

## Waste Water / Sewer Manholes

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**NOTES**

ALL SANITARY SEWER MH COVERS TO BE VENTED & HAVE THE WORD "SEWER" CAST INTO LID.

ALL STORM SEWER MH COVERS TO BE VENTED & HAVE THE WORD "STORM" CAST INTO LID.

NEENAH FOUNDRY NO. R-1596 OR AS DIRECTED BY THE CITY ENGINEER.  $\triangle 3$

C.I.M.H. RING & COVER (INVERTED TYPE) RECESSED INTO FLAT TOP, (SHOWN).

CEMENT MORTAR JOINT OR APPROVED MASTIC JOINT.

PRECAST CONCRETE MANHOLE SECTIONS CONFORMING TO SPEC. A.S.T.M. C-478

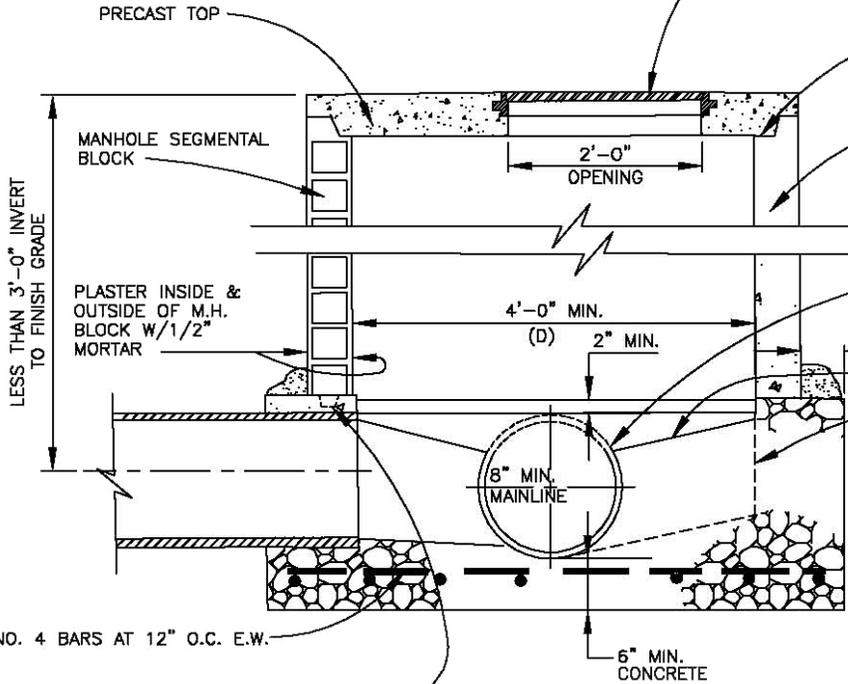
BREAKOUT TOP OF PIPE INSIDE MANHOLE FROM WALL TO WALL

SLOPE 1/2" PER FOOT  
DASHED LINES CAMERA ACCESS

**GENERAL NOTES:**  $\triangle 2$

- 1) SEE STANDARD 107 FOR PLACEMENT OF MANHOLE STEPS
- 2) COMPACT BACKFILL TO 95% POSITION M.H. OPENING OVER THE UPSTREAM SIDE OF MAIN LINE
- 3) PIPE PENETRATION INTO MANHOLE SHALL BE FLUSH TO 2" MAX., MEASURED AT SPRINGLINE OF PIPE.
- 4) MANHOLE COVER SHALL HAVE A 5/8" MIN TO 1" MAX DIAMETER VENT HOLE CENTERED IN COVER.
- 5) FOR PRETREATMENT MANHOLES, CONTACT THE CITY LAB, PRE-TREATMENT COORDINATOR FOR PURCHASE OF A PREFABRICATED PIPE SECTION.
- 6) ALL LIFTING HOLES AND GAPS BETWEEN MANHOLE RINGS AND LID, ETC... SHOULD BE FILLED WITH NON SHRINK GROUT.
- $\triangle 7$ ) MANHOLES IN A NON-PAVED AREA SHALL HAVE A MIN. 48" SQUARE CONCRETE APRON OR BE RAISED A MIN 6" OR AS DIRECTED BY THE CITY ENGINEER.

- $\triangle 4$  8) FIBERGLASS MANHOLES SHALL BE MANUFACTURED FROM COMMERCIAL GRADE POLYESTER RESIN OR OTHER SUITABLE POLYESTER OR VINYL ESTER RESINS WITH FIBERGLASS REINFORCEMENTS. MANHOLE SHALL BE A ONE PIECE UNIT MANUFACTURED TO MEET OR EXCEED ALL SPECIFICATION OF A.S.T.M. D-3753 LATEST EDITION. FIBERGLASS MANHOLE MANUFACTURER SHALL DEMONSTRATE CONTINUED EXPERIENCE AS A MANUFACTURER OF FIBERGLASS WASTEWATER PRODUCTS FOR A PERIOD OF NOT LESS THAN FIVE YEARS. IN ADDITION ALL APPROVED MANHOLE MANUFACTURERS SHALL BE IS09001.

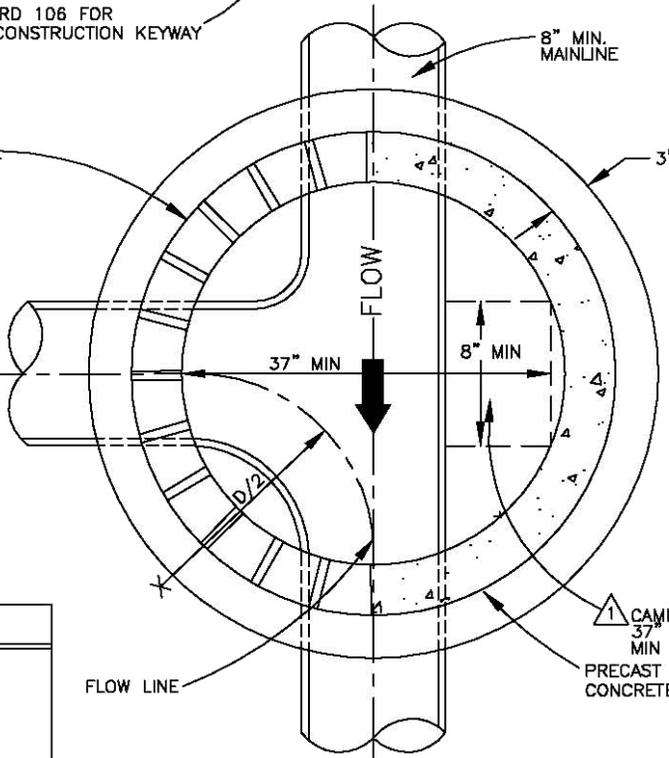


NO. 4 BARS AT 12" O.C. E.W.

SEE STANDARD 106 FOR DETAIL ON CONSTRUCTION KEYWAY

MANHOLE SEGMENTAL BLOCKS

STUB OR LATERAL



$\triangle 1$  CAMERA ACCESS  
37" MIN X 8"  
MIN OPENING  
PRECAST CONCRETE

REV.	DATE
$\triangle 1$	12/08/02
$\triangle 2$	01/07/04
$\triangle 3$	11/30/05
$\triangle 4$	1/31/06

**CONSTRUCTION STANDARDS**

**SHALLOW MANHOLE TYPE "A"**

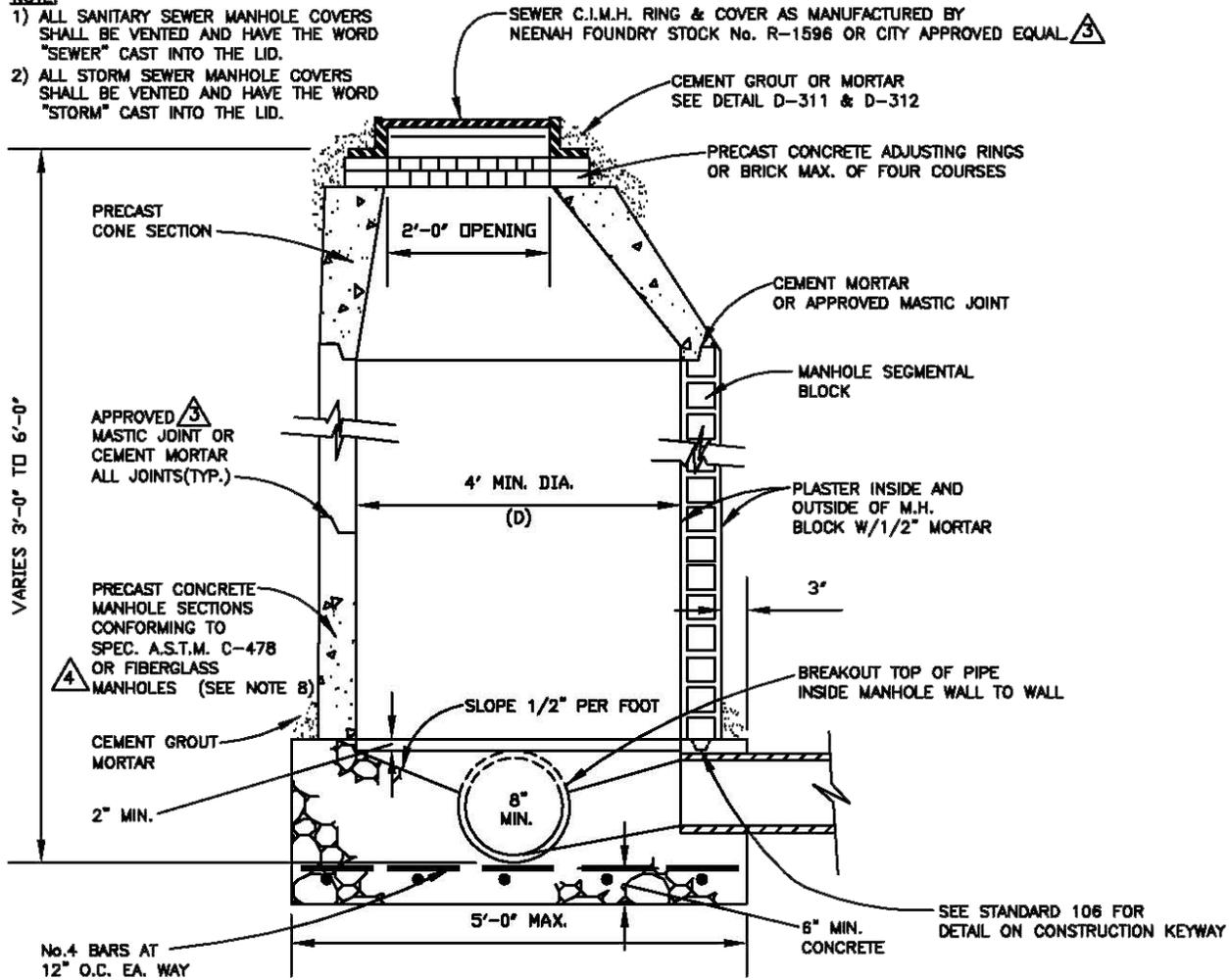
STANDARD NO. D-101

SHEET 1 OF 1

**CITY OF AZTEC  
PUBLIC WORKS DEPARTMENT**

**NOTE:**

- 1) ALL SANITARY SEWER MANHOLE COVERS SHALL BE VENTED AND HAVE THE WORD "SEWER" CAST INTO THE LID.
- 2) ALL STORM SEWER MANHOLE COVERS SHALL BE VENTED AND HAVE THE WORD "STORM" CAST INTO THE LID.

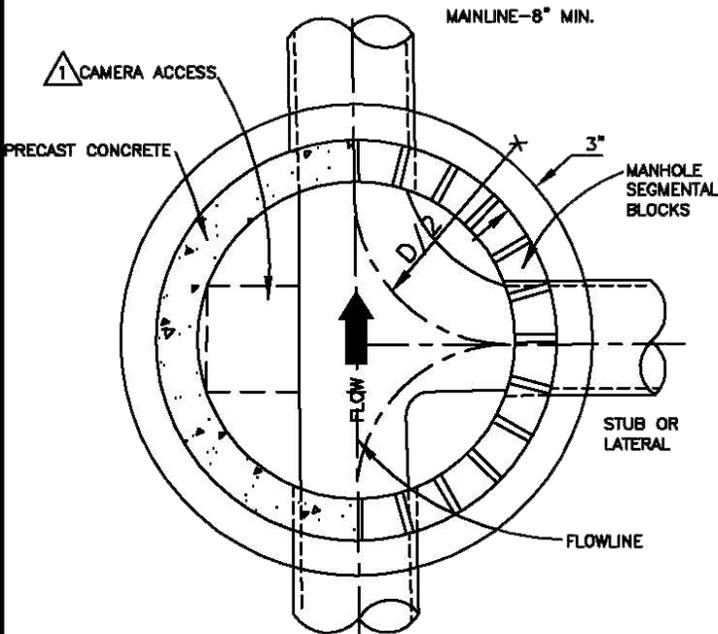


**GENERAL NOTES:** 3 4

- 1) COMPACT BACKFILL TO 95%
- 2) POSITION M.H. OPENING OVER THE UPSTREAM SIDE OF MAIN LINE.
- 3) PIPE PENETRATION INTO MANHOLE SHALL BE FLUSH TO 2" MAX., MEASURED AT SPRINGLINE OF PIPE
- 4) MANHOLE COVER SHALL HAVE A 5/8" MIN TO 1" MAX DIAMETER VENT HOLE CENTERED IN COVER.
- 5) FOR PRETREATMENT MANHOLES, CONTACT THE CITY LAB, PRE-TREATMENT COORDINATOR FOR PURCHASED OF A PREFABRICATED PIPE SECTION.
- 6) ALL LIFTING HOLES AND GAPS BETWEEN MANHOLE RINGS AND LID, ETC... SHOULD BE FILLED WITH NON SHRINK GROUT.
- 7) MANHOLES IN A NON-PAVED AREA SHALL HAVE A MIN. 48" SQUARE CONCRETE APRON OR BE RAISED A MIN. 6" OR AS DIRECTED BY THE CITY ENGINEER.
- 8) FIBERGLASS MANHOLES SHALL BE MANUFACTURED FROM COMMERCIAL GRADE POLYESTER RESIN OR OTHER SUITABLE POLYESTER OR VINYL ESTER RESINS WITH FIBERGLASS REINFORCEMENTS. MANHOLE SHALL BE A ONE PIECE UNIT MANUFACTURED TO MEET OF EXCEED ALL SPECIFICATION OF A.S.T.M. D-3753 LATEST EDITION. FIBERGLASS MANHOLE MANUFACTURER SHALL DEMONSTRATE CONTINUED EXPERIENCE AS A MANUFACTURER OF FIBERGLASS WASTEWATER PRODUCTS FOR A PERIOD OF NOT LESS THAN FIVE YEARS. IN ADDITION ALL APPROVED MANHOLE MANUFACTURERS SHALL BE ISO9001.

2

4



REV.	DATE	REV.	DATE
<span style="border: 1px solid black; padding: 2px;">1</span>	12/08/02	<span style="border: 1px solid black; padding: 2px;">3</span>	12/02/05
<span style="border: 1px solid black; padding: 2px;">2</span>	01/07/04	<span style="border: 1px solid black; padding: 2px;">4</span>	01/31/06

CONSTRUCTION  
STANDARDS

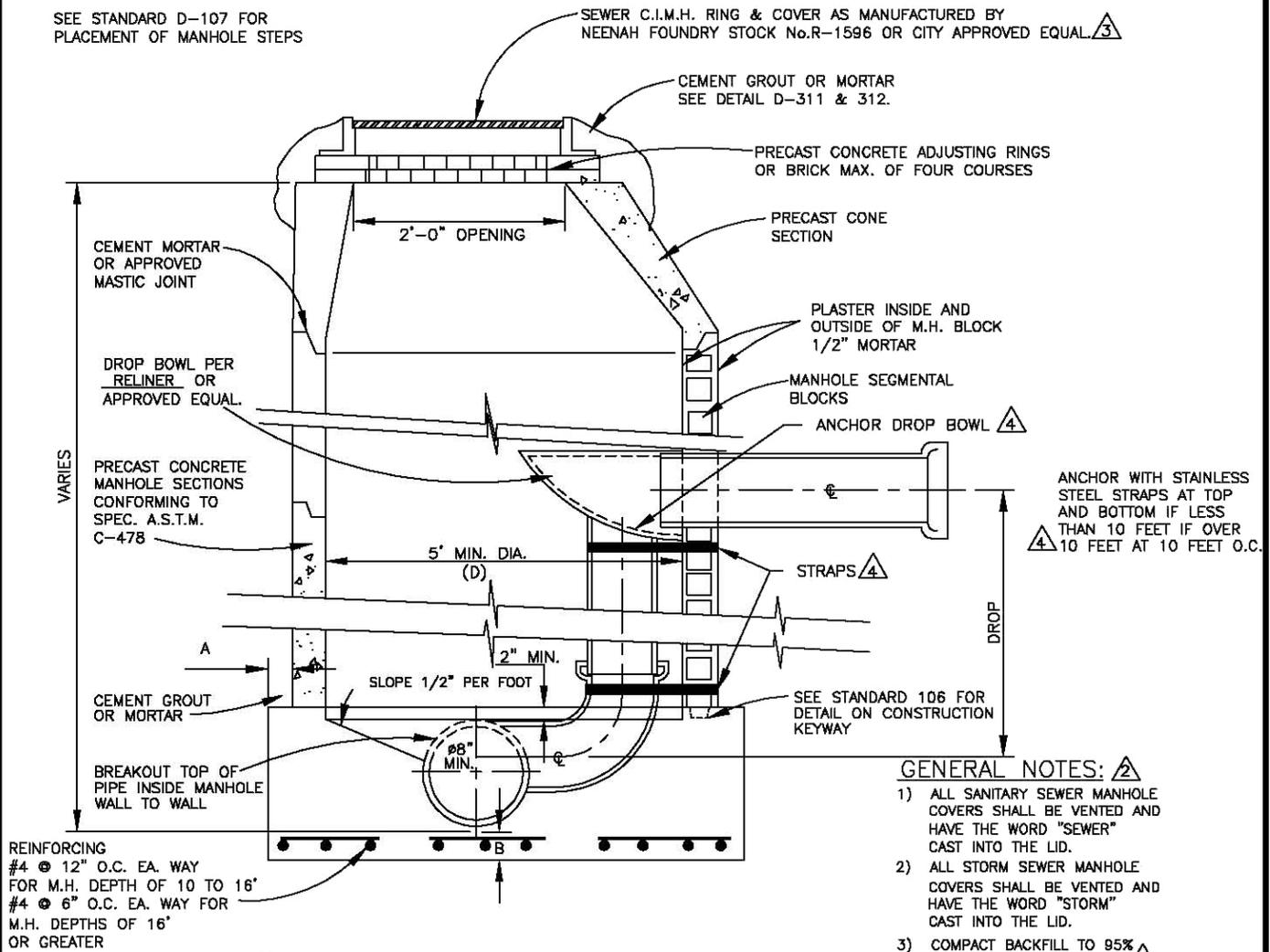
SHALLOW MANHOLE  
TYPE "B"

STANDARD NO. D-102 SHEET 1 OF 1

CITY OF  
AZTEC  
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DEPARTMENT

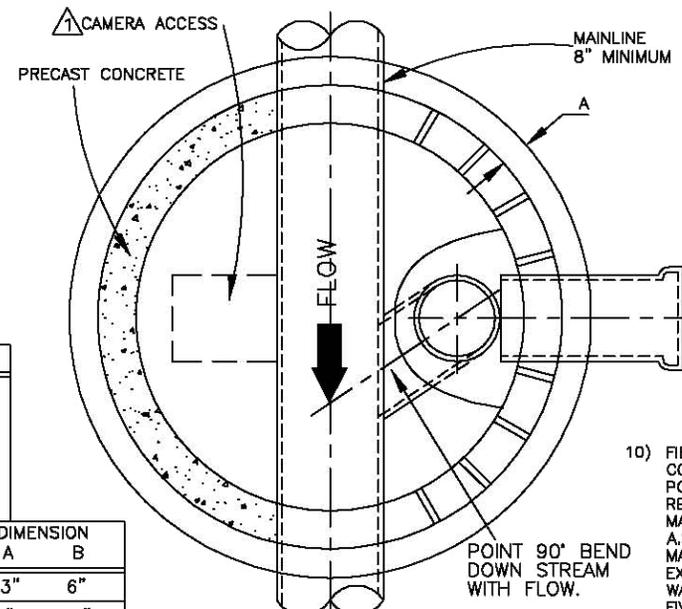
**NOTE:**

SEE STANDARD D-107 FOR PLACEMENT OF MANHOLE STEPS



**GENERAL NOTES:**

- 1) ALL SANITARY SEWER MANHOLE COVERS SHALL BE VENTED AND HAVE THE WORD "SEWER" CAST INTO THE LID.
- 2) ALL STORM SEWER MANHOLE COVERS SHALL BE VENTED AND HAVE THE WORD "STORM" CAST INTO THE LID.
- 3) COMPACT BACKFILL TO 95% OF MODIFIED PROCTOR.
- 4) POSITION M.H. OPENING OVER THE UPSTREAM SIDE OF LINE.
- 5) PIPE PENETRATION INTO M.H. SHALL BE FLUSH TO 2" MAX., MEASURED AT SPRINGLINE OF PIPE.
- 6) MANHOLE COVER SHALL HAVE A 5/8" MIN TO 1" MAX DIAMETER VENT HOLE CENTERED IN COVER.
- 7) DROP DISTANCE VARIES
- 8) ALL LIFTING HOLES AND GAPS BETWEEN MANHOLE RINGS AND LID, ETC... SHOULD BE FILLED WITH NON SHRINK GROUT.
- 9) MANHOLES IN A NON-PAVED AREA SHALL HAVE A MIN. 48" SQUARE CONCRETE APRON OR BE RAISED A MIN. 6" OR AS DIRECTED BY THE CITY ENGINEER.
- 10) FIBERGLASS MANHOLES SHALL BE MANUFACTURED FROM COMMERCIAL GRADE POLYESTER RESIN OR OTHER SUITABLE POLYESTER OR VINYL ESTER RESINS WITH FIBERGLASS REINFORCEMENTS. MANHOLE SHALL BE A ONE PIECE UNIT MANUFACTURED TO MEET OR EXCEED ALL SPECIFICATION OF A.S.T.M. D-3753 LATEST EDITION. FIBERGLASS MANHOLE MANUFACTURER SHALL DEMONSTRATE CONTINUED EXPERIENCE AS A MANUFACTURER OF FIBERGLASS WASTEWATER PRODUCTS FOR A PERIOD OF NOT LESS THAN FIVE YEARS. IN ADDITION ALL APPROVED MANHOLE MANUFACTURES SHALL BE ISO9001.



REV.	DATE
1	12/08/02
2	01/07/04
3	12/01/05
4	12/07/05

MANHOLE DEPTH	DIMENSION	
	A	B
0'-0" TO 15'	3"	6"
OVER 15'-0"	6"	10"

**CONSTRUCTION STANDARDS**

**DROPMANHOLE TYPE "D"**

STANDARD NO. D-103 SHEET 1 OF 1

**CITY OF AZTEC  
PUBLIC WORKS DEPARTMENT**

CEMENT GROUT OR MORTAR  
SEE DETAIL D-311 & D-312

SEWER

C.I.M.H. RING & COVER AS MANUFACTURED BY  
NEENAH FOUNDRY STOCK No. R-1596 OR CITY APPROVED EQUAL.

PRECAST CONCRETE ADJUSTING RINGS  
OR BRICK MAX. OF FOUR COURSES

PRECAST  
CONE SECTION

PRECAST CONE  
SECTION

PRECAST CONCRETE  
MANHOLE SECTIONS  
CONFORMING TO  
SPEC. A.S.T.M. C-478  
OR FIBERGLASS  
MANHOLES (SEE NOTE 10)

MANHOLE SEGMENTAL  
BLOCK

APPROVED  
MASTIC JOINT OR  
CEMENT MORTAR  
ALL JOINTS(TYP.)

5" MIN.

PLASTER INSIDE AND  
OUTSIDE OF M.H. BLOCK  
WITH 1/2" MORTAR

VARIES 6'  
AND OVER

4'-0" MIN. DIA.  
(D)

BREAKOUT TOP OF PIPE  
INSIDE MANHOLE WALL TO WALL

SEE STANDARD 106 FOR  
DETAIL ON CONSTRUCTION KEYWAY

SLOPE 1/2" PER FOOT

**GENERAL NOTE:**

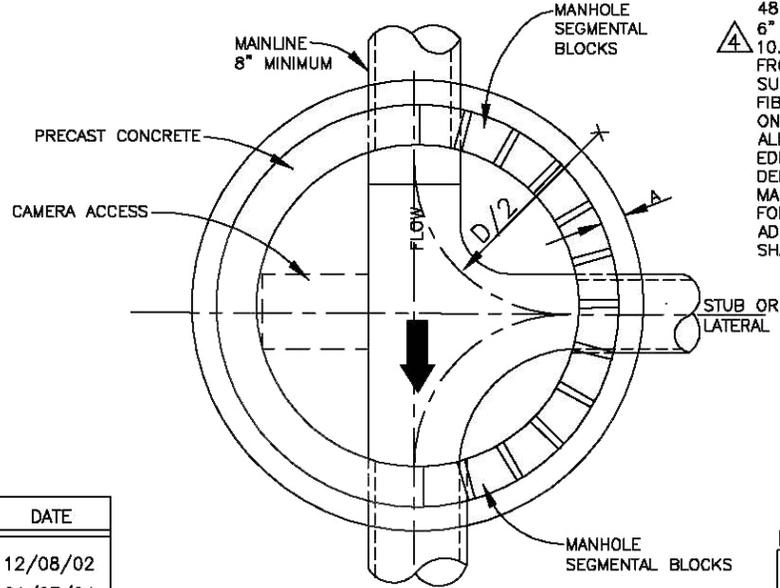
1. ALL SANITARY SEWER MANHOLE COVERS SHALL BE VENTED AND HAVE THE WORD "SEWER" CAST INTO THE LID.
2. ALL STORM SEWER MANHOLE COVERS SHALL BE VENTED AND HAVE THE WORD "STORM" CAST INTO THE LID.
3. COMPACT BACK FILL TO 95%.
4. POSITION MANHOLE OPENING OVER THE UPSTREAM SIDE OF MAIN LINE.
5. PIPE PENETRATION INTO MANHOLE SHALL BE FLUSH TO 2" MAX., MEASURED AT SPRING LINE OF PIPE.
6. MANHOLE COVER SHALL HAVE A 5/8" MIN. TO 1" MAX. DIAMETER VENT HOLE CENTERED IN COVER.
7. FOR PRETREATMENT MANHOLES, CONTACT THE CITY LAB, PRETREATMENT COORDINATOR FOR PURCHASE OF PREFABRICATED PIPE SECTION.
8. ALL LIFTING HOLES AND GAPS BETWEEN MANHOLE RINGS AND LID, ETC... SHOULD BE FILLED WITH NON SHRINK GROUT.
9. MANHOLES IN A NON-PAVED AREA SHALL HAVE A MIN. 48" SQUARE CONCRETE APRON OR BE RAISED A MIN. 6" OR AS DIRECTED BY THE CITY ENGINEER.
10. FIBERGLASS MANHOLES SHALL BE MANUFACTURED FROM COMMERCIAL GRADE POLYESTER RESIN OR OTHER SUITABLE POLYESTER OR VINYL ESTER RESINS WITH FIBERGLASS REINFORCEMENTS. MANHOLE SHALL BE A ONE PIECE UNIT MANUFACTURED TO MEET OR EXCEED ALL SPECIFICATIONS OF A.S.T.M. D-3753 LATEST EDITION. FIBERGLASS MANHOLE MANUFACTURER SHALL DEMONSTRATE CONTINUED EXPERIENCE AS A MANUFACTURER OF FIBERGLASS WASTEWATER PRODUCTS FOR A PERIOD OF NOT LESS THAN FIVE YEARS. IN ADDITION, ALL APPROVED MANHOLE MANUFACTURERS SHALL BE ISO9001 REGISTERED.

2" MIN.

8" MIN.

- \* 4 BARS AT 6" O.C. EA. WAY FOR M.H. 16' OR GREATER.
- \* 4 BARS AT 12" O.C. EA. WAY FOR M.H. LESS THAN 16'

SEE NOTE



REV.	DATE
	12/08/02
	01/07/04
	12/01/05
	01/31/06

MANHOLE DEPTH	DIMENSION	
	A	B
6'-0" TO 15'-0"	3"	6"
OVER 15'-0"	6"	10"

NOTE:

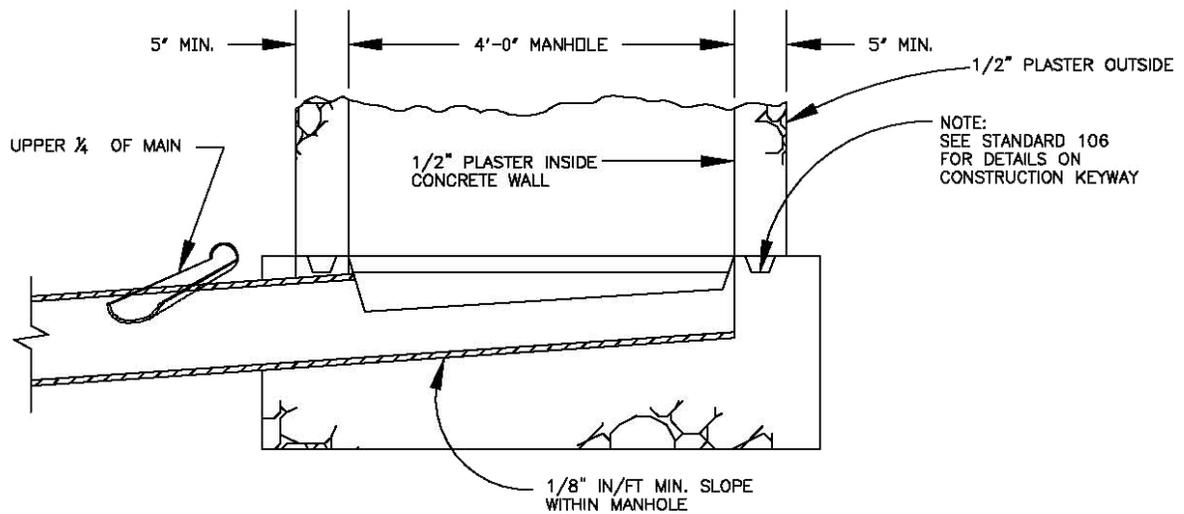
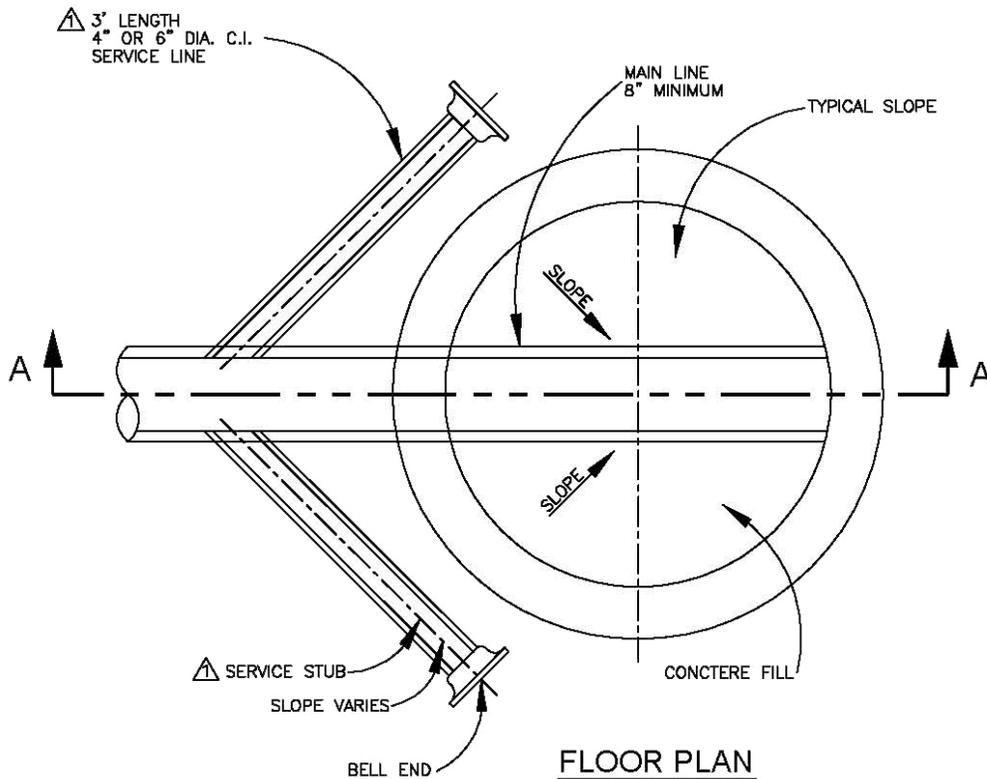
MAINLINE SIZE	MANHOLE DIMENSION
8" TO 24"	4'-0"

CONSTRUCTION  
STANDARDS

STANDARD MANHOLE  
TYPE "E"

STANDARD NO. D-104 SHEET 1 OF 1

CITY OF  
AZTEC  
PUBLIC WORKS  
DEPARTMENT

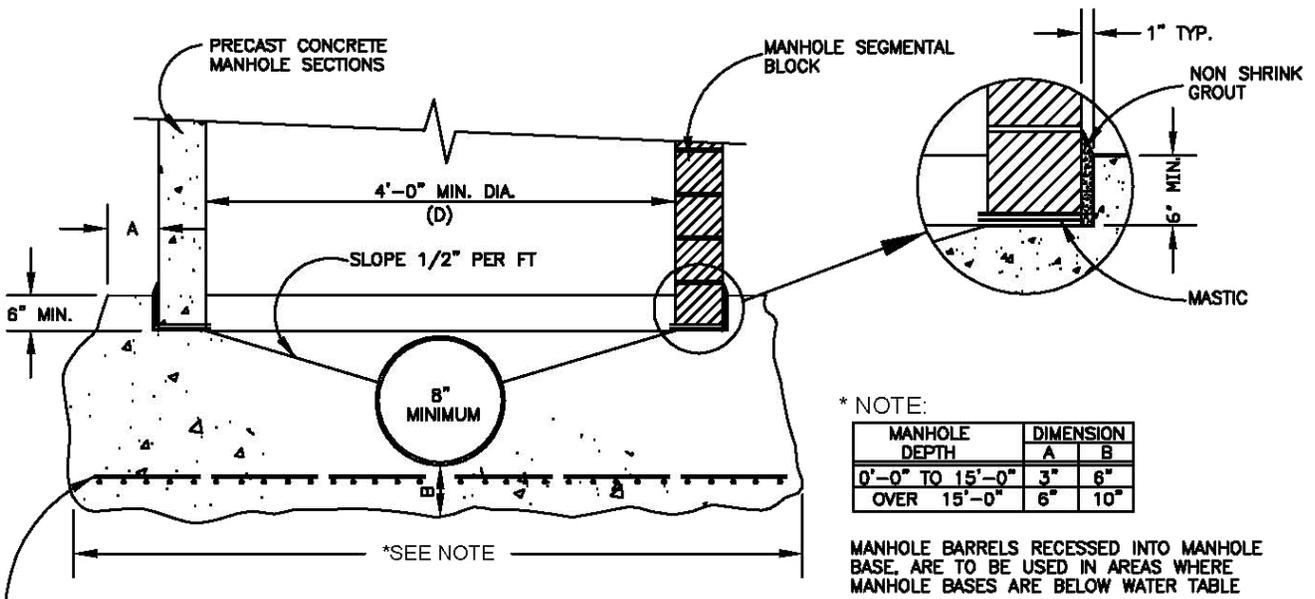


REV.	DATE
△	12/05/05

**CONSTRUCTION  
 STANDARDS**

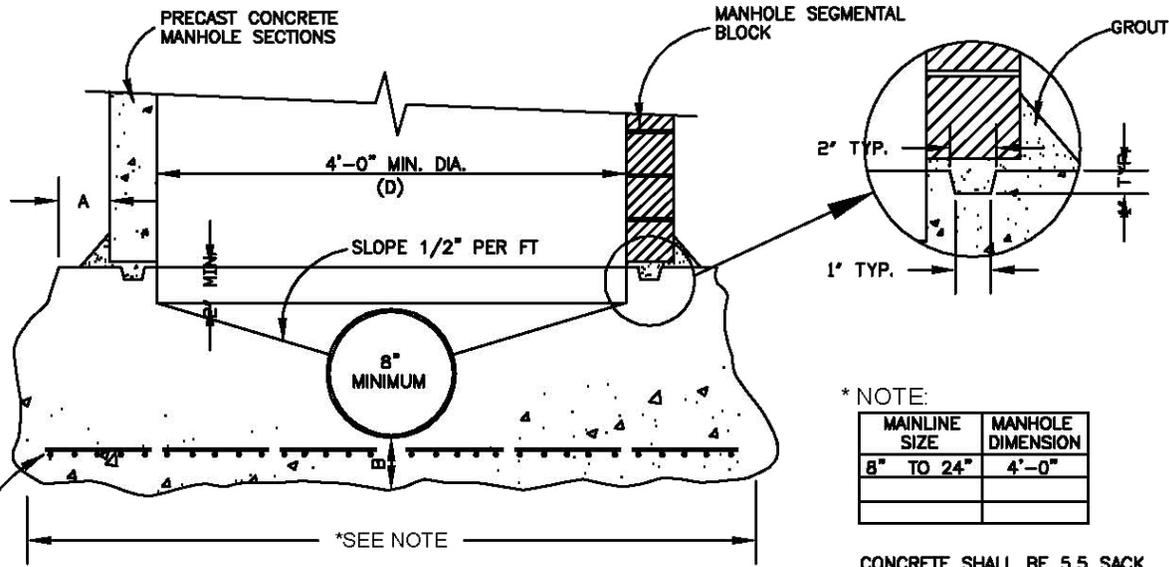
**SEWER SERVICE AT  
 DEAD ENDS & CUL-DE-SAC**  
 STANDARD No. D-105 SHEET 1 OF 1

**CITY OF  
 AZTEC**  
**PUBLIC WORKS  
 DEPARTMENT**



BELOW WATER TABLE

- #4 BARS AT 6" O.C. EACH WAY FOR MANHOLE 16' OR GREATER
- #4 BARS AT 12" O.C. EACH WAY FOR MANHOLE LESS THAN 16'



STANDARD

- #4 BARS AT 6" O.C. EACH WAY FOR MANHOLE 16' OR GREATER
- #4 BARS AT 12" O.C. EACH WAY FOR MANHOLE LESS THAN 16'

CONSTRUCTION STANDARDS

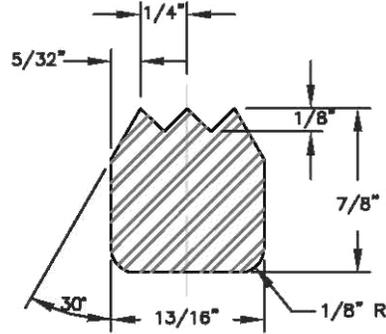
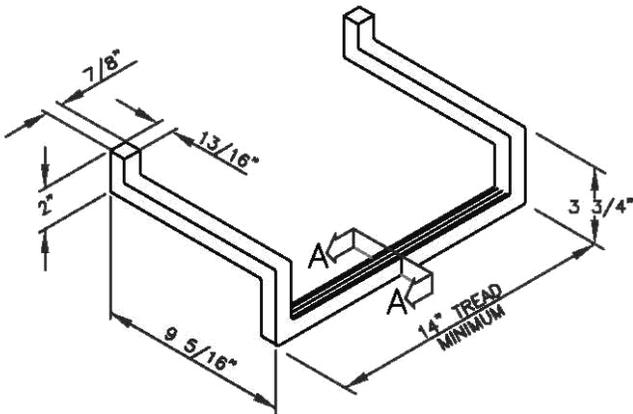
MANHOLE BASES

STANDARD No. D-106 SHEET 1 OF 1

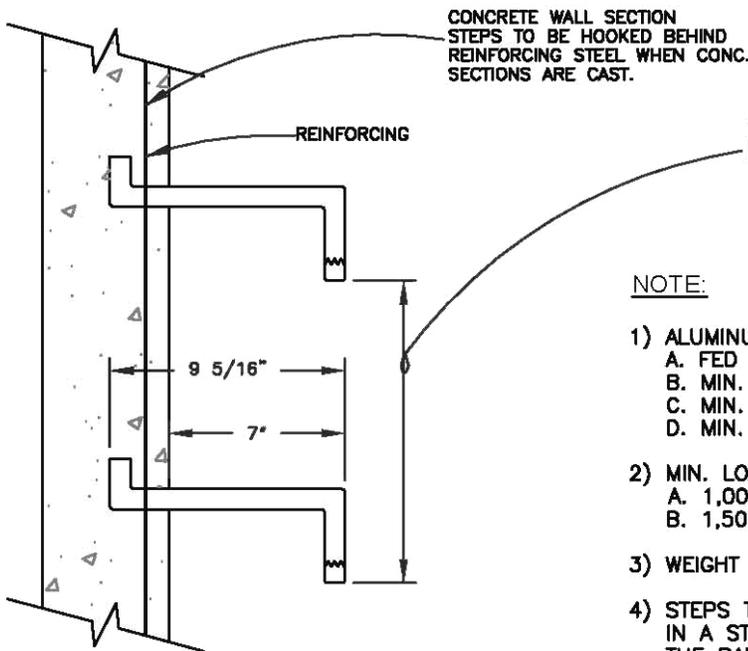
CITY OF AZTEC  
PUBLIC WORKS DEPARTMENT

NOTE:

STEPS SHALL BE SIMILAR AND EQUAL TO ALCOA ALUMINUM CO. No. 126538. OR COPOLYMER POLYPROPYLENE PLASTIC EQUAL TO M.A. INDUSTRIES MODEL PS2 - PF.



SECTION A-A



VERTICAL SPACING 12" TO 18 1/2" WITH BOTTOM STEP 8" ± ABOVE BENCH AND TOP STEP 18" MAX. BELOW RIM.

NOTE:

- 1) ALUMINUM ALLOY SPECIFICATIONS
  - A. FED SPEC. QQ - A - 200/B
  - B. MIN. TENSILE STRENGTH = 38,000 P.S.I.
  - C. MIN. YIELD STRENGTH = 35,000 P.S.I.
  - D. MIN. ELONGATION = 10% IN 2"
- 2) MIN. LOAD CAPACITY APPLIED CENTER OF STEP
  - A. 1,000 LB. WITH 6" PROJECTION FROM WALL
  - B. 1,500 LB. WITH 4" PROJECTION FROM WALL
- 3) WEIGHT PER STEP = 223 LBS.
- 4) STEPS TO BE CAST UNALTERED IN MANHOLE WALL IN A STRAIGHT LINE, VERTICALLY, AT THE SAME TIME THE BARREL OR CONE SECTIONS ARE CAST.
- 5) THE PORTION OF THE STEPS EMBEDDED IN THE CONCRETE SHALL BE COATED WITH BITUMINOUS MATERIAL AS SPECIFIED OR APPROVED BY CONTRACTING OFFICER.

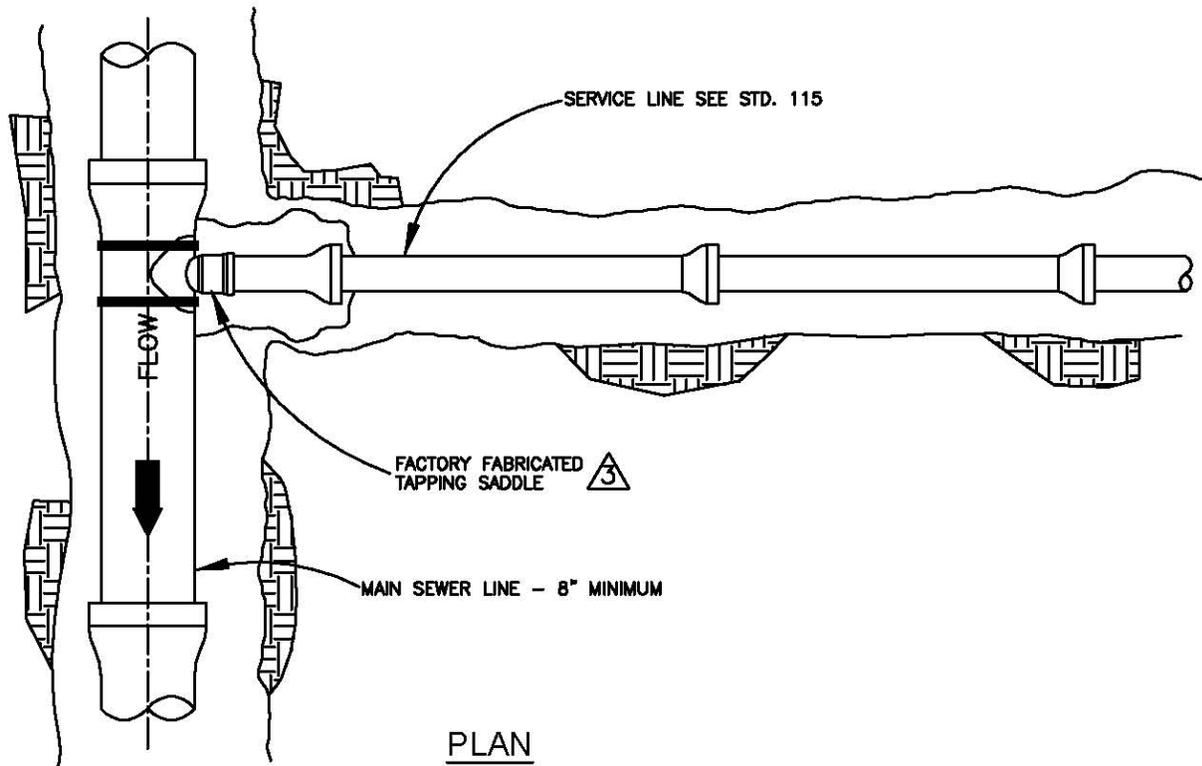
REV	DATE
1	2/1/82
2	11/30/83

CONSTRUCTION STANDARDS

STANDARD MANHOLE STEPS

STANDARD No. D-107 SHEET 1 OF 1

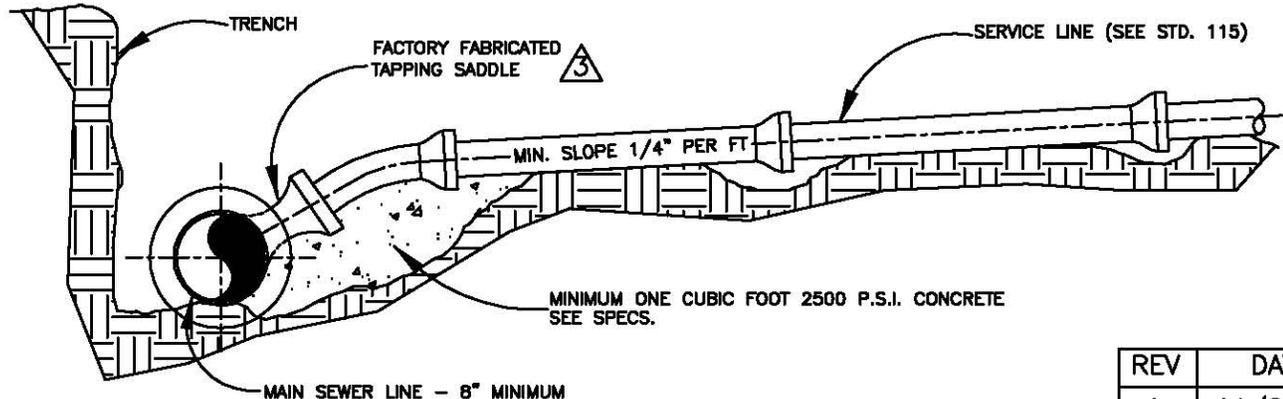
CITY OF AZTEC  
PUBLIC WORKS DEPARTMENT



PLAN

△ NOTES:

- 1) ALL SERVICE LINES SHALL CONFORM TO LOCAL PLUMBING CODE.
- 2) SERVICE LINE SHALL NOT PROTRUDE INTO MAIN.



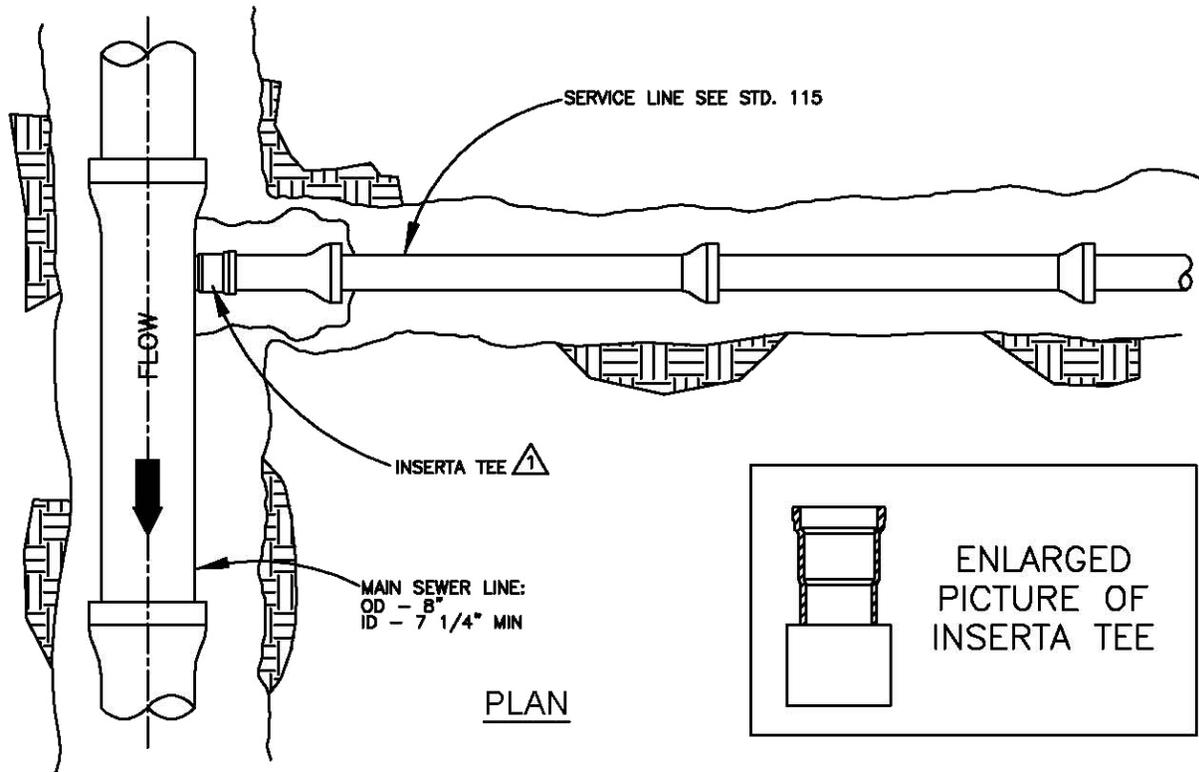
ELEVATION

REV	DATE
1	11/03/82
△2	11/13/87
△3	12/01/05

CONSTRUCTION  
STANDARDS

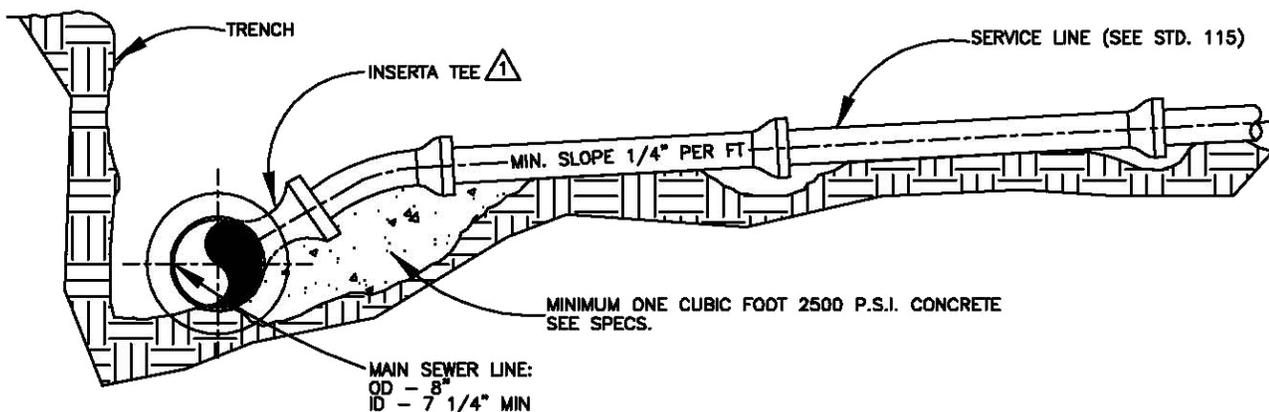
TAP SADDLE  
CONNECTION

CITY OF  
AZTEC  
PUBLIC WORKS  
DEPARTMENT



PLAN

- 1) ALL SERVICE LINES SHALL CONFORM TO LOCAL PLUMBING CODE.
- 2) SERVICE LINE SHALL NOT PROTRUDE INTO MAIN.



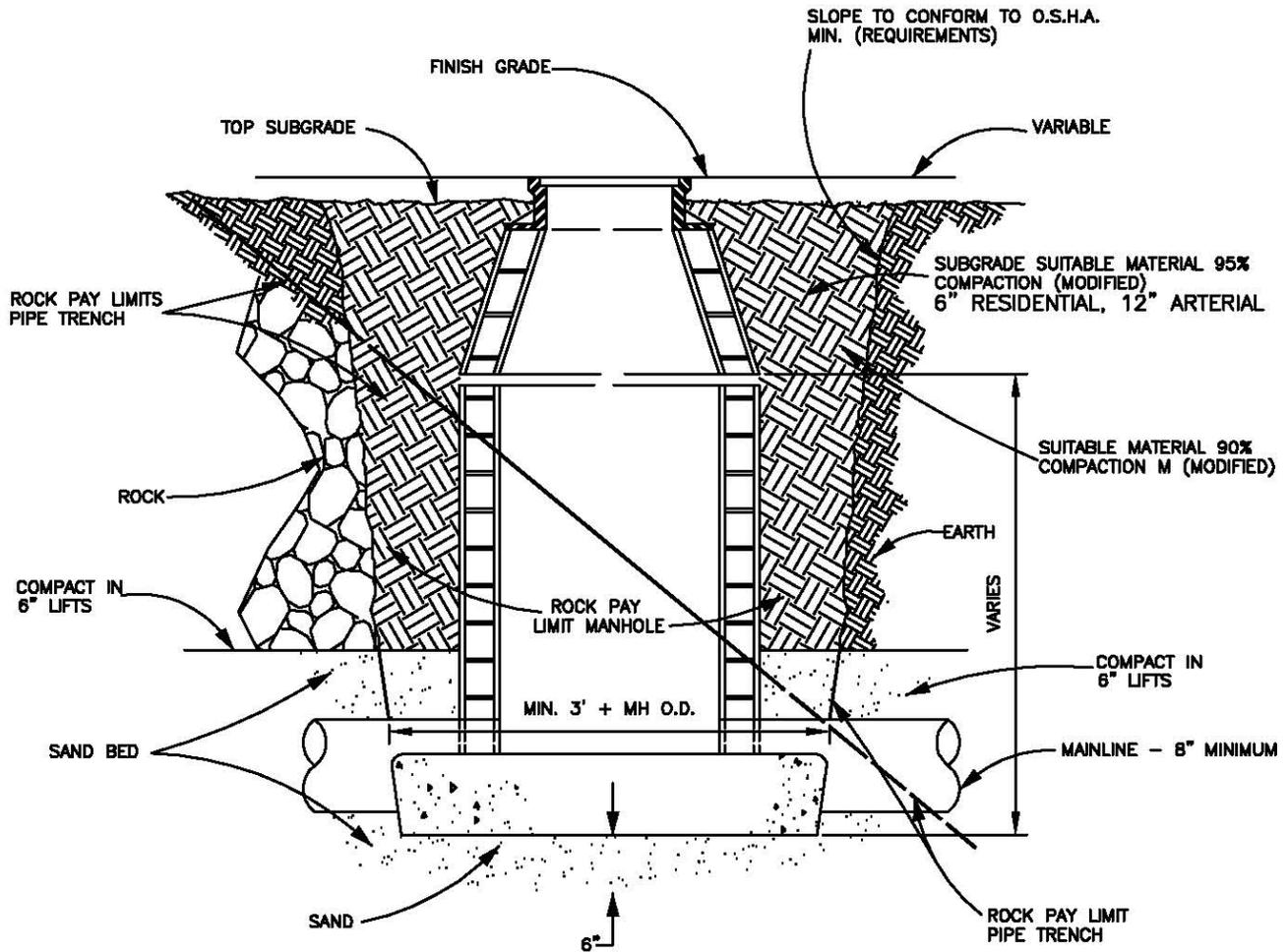
ELEVATION

REV.	DATE
⚠	01/26/06

CONSTRUCTION  
STANDARDS

## SLIP LINE TAP CONNECTION

STANDARD No. D-110 SHEET 1 OF 1



**NOTE:**

AS DETERMINED BY A.S.T.M. D-1557  
 A.A.S.H.O. DEG T-147-FIELD TEST  
 MOISTURE CONTENT OF ALL COMPACTION  
 SUBGRADE MATERIAL IN PLACE SHALL  
 BE NO GREATER THAN OPTIMUM NOR  
 ANY LESS THAN OPTIMUM MINUS 5%

CUT AND BACKFILL IN ROCK  
 FOR MANHOLES

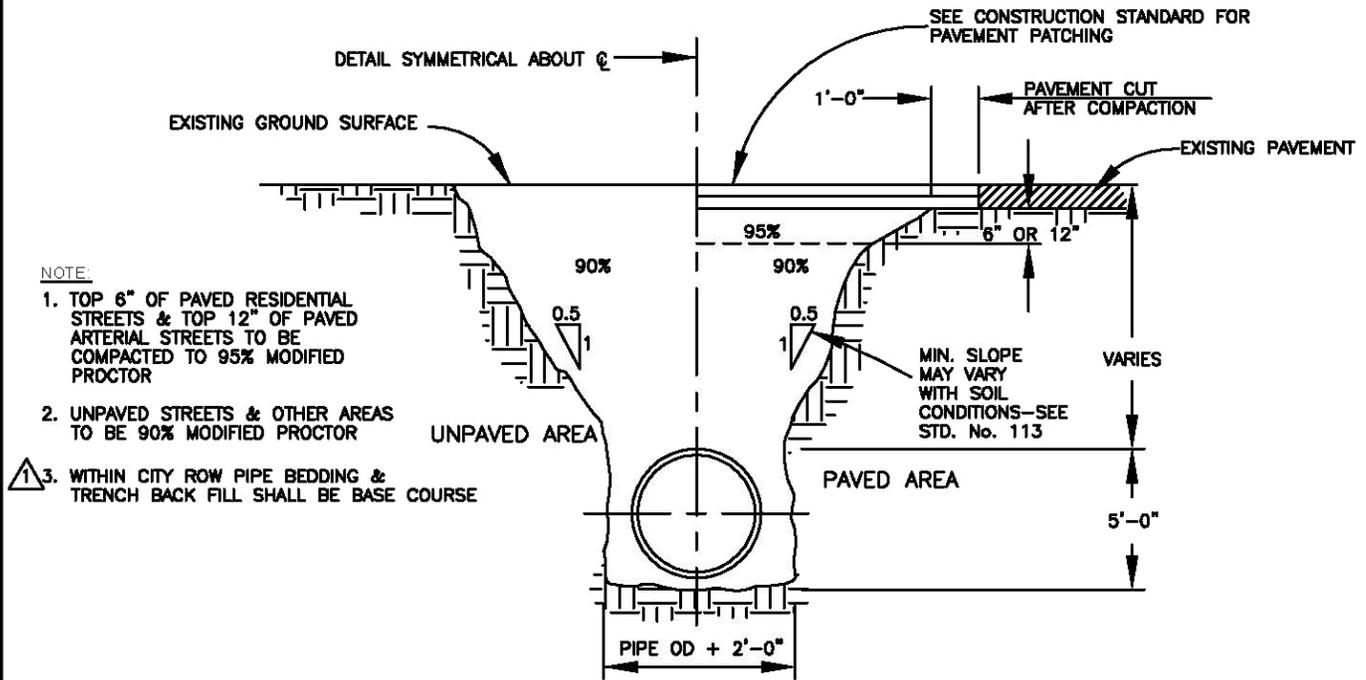
CONSTRUCTION  
 STANDARDS

TRENCH CUTS  
 (MANHOLES)  
 TRENCH WIDTHS

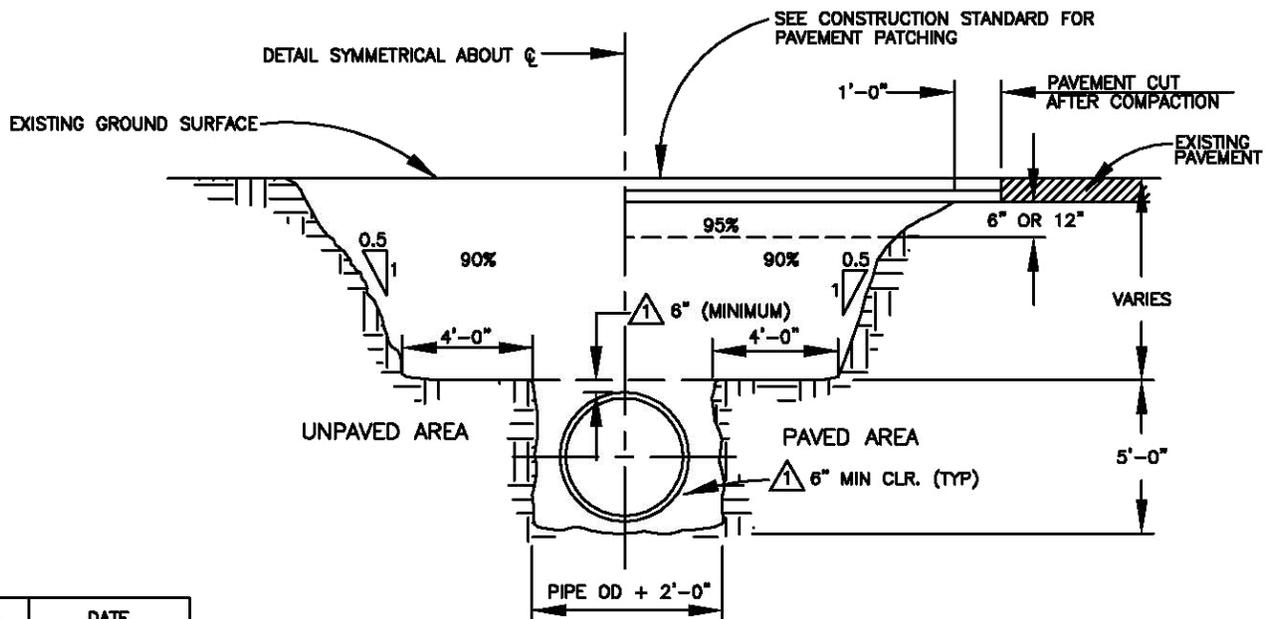
STANDARD No. D-111 SHEET 1 OF 1

CITY OF  
 AZTEC  
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PIPE DIA.	TRENCH WIDTH	PIPE DIA.	TRENCH WIDTH
8"	2'-6"	30"	6'-6"
10"	2'-8"	36"	7'-0"
12"	3'-0"	42"	8'-0"
15"	3'-0"	48"	8'-6"
18"	4'-6"	54"	10'-6"
21"	4'-6"	66"	13'-0"
24"	5'-6"	72"	14'-0"



TRENCHING DETAIL - PIPE LESS THAN 72" O.D.



TRENCHING DETAIL - PIPE OVER 72" O.D.

REV.	DATE
1	12/08/02

CONSTRUCTION  
STANDARDS

## TRENCH DETAILS

STANDARD No. D-112 SHEET 1 OF 3

PIPE SIZE	TRENCH PAY WIDTH									
	3'	4'	6'	8'	10'	12'	14'	16'	18'	20'
4	5.00	5.00	7.00	9.00	11.00	13.00	15.00	17.00	19.00	21.00
6	5.00	5.00	7.00	9.00	11.00	13.00	15.00	17.00	19.00	21.00
8	5.00	5.00	7.00	9.00	11.00	13.00	15.00	17.00	19.00	21.00
10	5.50	5.50	7.50	9.50	11.50	13.50	15.50	17.50	19.50	21.50
12	5.50	5.50	7.50	9.50	11.50	13.50	15.50	17.50	19.50	21.50
14	5.75	5.75	7.75	9.75	11.75	13.75	15.75	17.75	19.75	21.75
15	5.75	5.75	7.75	9.75	11.75	13.75	15.75	17.75	19.75	21.75
16	5.75	5.75	7.75	9.75	11.75	13.75	15.75	17.75	19.75	21.75
18	6.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
20	6.25	6.25	8.25	10.25	12.25	14.25	16.25	18.25	20.25	22.25
21	6.25	6.25	8.25	10.25	12.25	14.25	16.25	18.25	20.25	22.25
24	6.50	6.50	8.50	10.50	12.50	14.50	16.50	18.50	20.50	22.50
27		6.75	8.75	10.75	12.75	14.75	16.75	18.75	20.75	22.75
30		7.00	9.00	11.00	13.00	15.00	17.00	19.00	21.00	23.00
36		7.50	9.50	11.50	13.50	15.50	17.50	19.50	21.50	23.50
42			10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
48			11.50	13.50	15.50	17.50	19.50	21.50	23.50	25.50
54			12.00	14.00	16.00	18.00	20.00	22.00	24.00	26.00
60			12.50	14.50	16.50	18.50	20.50	22.50	24.50	26.50
66				15.00	17.00	19.00	21.00	23.00	25.00	27.00
72				23.50	25.50	27.50	29.50	31.50	33.50	35.50
78				24.00	26.00	28.00	30.00	32.00	34.00	36.00
84				24.50	26.50	28.50	30.50	32.50	34.50	36.50
90				25.00	27.00	29.00	31.00	33.00	35.00	37.00
96				25.50	27.50	29.50	31.50	33.50	35.50	37.50
102				26.00	28.00	30.00	32.00	34.00	36.00	38.00
108				26.50	28.50	30.50	32.50	34.50	36.50	38.50

NOTE:

1. PAYMENT FOR PAVEMENT REMOVAL AND REPLACEMENT SHALL BE DETERMINED ON THESE WIDTHS REGARDLESS OF THE AMOUNT OF PAVEMENT ACTUALLY REMOVED EXCEPT THAT IF AN ENTIRE STREET IS REMOVED PAYMENT SHALL BE LIMITED TO THE STREET PAVEMENT WIDTH.
2. IN THE EVENT A LINE IS LOCATED SUCH THAT REMOVAL OF CURB, GUTTER AND SIDEWALK IS REQUIRED PAVEMENT WIDTH SHALL BE LIMITED TO 1/2 THE PAY WIDTH PLUS THE DISTANCE FROM THE CENTERLINE OF THE PIPE TO GUTTER. PAYMENT FOR REMOVAL AND REPLACEMENT OF CURB AND SIDEWALK SHALL BE AS MEASURED IN THE FIELD.
3. THE ADDITIONAL 1' PAVEMENT CUT BACK SHALL BE MADE AFTER BACKFILLING AND TESTING IS COMPLETE. THIS CUT SHALL BE REMOVED TO A NEAT LINE. IF THE CONTRACTORS OPERATION PRODUCES A JAGGED EDGE HE SHALL BE REQUIRED TO REMOVE ADDITIONAL PAVING UNTIL A NEAT STRAIGHT LINE IS OBTAINED.

CONSTRUCTION  
STANDARDS

TRENCH PAY  
WIDTH

STANDARD No. D-112 SHEET 2 OF 3

CITY OF  
AZTEC  
PUBLIC WORKS  
DEPARTMENT

# TRENCH SHORING-MINIMUM REQUIREMENTS

## SIZE & SPACING OF MEMBERS

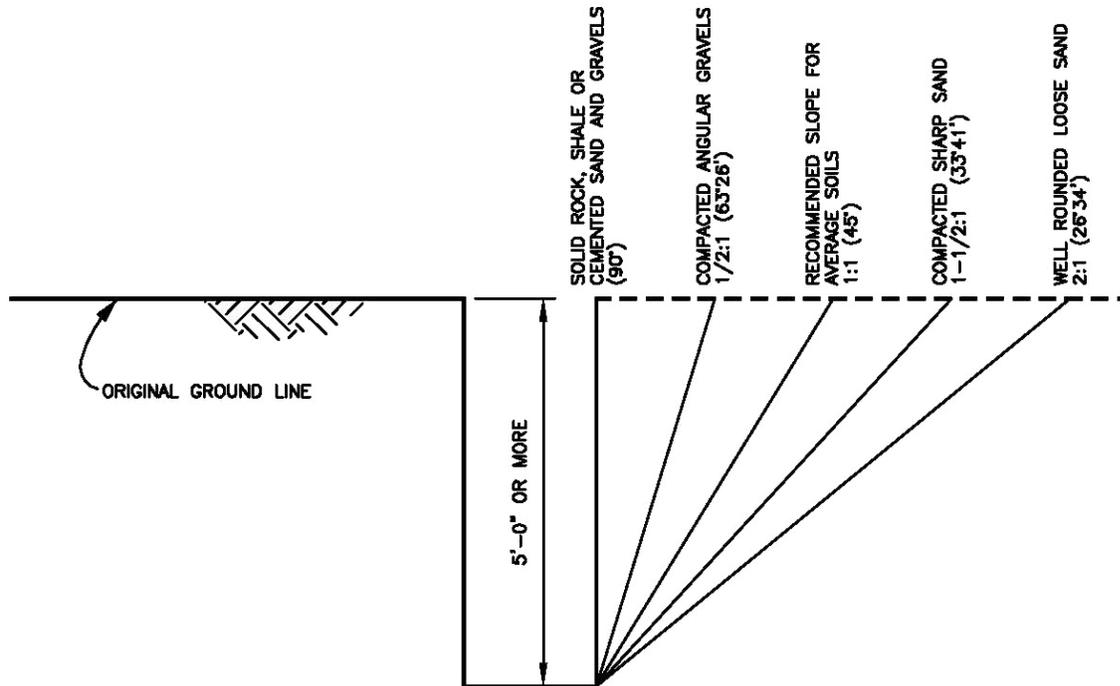
DEPTH OF TRENCH	CONDITION OR KIND OF EARTH	UPRIGHTS		STRINGERS		CROSS BRACES—SEE NOTE 1							
		MINIMUM DIMENSION	MAXIMUM SPACING	MINIMUM DIMENSION	MAXIMUM SPACING	WIDTH OF TRENCH							
		INCHES	FEET	INCHES	FEET	UP TO 3'	3 TO 6'	6 TO 9'	9 TO 12'	12 TO 15'	VERTICAL	HORIZONTAL	
5' TO 10'	HARD, COMPACT. . . . .	3X4 OR 2X6	6	4X6	4	2X6	4X4	4X6	6X6	6X8	6X8	4	6
	LIKELY TO CRACK. . . . .	3X4 OR 2X6	3	4X6	4	2X6	4X4	4X6	6X6	6X8	6X8	4	6
10' TO 15'	SOFT, SANDY, OR FILLED. . . . .	3X4 OR 2X6	CLOSE SHEETING	4X6	4	4X4	4X6	6X6	6X8	8X8	8X8	4	6
	HYDROSTATIC PRESSURE. . . . .	3X4 OR 2X6	CLOSE SHEETING	6X6	4	4X4	4X6	6X6	6X8	8X8	8X8	4	6
	HARD. . . . .	3X4 OR 2X6	4	4X6	4	4X4	4X6	6X6	6X8	8X8	8X8	4	6
15' TO 20'	LIKELY TO CRACK. . . . .	3X4 OR 2X6	2	4X6	4	4X4	4X6	6X6	6X8	8X8	8X8	4	6
	SOFT, SANDY, OR FILLED. . . . .	3X4 OR 2X6	CLOSE SHEETING	4X6	4	4X6	6X6	6X8	8X8	8X10	8X10	4	6
	HYDROSTATIC PRESSURE. . . . .	3X6	CLOSE SHEETING	8X10	4	4X6	6X6	6X8	8X8	8X10	8X10	4	6
OVER 20'	ALL KINDS OR CONDITIONS. . . . .	3X6	CLOSE SHEETING	4X12	4	4X12	6X8	8X8	8X10	10X10	10X10	4	6
	ALL KINDS OR CONDITIONS. . . . .	3X6	CLOSE SHEETING	6X8	4	4X12	8X8	8X10	10X10	10X12	10X12	4	6

NOTES: 1) TRENCH JACKS MAY BE USED IN LIEU OF, OR IN COMBINATION WITH, CROSS BRACES. SHORING IS NOT REQUIRED IN SOLID ROCK, HARD SHALE, OR HARD SLAG. WHERE DESIRABLE, SHEET STEEL PILING AND BRACING OF EQUAL STRENGTH MAY BE SUBSTITUTED FOR WOOD.

CONSTRUCTION STANDARDS

## TRENCH DETAILS

CITY OF  
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NOTES

1. SIDES OF TRENCHES IN HARD OR COMPACTED SOIL, INCLUDING EMBANKMENTS SHALL BE SHORED, OR OTHERWISE SUPPORTED OR SLOPED WHEN THE TRENCH IS MORE THAN 5 FEET IN DEPTH AND 8 FEET OR MORE IN LENGTH.
2. CLAYS, SILLS, LOAMS OR NON HOMOGENOUS SOILS REQUIRE SHORING AND BRACING. THE PRESENCE OF GROUND WATER REQUIRES SPECIAL TREATMENT.
3. STANDARD DETAIL 112 SHALL BE APPLICABLE WHEN EXCAVATING IN PAVED STREETS.
4. ALL PAYMENT WILL BE BASED ON TRENCH PAY WIDTHS AS OUTLINED IN CITY STANDARD 112. NO EXTRA PAYMENT OUTSIDE THOSE LIMITS LISTED IN COF 112 WILL BE PAID.

CONSTRUCTION  
STANDARDS

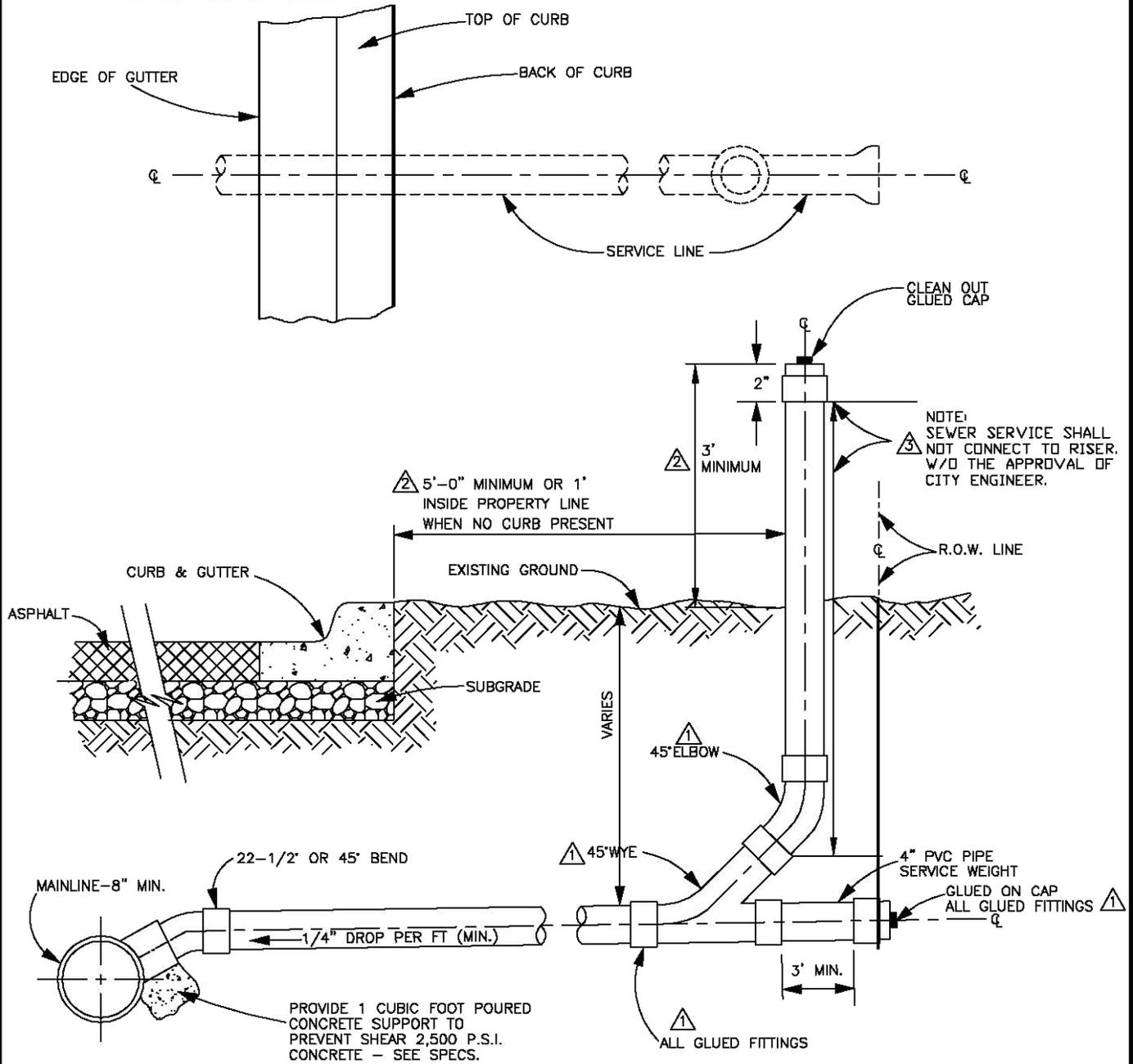
APPROXIMATE ANGLE OF  
REPOSE FOR SLOPING SIDES  
OF EXCAVATIONS

STANDARD No. D-113 SHEET 1 OF 1

CITY OF  
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DEPARTMENT

NOTES: ⚠

1. ALL SERVICE LINES SHALL CONFORM TO LOCAL PLUMBING CODE.
2. SERVICE LINES SHALL NOT PROTRUDE INTO SEWER MAIN.
- ⚠ 3. SEWER SERVICE SHALL BE A COMBO OR 45° WYE WITH 45° ELBOW.



REV.	DATE
⚠	11/22/04
⚠	12/01/05
⚠	12/02/05

CONSTRUCTION  
STANDARDS

SEWER SERVICE  
LOCATION

STANDARD No. D-115 SHEET 1 OF 1

CITY OF  
AZTEC  
PUBLIC WORKS  
DEPARTMENT

SANITARY SEWER MAINS  
MINIMUM SLOPES

SIZE	SLOPE, FT./FT.
8"	0.004
10"	0.003
12"	0.0022
15"	0.0015
18"	0.0012
21"	0.0010
24"	0.0009
27" & LARGER	0.0008

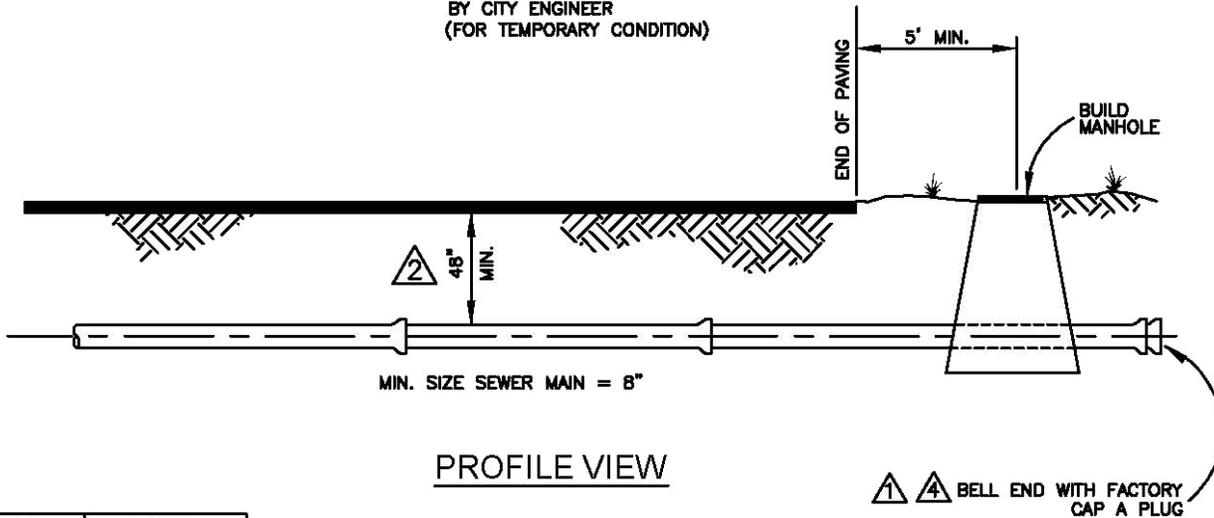
NOTES:

1. PRIOR TO BACKFILLING, RECORD INVERT ELEVATIONS AND LOCATION ON CONSTRUCTION PLANS FOR AN AS-BUILT RECORD.
2. SEE LATEST EDITION OF THE N.M. STANDARD SPECIFICATIONS FOR PUBLIC WORKS FOR A LIST OF ACCEPTABLE SEWER MAIN MATERIALS & PIPE.
3. MINIMUM 4'-0" COVER UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
4. MAXIMUM MANHOLE SPACING 400 FEET.
5. THIS TYPE OF INSTALLATION WILL ONLY BE USED IF THE DOWN STREAM MANHOLE IS LESS THAN 100 FEET FROM END OF LINE.
6. MANHOLE WILL BE BUILT AT END OF MAINLINE UNLESS ALTERNATE IS APPROVED BY CITY ENGINEER OR BY DESIGNEE.

- ① ③ 7. STUB OUT FOR FUTURE MAINLINE EXTENSION SHALL BE CONST. A MAX. OF 5' WITH BELL END AND FACTORY PLUG BEYOND LAST MANHOLE.

ALTERNATE

WHEN APPROVED  
BY CITY ENGINEER  
(FOR TEMPORARY CONDITION)



PROFILE VIEW

① ④ BELL END WITH FACTORY  
CAP A PLUG

REV.	DATE
①	12/09/02
②	11/19/04
③	12/02/05
④	01/27/06

CONSTRUCTION  
STANDARDS

SANITARY SEWER MAINS

STANDARD No. D-116 SHEET 1 OF 1

CITY OF  
AZTEC  
PUBLIC WORKS  
DEPARTMENT