

"A" PIPE SIZE DIAMETER	"B" TRENCH WIDTH	"C" TRENCH HEIGHT	TRENCH AREA	PIPE AREA	SANITARY SEWER BEDDING MAT. AREA	SANITARY SEWER BEDDING MAT. **TONS/LF
4"	28"	16"	3.11 Sq.Ft.	0.09 Sq.Ft.	3.02 Sq.Ft.	0.18
6"	30"	18"	3.75 Sq.Ft.	0.20 Sq.Ft.	3.55 Sq.Ft.	0.21
8"	32"	20"	4.44 Sq.Ft.	0.35 Sq.Ft.	4.10 Sq.Ft.	0.25
10"	34"	22"	5.19 Sq. Ft.	0.55 Sq.Ft.	4.65 Sq.Ft.	0.28
12"	36"	24"	6.00 Sq.Ft.	0.79 Sq.Ft.	5.22 Sq.Ft.	0.31
15"	39"	27"	7.31 Sq.Ft.	1.23 Sq.Ft.	6.09 Sq.Ft.	0.37
18"	42"	30"	8.75 Sq.Ft.	1.77 Sq.Ft.	6.98 Sq.Ft.	0.42
21"	45"	33"	10.31 Sq.Ft.	2.41 Sq.Ft.	7.91 Sq.Ft.	0.47
24"	48"	36"	12.00 Sq.Ft.	3.14 Sq.Ft.	8.86 Sq.Ft.	0.53
27"	51"	39"	13.81 Sq.Ft.	3.98 Sq.Ft.	9.84 Sq.Ft.	0.59
30"	54"	42"	15.75 Sq.Ft.	4.91 Sq.Ft.	10.84 Sq.Ft.	0.65
36"	60"	48"	20.00 Sq.Ft.	7.07 Sq.Ft.	12.93 Sq.Ft.	0.78

* LENGTH BASED ON ONE (1) FOOT OF SANITARY SEWER PIPE.

** TONS PER LF IS BASED ON (120 LBS/FT³)

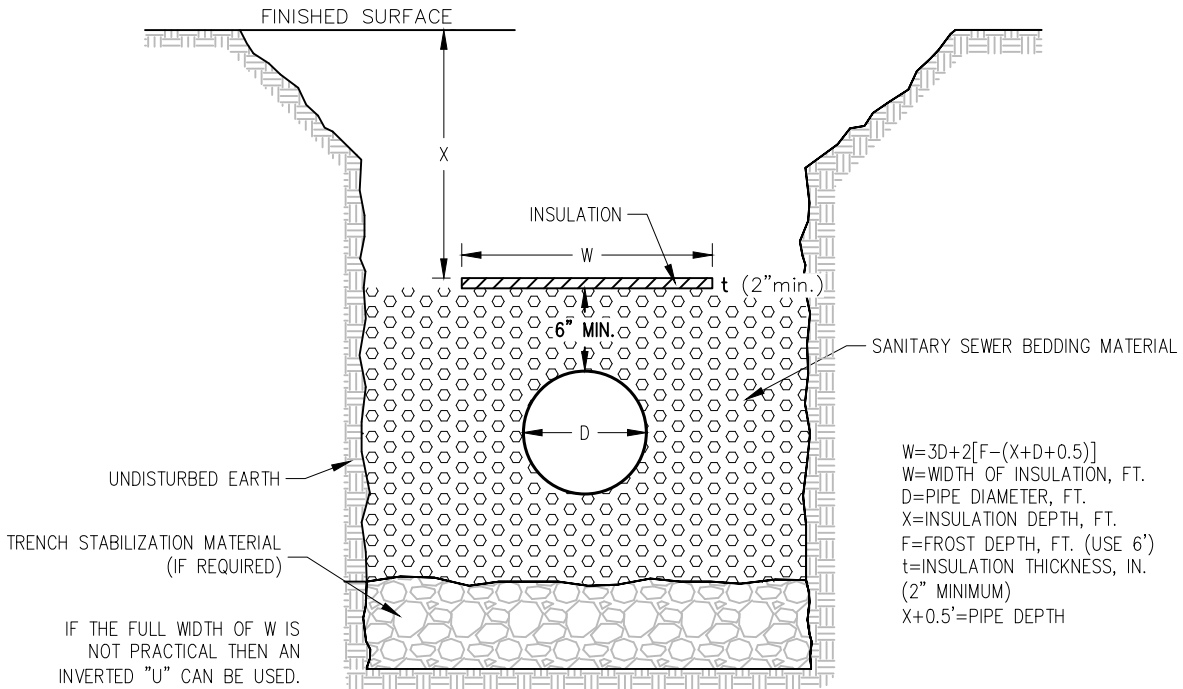
CITY OF BROOKINGS
BROOKINGS MUNICIPAL UTILITIES
SANITARY SEWER MAIN BEDDING



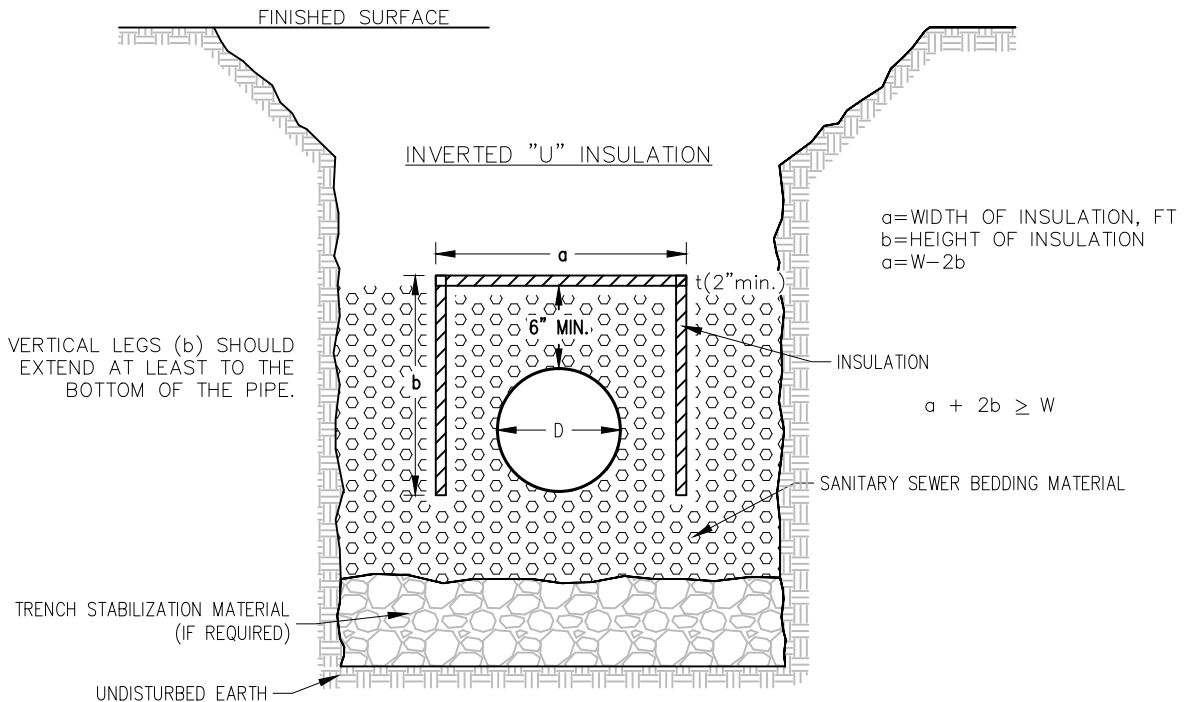
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HORIZONTAL INSULATION



INVERTED "U" INSULATION



NOTE:
THIS DETAIL IS A GENERAL GUIDELINE. INSULATION OF SANITARY SEWER WILL BE DETERMINED ON A CASE BY CASE SITUATION DEPENDING ON THE FOLLOWING FACTORS: DEPTH, PIPE DIAMETER, FLOW, AND LOCATION.

MANHOLE FRAME AND COVER TO BE DEETER 1260,
EAST JORDAN IRONWORKS 1205, MUNICIPAL CASTINGS
301-7, OR NEENAH FOUNDRY R-1733

"SANITARY SEWER" SHALL BE STAMPED ON ALL LIDS

ALL MANHOLES SHALL BE CONSTRUCTED
TO MEET THE REQUIREMENTS OF THE
LATEST REVISIONS OF ASTM C478
PRECAST REINFORCED CONCRETE
MANHOLE SECTION

HDPE ADJUSTING RINGS SHALL FORM A LEAK
PROOF SEAL. MAXIMUM ADJUSTMENT OF
12-INCHES

EXTERNAL FRAME SEAL

PRECAST CONE SECTION
TYPICAL JOINT SEALED WITH RAMNEK,
KENTSEAL, OR APPROVED EQUAL
RUBBER BASE GASKET SEALANT

NOTE:
2-FOOT TO 4-FOOT TALL PRECAST
INTEGRAL BASE & BARREL SECTION WITH
APPROVED PIPE GASKETS. REINFORCING
ON THE BARREL SECTION TO BE
0.16-INCH SQ/FT CIRCUMFERENTIAL STEEL
TO BE EXTENDED TO BOTTOM OF BASE
SECTION. BENT BARS TO EXTEND
3-INCHES ABOVE CUTOUT HOLE AND
12-INCHES INTO BASE

EXTERNAL JOINT SEAL
(TYPICAL ALL JOINTS)

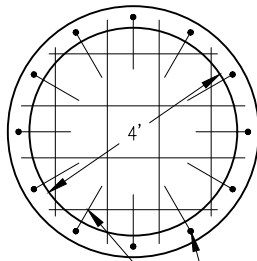
PREFORMED INVERT, 2"
MINIMUM THICKNESS

WATERTIGHT GASKET, ADAPTER OR
SEALER, PRESS SEAL GASKET
CORPORATION PSX, OR EQUAL

WATERTIGHT GASKET, ADAPTER OR
SEALER, PRESS SEAL GASKET
CORPORATION PSX, OR EQUAL

PIPE BEDDING MATERIAL

BASE BARREL SECTION

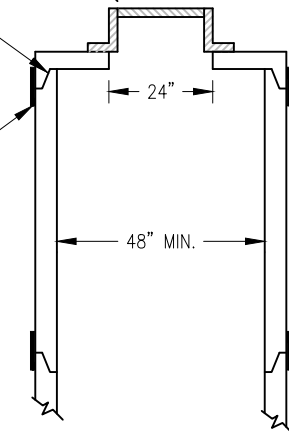


#4 BARS AT 12-INCH C-C BOTH WAYS;
(12)-#3 BENT BARS, 30-INCHES TO
36-INCHES LONG, PLACED AS SHOWN.
TO BE DOUBLED AROUND LARGE PIPE CUTOUTS.
BENT BARS SHALL EXTEND 3-INCHES ABOVE
THE CUTOUT HOLE AND 12-INCHES HORIZONTAL INTO BASE

PRECAST FLAT TOP SECTION TYPICAL
JOINT SEALED WITH RAMNEK, KENTSEAL,
OR APPROVED EQUAL RUBBER BASE
GASKET SEALANT (TONGUE AND GROOVE
JOINT SHALL BE REQUIRED)

TYPICAL PRECAST & FLAT TOP
SECTION (WHERE SPECIFIED)

EXTERNAL JOINT SEAL
(TYPICAL ALL JOINTS)

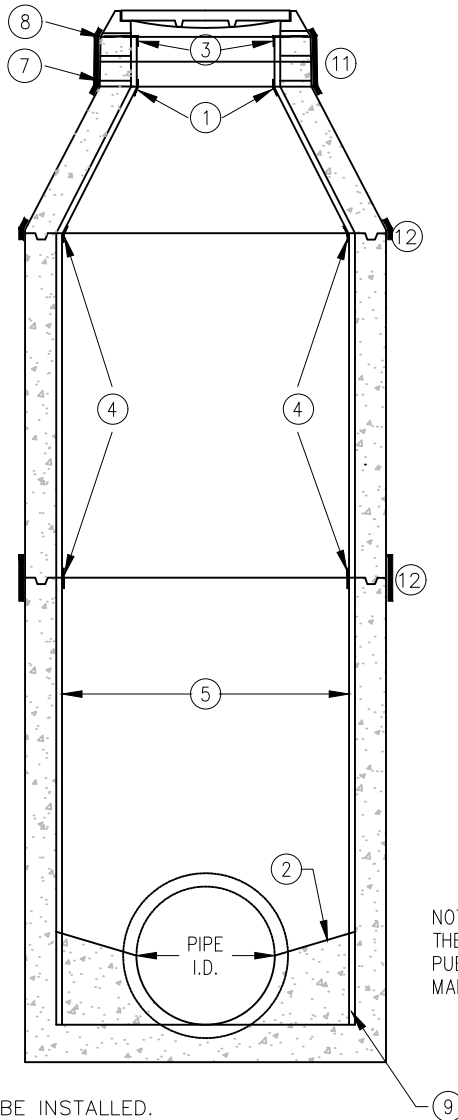


CITY OF BROOKINGS
BROOKINGS MUNICIPAL UTILITIES
SANITARY SEWER MANHOLE



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NOTE:
THE ENGINEER SHALL DETERMINE WHICH
PUBLIC OR FUTURE PUBLIC SANITARY SEWER
MANHOLES SHALL BE LINED, AS PER BID FORM

NOTE:

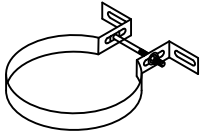
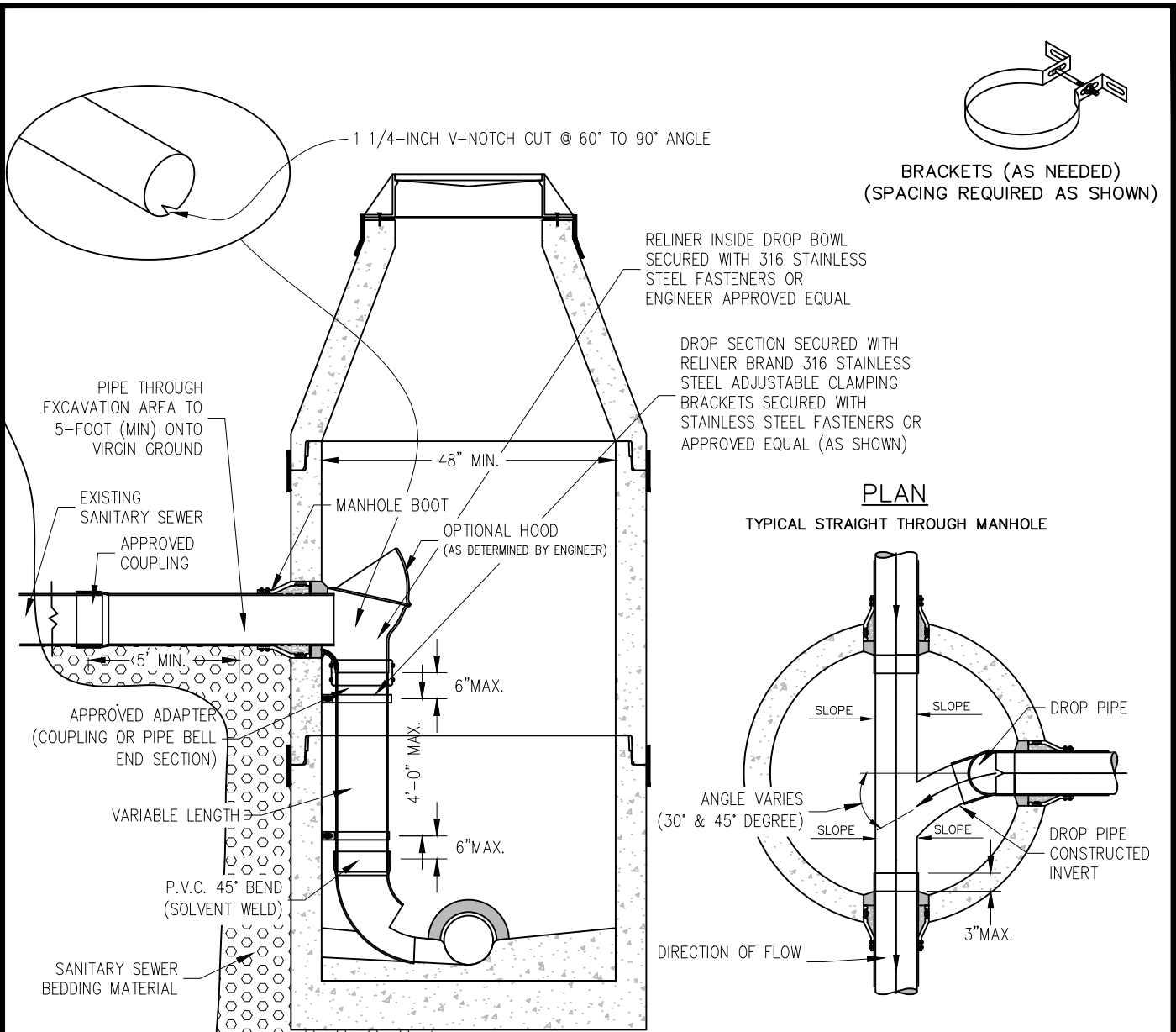
- ① PREFORMED CORNER WELD STRIP TO BE INSTALLED.
- ② PRE-FORMED BENCH AND INVERT.
- ③ INSTALL (2) PREFORMED CORNER TURNBACKS UNDER RING.
- ④ WELD STRIPS.
- ⑤ ALL CONCRETE SURFACES, EXCEPT THE INVERTS, WHICH WILL BE EXPOSED TO SEWER GASES SHALL BE LINED. THIS INCLUDES ALL CONCRETE PIPE SURFACES IF CONCRETE PIPE IS USED.
- ⑥ INSTALLATION OF THE MANHOLE LINER PLATE SHALL CONFORM TO THE REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATIONS.
- ⑦ THE LINER SHALL BE EXTENDED OVER THE TOP OF THE CORBEL SECTION TO FORM A CONTINUOUS SEAL WITH THE MANHOLE WALL LINING. THE LINER SHALL BE EXTENDED TO ONE-HALF THE THICKNESS OF THE CORBEL TOP SECTION.
- ⑧ WHERE ADJUSTING RINGS ARE ALLOWED AND/OR REQUIRED, HDPE ADJUSTING RINGS SHALL BE USED.
- ⑨ THE LINER SHALL BE EXTENDED DOWN TO THE BOTTOM OF THE BASE SECTION TO FORM A CONTINUOUS SEAL WITH THE MANHOLE WALL LINING.
- ⑩ ALL VERTICAL LINER JOINTS SHALL BE WELDED IN THE SHOP.
- ⑪ EXTERNAL FRAME SEAL.
- ⑫ EXTERNAL JOINT SEAL (TYPICAL ALL JOINTS).

CITY OF BROOKINGS
BROOKINGS MUNICIPAL UTILITIES
**SANITARY SEWER MANHOLE
LINED TYPE**



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BRACKETS (AS NEEDED)
(SPACING REQUIRED AS SHOWN)

PLAN
TYPICAL STRAIGHT THROUGH MANHOLE

NOTE:
THE LOWER BEND SHALL BE SECURELY SET ON THE CONCRETE BENCH AND ANGLED (30° & 45° DEGREE) TO DISCHARGE WITH THE FLOW. THE MANHOLE BENCH SHALL BE CONSTRUCTED WITH AN INVERT FOR THE DROP PIPE TO DISCHARGE INTO.

NOTE:
THE P.V.C. DROP SECTION SHALL BE SECURED TO THE BARREL SECTION WITH APPROVED NON-CORROSIVE ADJUSTABLE CLAMPING BRACKET(S), AND THE LOWER BEND SHALL BE SECURED AND FORMED INTO THE BENCH OF THE FLOWLINE. THE DROP BOWL SHALL BE SECURED WITH STAINLESS STEEL FASTENERS OR ENGINEER APPROVED EQUAL AND CONNECTED TO THE DROP PIPE WITH APPROVED ADAPTERS. THE DROP BOWL SHALL ALLOW CLEARANCE FOR MAINTENANCE EQUIPMENT INTO THE EXISTING LINE.

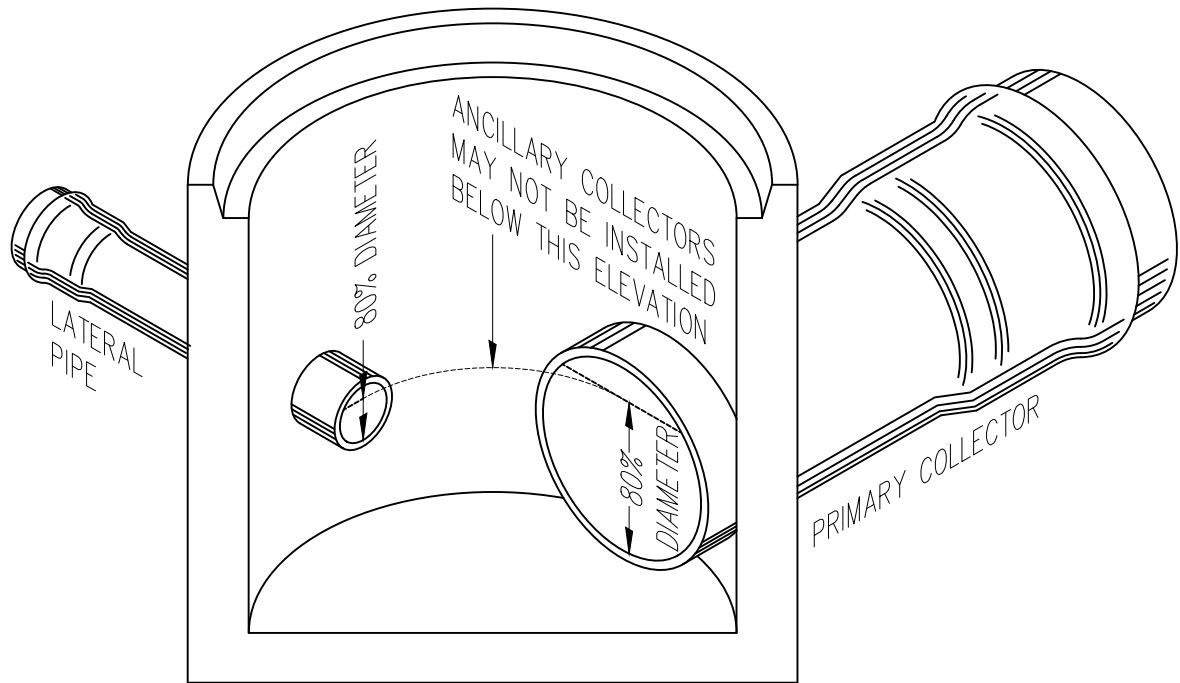
THE MANHOLE BOOT SHALL BE SIMILAR TO THE MANHOLE BASE SECTION SPECIFICATION MINIMUM OF 8-INCHES BETWEEN THE OPENING FOR THE DROP SECTION AND THE NEAREST JOINT.

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**SANITARY SEWER MANHOLE
BOWL TYPE DROP SECTION**

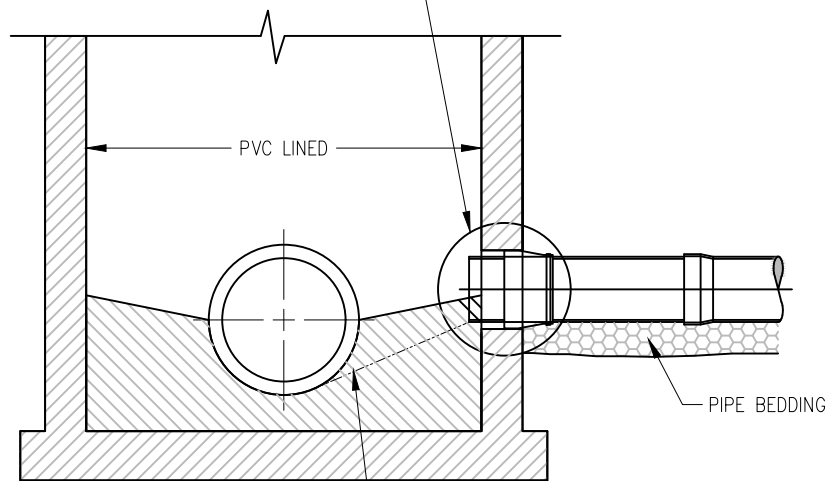
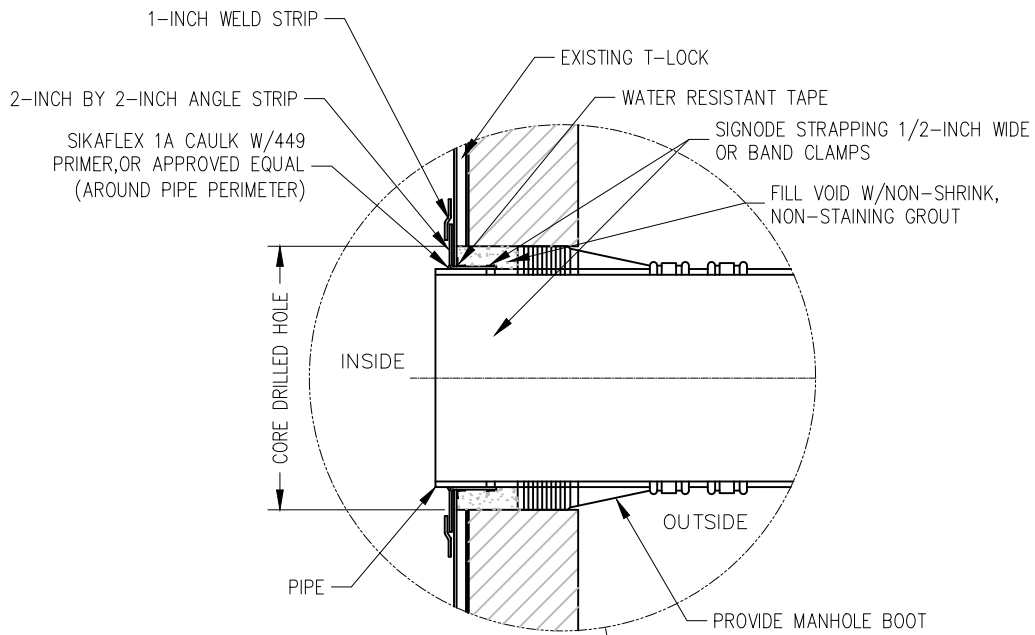


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NOTE:
 LATERAL PIPES MAY NOT BE INSTALLED BELOW THE ELEVATION AT WHICH THE 80% OF DIAMETER HEIGHT OF EACH PIPE MEETS. THIS SHALL APPLY WHEN PRIMARY COLLECTORS ARE 10" AND LARGER.



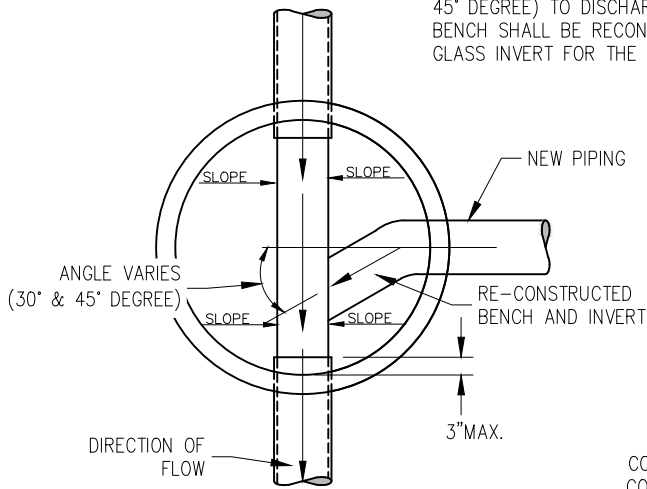
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 BROOKINGS MUNICIPAL UTILITIES
**SANITARY SEWER LINED
 MANHOLE PIPE SECTION**



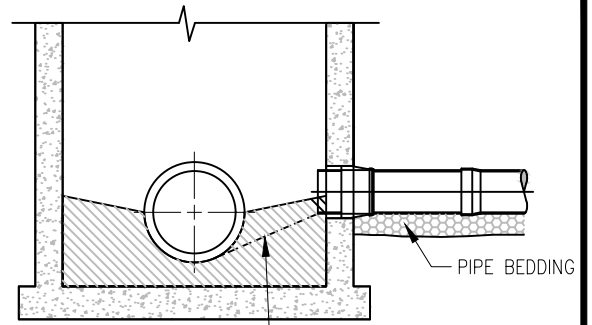
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NOTE:
 THE CONCRETE BENCH AND INVERT SHALL BE ANGLED (30° & 45° DEGREE) TO DISCHARGE WITH THE FLOW. THE MANHOLE BENCH SHALL BE RECONSTRUCTED WITH A SMOOTH AS GLASS INVERT FOR THE NEW PIPE TO DISCHARGE INTO.

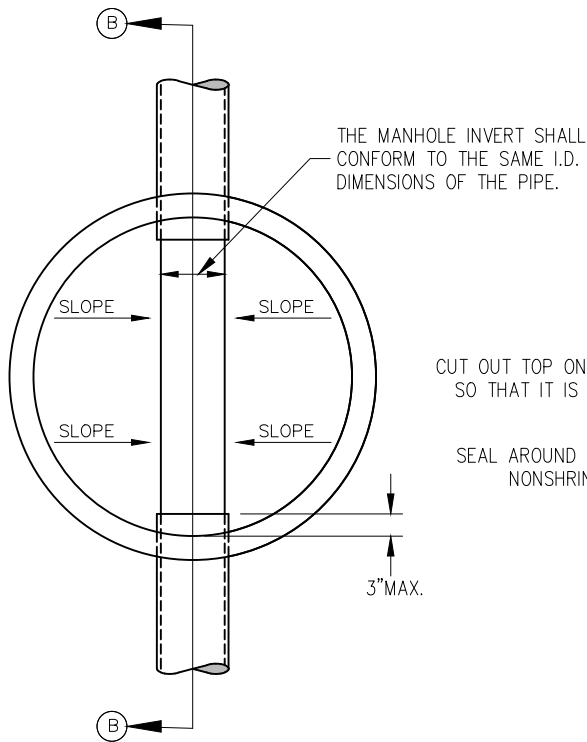


PLAN
 PROPOSED MANHOLE



CONTRACTOR SHALL REMOVE PART OF EXISTING CONCRETE BENCH AND INVERT AND CONSTRUCT NEW BENCH AND INVERT TO FACILITATE SMOOTH TRANSITION INTO EXISTING INVERTS

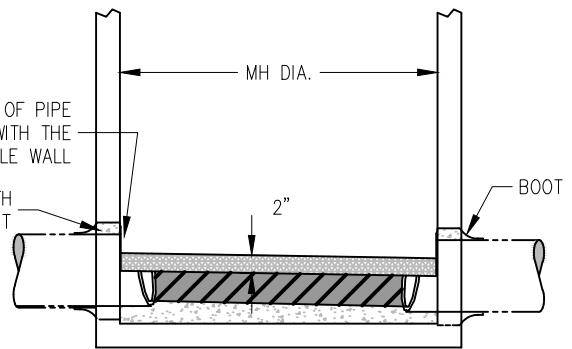
SECTION



PLAN
 EXISTING STRAIGHT THROUGH MANHOLE

CUT OUT TOP ONE-HALF OF PIPE SO THAT IT IS FLUSH WITH THE MANHOLE WALL

SEAL AROUND PIPE WITH NONSHRINK GROUT



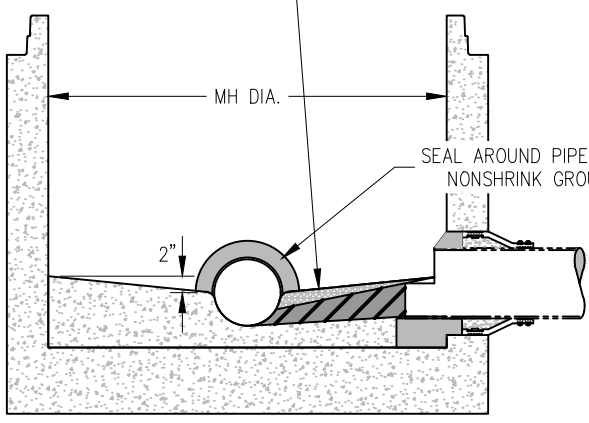
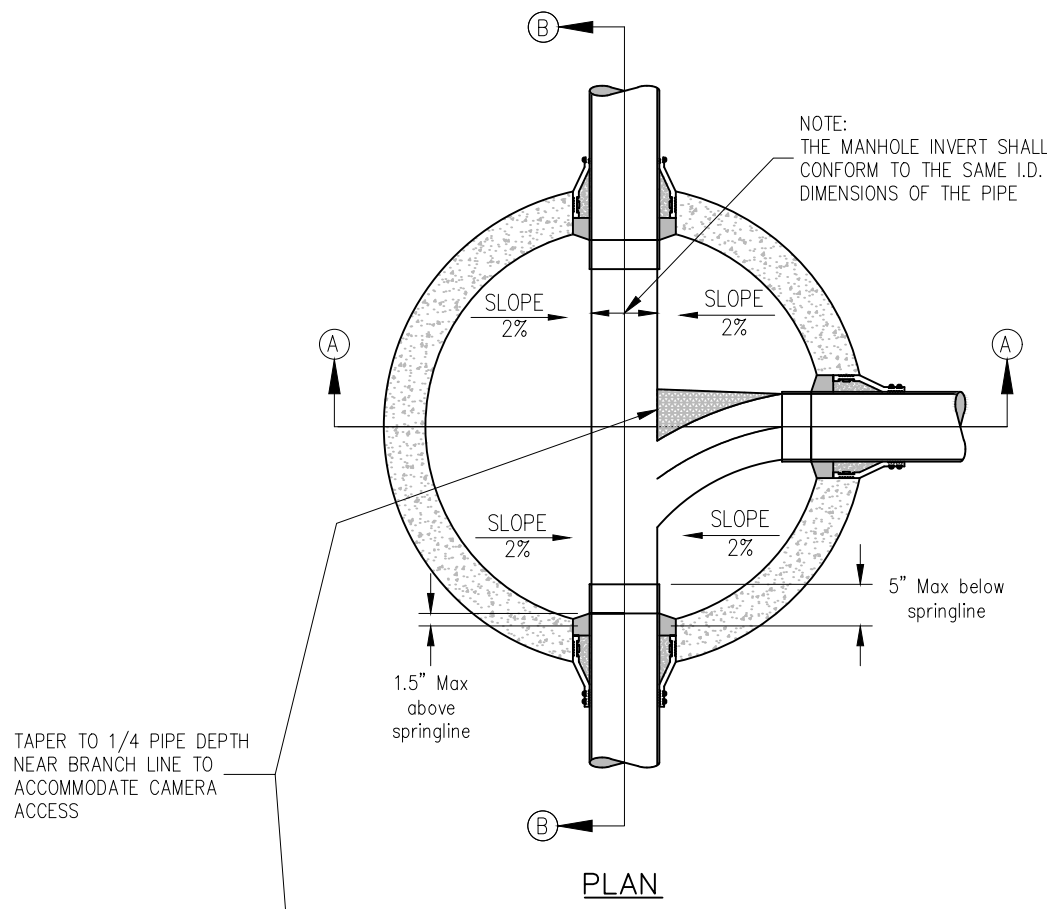
SECTION B-B

CITY OF BROOKINGS
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**MANHOLE BENCH AND INVERT DETAIL
 CONNECT TO EXISTING MANHOLE**

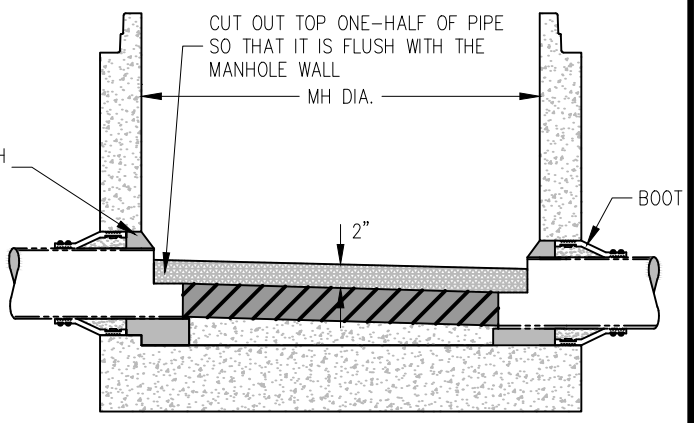


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SECTION A-A



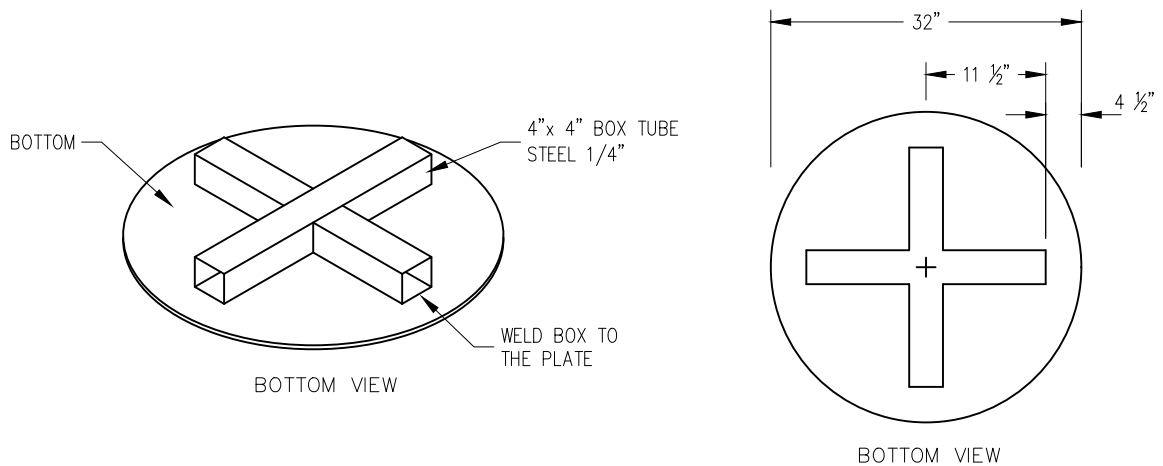
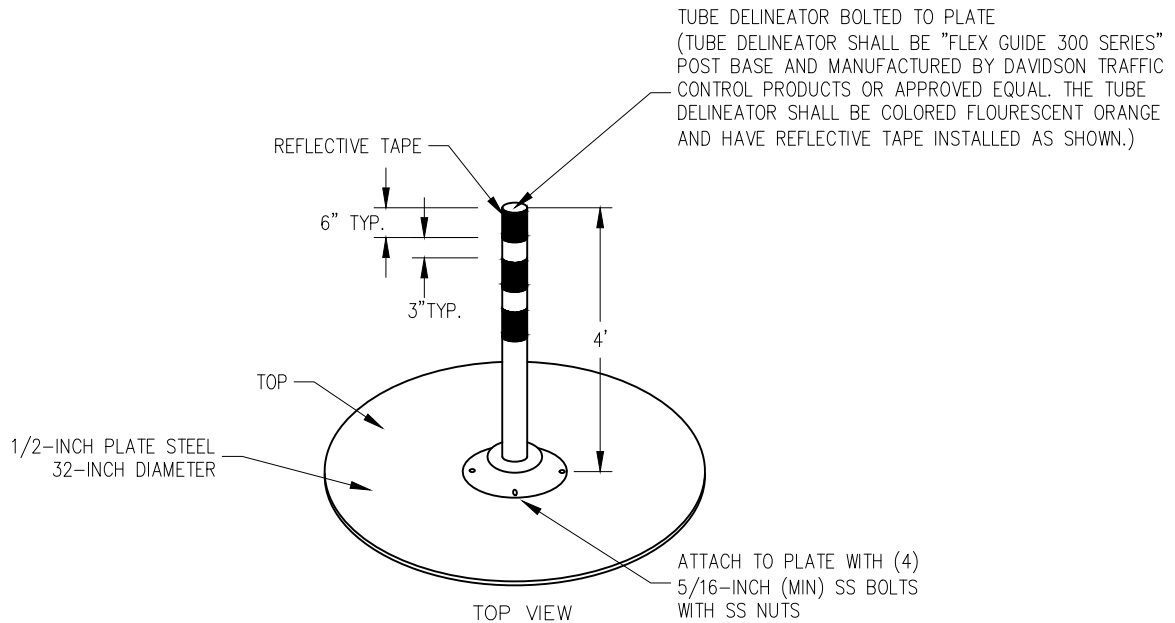
SECTION B-B

CITY OF BROOKINGS
 BROOKINGS MUNICIPAL UTILITIES
MANHOLE BENCH AND INVERT DETAIL
NEW MANHOLE



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NOTE:
A SEALANT MATERIAL SHALL BE INSTALLED BETWEEN THE MANHOLE CONSTRUCTION PLATE MARKER AND THE MANHOLE TO FORM A WATERTIGHT SEAL.

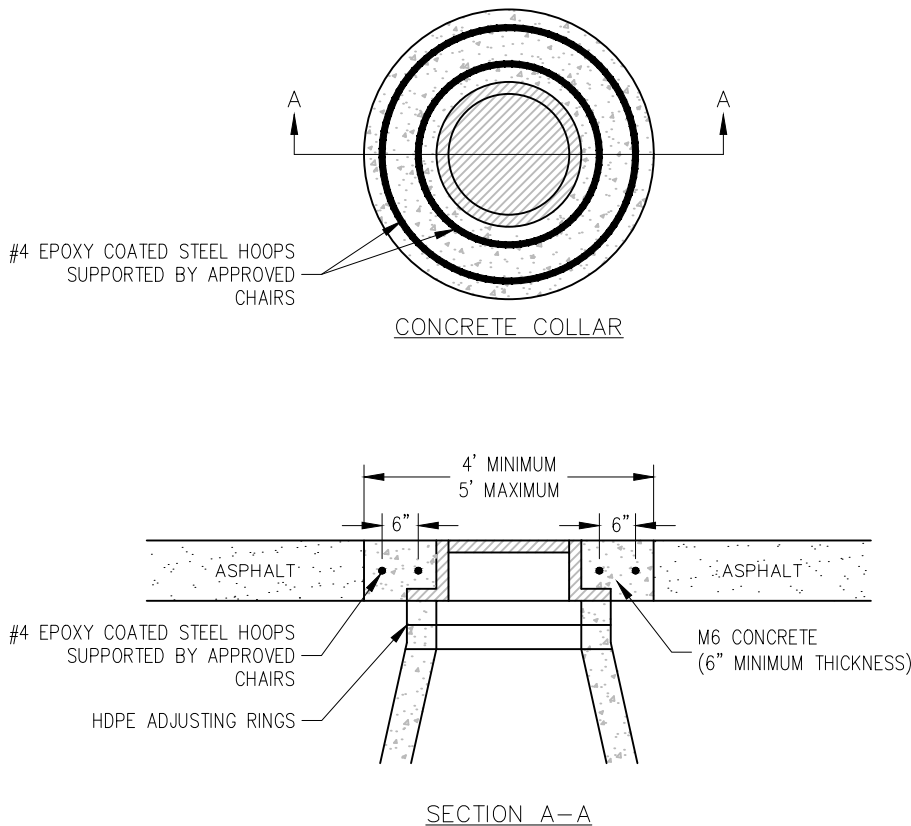
BREAKAWAY LIFT HOOKS WILL BE ALLOWED ON THE TOP OF THE PLATE FOR USE IN INSTALLING AND REMOVING THE PLATE. THE LIFT HOOKS SHALL BE LOCATED WITHIN A 10 INCH RADIUS OF THE PLATE CENTER.

CITY OF BROOKINGS
BROOKINGS MUNICIPAL UTILITIES
**MANHOLE CONSTRUCTION
PLATE MARKER**



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NOTE:

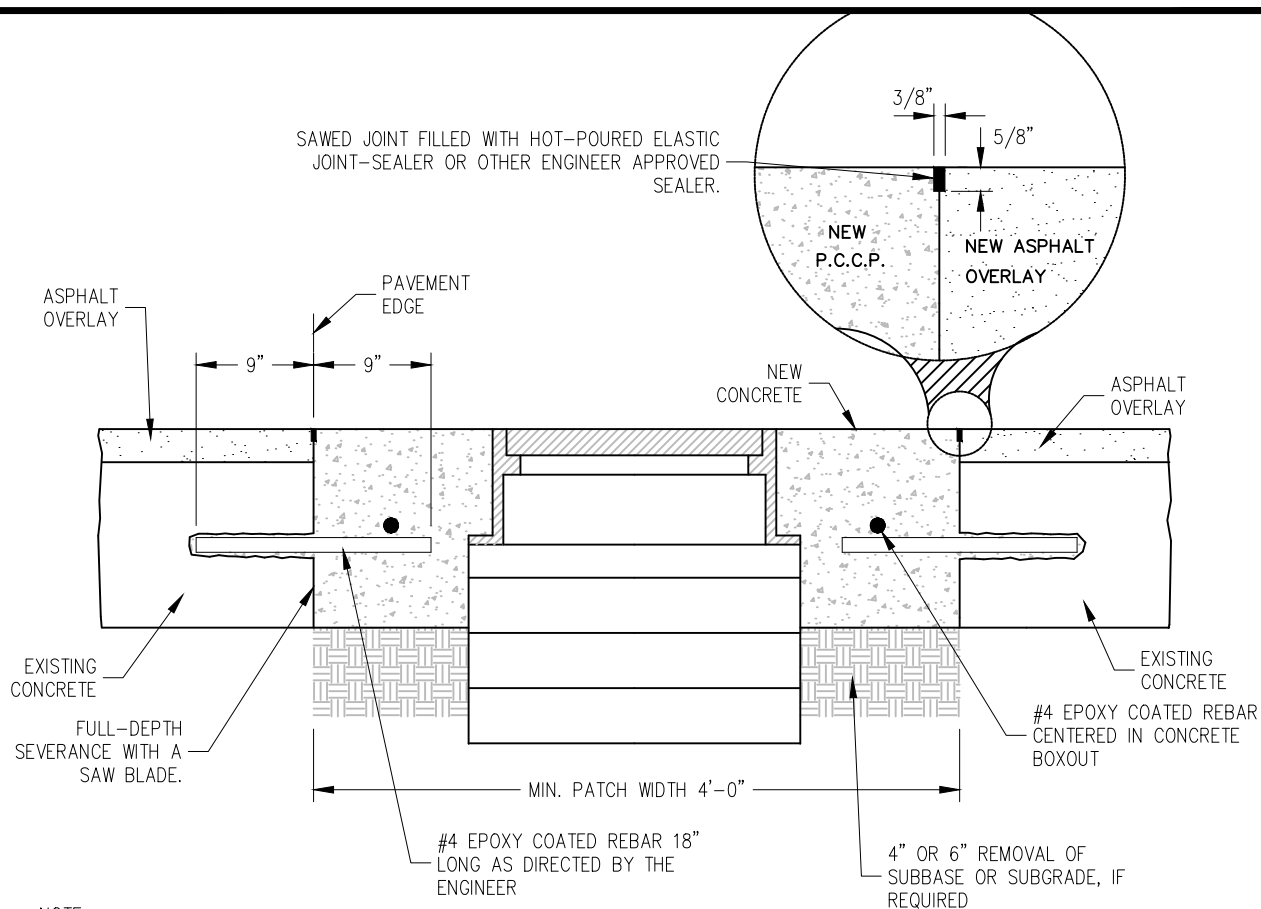
1. THE ADJUSTMENT OF MANHOLE CASTINGS INVOLVES ADDING OR REMOVING ADJUSTING RINGS UNDER THE FRAME. IF THE ELEVATION OF THE COVER IS TOO HIGH, IT MAY BE NECESSARY FOR THE CONTRACTOR TO REPLACE THE UPPER MANHOLE SECTION OR INTERMEDIATE SECTION SO THAT THE ELEVATIONS FOR THE COVERS ARE FLUSH WITH THE TOP OF THE FINISHED SURFACE. ADJUSTMENT OF FRAME AND COVERS SHALL BE IN ACCORDANCE WITH THIS STANDARD PLATE AND THE CITY OF BROOKINGS STANDARD SPECIFICATIONS FOR SANITARY SEWER MAIN CONSTRUCTION.
2. A CIRCULAR ASPHALT CUTOUT REPLACED WITH REINFORCED CONCRETE COLLAR IS REQUIRED ON ALL ASPHALT STREETS, UNLESS THE FRAME AND LID ARE SET TO FINAL GRADE (INCLUDING SIDE SLOPE) PRIOR TO ANY ASPHALT LIFTS ARE INSTALLED.
3. THE CIRCULAR ASPHALT CUTOUT SHALL BE CENTERED ON THE MANHOLE FRAME AND COVER.
4. THE CIRCULAR ASPHALT CUTOUT SHALL BE REMOVED AFTER THE INSTALLATION OF THE TOP LIFT OF ASPHALT. THE ASPHALT PAVEMENT SHALL BE SAWED FULL DEPTH WITH A VERTICAL FACE. THE CONTRACTOR SHALL ENSURE THAT THE ADJACENT ASPHALT SURFACE IS LEFT INTACT AND UNDAMAGED WHEN REMOVING THE CIRCULAR CUTOUT. THE CONTRACTOR SHALL NOT BE ALLOWED TO REMOVE OR DISTURB THE BASE GRAVEL BELOW THE ASPHALT PAVING.
5. THE ALLOWABLE VERTICAL TOLERANCE BETWEEN THE ASPHALT PAVEMENT AND ANY PART OF THE FRAME AND COVER SHALL BE 0-INCHES TO 1/2-INCH LOW. IN NO CASE SHALL THE MANHOLE COVER BE ABOVE THE SURFACE OF THE FINISHED PAVEMENT.
6. APPLY TACK COAT TO THE VERTICAL ASPHALT SURFACES PRIOR TO PLACEMENT OF CONCRETE FOR THE CUTOUT.
7. CLASS M6 CONCRETE SHALL BE USED FOR THE CUTOUT. FAST TRACK CONCRETE MAY BE USED AT THE DISCRETION OF THE ENGINEER. MINIMUM CONCRETE THICKNESS SHALL BE 6-INCHES.
8. STEEL REINFORCING SHALL BE EPOXY COATED GRADE 40.
9. MAINTAIN A MINIMUM OF 2-INCHES CLEARANCE ON ALL STEEL REINFORCING.
10. THE CIRCULAR ASPHALT CUTOUT WORK SHALL BE COMPLETED PRIOR TO OPENING THE STREET TO TRAFFIC.
11. CONCEALED PICK HOLES AND THE SEAL BETWEEN THE FRAME AND COVER SHALL BE PROTECTED FROM FOREIGN MATERIAL. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE A SYSTEM TO PREVENT FOREIGN MATERIAL FROM ENTERING THE CONCEALED PICK HOLE AND FRAME AND COVER SEAL DURING THE WORK.

CITY OF BROOKINGS
BROOKINGS MUNICIPAL UTILITIES
**MANHOLE CONCRETE COLLAR
IN ASPHALT STREETS**



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NOTE:

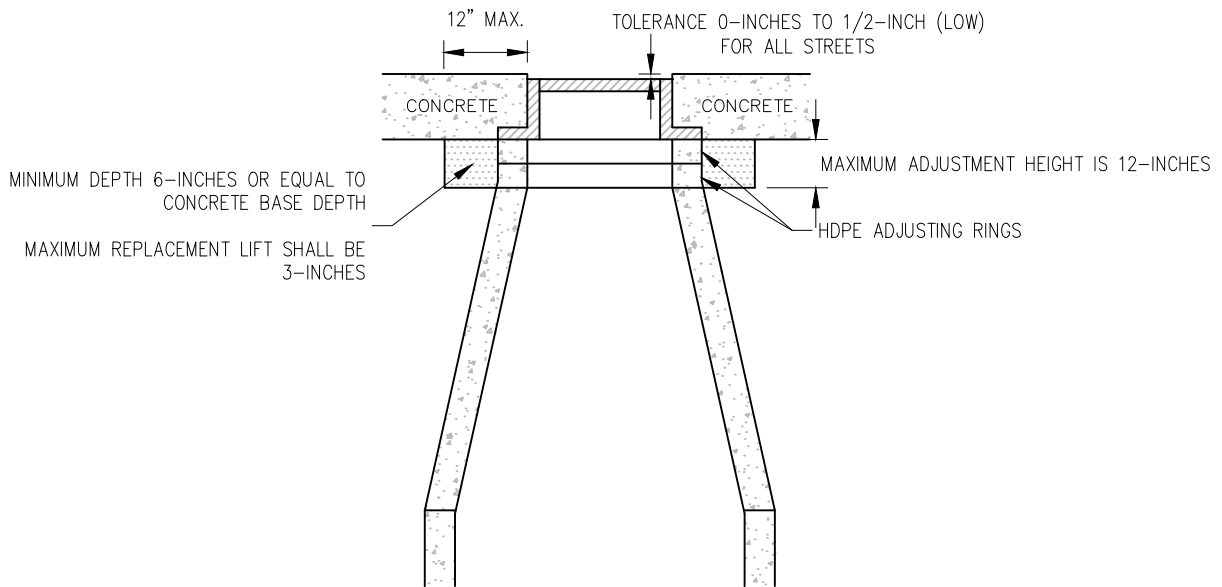
1. THE ADJUSTMENT OF MANHOLE CASTINGS INVOLVES ADDING OR REMOVING ADJUSTING RINGS UNDER THE FRAME. IF THE ELEVATION OF THE COVER IS TOO HIGH, IT MAY BE NECESSARY FOR THE CONTRACTOR TO REPLACE THE UPPER MANHOLE SECTION OR INTERMEDIATE SECTION SO THAT THE ELEVATIONS FOR THE COVERS ARE FLUSH WITH THE TOP OF THE FINISHED SURFACE. ADJUSTMENT OF FRAME AND COVERS SHALL BE IN ACCORDANCE WITH THIS STANDARD PLATE AND THE CITY OF BROOKINGS STANDARD SPECIFICATIONS FOR SANITARY SEWER MAIN CONSTRUCTION.
2. A CONCRETE BOXOUT IS REQUIRED FOR ASPHALT OVERLAY ON EXISTING CONCRETE STREETS. THE CONCRETE BOXOUT SHALL BE CENTERED ON THE MANHOLE OR JUNCTION BOX FRAME AND COVER OR VALVE BOX.
3. THE BOXOUT SHALL BE CUT OUT AFTER THE INSTALLATION OF THE ASPHALT OVERLAY. THE PAVEMENT SHALL BE SAWED FULL DEPTH WITH A VERTICAL FACE. THE CONTRACTOR SHALL ENSURE THAT THE ADJACENT ASPHALT SURFACE IS LEFT INTACT AND UNDAMAGED WHEN REMOVING THE BOXOUT.
4. THE ALLOWABLE VERTICAL TOLERANCE BETWEEN THE ASPHALT PAVEMENT AND ANY PART OF THE FRAME AND COVER OR VALVE BOX SHALL BE 0-INCHES TO 1/2-INCH LOW FOR ALL ADJUSTMENTS. IN NO CASE SHALL THE MANHOLE COVER OR VALVE BOX BE ABOVE THE SURFACE OF THE FINISHED PAVEMENT.
5. THE CONCRETE BOXOUT SHALL BE SQUARE OR RECTANGULAR, AND HAVE MINIMUM DIMENSION OF 4-FOOT BY 4-FOOT FOR A MANHOLE FRAME AND LID
6. APPLY TACK COAT TO THE VERTICAL ASPHALT AND CONCRETE SURFACES PRIOR TO PLACEMENT OF CONCRETE FOR BOXOUT.
7. CLASS M6 CONCRETE SHALL BE USED FOR THE BOXOUT. FAST TRACK CONCRETE MAY BE USED AT THE DISCRETION OF THE ENGINEER.
8. STEEL REINFORCING SHALL BE EPOXY COATED GRADE 40.
9. STEEL REINFORCING SHALL CONSIST OF #4 REBAR SUPPORTED BY APPROVED CHAIRS.
10. THE CONCRETE BOXOUT WORK SHALL BE COMPLETED PRIOR TO OPENING THE STREET TO TRAFFIC.
11. CONCEALED PICK HOLES AND THE SEAL BETWEEN THE FRAME AND COVER SHALL BE PROTECTED FROM FOREIGN MATERIAL. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE A SYSTEM TO PREVENT FOREIGN MATERIAL FROM ENTERING THE CONCEALED PICK HOLE AND FRAME AND COVER SEAL DURING THE WORK.
12. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A SYSTEM TO PREVENT FOREIGN MATERIAL FROM ENTERING THE VALVE BOX DURING THE WORK.

CITY OF BROOKINGS
 BROOKINGS MUNICIPAL UTILITIES
**MANHOLE CONCRETE BOXOUT
 IN CONCRETE STREETS**



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NOTE:

1. THE ADJUSTMENT OF MANHOLE CASTINGS INVOLVES ADDING OR REMOVING ADJUSTING RINGS UNDER THE FRAME. IF THE ELEVATION OF THE COVER IS TOO HIGH, IT MAY BE NECESSARY FOR THE CONTRACTOR TO REPLACE THE UPPER MANHOLE SECTION OR INTERMEDIATE SECTION SO THAT THE ELEVATIONS FOR THE COVERS ARE FLUSH WITH THE TOP OF THE FINISHED SURFACE. ADJUSTMENT OF FRAME AND COVERS SHALL BE IN ACCORDANCE WITH THIS STANDARD PLATE AND THE BROOKINGS MUNICIPAL UTILITIES STANDARD SPECIFICATIONS FOR SANITARY SEWER MAIN CONSTRUCTION.

2. MANHOLE CASTINGS SHALL BE ADJUSTED TO FINAL GRADE PRIOR (INCLUDING SIDE SLOPE) TO PLACEMENT OF CONCRETE SURFACING.

3. ALL MANHOLES SHALL BE ADJUSTED TO BE FLUSH WITH THE CONCRETE SURFACE. THE ALLOWABLE VERTICAL TOLERANCE BETWEEN THE CONCRETE PAVEMENT AND ANY PART OF THE FRAME AND COVER SHALL BE 0-INCHES TO 1/2-INCH LOW. IN NO CASE SHALL THE MANHOLE OR JUNCTION BOX FRAME AND COVER BE ABOVE THE SURFACE OF THE CONCRETE PAVEMENT.

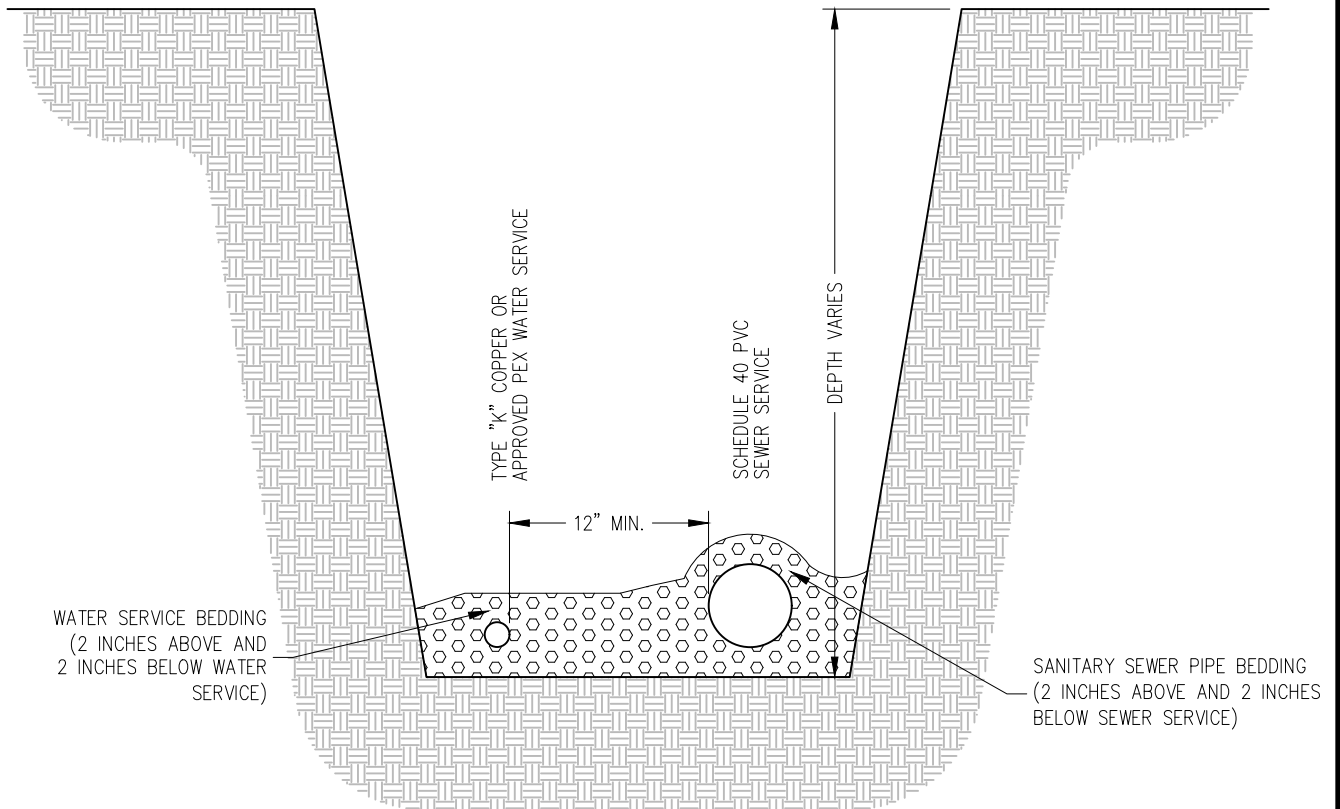
4. CONCEALED PICK HOLES AND THE SEAL BETWEEN THE FRAME AND COVER SHALL BE PROTECTED FROM FOREIGN MATERIAL. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE A SYSTEM TO PREVENT FOREIGN MATERIAL FROM ENTERING THE CONCEALED PICK HOLE AND FRAME AND COVER SEAL DURING THE WORK.

CITY OF BROOKINGS
 BROOKINGS MUNICIPAL UTILITIES
**MANHOLE ADJUSTMENT
 IN CONCRETE STREETS**



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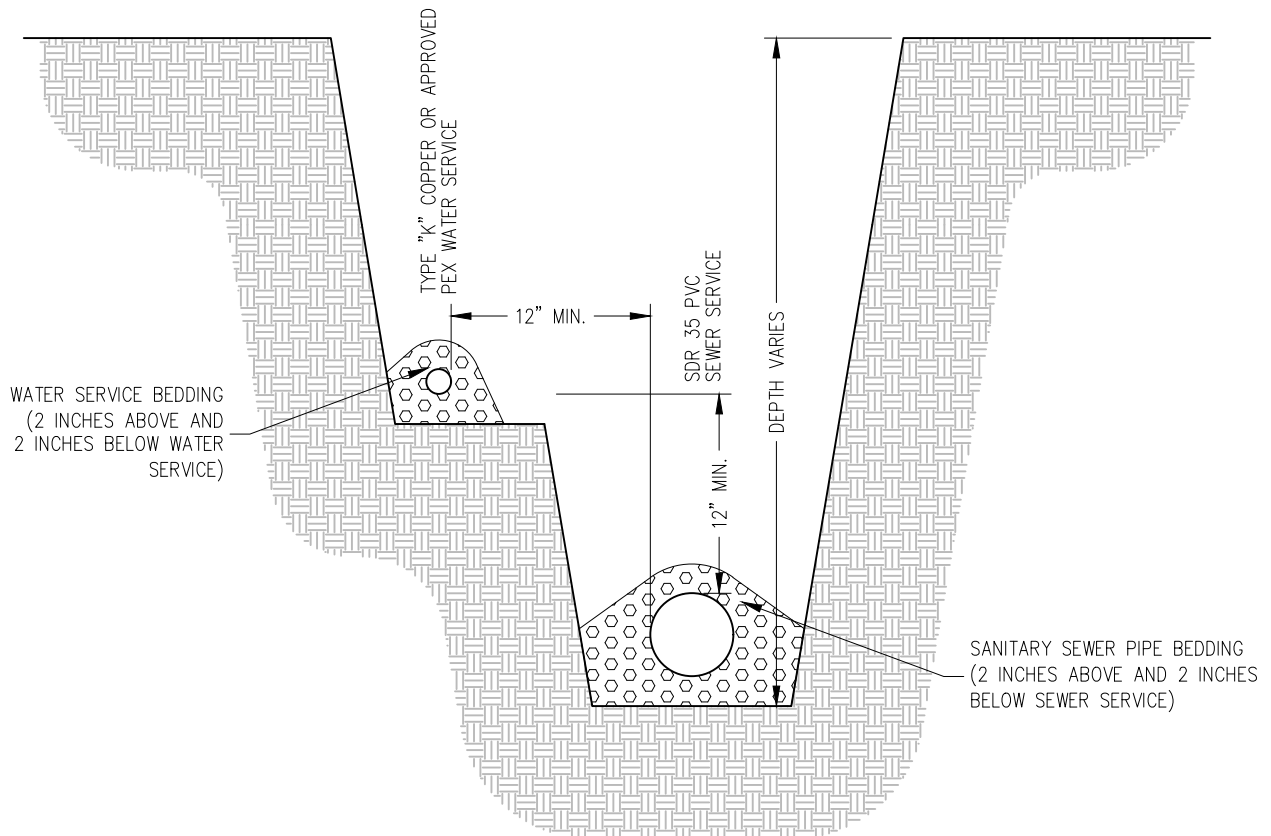


CITY OF BROOKINGS
 BROOKINGS MUNICIPAL UTILITIES
**SANITARY SEWER SERVICE (SCH 40)
 WITH WATER SERVICE**



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SM-14

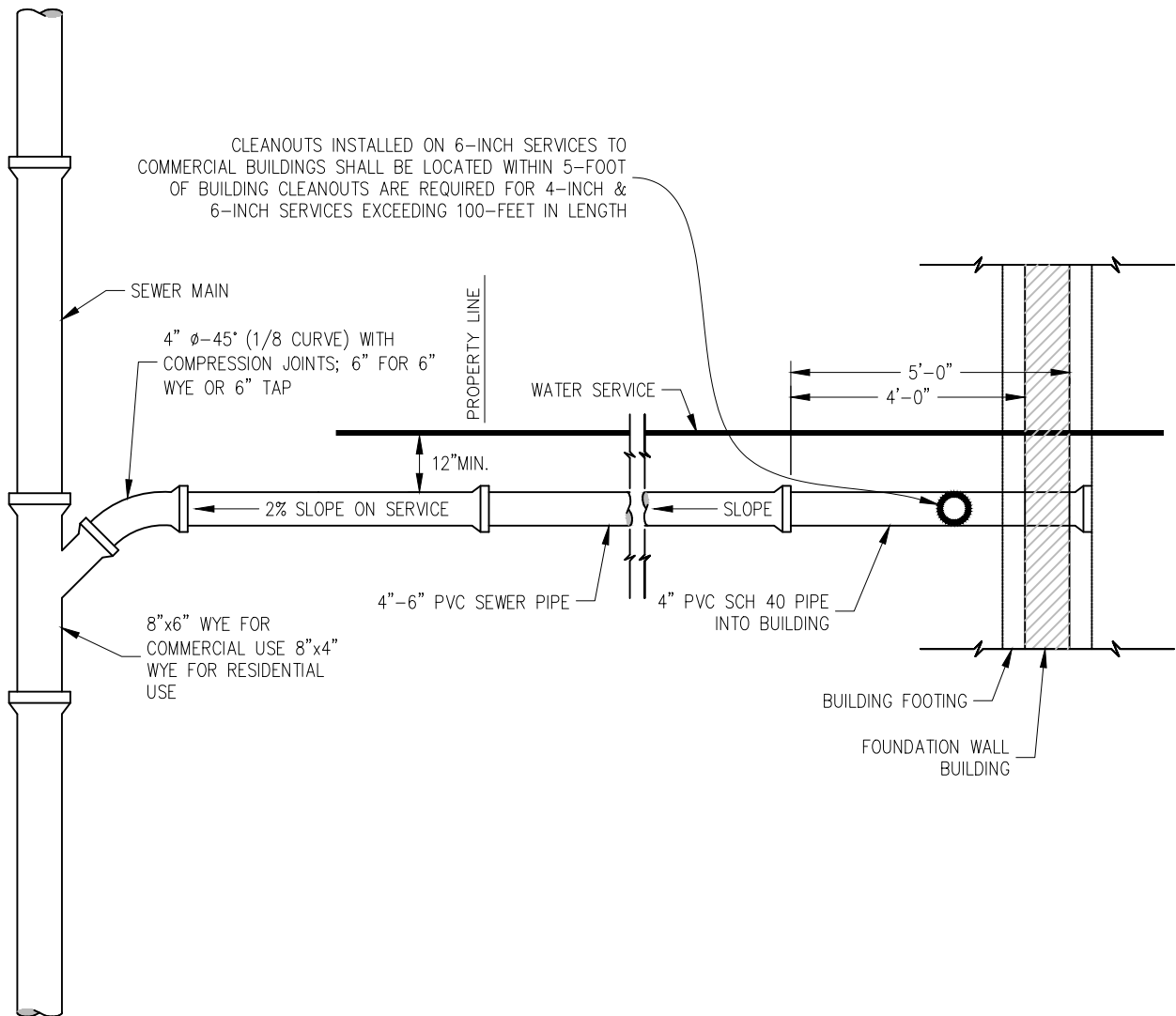


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 BROOKINGS MUNICIPAL UTILITIES
**SANITARY SEWER SERVICE (SDR35)
 WITH WATER SERVICE**



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NOTE:

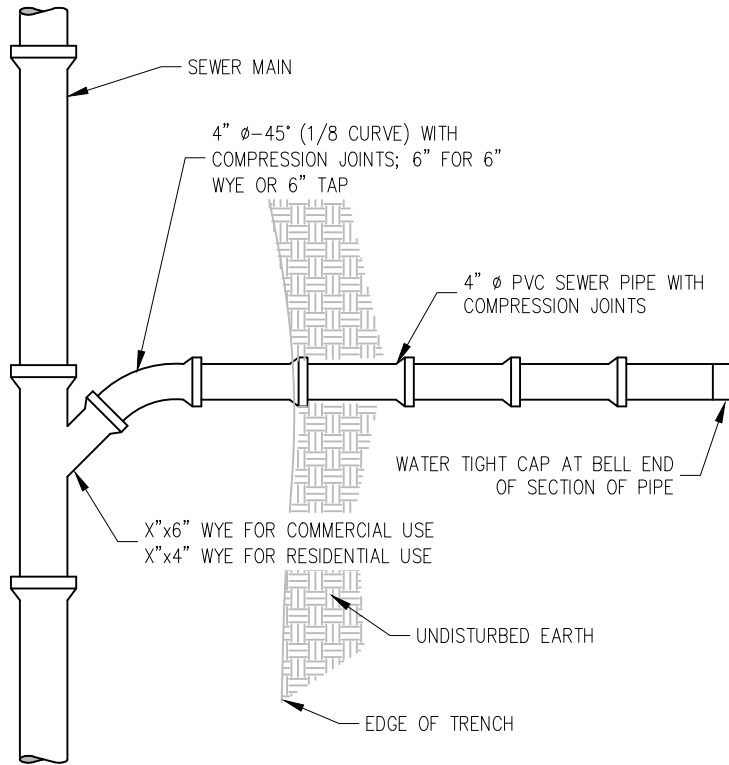
1. A 12-INCH MINIMUM SEPARATION IN ALL DIRECTIONS BETWEEN THE SEWER AND WATER SERVICES SHALL BE MAINTAINED FROM THE PROPERTY LINE TO THE BUILDING AT ALL TIMES.
2. INSTALLATION IS SIMILAR WHERE 6-INCH SERVICE IS REQUIRED.

CITY OF BROOKINGS
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TYPICAL SANITARY SEWER SERVICE



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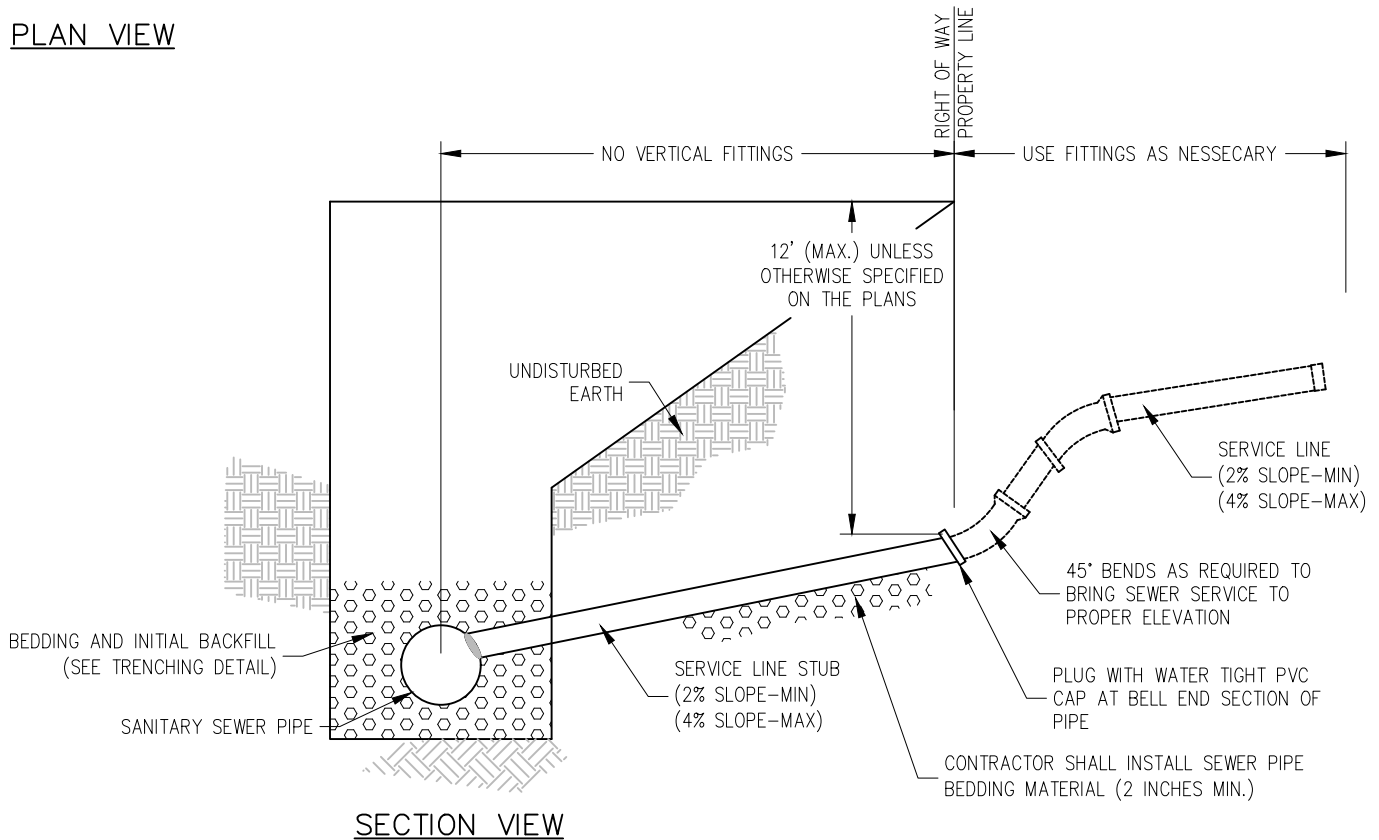
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PLAN VIEW

NOTE:

1. JOINTS SHALL BE WIPED CLEAN AND DRY – AND COATED WITH LUBRICANT. SPIGOT SHALL BE INSERTED INTO BELL AS DEEP AS POSSIBLE. TRENCHES SHALL BE KEPT WATER FREE AND AS DRY AS POSSIBLE DURING BEDDING, LAYING AND JOINTING OF PIPE
2. DESIGNER SHALL INCLUDE THE SLOPE OF THE SANITARY SEWER SERVICE STUB ON PLANS. THE SLOPE SHALL BE USED TO IDENTIFY THE ELEVATION OF THE SANITARY SEWER STUB AT PROPERTY LINE.
3. CONTRACTOR SHALL NOT BE ALLOWED TO INSTALL VERTICAL FITTINGS INSIDE OF RIGHT A WAY.
4. SDR 26 PIPE AND FITTING (INCLUDING WYE OR TEE) SHALL BE REQUIRED FOR SERVICES OR SERVICE RISERS EXCEEDING 20- FEET IN DEPTH.
5. CONTRACTOR SHALL MARK THE LOCATION OF THE END OF THE SERVICE LINE (SEE STANDARD DETAIL).



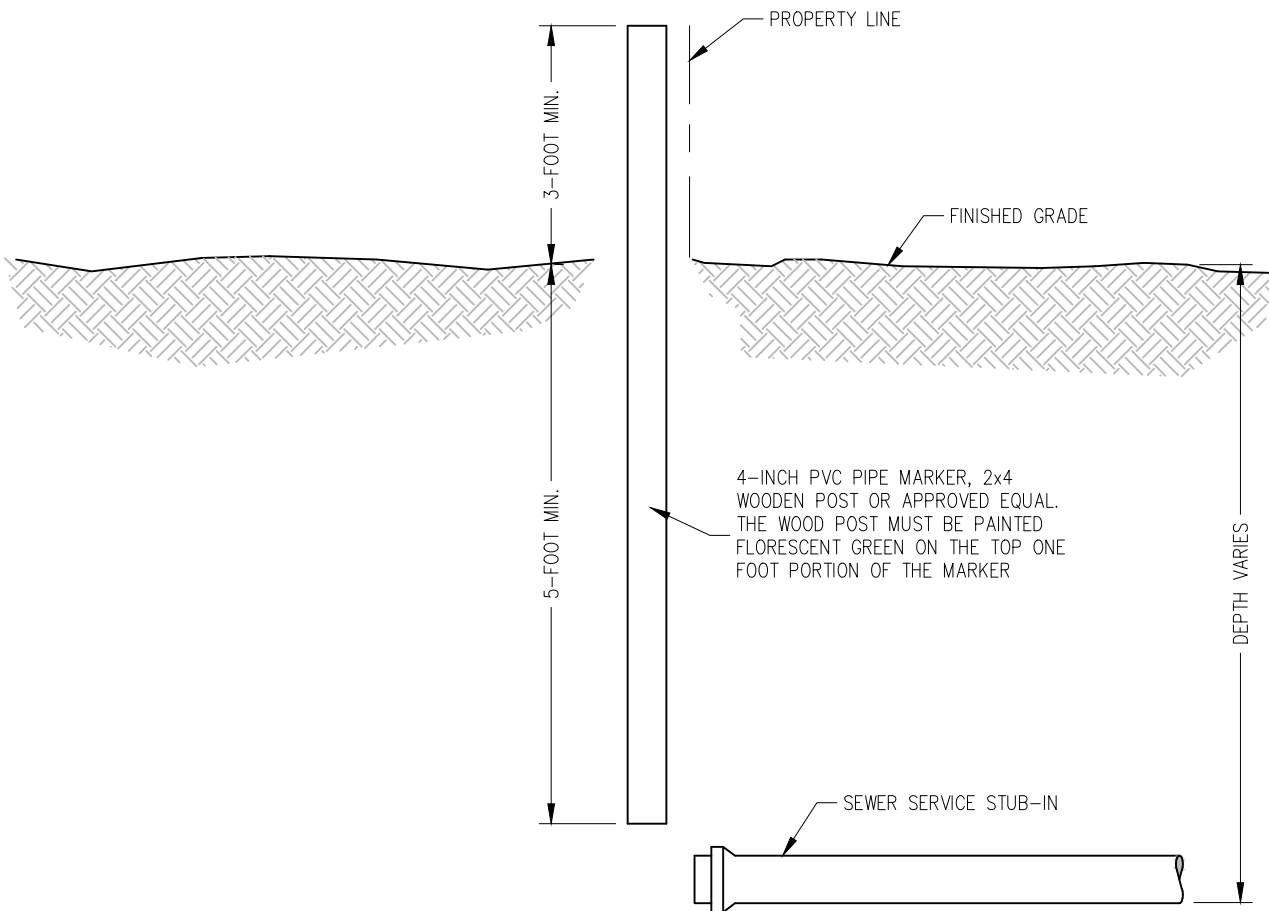
SECTION VIEW

CITY OF BROOKINGS
 BROOKINGS MUNICIPAL UTILITIES
**TYPICAL SANITARY SEWER SERVICE
 VERTICAL ADJUSTMENT**



REVISION
 DATE
11/21/2022

PLATE
 NUMBER
SM-17



NOTE:

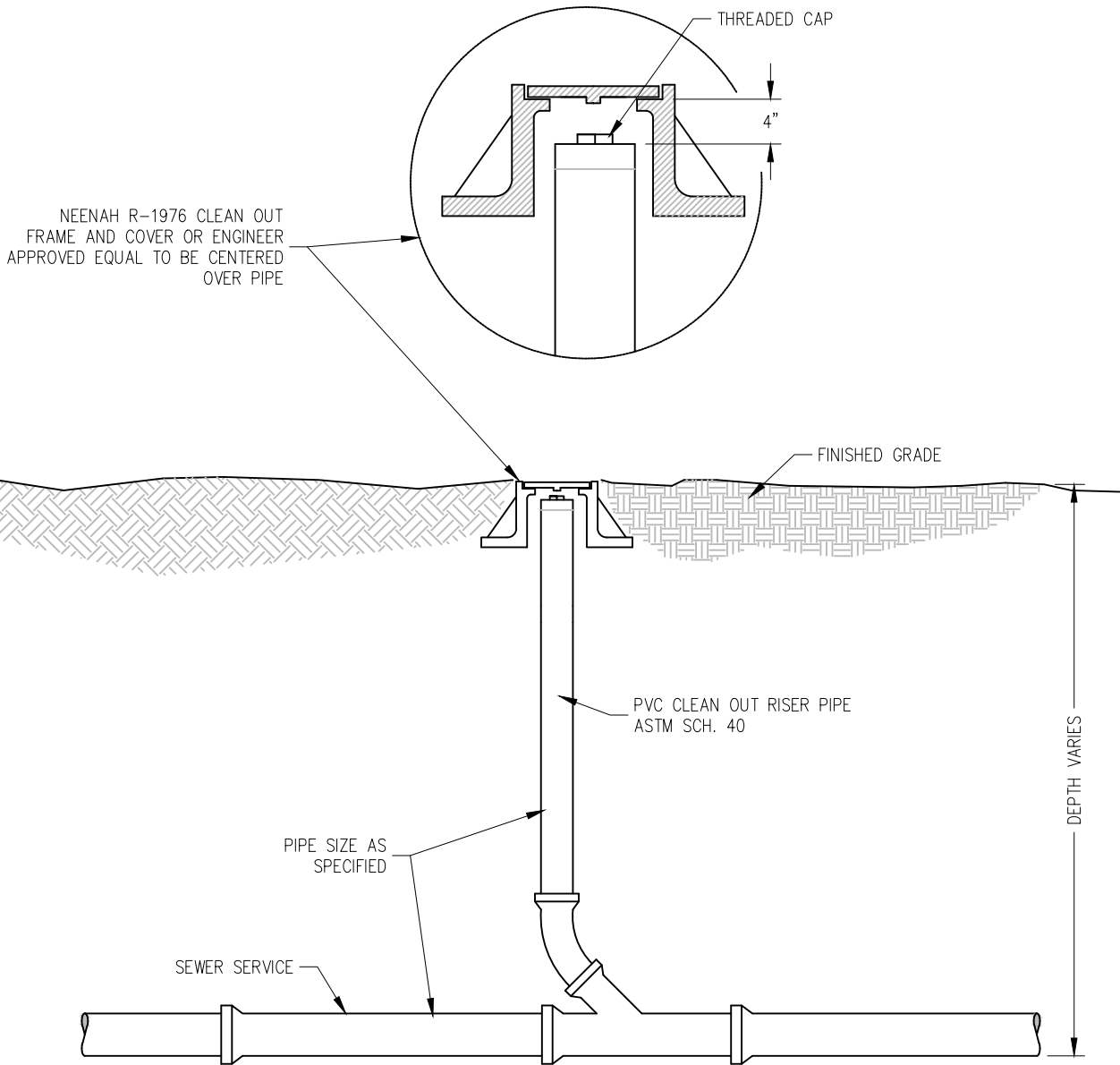
1. MARKERS SHALL BE MAINTAINED BY THE DEVELOPER OR PROPERTY OWNER UNTIL THE SERVICE IS EXTENDED TO THE HOUSE, BUILDING OR OTHER STRUCTURE.
2. DEVELOPER OR PROPERTY OWNER WILL BE RESPONSIBLE FOR REPLACING DAMAGED MARKERS.
3. MARKERS SHALL BE PLACED VERTICAL FROM THE END OF THE SEWER SERVICE AND NOT OFFSET.

CITY OF BROOKINGS
 BROOKINGS MUNICIPAL UTILITIES
**SANITARY SEWER SERVICE
 STUB-IN MARKER DETAIL**



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SM-18

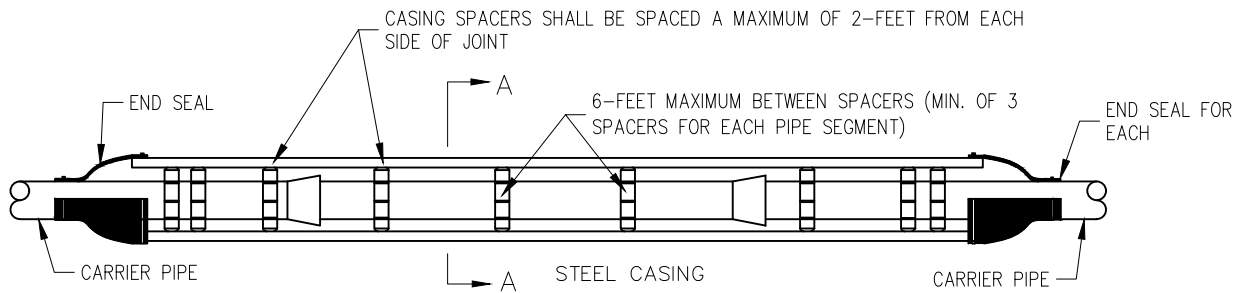


CITY OF BROOKINGS
 BROOKINGS MUNICIPAL UTILITIES
CLEANOUT FRAME AND COVER

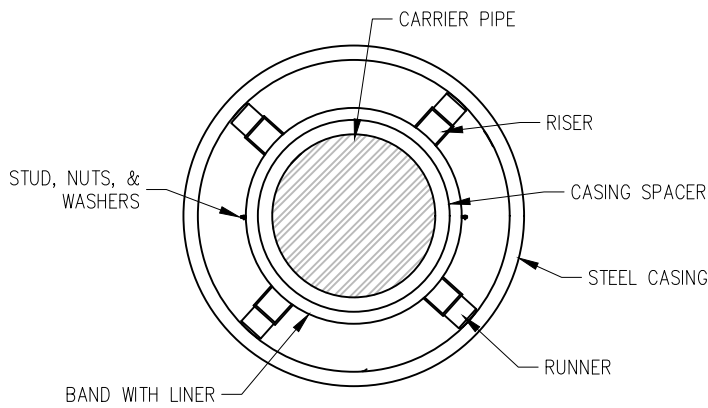


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SM-19



ELEVATION



SECTION A-A

PIPE SIZE	CASING SIZE
4"	10"
6"	12"
8"	16"
10"	18"
12"	20"
15"	24"
18"	26"
21"	30"
24"	36"
27"	40"
30"	42"
36"	48"

NOTE:
 CASING PIPE MUST CONFORM TO AWWA C-200 WITH ASTM GRADE A36 PLATE STEEL MINIMUM YIELD STRENGTH OF 35,000 POUNDS PER SQUARE INCH

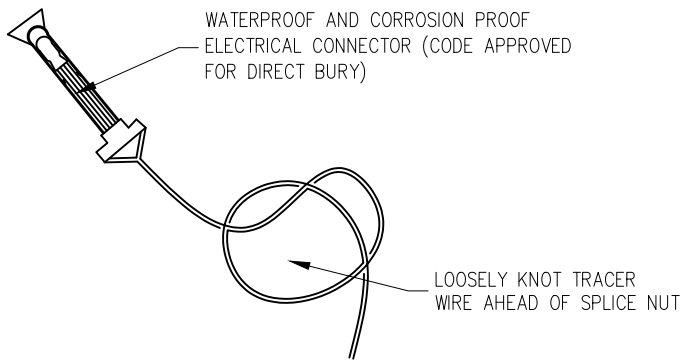
GROUTING OF THE ANNULAR SPACE WILL NOT BE REQUIRED UNLESS OTHERWISE NOTED

CITY OF BROOKINGS
 BROOKINGS MUNICIPAL UTILITIES
**STANDARD CASING / CARRIER
 FOR SANITARY SEWER PIPE**

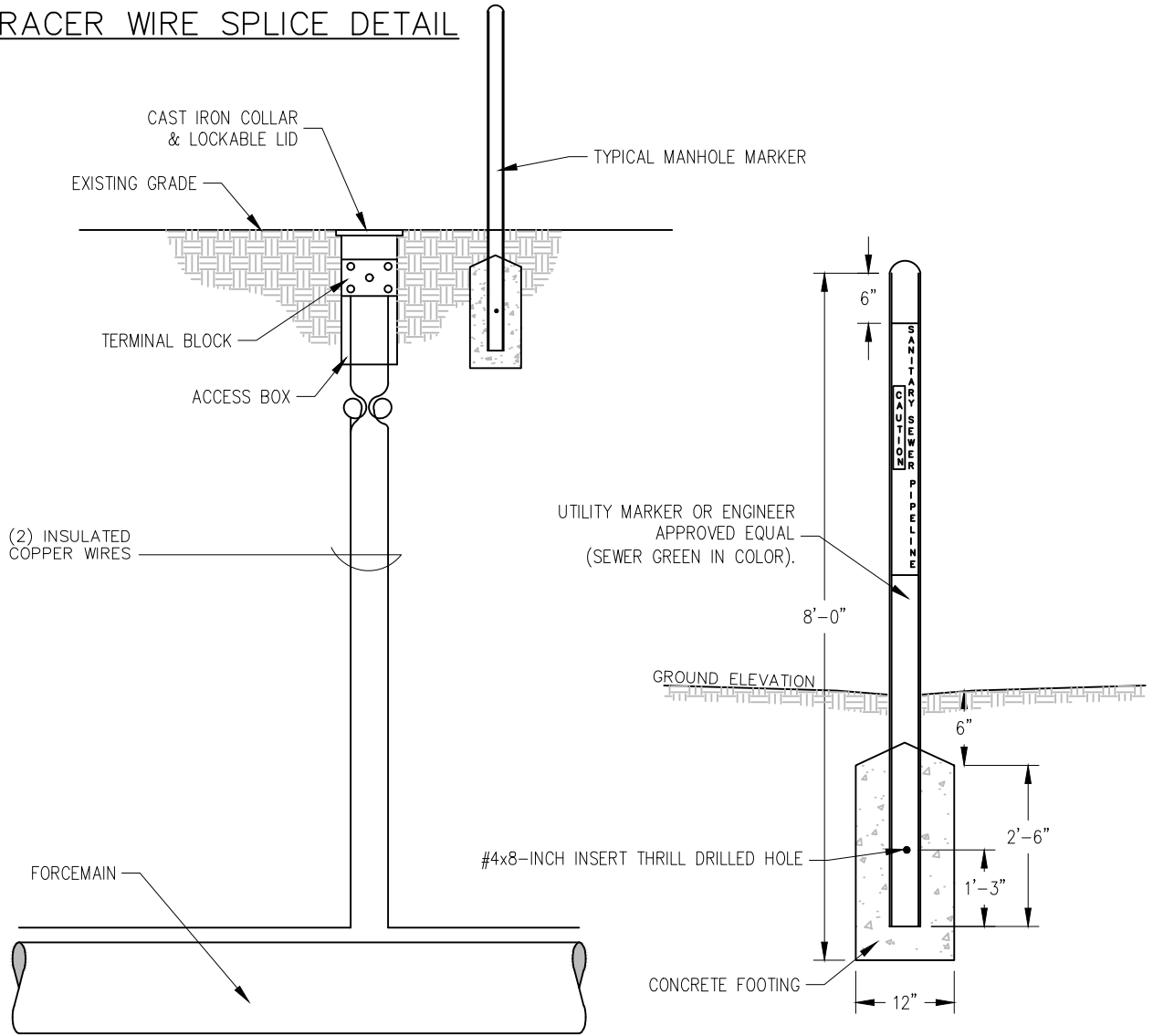


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TRACER WIRE SPLICE DETAIL



NOTE:
 PROVIDE SUFFICIENT SLACK IN TRACER WIRE TO ALLOW
 TERMINAL BLOCK TO EXTEND 18-INCHES OUT OF FLUSH
 BOX. COIL WIRES IN ACCESS BOX

CITY OF BROOKINGS
 BROOKINGS MUNICIPAL UTILITIES
**SANITARY SEWER FORCE MAIN
 TRACER WIRE SYSTEM**



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SM-21