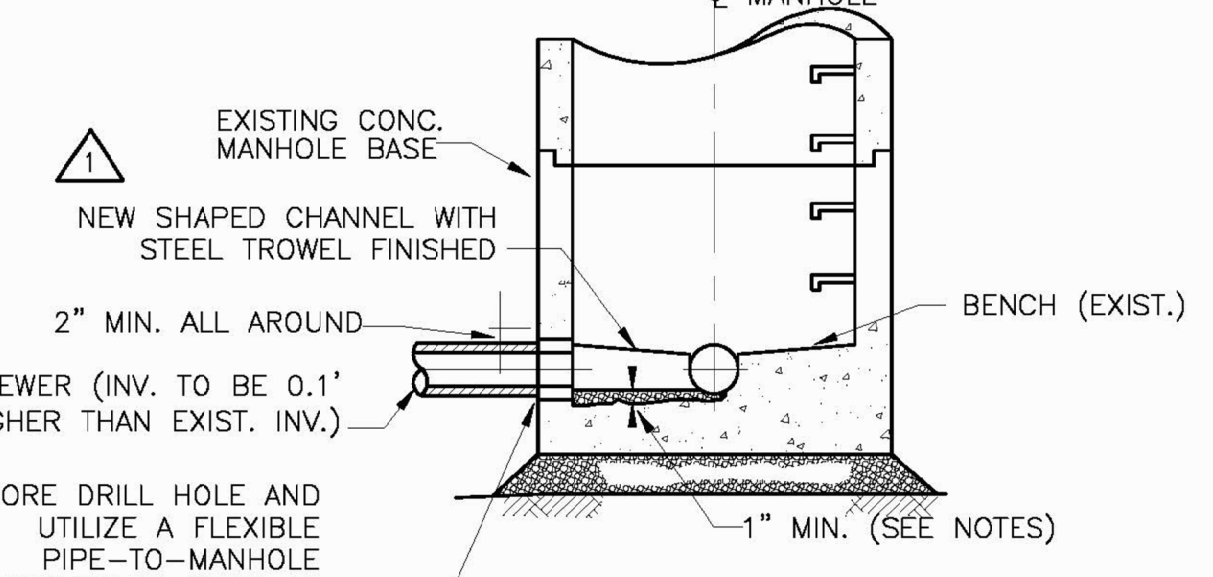
INVERT
DETAIL G
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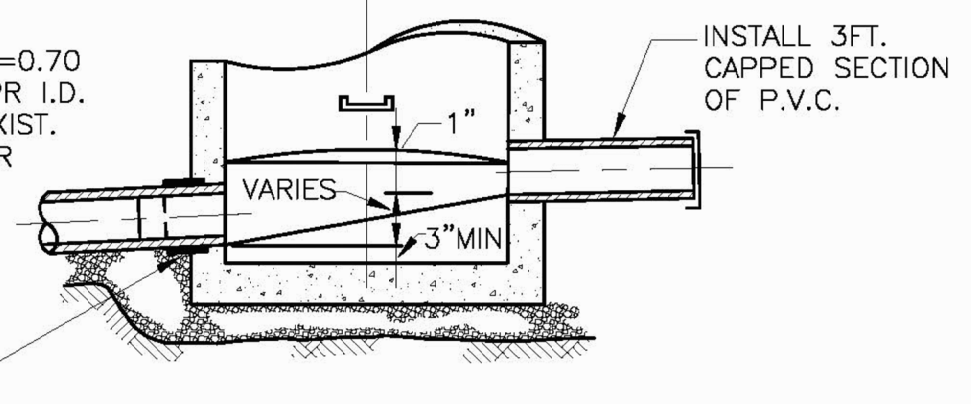
FLAT SLAB TOP
PLAN



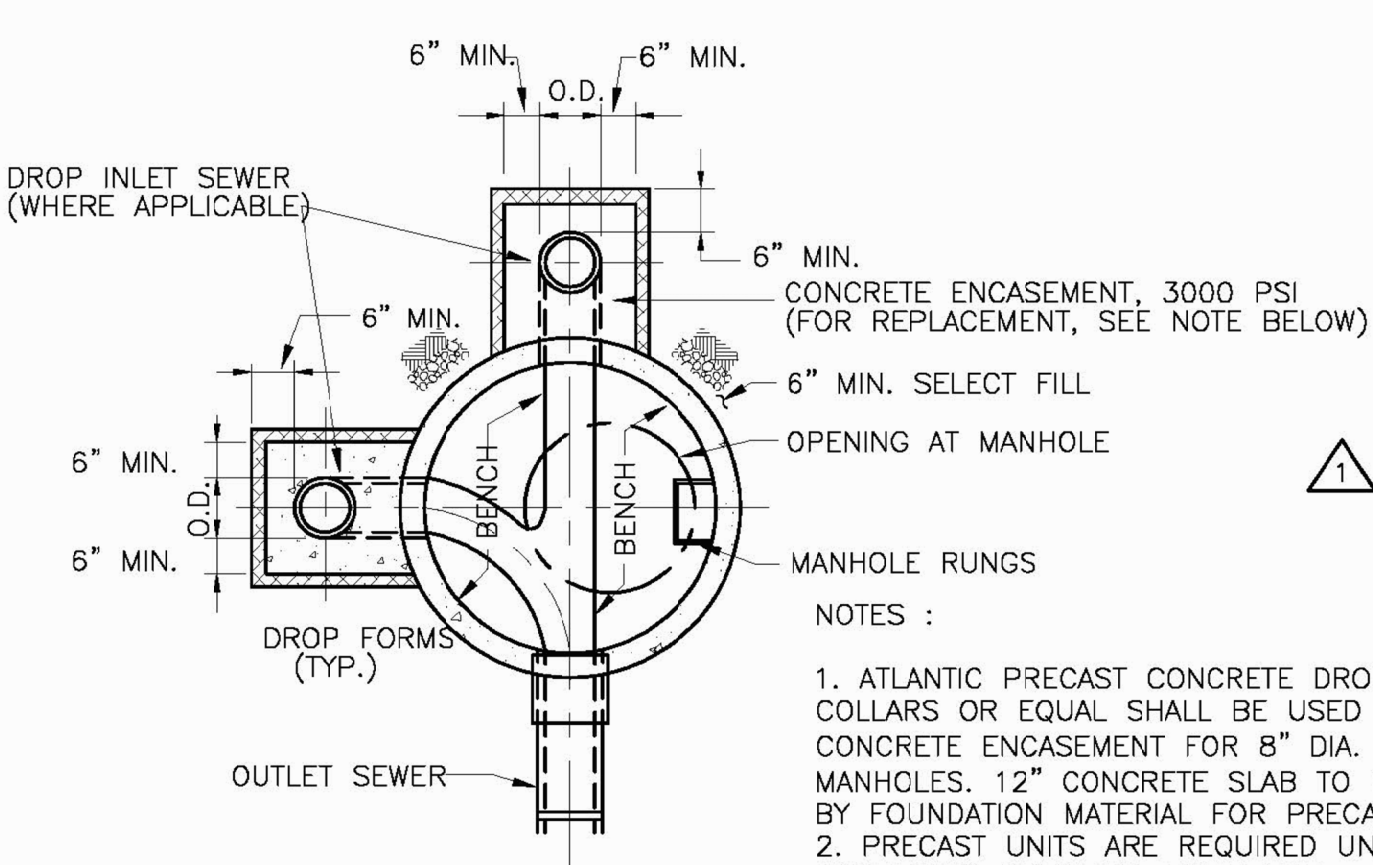
SECTION
SHALLOW MANHOLE
DETAIL B
N.T.S.



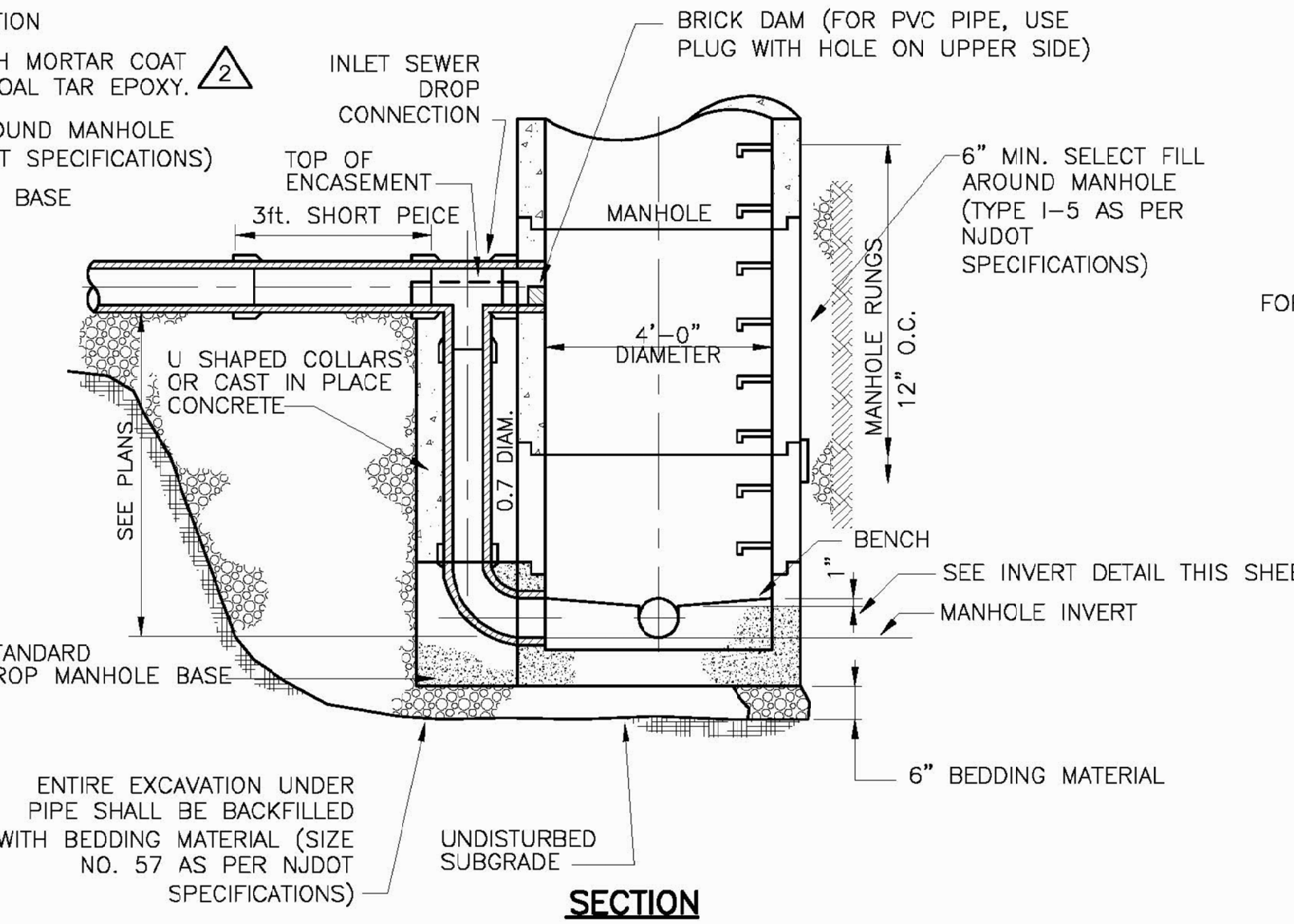
NEW CONNECTION TO EXISTING MANHOLE
DETAIL H
N.T.S.



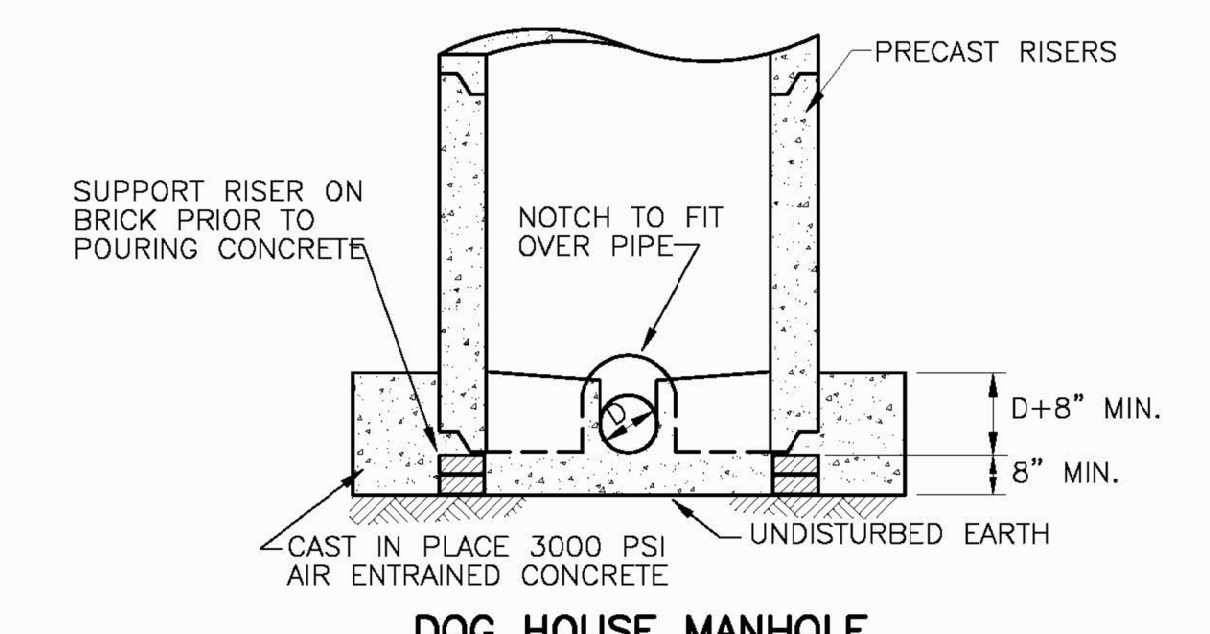
FUTURE EXTENSION
DETAIL K
N.T.S.



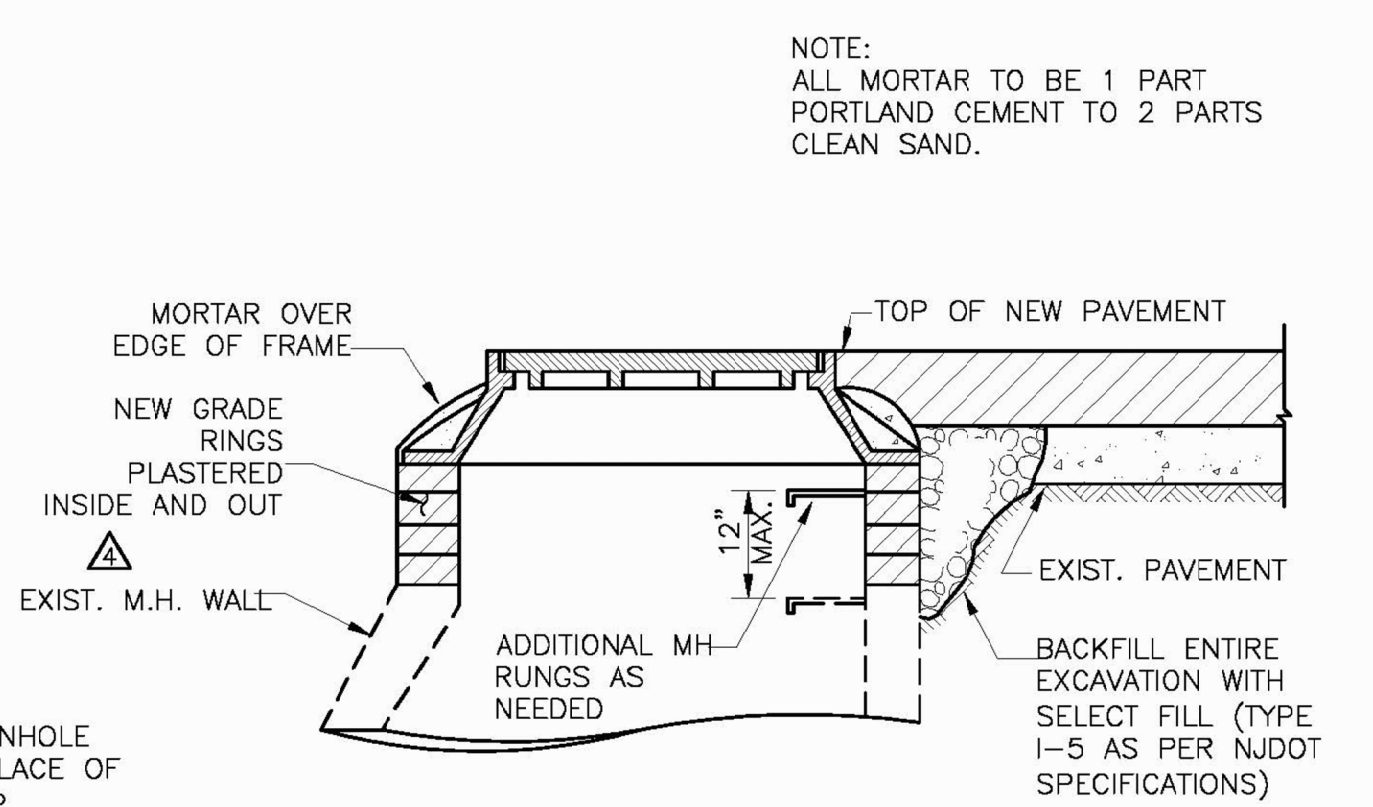
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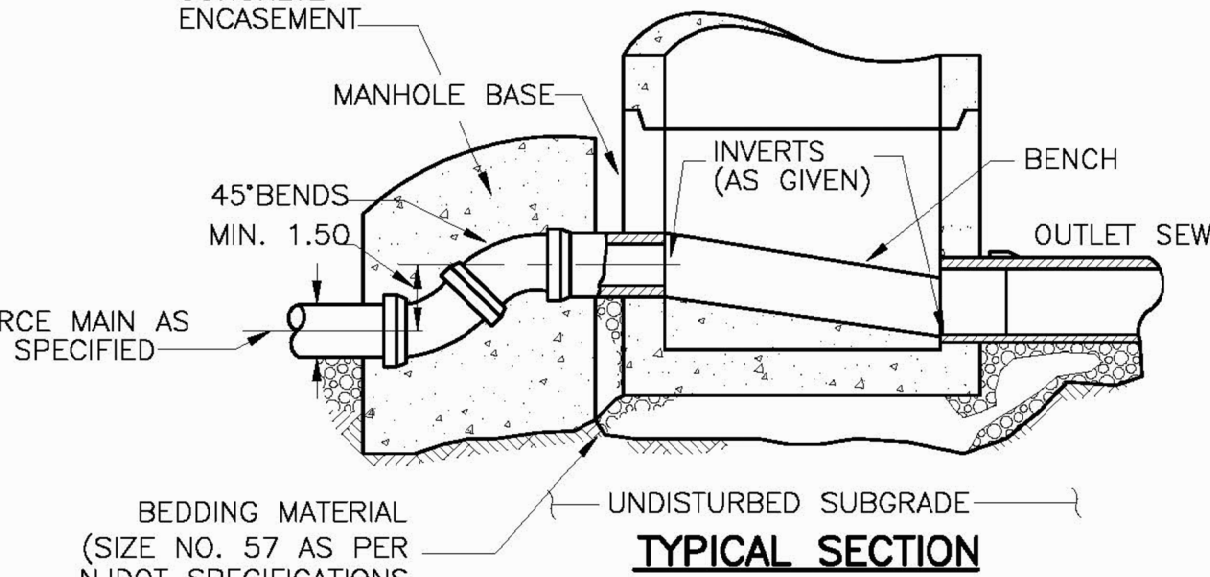
SECTION
DROP MANHOLE
DETAIL C
N.T.S.



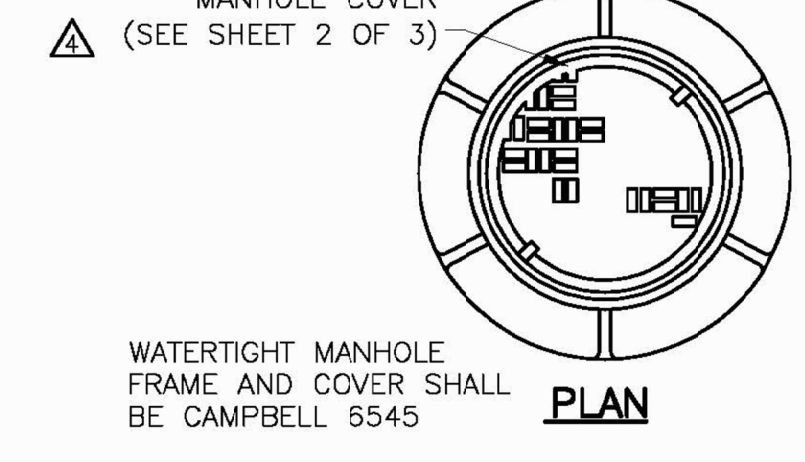
DOG HOUSE MANHOLE
DETAIL I
N.T.S.



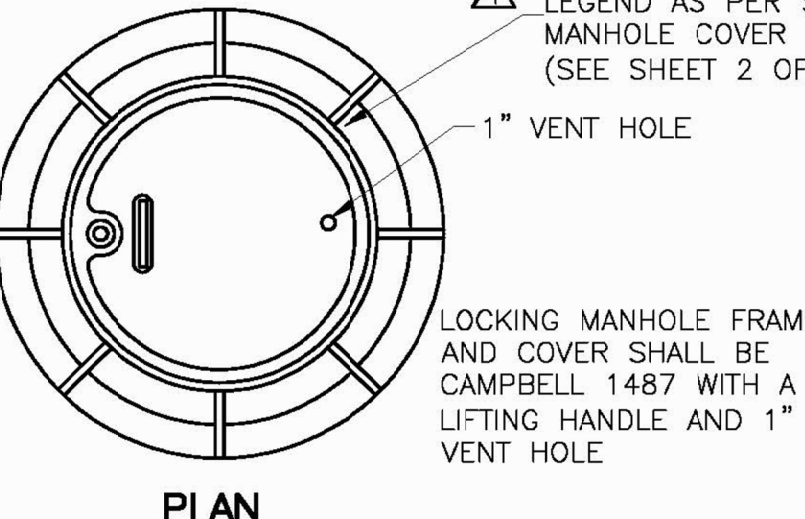
RAISING FRAME ON EXISTING MANHOLE
DETAIL D
N.T.S.



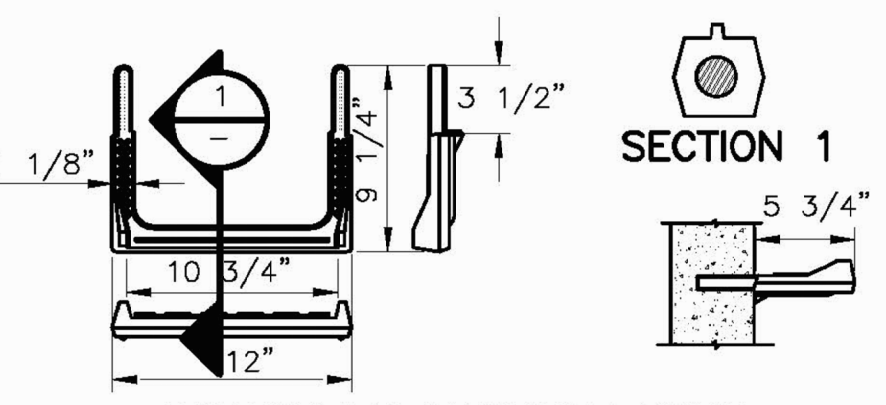
FORCE MAIN CONNECTION
DETAIL E
N.T.S.



WATERTIGHT MANHOLE FRAME AND COVER
DETAIL F
N.T.S.



LOCKING MANHOLE FRAME AND COVER
DETAIL J
N.T.S.



COPOLYMER MANHOLE RING
DETAIL L
N.T.S.

NOTES:
1. USE STANDARD AUTHORITY MANHOLE FRAME AND COVER.
2. SPECIAL DETAILS WILL BE PROVIDED FOR SEWERS 27" AND LARGER.

NOTES:
1. SPECIAL GRADING TO BE USED IN UNPAVED AREAS.
2. TOP OF SLOPE SHALL NOT EXTEND BEYOND EASEMENT LINE.
3. SPECIAL GRADING IS SYMMETRICAL AROUND CENTER LINE OF MANHOLE COVER.
4. BENCH & CHANNEL SHALL BE STEEL TROWEL FINISHED AND SHALL BE SHAPED TO PERMIT EASY INSTALLATION OF A PLUG INTO ANY PIPE.
5. COAT OUTSIDE OF MANHOLE WITH HIGH BUILD POLYAMIDE COAL TAR EPOXY.
6. 8" MIN SELECT FILL AROUND MANHOLE (TYPE 1-5 AS PER NJDOT SPECIFICATIONS).
7. COAT INTERIOR WALLS AND BENCH AT FACTORY WITH EPOXY AMINE COATING - WHITE COLOR, COR-COTE SC BY SHERWIN WILLIAMS OR EQUAL. FIELD COAT SEAMS AFTER MORTARING JOINTS.

NOTES:
1. FOR INLET, OUTLET, BASE AND BRANCH DETAILS SEE INVERT DETAILS.
2. INTERIOR COATING AND CONTINUOUS HEAT-SHRINK MEMBRANE SHALL BE AS INDICATED ON STANDARD MANHOLE DETAIL A THIS SHEET.

NOTES:
1. TOP OF PIPE SHALL BE NEATLY CUT AFTER CAST-IN-PLACE CONC. BASE AND BENCH HAS SET.
2. FOR DETAIL OF UPPER PART OF MANHOLE, SEE "STANDARD MANHOLE" DETAIL.
3. ACRYLIMIDE GEL GROUT INJECTION SHALL BE USED TO STOP LEAKS, IF ANY, AROUND MANHOLE SEAMS AND PIPES.
4. FTSA APPROVAL SHALL BE REQUIRED PRIOR TO INSTALLATION OF ANY DOG HOUSE MANHOLE.
5. INTERIOR COATING AND CONTINUOUS HEAT-SHRINK MEMBRANE SHALL BE AS INDICATED ON STANDARD MANHOLE DETAIL A THIS SHEET.

NOTE:
ALL WORK SHALL COMPLY WITH THE REVISION OF THE "RATES, RULES & REGULATIONS APPLICABLE TO SEWER SERVICE IN THE TOWNSHIP OF FRANKLIN, SOMERSET COUNTY, NEW JERSEY" IN EFFECT AT THE TIME CONSTRUCTION BEGINS.

REFERENCES: [CDMS 2436] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS
10/13	CDM	FTSA		REVISIONS TO UPDATE RATES, RULES AND REGULATIONS
5/00	CDM	FTSA		GENERAL NOTE
2/98	CDM	FTSA		
5/97	CDM	FTSA		MANHOLE COATINGS, ENCAPSULATION SYSTEM, BEDDING

DESIGNED BY: H. MATTESON
DRAWN BY: D. GARVEY
SHEET CHK'D BY: X
GROSS CHK'D BY: X
APPROVED BY: X
DATE: OCTOBER 2013



FRANKLIN TOWNSHIP SEWERAGE AUTHORITY
SOMERSET COUNTY, NEW JERSEY

STANDARD DETAILS I

PROJECT NO. 105979-89351
FILE NAME: CSTD1001
SHEET NO. 1 OF 3

F.T.S.A. CONSTRUCTION DETAILS

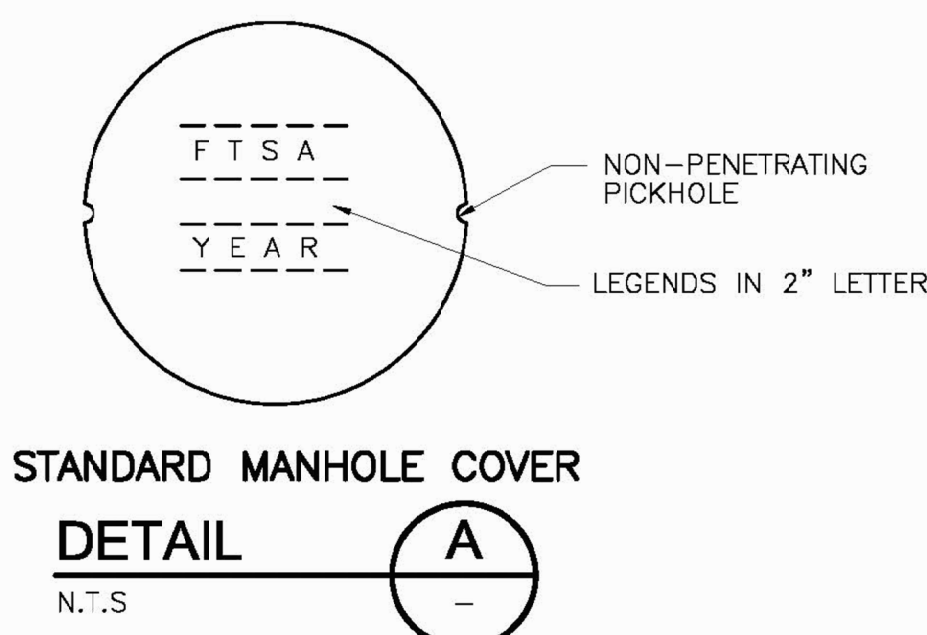
500 ATRIUM DRIVE
LOT 21.07 BLOCK 468.01
FRANKLIN TOWNSHIP SOMERSET COUNTY NEW JERSEY

STIRES ASSOCIATES, P.A.
ENGINEERS, SURVEYORS & ENVIRONMENTAL CONSULTANTS
43 West High Street, Somerville, New Jersey 08876
Phone (908) 725-0230 Fax (908) 707-0831

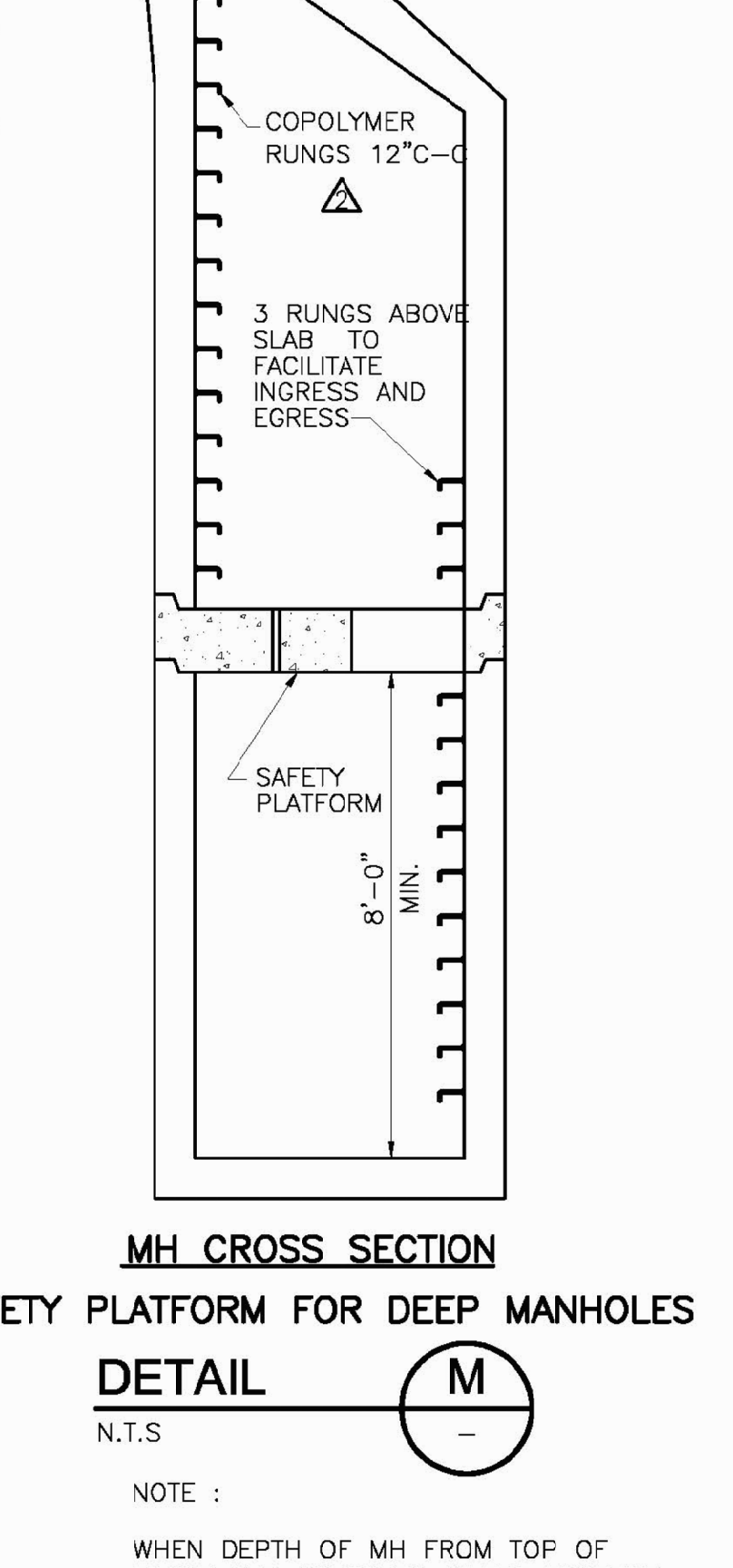
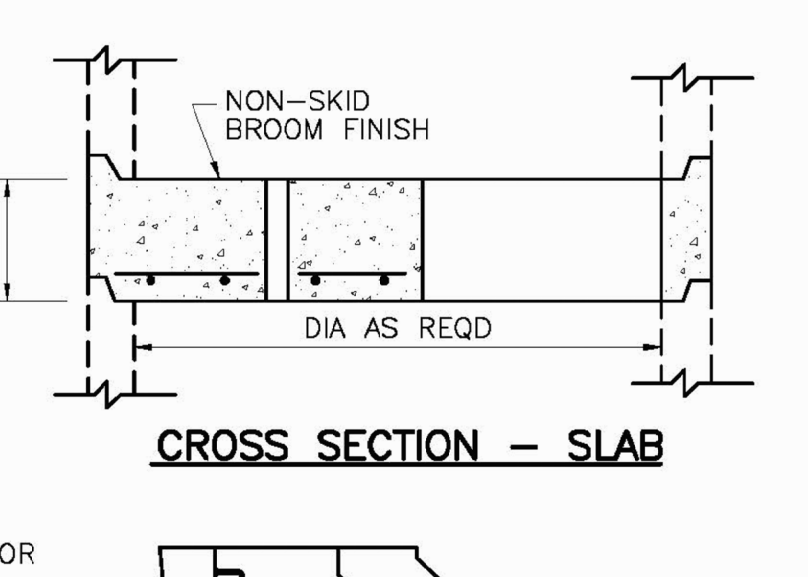
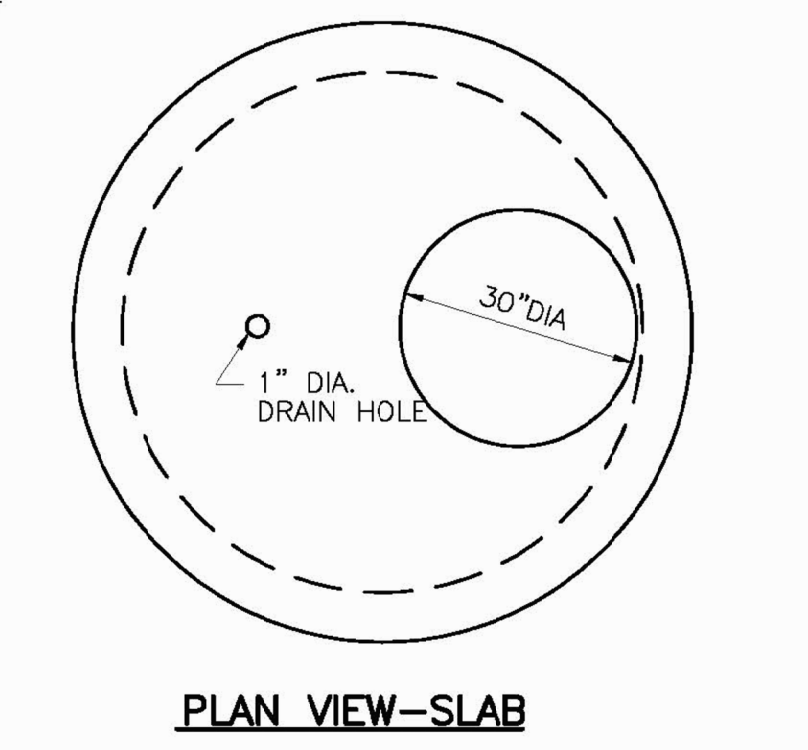
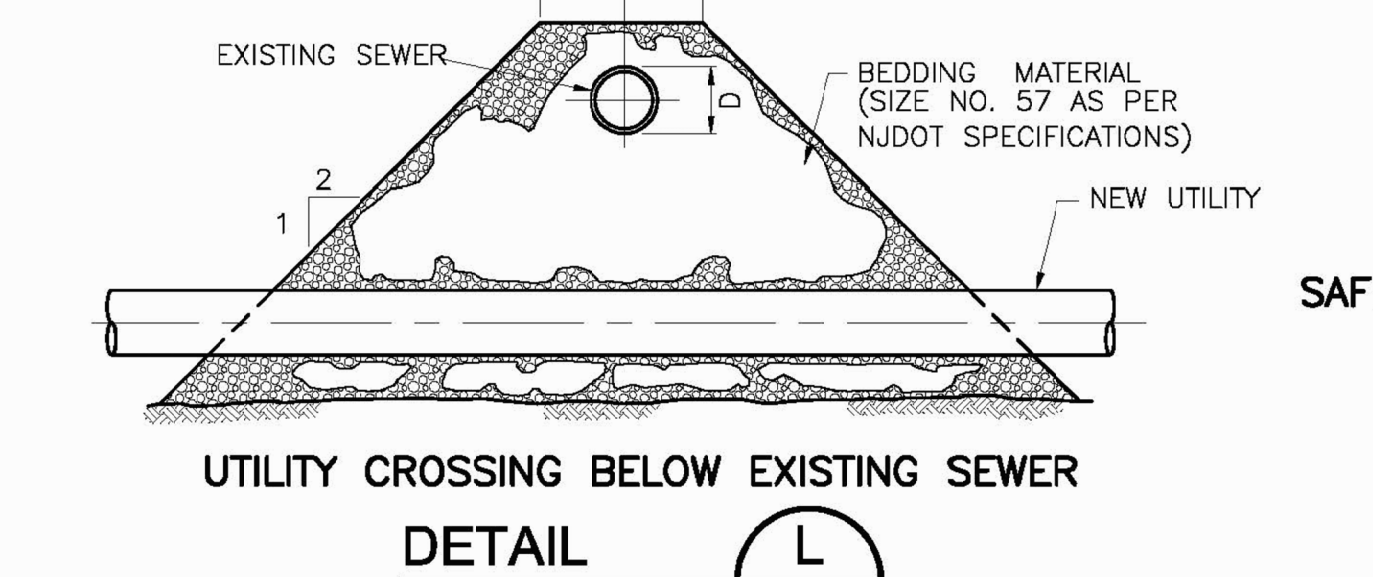
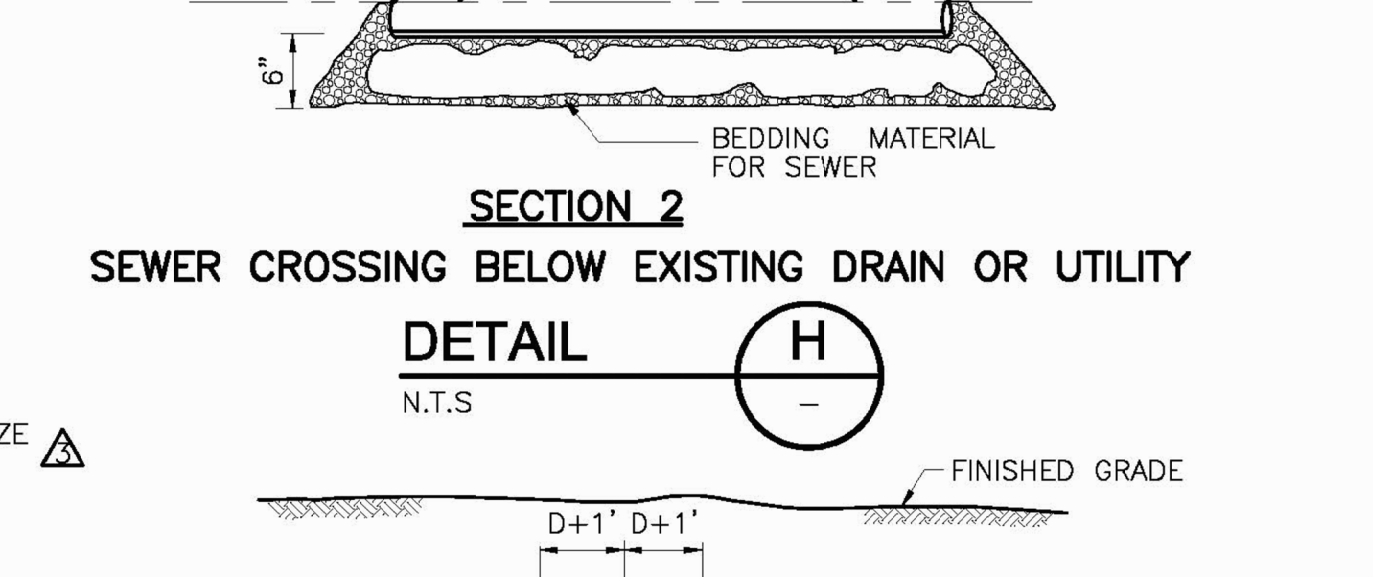
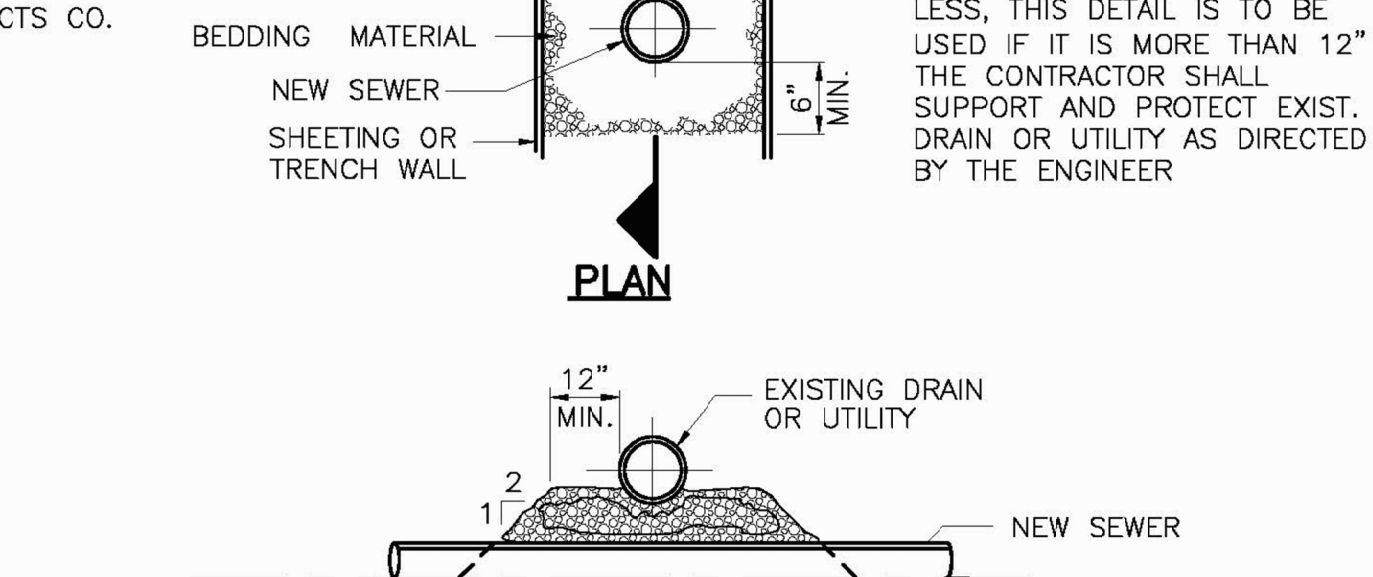
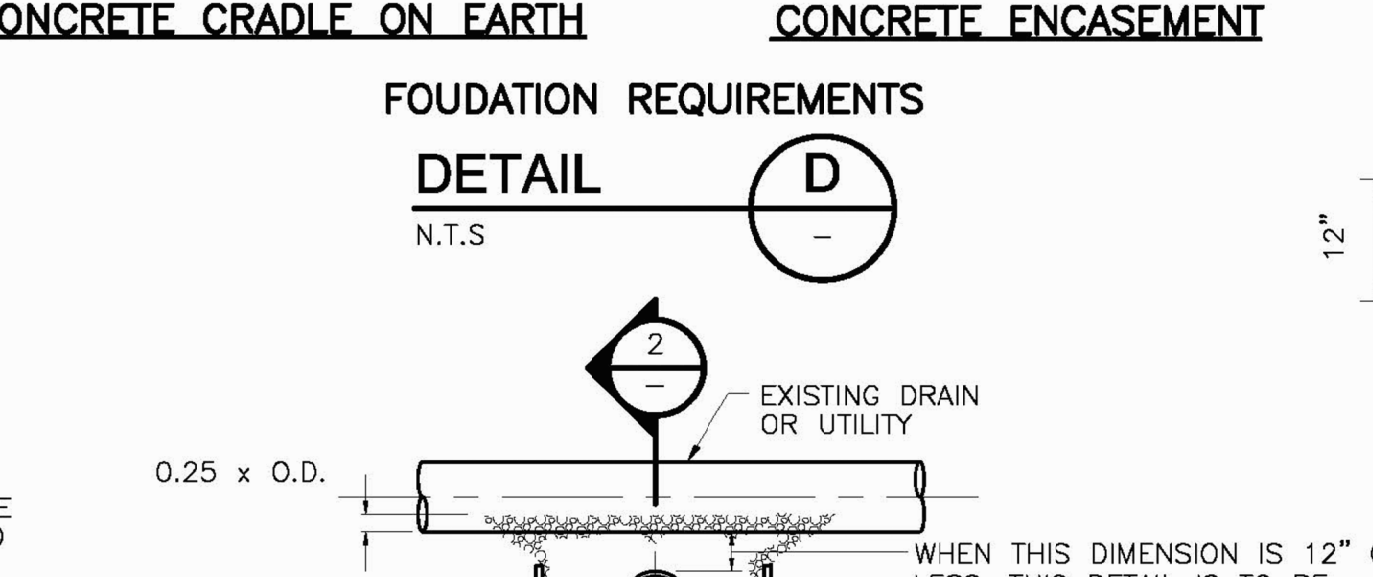
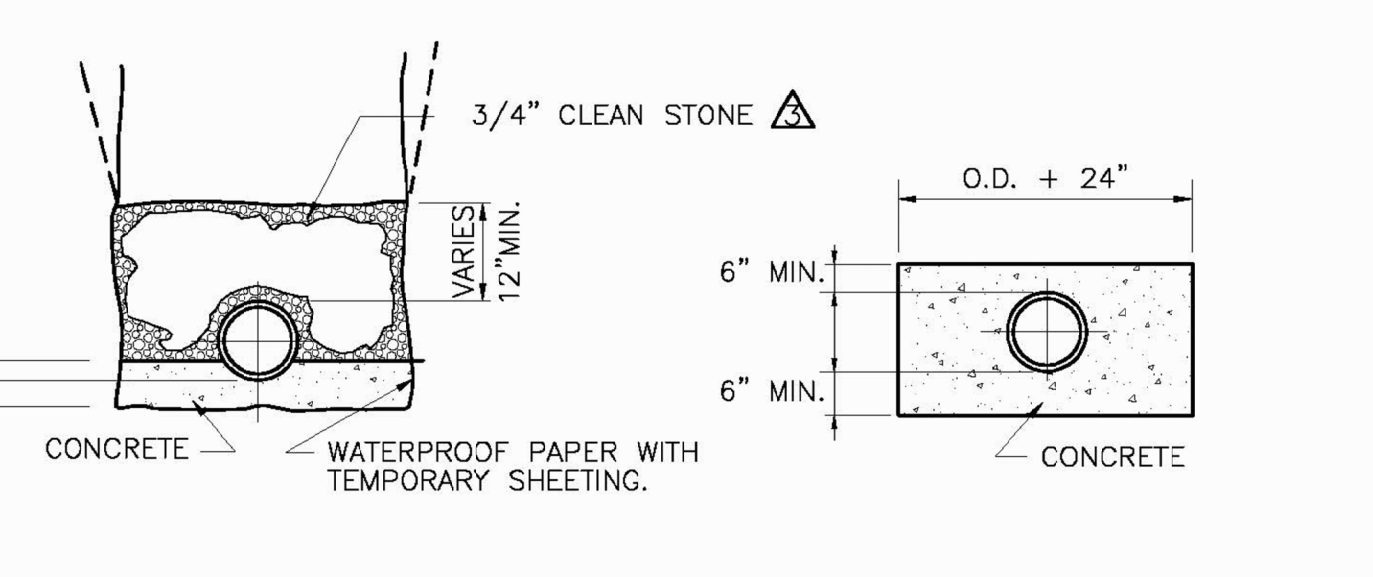
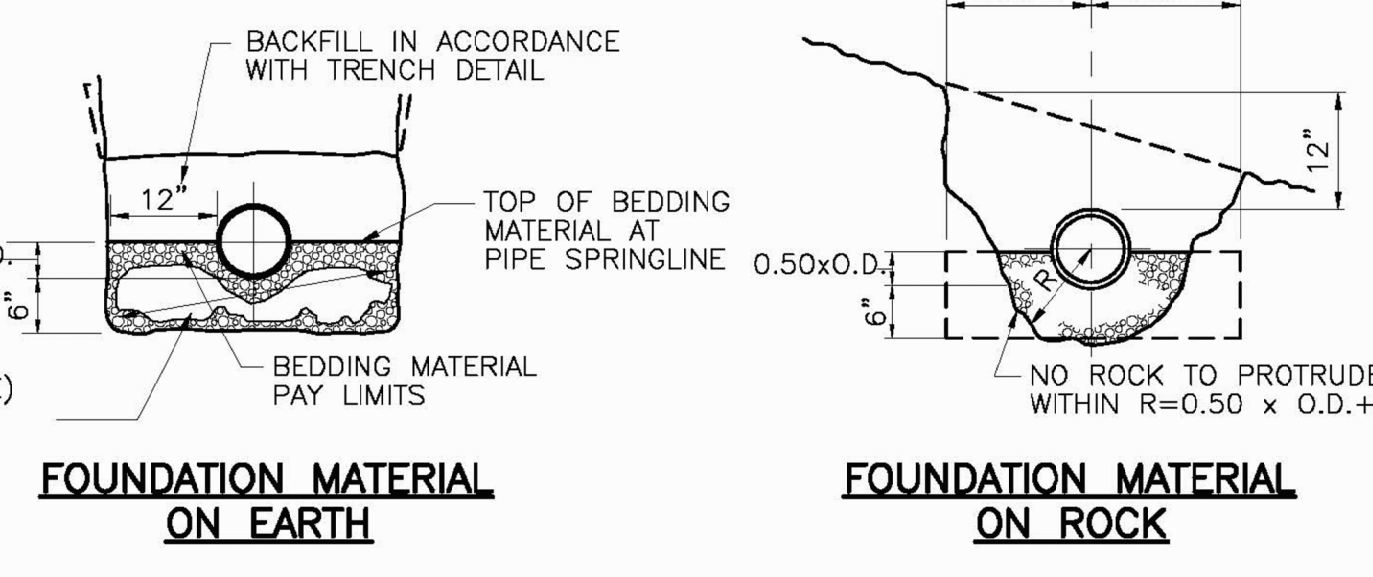
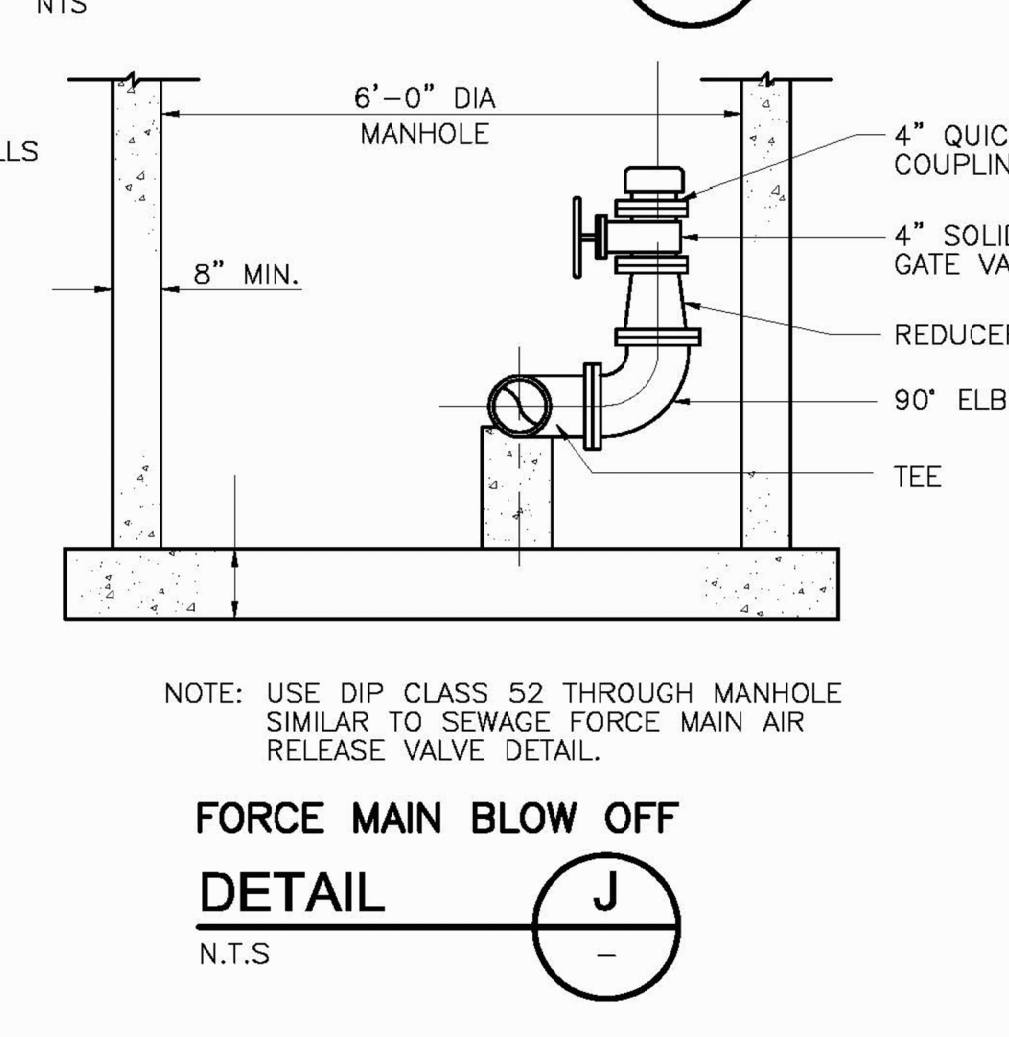
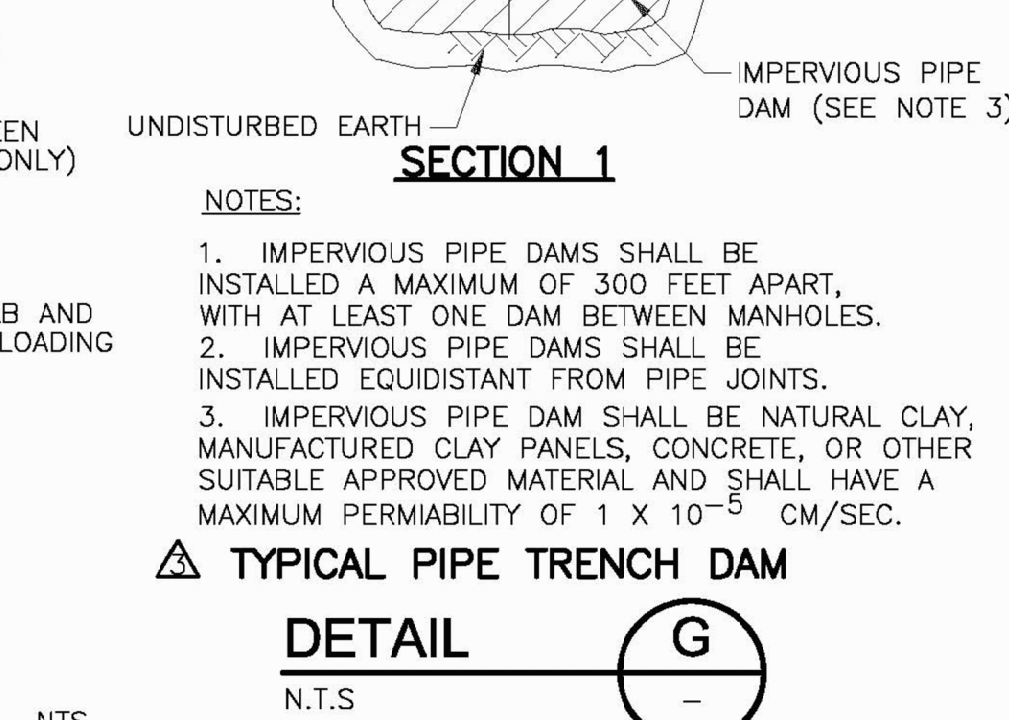
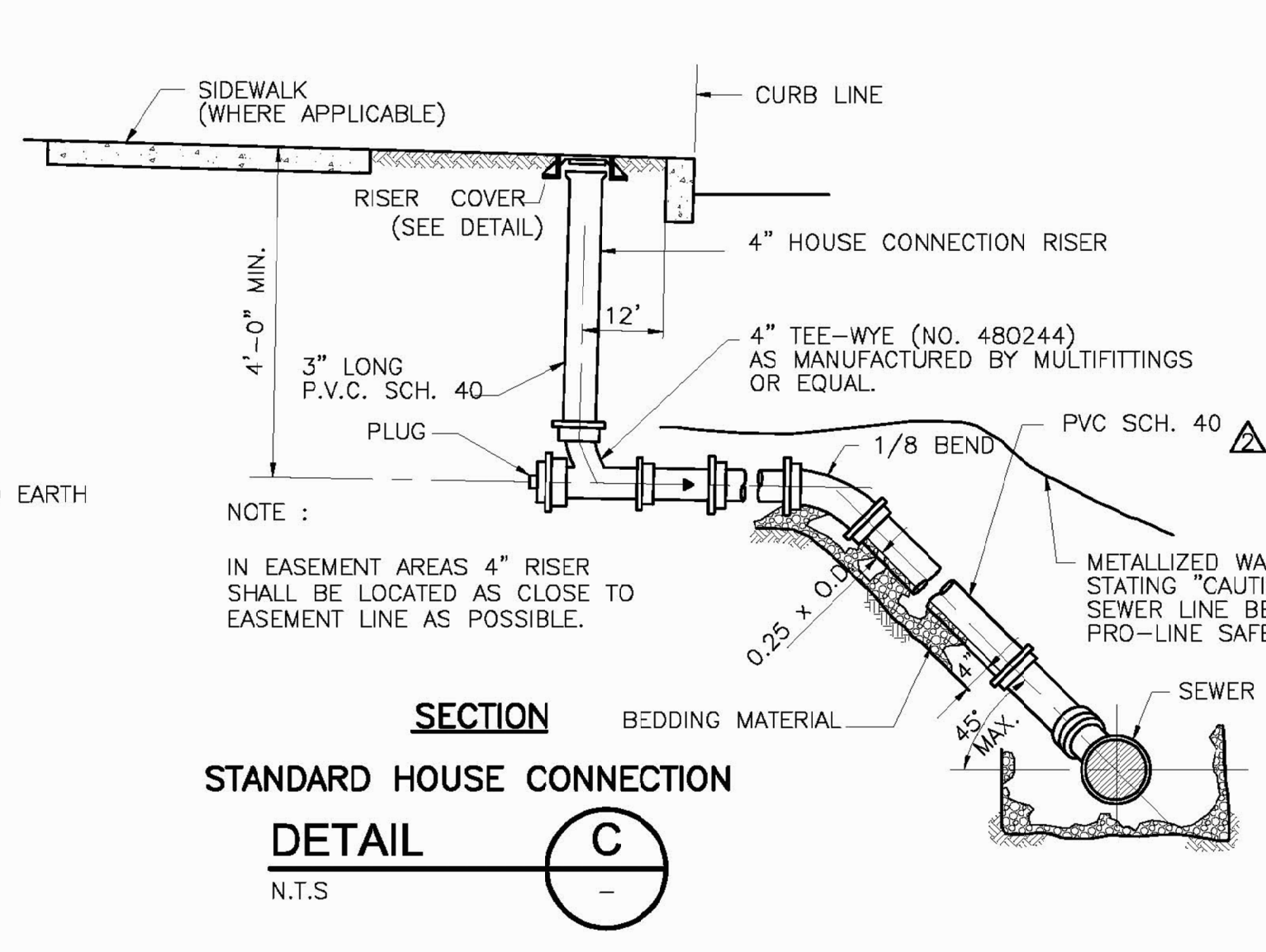
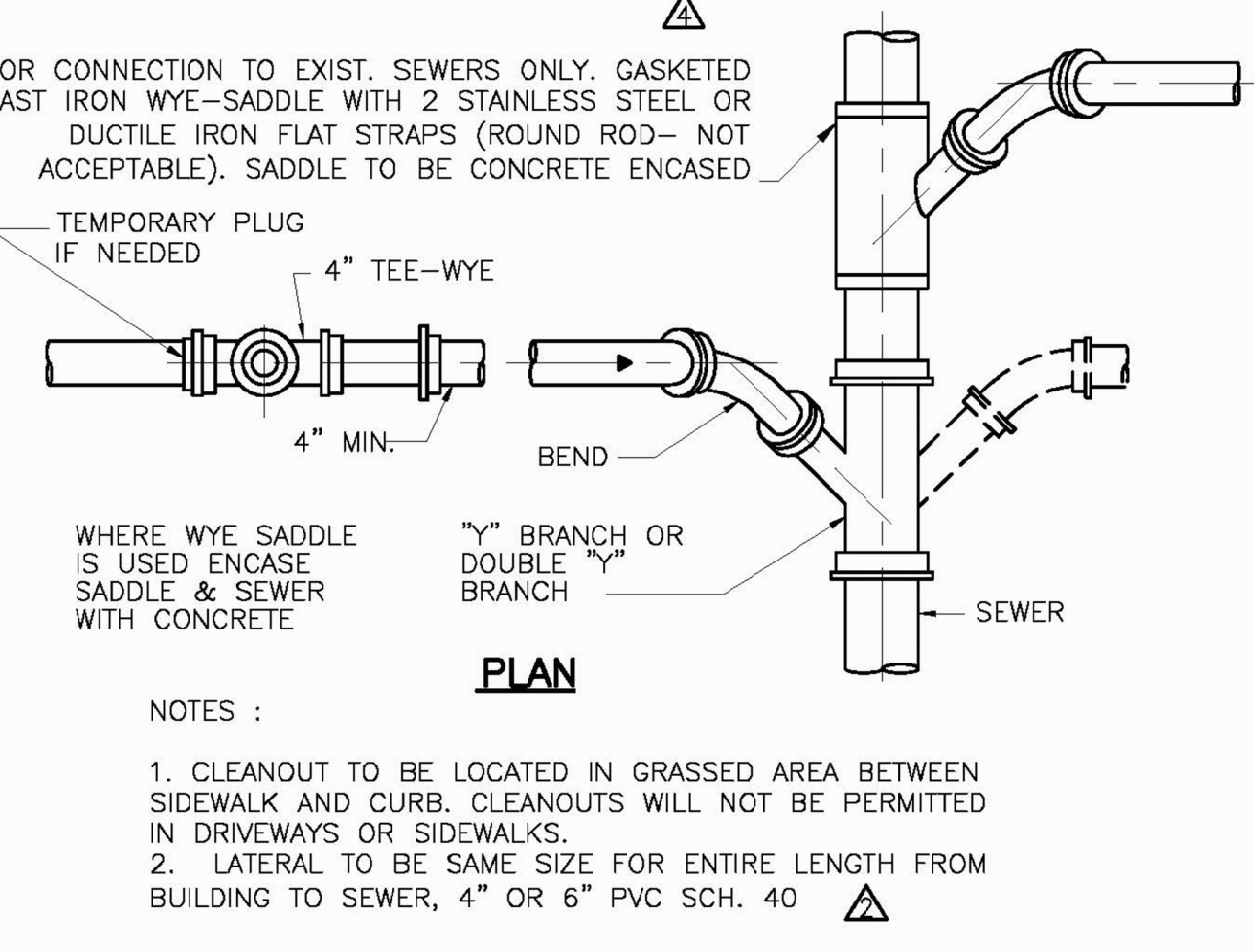
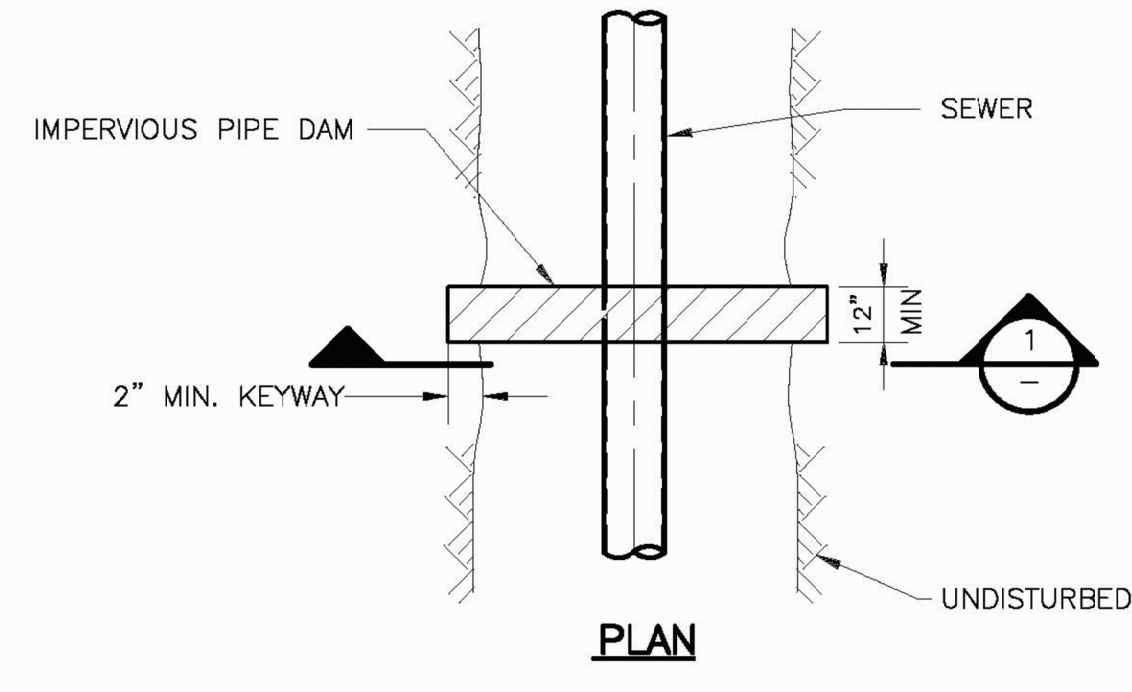
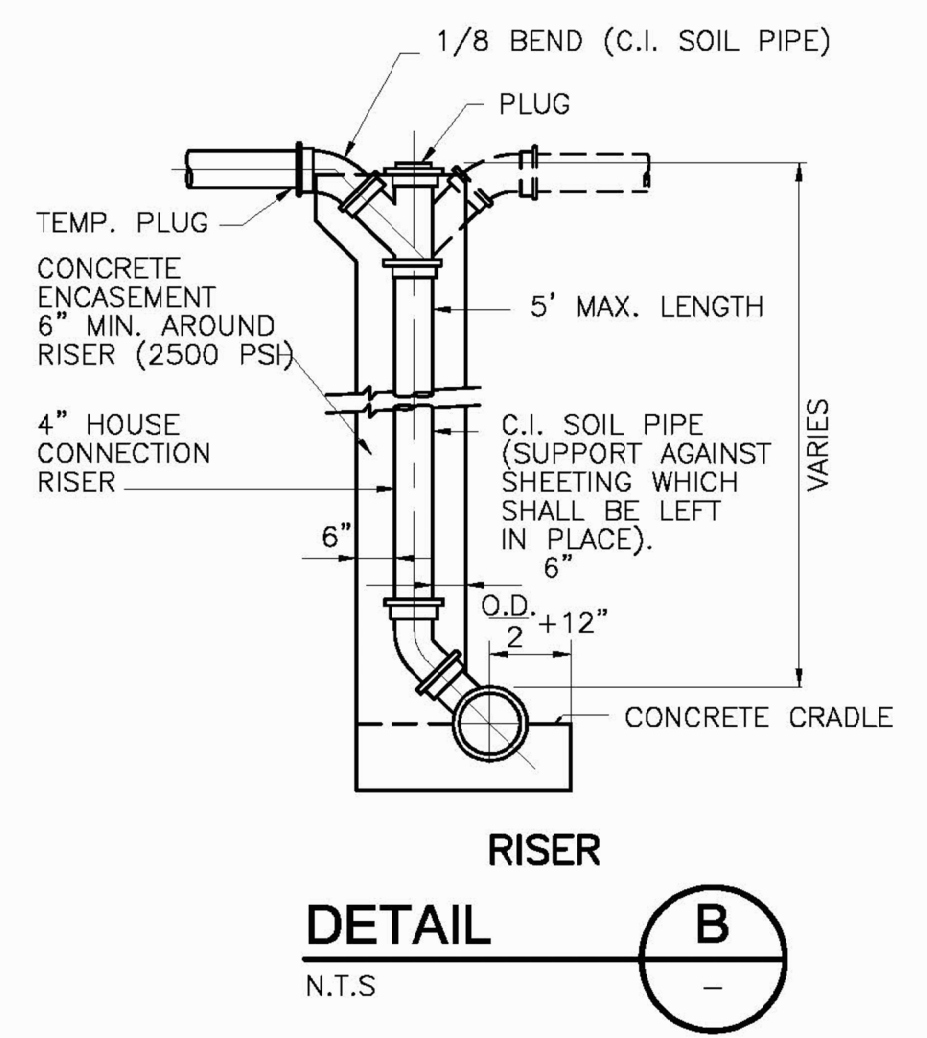
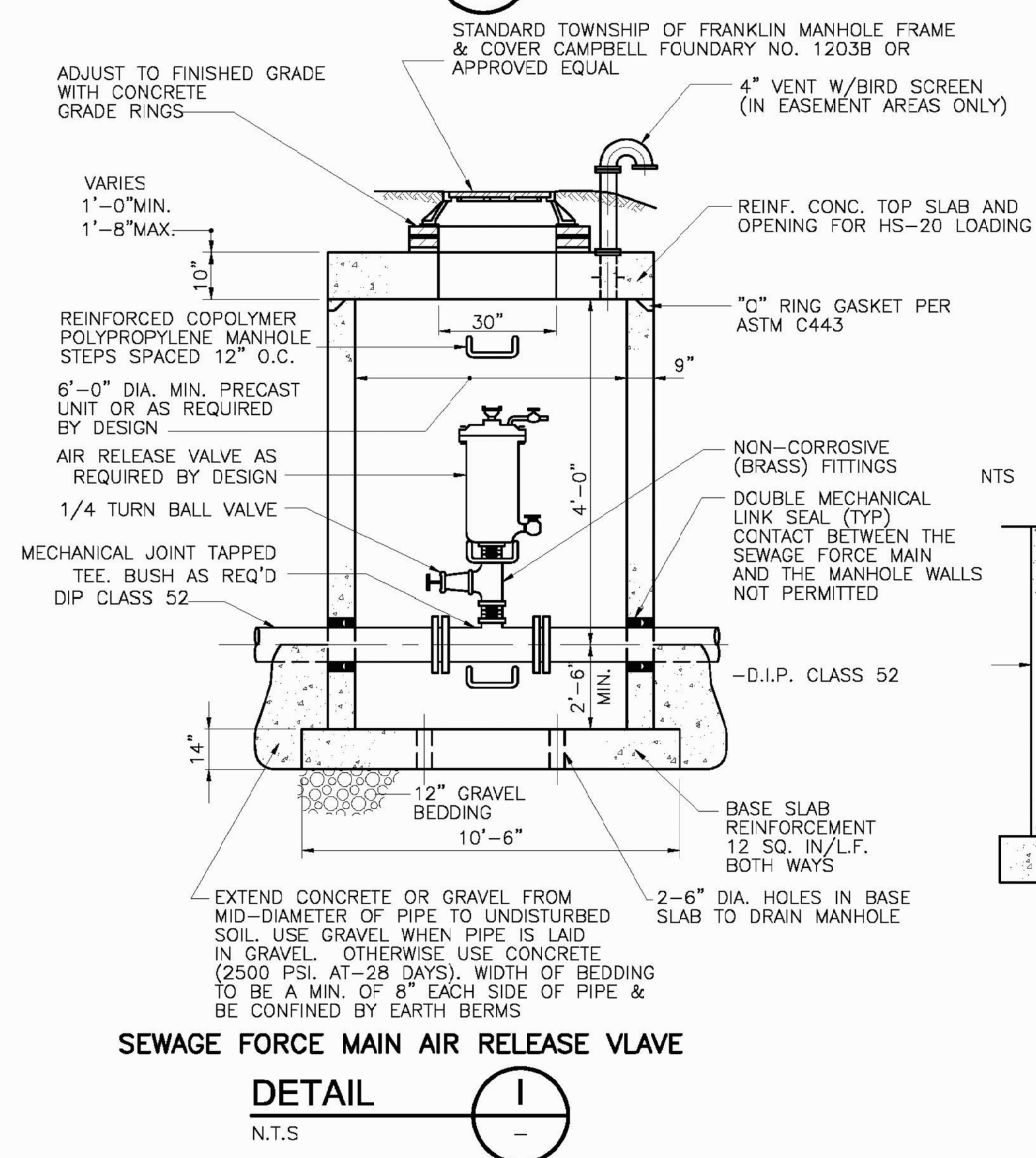
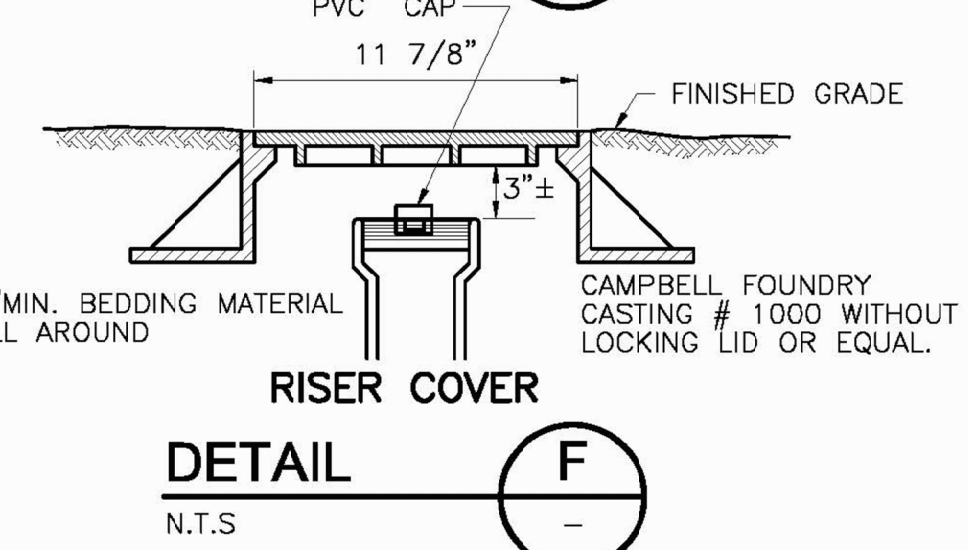
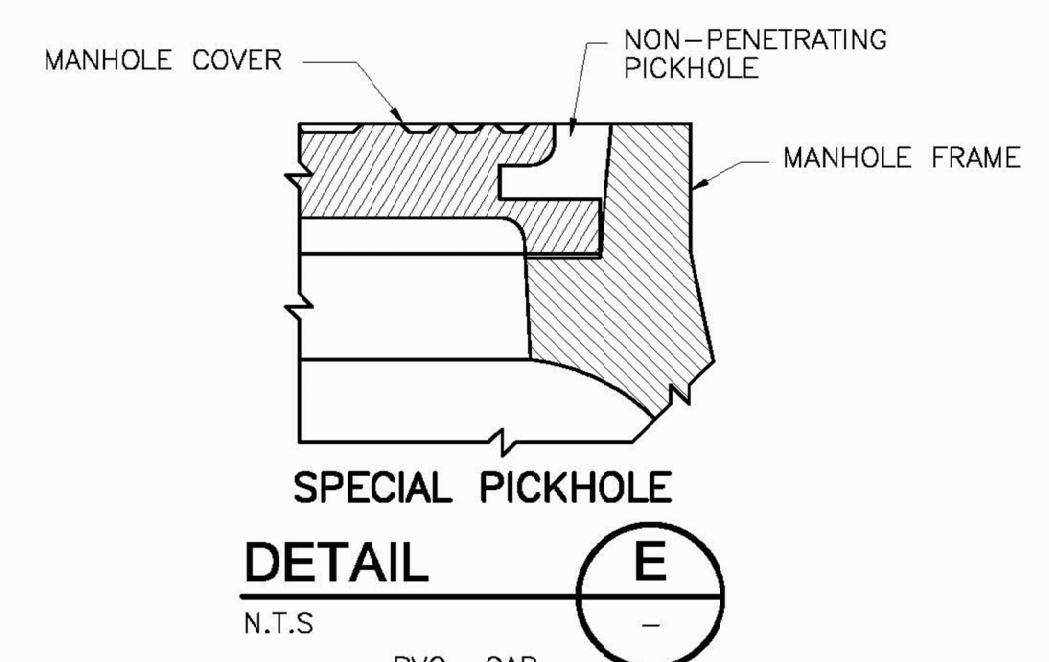
CRAIG W. STIRES
PROFESSIONAL ENGINEER
N.J. LICENSE No. 39078
DATE 01/20/23

DESIGNED BY: RNM
DRAWN BY: RNM
CHECKED BY: CWS
SHEET NUMBER 14 OF 16

SCALE: NTS
PROJECT No. 22284



NOTES:
1. MANHOLE COVERS SHALL INDICATE "FTSA" AND YEAR
2. SEATING SURFACES OF MANHOLE FRAME AND COVERS SHALL BE MACHINED TO INSURE A NON-CHATTERING FIT. MANHOLE FRAMES AND COVERS SHALL BE PROPERLY CLEANED AND DIP COATED IN A WATERPROOF ASPHALTUM PAINT.
3. MANHOLE COVERS TO BE CAMPBELL NO. 1203 B OR AN APPROVED EQUAL.
4. LETTERING TO BE APPROVED BY AUTHORITY PRIOR TO CASTING.
5. NO STANDARD COVERS ARE TO HAVE VENTS.



NOTES:
1. CLEANOUT TO BE LOCATED IN GRASSED AREA BETWEEN SIDEWALK AND CURB. CLEANOUTS WILL NOT BE PERMITTED IN DRIVEWAYS OR SIDEWALKS.
2. LATERAL TO BE SAME SIZE FOR ENTIRE LENGTH FROM BUILDING TO SEWER, 4" OR 6" PVC SCH. 40
3. IN EASEMENT AREAS 4" RISER SHALL BE LOCATED AS CLOSE TO EASEMENT LINE AS POSSIBLE.
4. METALLIZED WARNING TAPE STATING "CAUTION-BURIED SEWER LINE BELOW" BY PRO-LINE SAFETY PRODUCTS CO.
5. WHEN THIS DIMENSION IS 12" OR LESS, THIS DETAIL IS TO BE USED IF IT IS MORE THAN 12" THE CONTRACTOR SHALL SUPPORT AND PROTECT EXIST. DRAIN OR UTILITY AS DIRECTED BY THE ENGINEER.
6. MIN. 12" OF 3/4" CLEAN STONE CONFORMING TO COARSE AGGREGATE SIZE #57 OF THE NJDOT SPECIFICATIONS
7. VERTICAL TRENCH WALLS TO 24" MIN. ABOVE TOP OF PIPE.
8. VERTICAL TRENCH WALLS IN ALL PAVED AREAS. SLOPING TRENCH WALLS WILL BE PERMITTED IN UNPAVED AREAS WHERE CONDITIONS PERMIT. (SEE NOTE 4)
9. SEE FOUNDATION REQUIREMENTS.

NOTE:
ALL MATERIAL REMOVED FROM BENEATH ANY EXISTING SEWER SHALL BE REPLACED WITH CONCRETE OR CLEAN CRUSHED STONE. IF THE VOID UNDER THE SEWER IS LESS THAN 12" THEN ONLY CONCRETE SHALL BE USED.

NOTE: ALL WORK SHALL COMPLY WITH THE REVISION OF THE "RATES, RULES & REGULATIONS APPLICABLE TO SEWER SERVICE IN THE TOWNSHIP OF FRANKLIN, SOMERSET COUNTY, NEW JERSEY" IN EFFECT AT THE TIME CONSTRUCTION BEGINS.

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REV. NO.	DATE	DRWN	CHKD	REMARKS
10/13		CDM	FTSA	REVISIONS TO UPDATE RATES, RULES AND REGULATIONS
5/00		CDM	FTSA	PIPE BEDDING & GENERAL NOTE
2/98		CDM	FTSA	LATERAL RUNGS
5/97		CDM	FTSA	MANHOLE COATINGS, ENCAPSULATION SYSTEM, BEDDING

DESIGNED BY: H. MATTESON
 DRAWN BY: D. GARVEY
 SHEET CHECKED BY: X
 CROSS CHECKED BY: X
 APPROVED BY: X
 DATE: OCTOBER 2013

CDM Smith
 CDM Smith Inc.
 110 Fairwood Avenue, #8, 6th Floor
 Edison, NJ 08837
 Tel: (732) 225-7000

FRANKLIN TOWNSHIP SEWERAGE AUTHORITY
 SOMERSET COUNTY, NEW JERSEY

STANDARD DETAILS II

PROJECT NO. 105979-89351
FILE NAME: CSTD002
SHEET NO. 2 OF 3

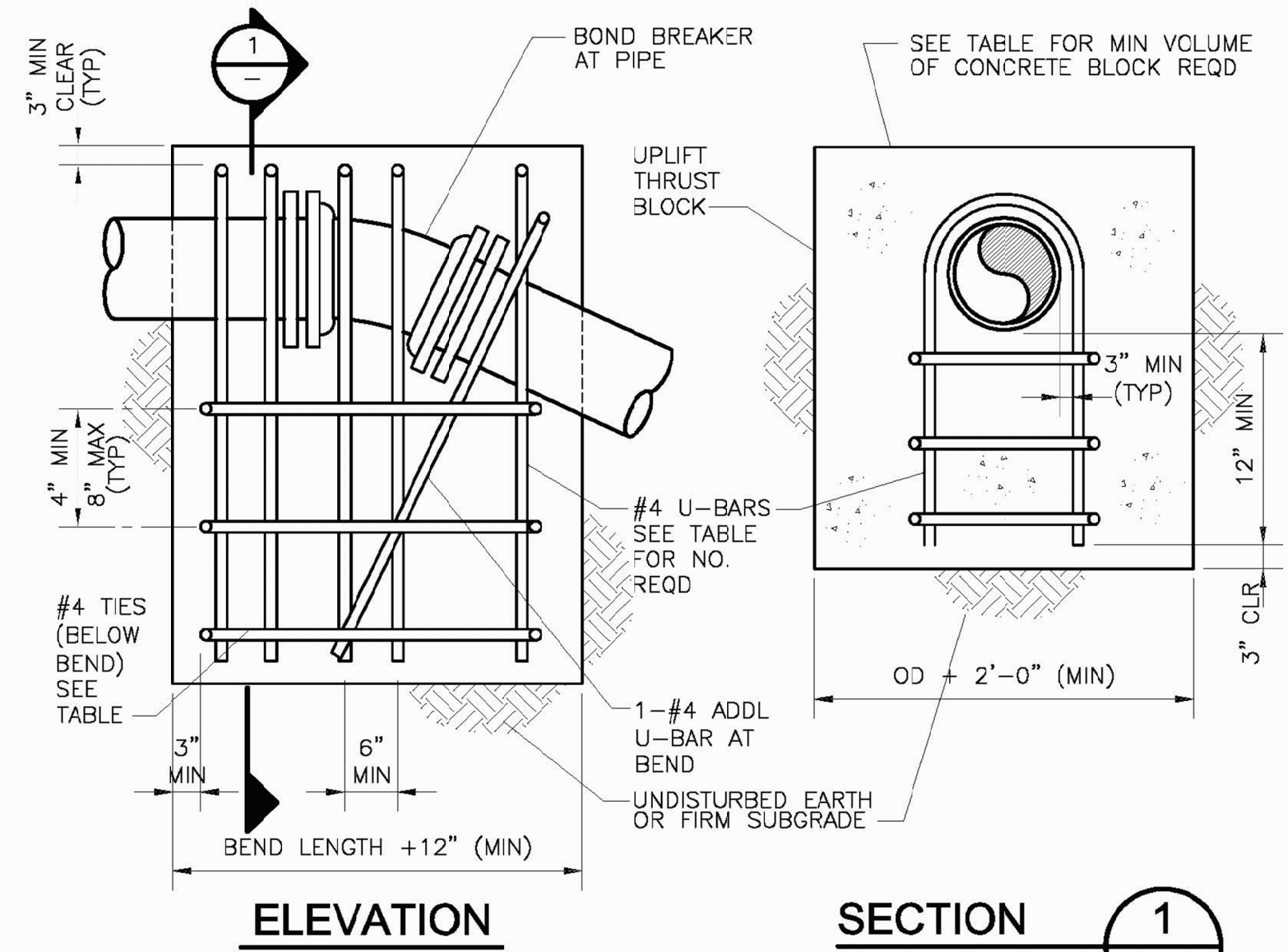
F.T.S.A. CONSTRUCTION DETAILS

500 ATRIUM DRIVE
 LOT 21.07 BLOCK 468.01
 FRANKLIN TOWNSHIP SOMERSET COUNTY NEW JERSEY

STIRES ASSOCIATES, P.A.
 ENGINEERS, SURVEYORS & ENVIRONMENTAL CONSULTANTS
 43 West High Street, Somerville, New Jersey 08876
 Phone (908) 725-0230 Fax (908) 707-0831

CRAIG W. STIRES
 PROFESSIONAL ENGINEER
 N.J. LICENSE No. 39078
 DATE: 01/20/23
 SCALE: NTS
 PROJECT No. 22284

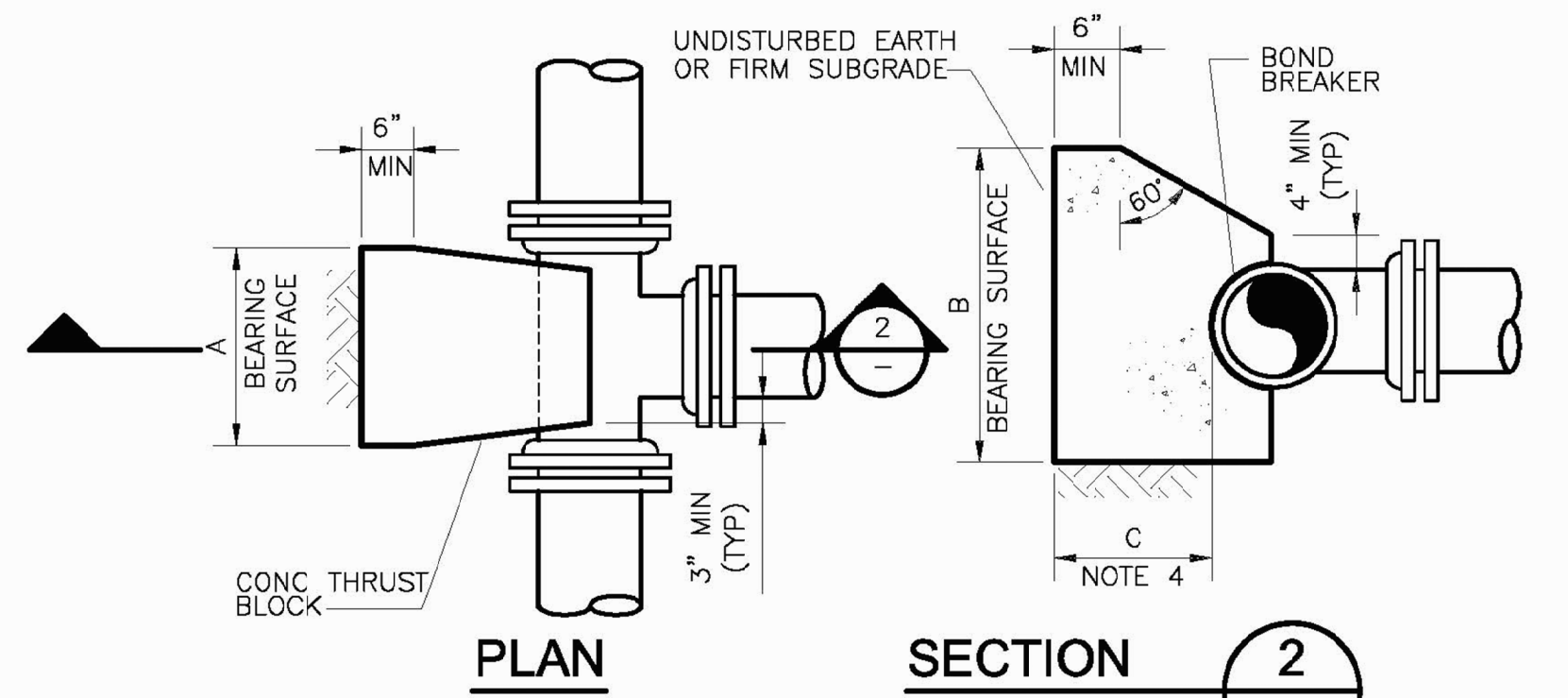
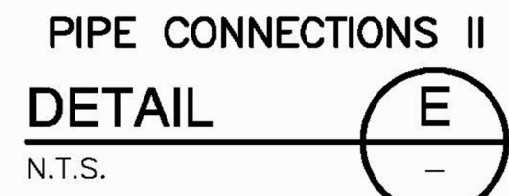
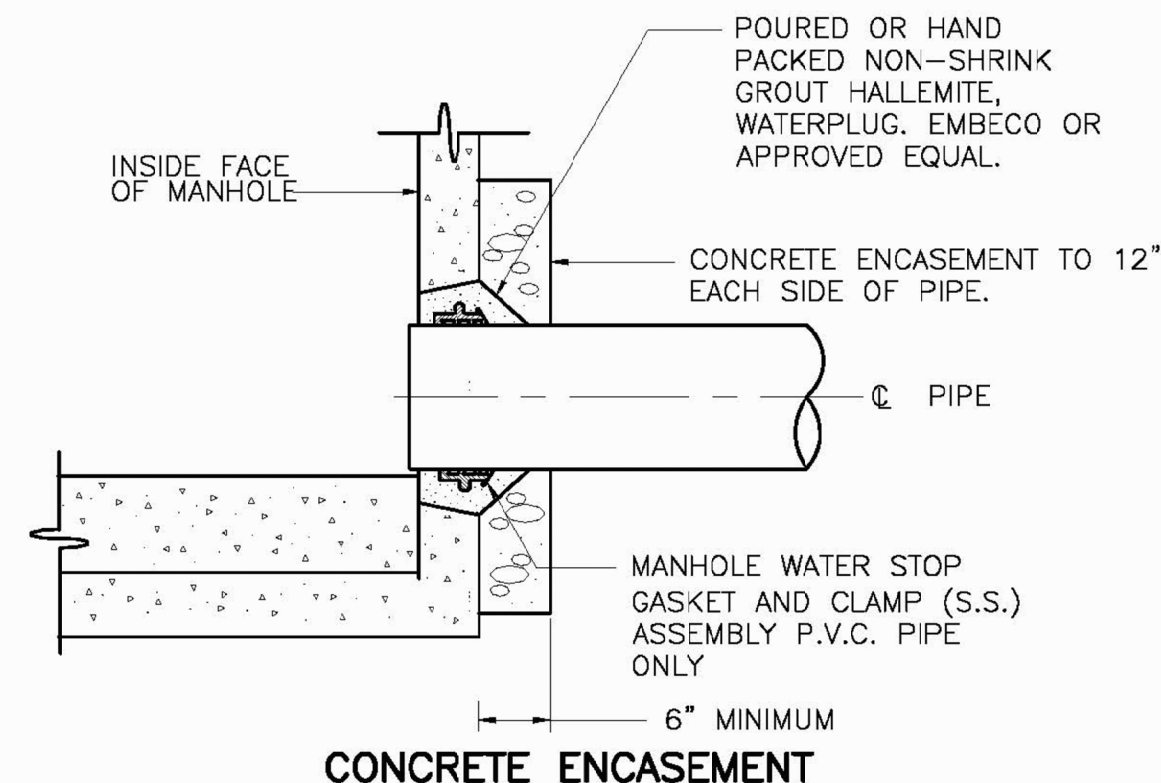
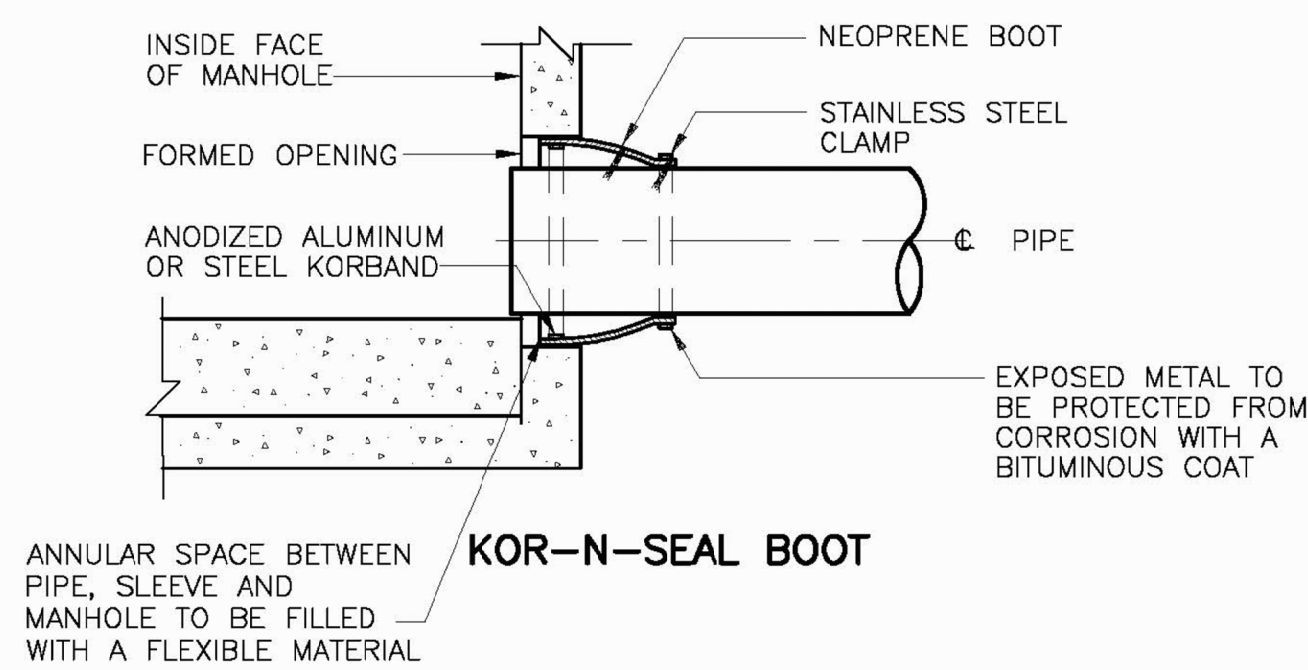
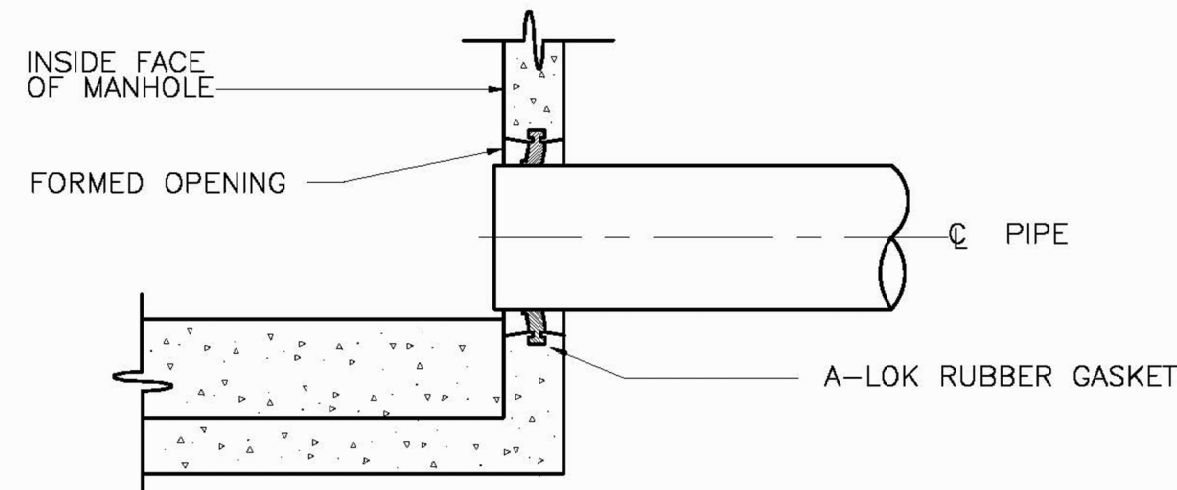
DESIGNED BY: RWM
 DRAWN BY: RWM
 CHECKED BY: CWS
 SHEET NUMBER: 15 OF 16



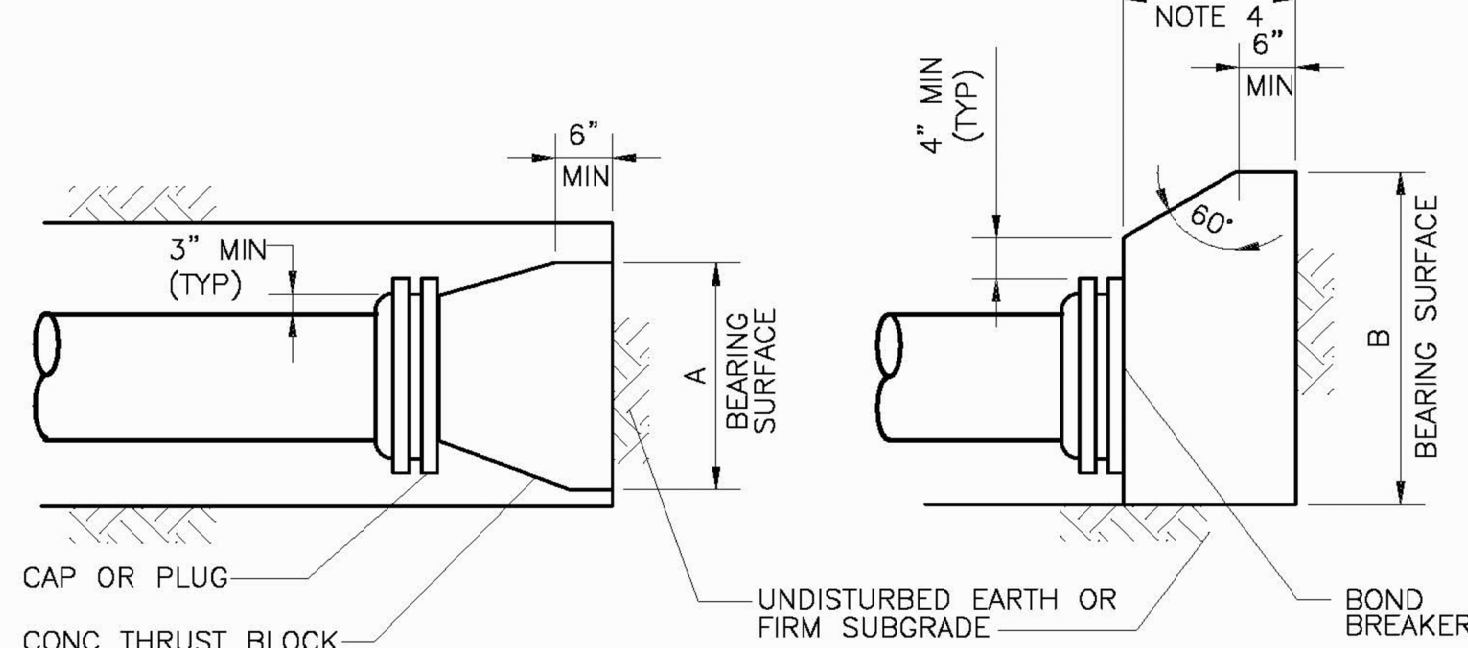
PIPE SIZE (IN.)	PIPE O.D. (IN.)	60 DEG		45 DEG		30 DEG		22.5 DEG		#4 TIES REQD
		REINF	CONC	REINF	CONC	REINF	CONC	REINF	CONC	
3	3.96	2	1	2	0.5	2	0.5	2	0.5	2
4	4.80	2	1	2	1.0	2	0.5	2	0.5	2
6	6.90	2	2	2	1.5	2	1.0	2	1.0	2
8	9.05	2	3.5	2	3	2	2	2	1.5	2
10	11.10	2	5	2	4	2	3	2	2.0	2
12	13.20	3	7	3	6	2	4	2	3	2
14	15.30	4	9	4	7	3	5	2	4	4
16	17.40	6	12	5	10	3	7	3	5	4
18	19.50	7	15	6	12	4	9	3	7	4

- NOTES:
 1. "REINF" = NO. OF #4-U-BARS REQUIRED.
 2. "CONCRETE" = VOLUME OF CONCRETE BLOCK REQUIRED, CU YD.
 3. MAXIMUM TEST PRESSURE = 1.50x1.50 PSI.
 4. MINIMUM GRADE 40 REBAR.

THRUST BLOCK FOR UPPER VERTICAL BENDS WITH REINFORCING BARS



DETAIL FOR TEES

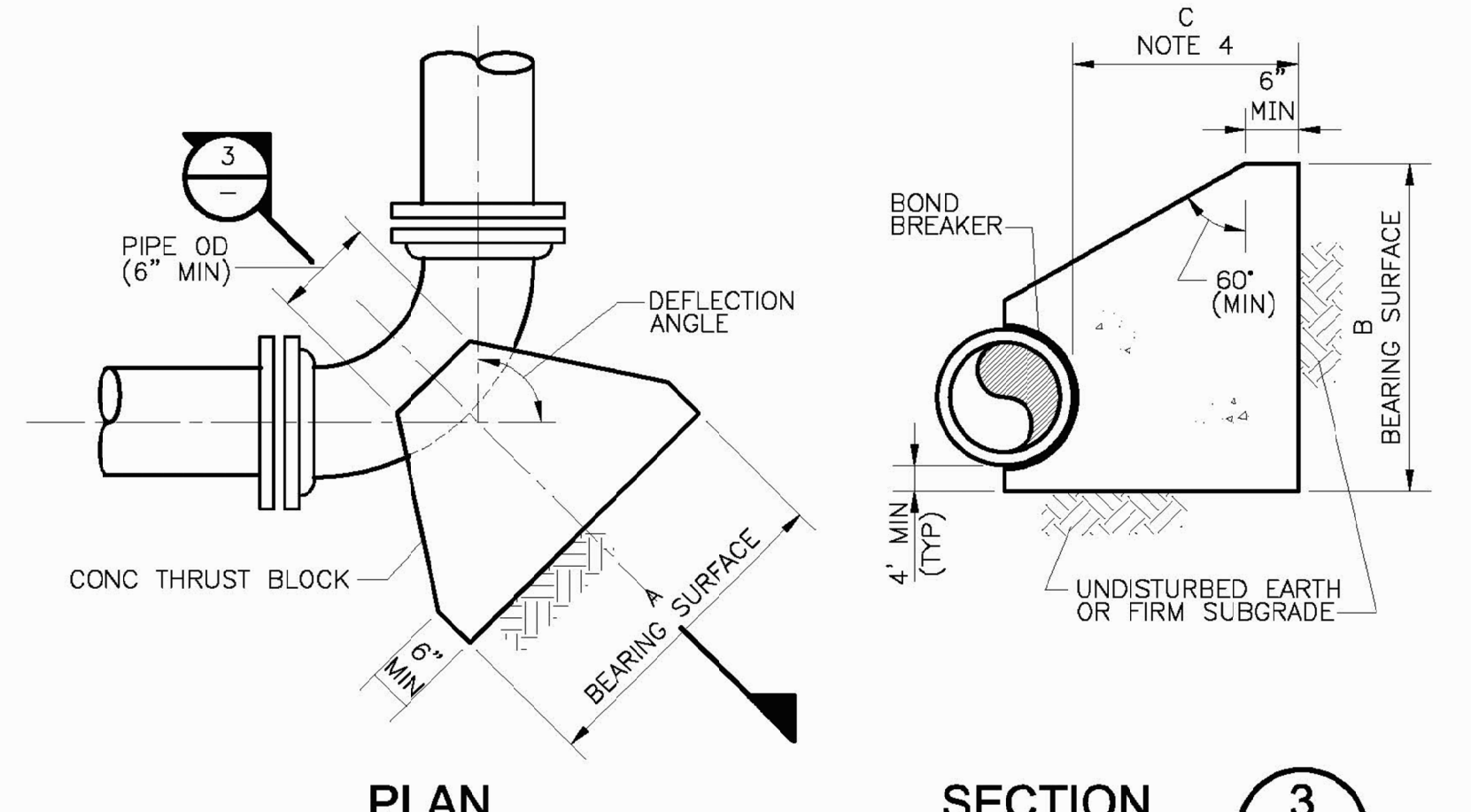


DETAIL FOR CAPS OR PLUGS

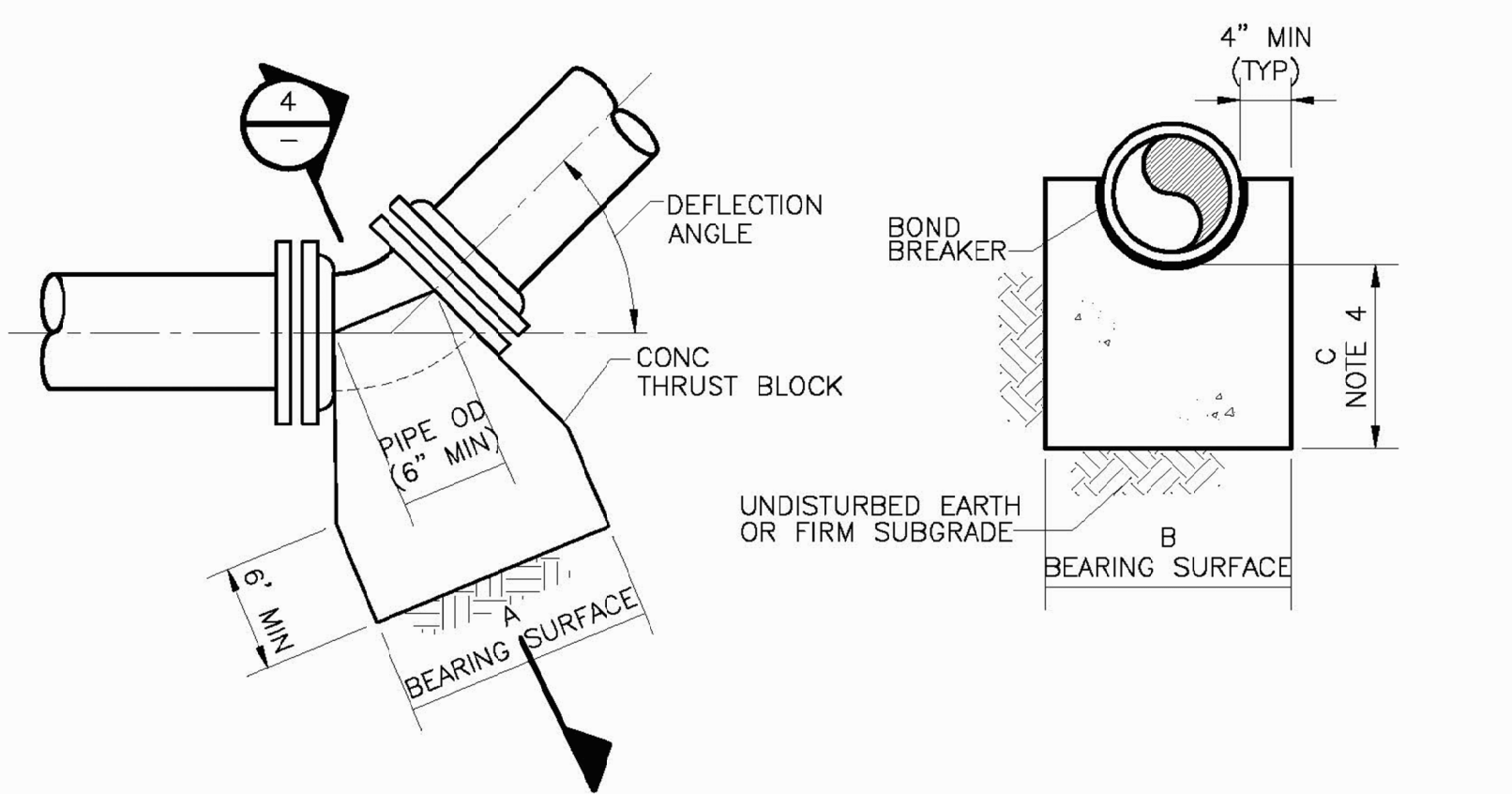
NOMINAL PIPE SIZE (IN.)	MAXIMUM PIPE OD (IN.)	REQU RED BEARING AREA (SQ FT)
3	3.96	1.4
4	4.80	2.0
6	6.90	4
8	9.05	7
10	11.10	11
12	13.20	15
14	15.30	21
16	17.40	27
18	19.50	34
20	21.60	41
24	25.80	59
30	32.00	90
36	38.30	130

- NOTES:
 1. MAXIMUM TEST PRESSURE = 1.50x150 PSI
 2. MINIMUM ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF
 3. BEARING AREA = A x B
 4. C SHALL BE GREATER THAN A/2 AND B/2.

THRUST BLOCK FOR TEES, CAPS AND PLUGS



DETAIL FOR HORIZONTAL BENDS



DETAIL FOR LOWER VERTICAL BENDS

NOMINAL PIPE SIZE (INCHES)	MAXIMUM PIPE OD (INCHES)	REQUIRED BEARING AREA (SQ FT)					
		90 DEG	60 DEG	45 DEG	30 DEG	22.5 DEG	11.25 DEG
3	3.96	2.0	1.4	1.1	0.7	0.5	0.3
4	4.80	2.9	2.0	1.6	1.1	0.8	0.4
6	6.90	6	4	3	2.2	1.6	0.8
8	9.05	10	7	6	4	3	1.4
10	11.10	15	11	8	6	4	2.1
12	13.20	22	15	12	8	6	3
14	15.30	29	21	16	11	8	4
16	17.40	38	27	20	14	10	5
18	19.50	48	34	26	17	13	7
20	21.60	58	41	32	21	16	8
24	25.80	83	59	45	30	23	12
30	32.00	128	90	69	47	35	18
36	38.30	183	130	99	67	51	25

THRUST BLOCKS FOR HORIZONTAL BENDS AND LOWER VERTICAL BENDS

- NOTES:
 1. MAXIMUM TEST PRESSURE = 1.5 x 150 PSI
 2. MINIMUM ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF
 3. BEARING AREA = A x B
 4. C SHALL BE GREATER THAN A/2 AND B/2.

THRUST BLOCKS FOR HORIZONTAL BENDS AND LOWER VERTICAL BENDS



NOTE: ALL WORK SHALL COMPLY WITH THE REVISION OF THE "RATES, RULES & REGULATIONS APPLICABLE TO SEWER SERVICE IN THE TOWNSHIP OF FRANKLIN, SOMERSET COUNTY, NEW JERSEY" IN EFFECT AT THE TIME CONSTRUCTION BEGINS.

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: H. MATTESON
 DRAWN BY: B. GARVEY
 SHEET CHK'D BY: X
 CROSS CHK'D BY: X
 APPROVED BY: X
 DATE: OCTOBER 2013



FRANKLIN TOWNSHIP SEWERAGE AUTHORITY
 SOMERSET COUNTY, NEW JERSEY

STANDARD DETAILS III

PROJECT NO. 105979-89351
 FILE NAME: CSTD003
 SHEET NO. 3 OF 3

F.T.S.A. CONSTRUCTION DETAILS

500 ATRIUM DRIVE
 LOT 21.07 BLOCK 468.01
 FRANKLIN TOWNSHIP SOMERSET COUNTY NEW JERSEY

STIRES ASSOCIATES, P.A.
 ENGINEERS, SURVEYORS & ENVIRONMENTAL CONSULTANTS
 43 West High Street, Somerville, New Jersey 08876
 Phone (908) 725-0230 Fax (908) 707-0831

CRAIG W. STIRES
 PROFESSIONAL ENGINEER
 N.J. LICENSE No. 39078
 DATE 01/20/23

DESIGNED BY: RMW
 DRAWN BY: RMW
 CHECKED BY: CWS
 SHEET NUMBER 16 OF 16

SCALE: NTS
 PROJECT No. 22284