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**APPENDIX C**  
**STANDARD DETAILS FOR SANITARY SEWERS**

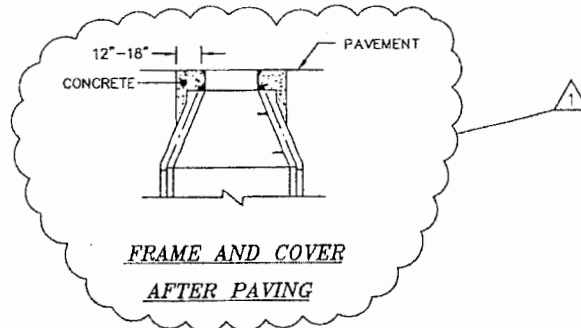
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**APPENDIX C**  
**STANDARD DETAILS FOR SANITARY SEWERS**

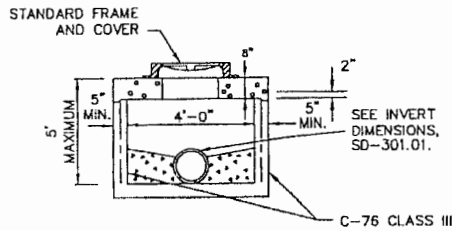
SD-300.01	Sanitary/Storm Manhole (Precast)
SD-301.01	Sanitary/Storm Manhole Details
SD-301.02	Sanitary/Storm Manhole Details
SD-301.03	Sanitary/Storm Manhole Details
SD-301.04	Sanitary/Storm Manhole Details
SD-302.01	Sanitary Manhole Drop Connection
SD-303.01	Sanitary Sewer Service Connection and Lateral
SD-304.01	Highway Crossing for Sanitary Sewers
SD-305.01	Creek and Ditch Crossings for Sanitary Sewers
SD-306.01	Trench Check Dam
SD-307.01	Trench Details/Bedding (Storm/Sanitary Sewers)
SD-308.01	Trench Details (Concrete Protection)
SD-308.02	Trench Details (Concrete Protection)
SD-309.01	Sewer Service Tap

**NOTES**

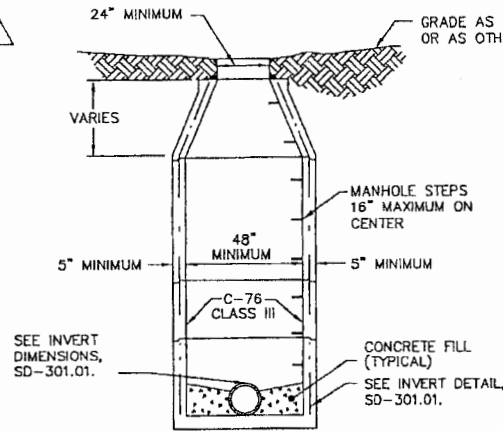
1. ALL MATERIALS, DESIGN, MANUFACTURE, PHYSICAL TEST REQUIREMENTS, FINISH, MARKING, INSPECTION, REJECTION, AND REPAIRS SHALL MEET A.S.T.M. C478 FOR PRECAST, REINFORCED CONCRETE MANHOLE RISERS AND TOPS EXCEPT AS MAY BE MODIFIED IN THESE SPECIFICATIONS.
2. SIZE AND LOCATE PIPE CUTOUTS AS REQUIRED.
3. MANHOLE STEPS - SEE MANHOLE STEPS DETAIL ON STANDARD NUMBER SD-301.04.
4. END-OF-LINE MANHOLES THAT HAVE FUTURE EXTENSIONS AND THAT ARE LOCATED IN PAVEMENT SHALL BE BACKFILLED WITH FLOWABLE FILL OR 33-P\* STONE (PUG). THE BACKFILL SHALL BE COMPACTED TO 6-INCH LIFTS, AND SHALL EXTEND TEN (10') FEET FROM THE MANHOLE ALONG EACH TRENCH.
5. A MAXIMUM OF TWO CONCRETE RINGS MAY BE USED FOR ELEVATION ADJUSTMENT OF THE MANHOLE.
6. AN ECCENTRIC CONE MANHOLE SHALL NOT BE USED.



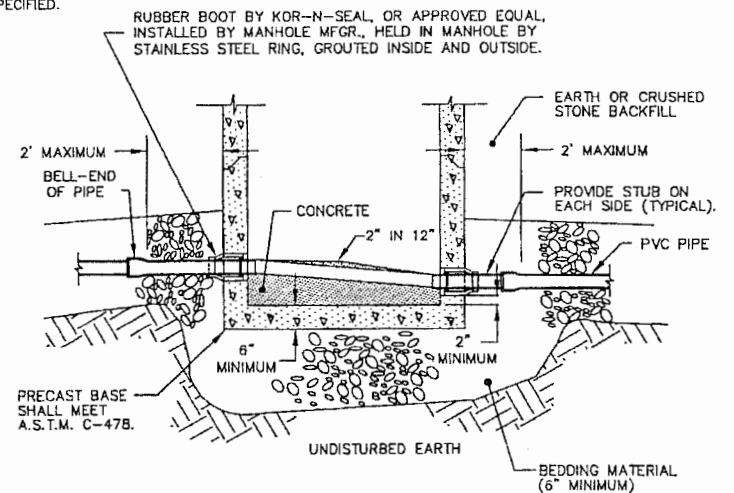
\* "33-P (PUG)" - 303-01, TYPE A, GRADING D ("33-P"), TENNESSEE D.O.T. SPECIFICATIONS



**SPECIAL SHALLOW MANHOLE**



**CONCENTRIC CONE**



**BOOTED, TUB-BOTTOM MANHOLE**

**PRECAST CONCRETE MANHOLES**

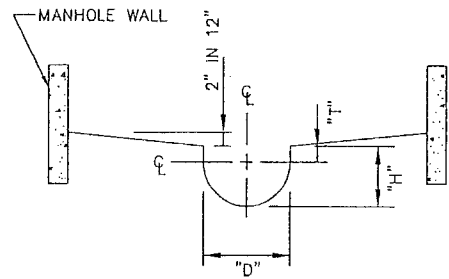


**CITY OF CHATTANOOGA AND HAMILTON COUNTY  
SANITARY/STORM MANHOLE (PRECAST)**

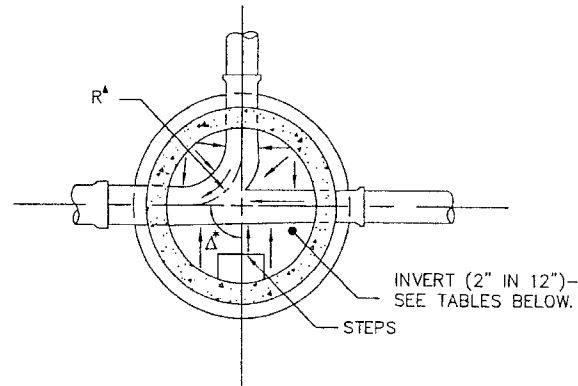
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1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE	SD-300.01
0	INITIAL ISSUE	12/10/99	DECEMBER 10, 1999	

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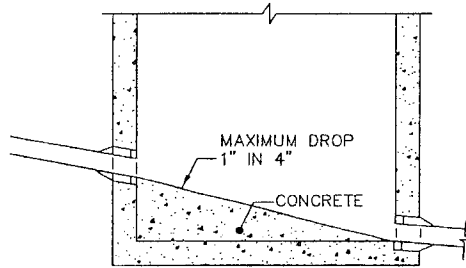


**INVERT SECTION**

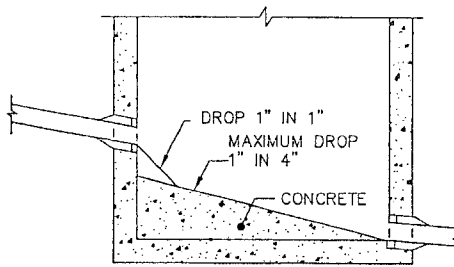


**INVERT PLAN**

**NOTE**  
 "H" AND "T" DIMENSIONS APPLY AT BOTH THE UPSTREAM AND THE DOWNSTREAM EDGES OF MANHOLE. SEE TABLE 1.



**INVERT DETAIL**  
 (WITH DROP LESS THAN 12")



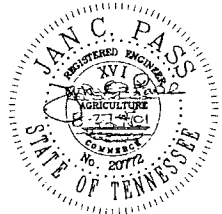
**INVERT DETAIL**  
 (WITH DROP OF 12" TO LESS THAN 24")

**TABLE I**

"D" INSIDE DIAM. PIPE	"T" VERTICAL TANGENT	"H" HEIGHT OF INVERT
8"	2 1/2"	6 1/2"
10"	3"	8"
12"	3 1/2"	9 1/2"
15"	4 1/2"	12"
18"	5 1/2"	14 1/2"
21"	6 1/2"	17"
24"	7 1/2"	19 1/2"
30"	9"	24"
36"	11"	29"

**TABLE II**  
 GOVERNING DIMENSIONS FOR MANHOLE INVERTS

PIPE SIZE	Δ <sup>A</sup> ANGLE	BASE DIAM.	R <sup>A</sup>
8" THRU 12"	0° TO 90°	4'	1'-6"
15"	0° TO 60°	4'	1'-10"
15"	60+ TO 90°	4'	1'-10"
18"	0° TO 60°	4'	2'-3"
18"	60+ TO 90°	4'	1'-10"
21"	0° TO 60°	4'	2'-7"
21"	60+ TO 90°	5'	2'-4"
24"	0° TO 45°	4'	3'-0"
24"	45+ TO 90°	5'	2'-3"
30"	0° TO 60°	5'	3'-9"
30"	60+ TO 90°	6'	2'-8"
36"	0° TO 30°	6'	4'-6"
LARGER THAN 36"	0° TO 90°	SEE PLANS	



NO.	REVISION	DATE
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0	INITIAL ISSUE	12/10/99

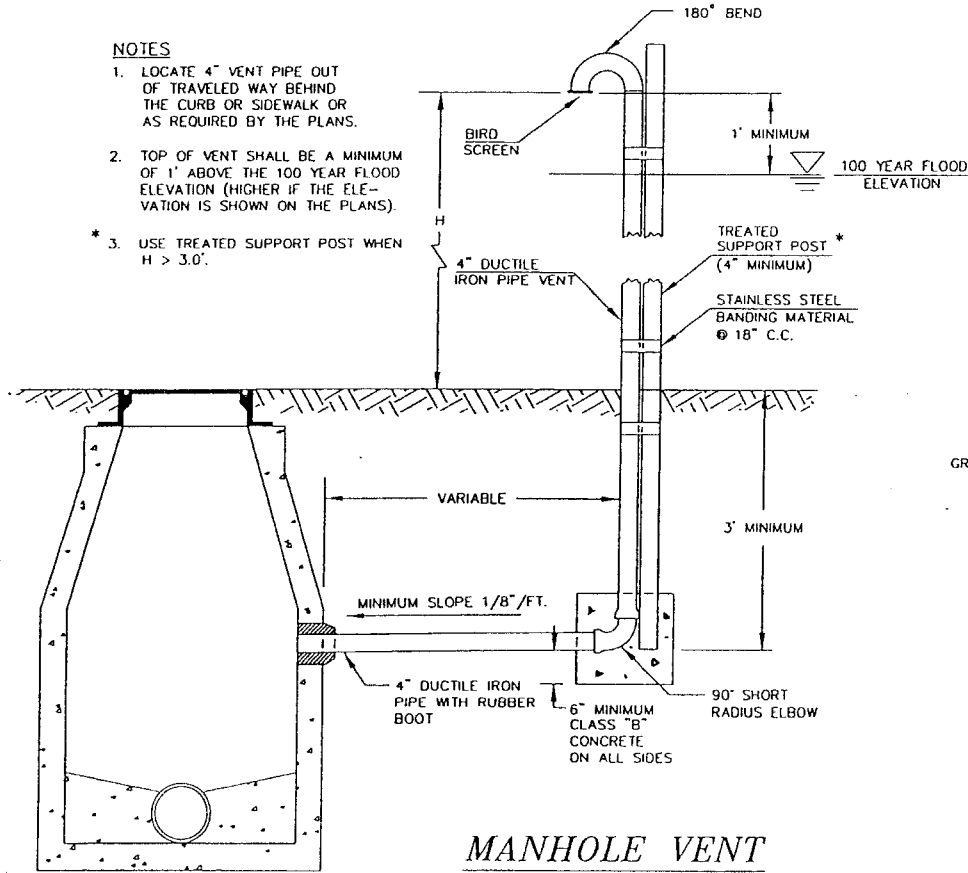
**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
**SANITARY/STORM MANHOLE DETAILS**

DATE OF ORIGINAL ISSUE  
 DECEMBER 10, 1999

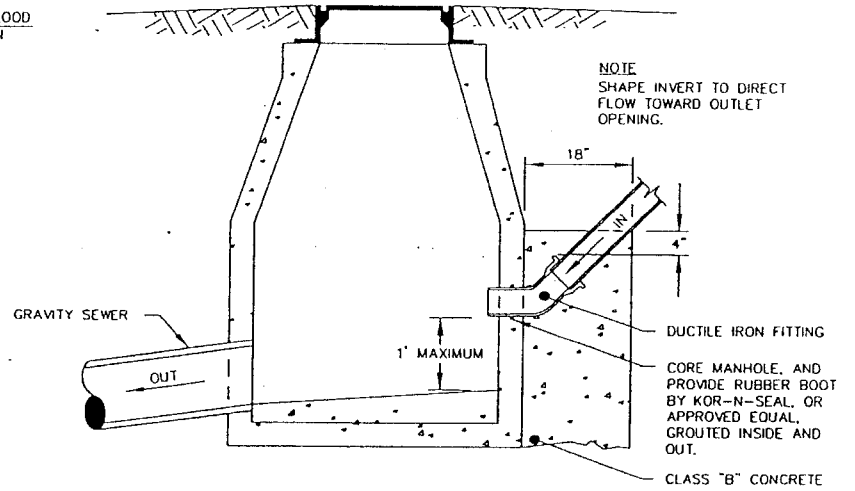
STANDARD NUMBER: SD-301.01

**NOTES**

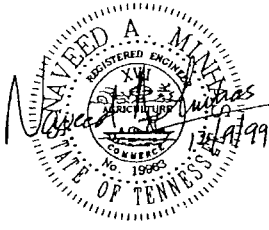
1. LOCATE 4" VENT PIPE OUT OF TRAVELED WAY BEHIND THE CURB OR SIDEWALK OR AS REQUIRED BY THE PLANS.
2. TOP OF VENT SHALL BE A MINIMUM OF 1' ABOVE THE 100 YEAR FLOOD ELEVATION (HIGHER IF THE ELEVATION IS SHOWN ON THE PLANS).
- \* 3. USE TREATED SUPPORT POST WHEN  $H > 3.0'$ .



**MANHOLE VENT**



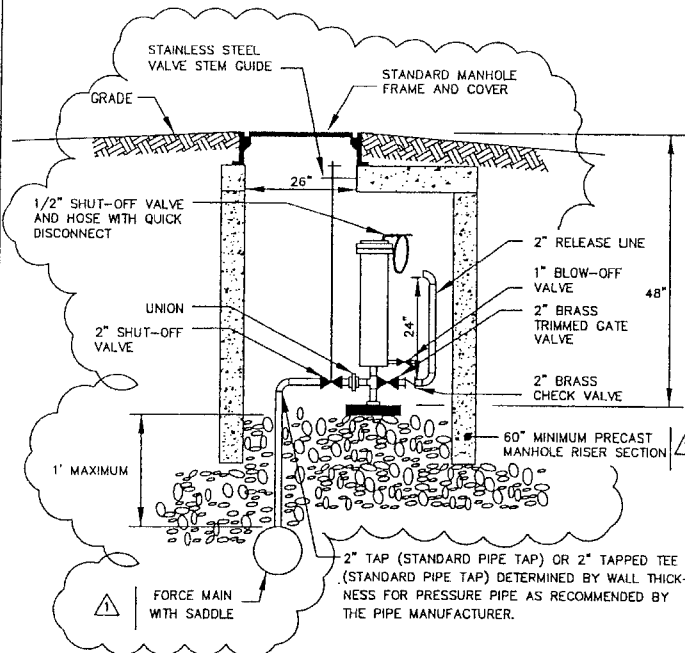
**CONNECTION OF FORCE MAIN TO MANHOLE**



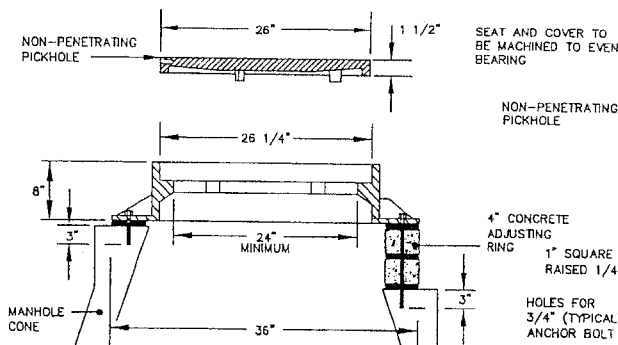
<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>			
<i>SANITARY/STORM MANHOLE DETAILS</i>			
0	INITIAL ISSUE	12/10/99	DATE OF ORIGINAL ISSUE
NO.	REVISION	DATE	DECEMBER 10, 1999
			STANDARD NUMBER: SD-301.02

**NOTES**

1. AIR RELEASE VALVE IS TO BE "CRISPIN SEWER VALVE", APCO 400 SEWAGE VALVE, OR EQUAL.
2. AIR-VACUUM VALVE INSTALLATION IS TO BE SIMILAR EXCEPT THAT THE VALVE IS TO BE APCO 402 SEWAGE VALVE, OR EQUAL.
3. 2" RELEASE LINE, GATE VALVE, AND CHECK VALVE ON AIR-VACUUM VALVE ONLY.

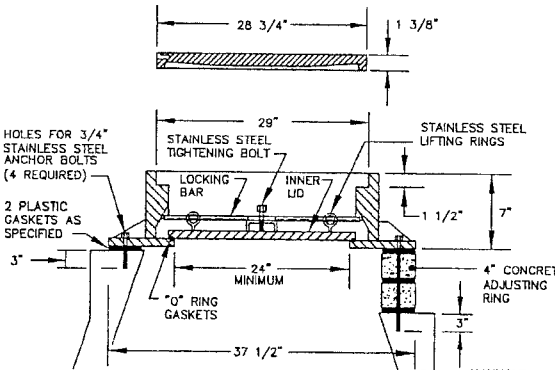


**AIR RELEASE VALVE  
(SANITARY FORCE MAIN)**



**SECTION  
STANDARD FRAME AND COVER**

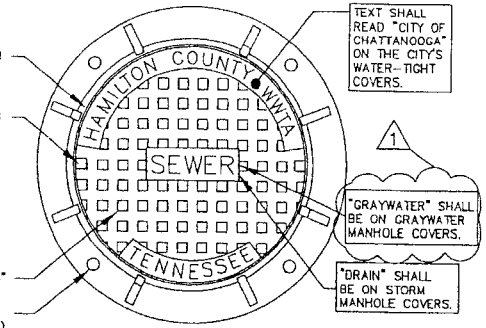
ACHESON FOUNDRY A-2024-81C (CITY),  
A-2024-81D (CITY-"DRAIN"),  
A-2024-81H (COUNTY),  
OR APPROVED EQUAL



**SECTION  
WATER-TIGHT FRAME  
AND COVER**

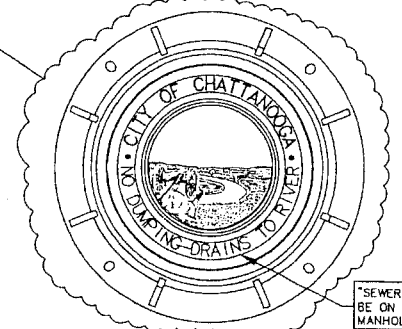
ACHESON FOUNDRY A-2624-71C (CITY),  
A-2624-71H (COUNTY),  
OR APPROVED EQUAL

**MANHOLE FRAME AND COVER**



**PLAN - FRAME AND COVER**

ACHESON FOUNDRY (STANDARD) A-2024-81H (COUNTY),  
(WATER-TIGHT) A-2624-71H (COUNTY),  
(WATER-TIGHT) A-2624-71C (CITY),  
OR APPROVED EQUAL



**PLAN - FRAME AND COVER**

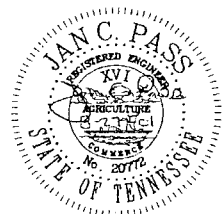
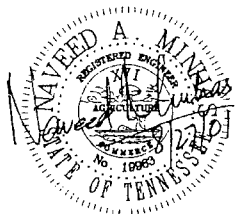
ACHESON FOUNDRY (STANDARD) A-2024-81D (CITY),  
(STANDARD) A-2024-81C (CITY-"SEWER"),  
OR APPROVED EQUAL

	SPECIFIED MINIMUM WEIGHTS	
	STANDARD	WATERTIGHT
COVER	165 LBS.	190 LBS.
FRAME	185 LBS.	400 LBS.
TOTAL	350 LBS.	590 LBS.

**NOTES**

1. THE MANUFACTURER SHALL CERTIFY THE TRAFFIC BEARING CAPACITY OF FRAMES AND COVERS.
2. MANHOLES IN PAVED AREAS MAY NOT REQUIRE ANCHOR BOLTS.
3. BEARING SURFACES BETWEEN COVER AND FRAME SHALL BE MACHINED TO PREVENT ROCKING.

FASTDDWGSManhole-ForceMain-CountyManholewithForceMain\_3PRINTABLEGREY.dwg



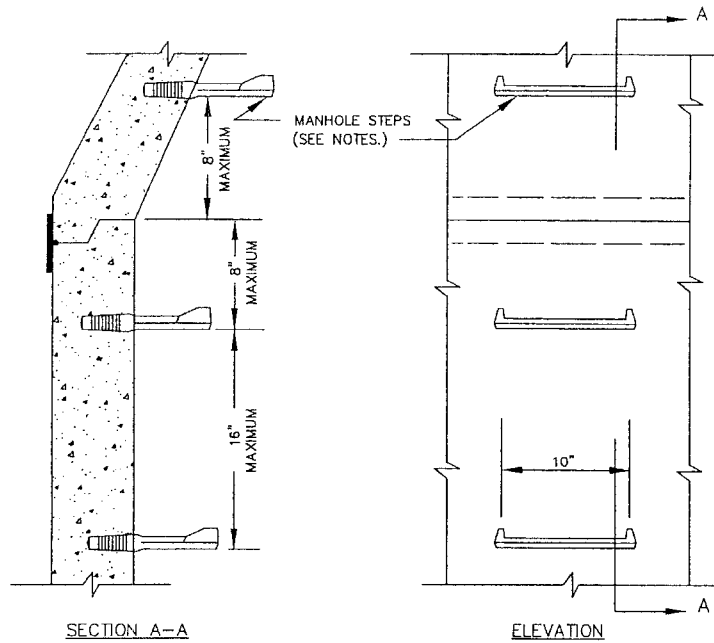
NO.	REVISIONS AS MARKED OR CLOUDED	DATE
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99
	REVISION	DATE

**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
*SANITARY/STORM MANHOLE DETAILS*

DATE OF ORIGINAL ISSUE: **DECEMBER 10, 1999**

STANDARD NUMBER: **SD-301.03**

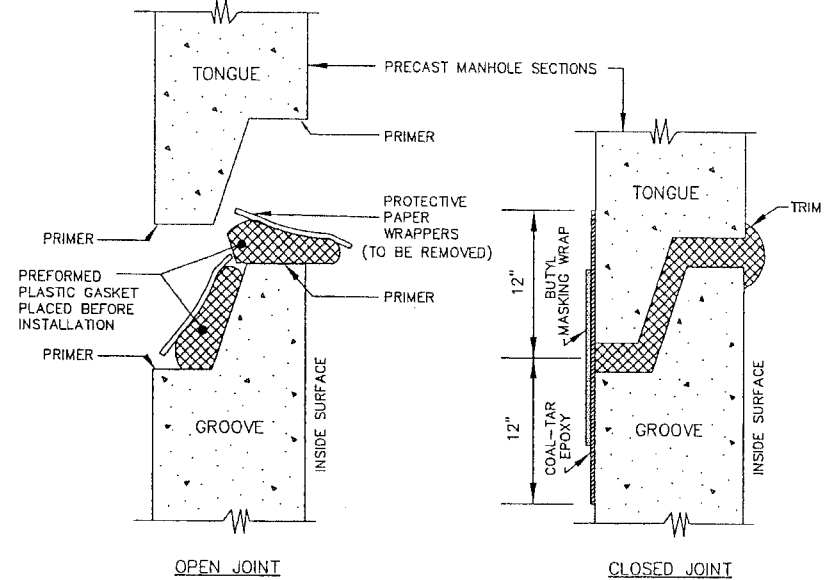
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**NOTES**

1. STEPS SHALL BE 3/8" STEEL REINFORCED ROD ENCAPSULATED IN POLYPROPYLENE PLASTIC.
2. RISER SECTIONS SHALL BE SET SO THAT STEPS ALIGN VERTICALLY.
3. THE FIRST STEP SHALL BE NO MORE THAN 16" BELOW THE TOP OF THE MANHOLE CONE.

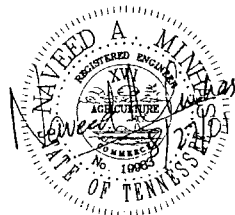
**MANHOLE STEPS**



**NOTES**

1. CLEAN ALL DEBRIS FROM JOINTS PRIOR TO GASKET APPLICATION.
2. TRIM PROTRUDING GASKET INSIDE AND OUTSIDE.

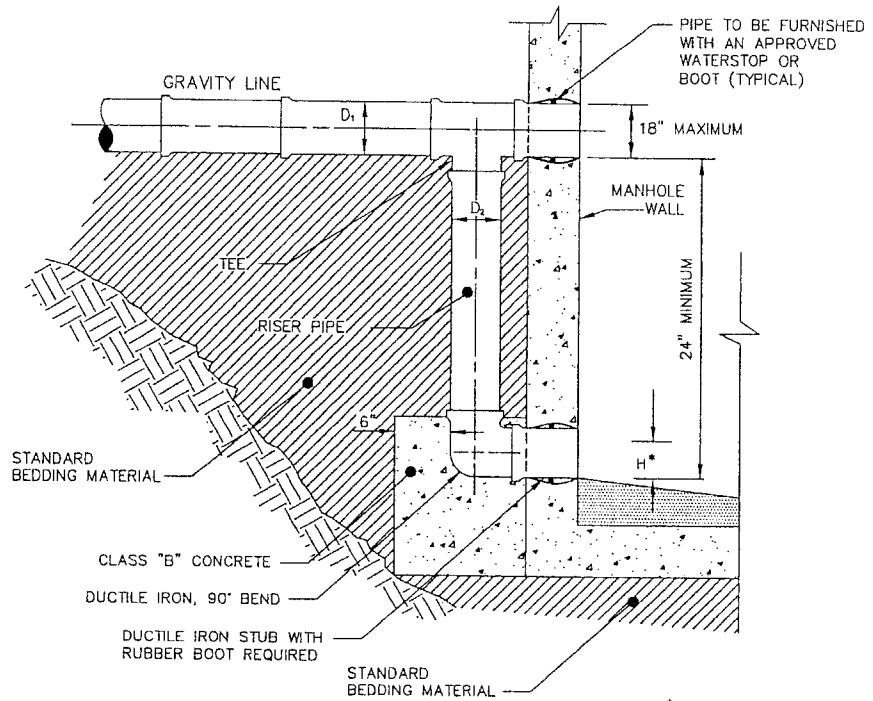
**JOINT AND GASKET FOR  
PRECAST MANHOLE SECTIONS**



		<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
		<i>SANITARY/STORM MANHOLE DETAILS</i>	
1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE
0	INITIAL ISSUE	12/10/99	DECEMBER 10, 1999
NO.	REVISION	DATE	STANDARD NUMBER: SD-301.04

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D <sub>1</sub>	D <sub>2</sub>
8"	8"
10"	8"
12"	10"
15"	12"
18"	12"



**NOTES**

1. SET INLET FROM DROP TO MATCH CROWNS WITH OUTLET EXCEPT THAT MINIMUM FALL ACROSS MANHOLE INVERT MUST BE 3".
2. FOR DETAILS NOT SHOWN, SEE SANITARY/STORM MANHOLE DETAILS ON STANDARDS SD-301.01, SD-301.02, SD-301.03, AND SD-301.04.
3. THE RISER PIPE SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS THAT OF THE INCOMING LINE.

H\* - SEE STANDARD INVERT DIMENSIONS, TABLE 1, SD-301.01.

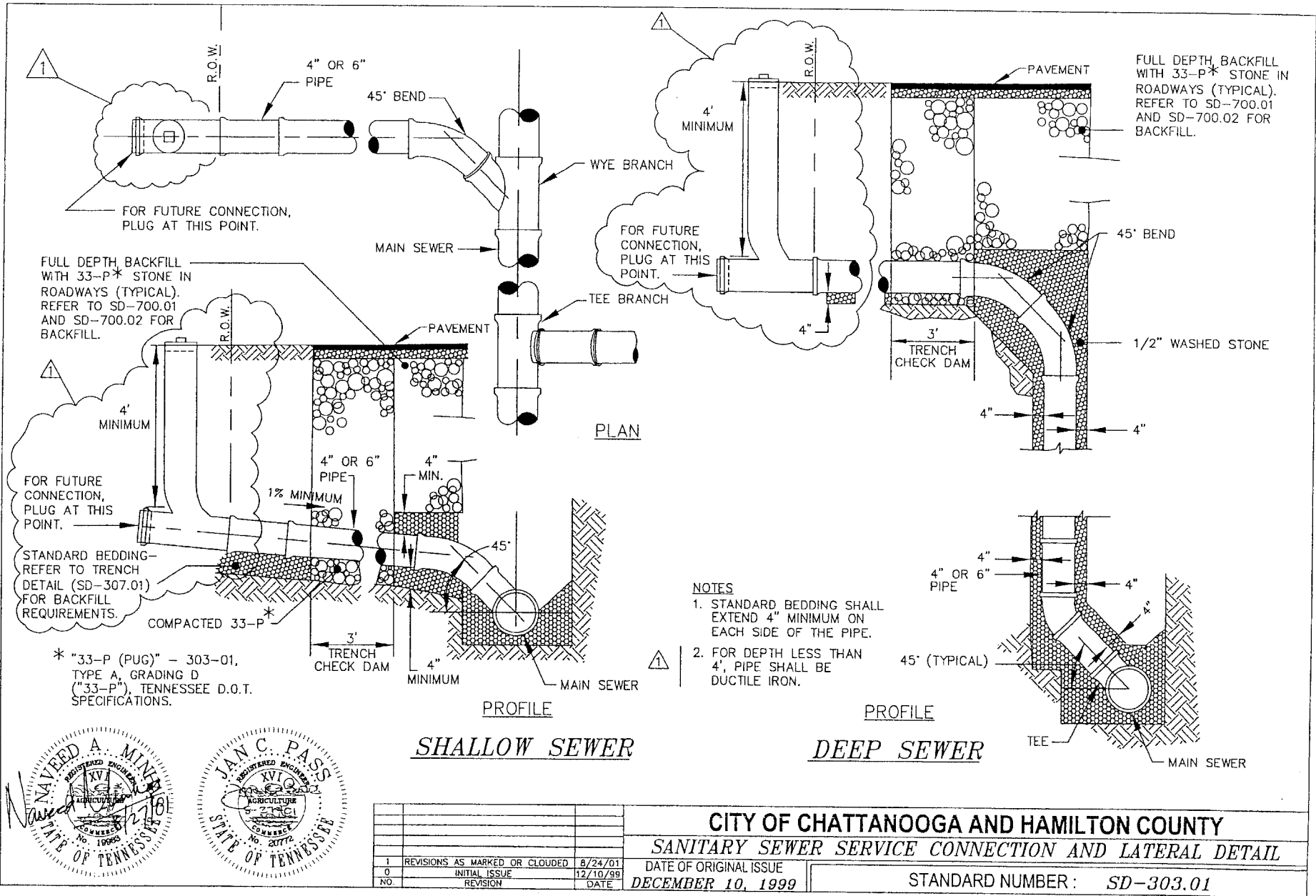
**MANHOLE DROP**  
**CONNECTION**  
**(DROP OF 24" OR GREATER)**



CITY OF CHATTANOOGA AND HAMILTON COUNTY			
SANITARY MANHOLE DROP CONNECTION			
1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE
0	INITIAL ISSUE	12/10/99	DATE
NO.	REVISION	DATE	STANDARD NUMBER : SD-302.01



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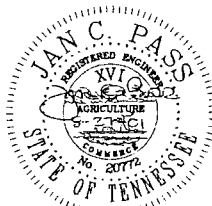
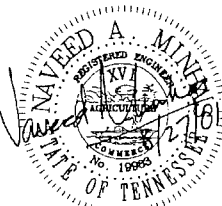
FULL DEPTH BACKFILL WITH 33-P\* STONE IN ROADWAYS (TYPICAL). REFER TO SD-700.01 AND SD-700.02 FOR BACKFILL.

STANDARD BEDDING- REFER TO TRENCH DETAIL (SD-307.01) FOR BACKFILL REQUIREMENTS.

\* "33-P (PUG)" - 303-01, TYPE A, GRADING D ("33-P"), TENNESSEE D.O.T. SPECIFICATIONS.

- NOTES**
1. STANDARD BEDDING SHALL EXTEND 4" MINIMUM ON EACH SIDE OF THE PIPE.
  2. FOR DEPTH LESS THAN 4", PIPE SHALL BE DUCTILE IRON.

FULL DEPTH BACKFILL WITH 33-P\* STONE IN ROADWAYS (TYPICAL). REFER TO SD-700.01 AND SD-700.02 FOR BACKFILL.



NO.	REVISION	DATE
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
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**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
**SANITARY SEWER SERVICE CONNECTION AND LATERAL DETAIL**

DATE OF ORIGINAL ISSUE: **DECEMBER 10, 1999**

STANDARD NUMBER: **SD-303.01**

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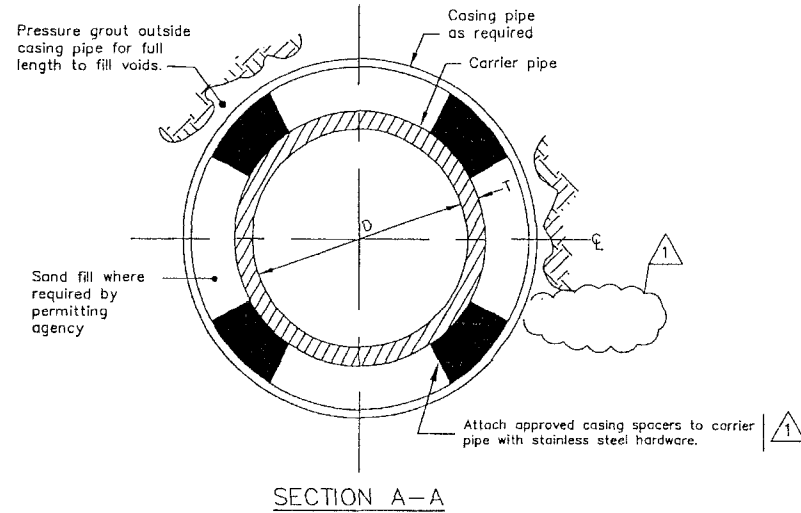
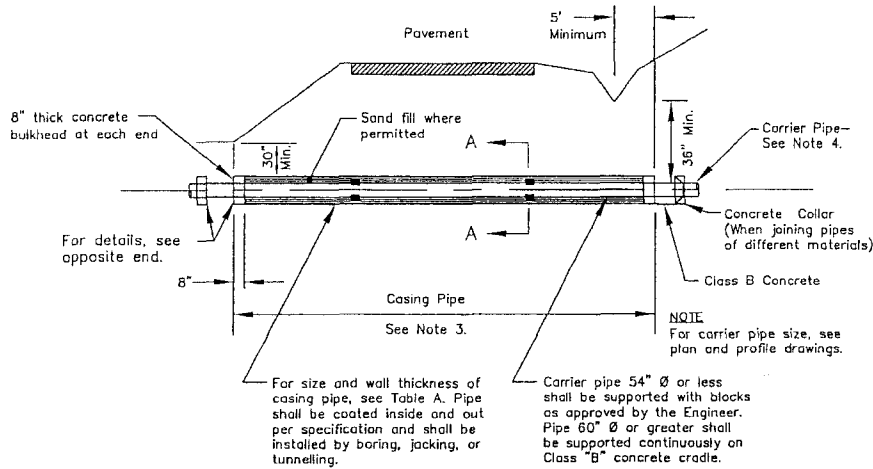
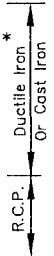


TABLE "A"		
PIPE SIZE		
Carrier Pipe (Inches)	Casing Pipe	
	Diameter (Inches)	Steel Pipe Wall Thick
8	18	1/4"
10	20	5/16"
12	24	3/8"
14	30	1/2"
18	36	1/2"
24	36	1/2"
30	54	SEE TABLE "B"
36	54	...
42	86	...
48	72	...
54	78	...
60	84	...
66	96	...
72	108	...
84	120	...
96	144	...

TABLE "B"	
Gauges of Liner Plate For Continuous Load-Carrying Structures	
Nominal Diameter (Inches)	Height of Cover (Feet)
	2-5    6-10    11-15    16-20    21-25    26-30    31-35    36-40    41-45
48	12 12 12 12 12 12 12 12 10
54	12 12 12 12 12 12 12 12 10 8
60	12 12 12 12 12 12 10 8 7
66	12 12 12 12 12 10 8 8 5
72	12 12 12 12 12 10 8 7 5
78	12 12 12 12 10 8 7 5 5
84	12 12 12 10 10 8 5 5 5
96	12 10 10 10 10 8 5 5 5
108	10 10 10 10 8 7 5 5 5
120	10 10 10 8 8 7 5 5 3
144	8 8 8 8 5 5 3 1 1



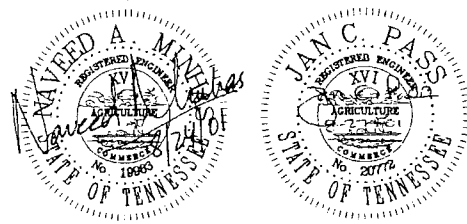
\* HAMILTON COUNTY WMTA ALLOWS PVC PIPE.

**HIGHWAY CROSSING NOTES FOR PLACING SEWER LINES WITHIN THE RIGHT-OF-WAY OR CROSSING STATE AND U.S. HIGHWAYS AND DESIGNATED CITY STREETS**

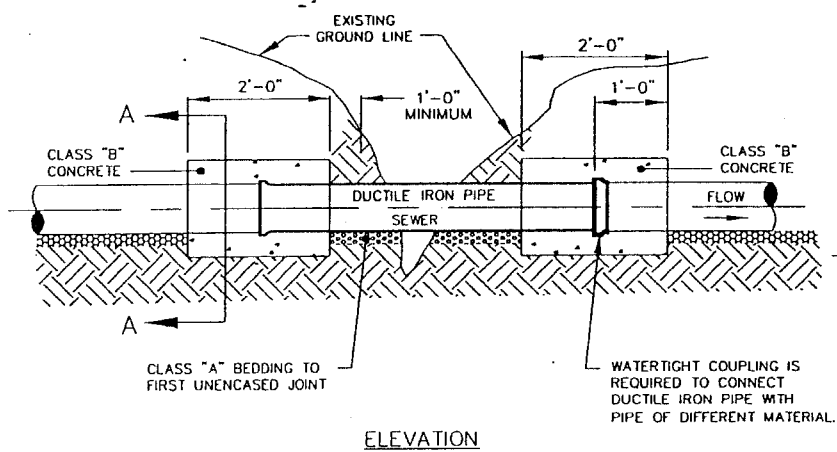
1. LINES CROSSING UNDER PAVED ROADS AND PAVED CROSSROADS WITHIN DESIGNATED CITY STREETS, AND STATE AND U.S. HIGHWAY RIGHTS-OF-WAY SHALL BE ENCASED AND INSTALLED BY BORING, JACKING, OR TUNNELLING. CASING PIPE SHALL EXTEND FROM TOE OF SHOULDER SLOPE TO TOE OF SHOULDER SLOPE. ALL WORK SHALL BE DONE AS SHOWN ON THIS DRAWING.
2. ALL LINES SHALL HAVE A MINIMUM COVER OF 30" EXCEPT WHERE DEEPER COVER IS INDICATED ON THE DRAWINGS. ALL TRENCH EXCAVATION WITHIN THE RIGHT-OF-WAY AND NOT UNDER PAVING SHALL BE BACKFILLED BY TAMPING IN 6" LAYERS. ALL SURPLUS MATERIAL SHALL BE REMOVED FROM THE RIGHT-OF-WAY, AND THE EXCAVATION SHALL THEN BE FINISHED FLUSH WITH THE SURROUNDING GROUND.
3. CASING PIPE SHALL BE EITHER SPIRAL WELDED STEEL PIPE OR STEEL LINER PLATE, APPLICABLE AND SUITABLE TO THE METHOD OF INSTALLATION EMPLOYED (SEE TABLE "A"). ALL CASING PIPE SHALL BE COATED INSIDE AND OUT PER SPECIFICATIONS.
4. CARRIER PIPE FOR ALL LINES 6" TO 54" IN DIAMETER SHALL BE CAST OR DUCTILE IRON PIPE \* WITH "PUSH-ON" TYPE JOINTS. CARRIER PIPE 60" IN DIAMETER AND LARGER SHALL BE REINFORCED CONCRETE WITH "BELL AND SPIGOT" JOINTS. FOR SIZE, SEE PLAN AND PROFILE DRAWINGS.
5. ALL INSTALLATIONS SHALL BE DONE TO LEAVE FREE FLOWS IN DRAINAGE DITCHES, PIPES, CULVERTS, OR OTHER SURFACE WATER DRAINAGE FACILITIES OF THE HIGHWAY OR STREET OR ITS CONNECTIONS.
6. THE CONTRACTOR SHALL MAKE NECESSARY ARRANGEMENTS FOR HIGHWAY TRAFFIC OVER THE CONSTRUCTION AREA DURING SUCH WORK AND SHALL PLACE NECESSARY BARRICADES, WARNING SIGNS, SIGNALS, LIGHTS, AND, IF NECESSARY, WATCHMEN FOR THE TRAVELING PUBLIC.

**CASING PIPE**  
SIZE AND THICKNESS OF PIPE FOR HIGHWAY CROSSING

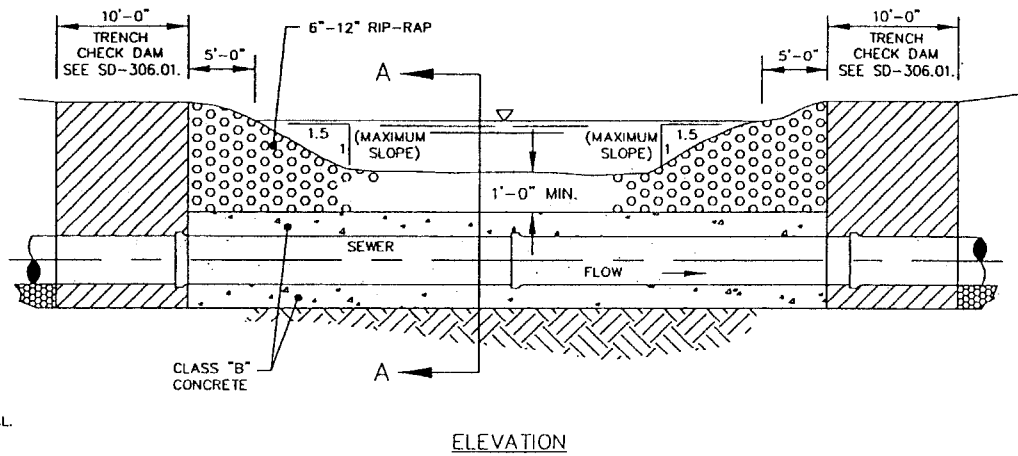
**HIGHWAY CROSSING DETAILS**



<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>			
<b>HIGHWAY CROSSING FOR SANITARY SEWERS</b>			
1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>
0	INITIAL ISSUE	12/10/99	
NO.	REVISION	DATE	STANDARD NUMBER: <b>SD-304.01</b>

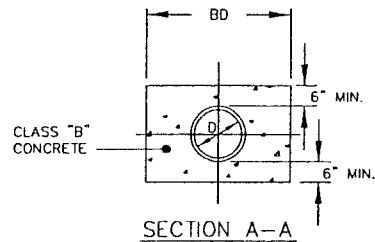


DITCH CROSSING DETAIL



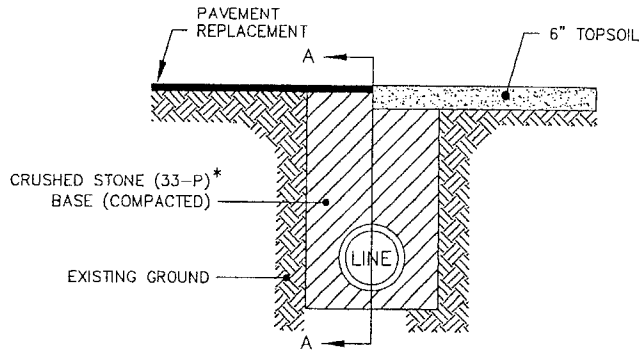
CREEK CROSSING DETAIL

PIPE SIZE "D" (IN)	TRENCH WIDTH "BD" (FT)
6	2.00
8	2.33
10	2.50
12	2.67
15	3.00
18	3.25
24	3.83
30	4.42
36	5.67
42	6.25
48	6.83

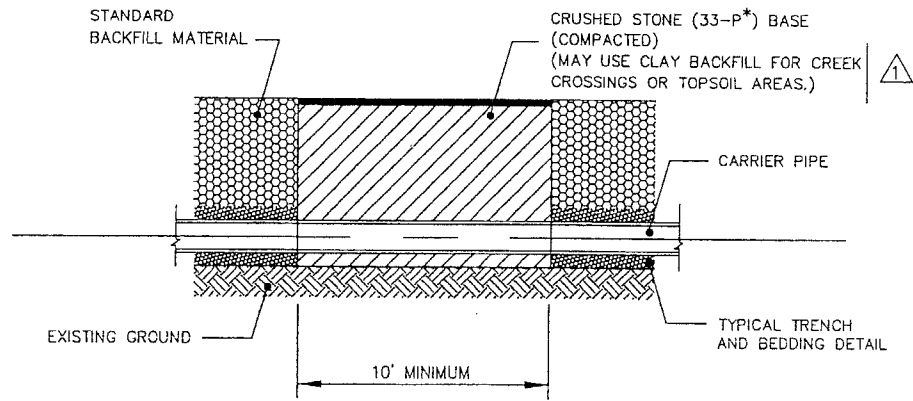


<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>		
<b>CREEK AND DITCH CROSSINGS FOR SANITARY SEWERS</b>		
0	INITIAL ISSUE	DATE OF ORIGINAL ISSUE
NO.	REVISION	DATE
		<b>DECEMBER 10, 1999</b>
		<b>STANDARD NUMBER: SD-305.01</b>

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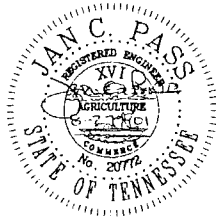
END VIEW  
(SPLIT SECTION)



SECTION A-A

\* "33-P (PUG)" - 303-01, TYPE A, GRADING D ("33-P"), TENNESSEE D.O.T. SPECIFICATIONS.

NOTE  
A CHECK DAM SHALL BE LOCATED EVERY 500'  
ALONG THE TRENCH UNLESS SHOWN OTHERWISE  
ON THE PLANS.



CITY OF CHATTANOOGA AND HAMILTON COUNTY  
TRENCH CHECK DAM

1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE
0	INITIAL ISSUE	12/10/99	DECEMBER 10, 1999
NO.	REVISION	DATE	STANDARD NUMBER: SD-306.01

PIPE DIAMETER "D" (INCHES)	TRENCH WIDTH "BD" (FEET)	TRENCH* VOLUME PER FOOT OF DEPTH	CLASS "C" BEDDING FOR CONCRETE AND DUCTILE IRON		ROCK TRENCH BEDDING	
			QTY. (C.Y.)	"S" IN (IN.)	CONC. & D.I.	PVC, ETC.
6	2.00	0.074	0.025	4-1/4	0.025	0.037
8	2.33	0.086	0.030	4-1/2	0.030	0.043
10	2.50	0.093	0.036	5-0	0.049	0.062
12	2.67	0.099	0.039	5-1/4	0.054	0.066
15	3.00	0.111	0.046	5-3/4	0.063	0.074
18	3.25	0.120	0.053	6-1/4	0.069	0.080
24	3.83	0.142	0.072	7-1/2	0.108	0.118
30	4.42	0.164	0.098	9-0	0.121	0.137
36	5.67	0.210	0.148	10-1/2	0.194	-----
42	6.25	0.231	0.184	12-0	0.209	-----
48	6.83	0.253	0.223	13-1/2	0.223	-----
54	7.42	0.275	0.226	15-0	0.236	-----
60	8.00	0.296	0.312	16-1/2	0.247	-----
66	8.58	0.318	0.362	18-0	0.258	-----
72	9.17	0.340	0.416	19-1/2	0.268	-----
78	9.75	0.361	0.458	20-1/2	0.291	-----
84	10.33	0.383	0.510	21-3/4	0.315	-----
96	11.50	0.426	0.604	23-3/4	0.365	-----

\* ALL VOLUMES IN CUBIC YARDS/LINEAR FOOT.

\*\* QUANTITIES AND DIMENSIONS FOR 6" SERVICE LINE SHALL APPLY TO 4" SERVICE LINE ALSO.  
 QUANTITIES FOR CLASS "B" AND ROCK TRENCH BEDDING ARE THE QUANTITIES IN EXCESS OF THOSE REQUIRED FOR CLASS "C" BEDDING.

### SCHEDULE OF BEDDING

PIPE DIAMETER "D" (INCHES)	TRENCH WIDTH TOP OF PIPE "BD" (FT.)	CONCRETE PIPE C-76 CLASS III	CONCRETE PIPE C-76 CLASS IV AWWA C-301 D.I.P.	PVC D-3034 AND ASTM F679
CLASS "C" BEDDING (STANDARD BEDDING)				
4"	2.00	---	---	NL
6"	2.00	---	---	NL
8"	2.33	---	---	NL
10"	2.50	---	---	NL
12"	2.67	---	13	NL
15"	3.00	---	12	NL
18"	3.25	---	13	NL
21"	3.54	---	14	NL
24"	3.83	---	15	---
27"	4.08	11	15	---
30"	4.42	11	16	---
33"	4.75	11	16	---
36"	5.67	10	14	---
42"	6.25	11	16	---
48"	6.83	12	17	---
54"	7.42	13	18	---
60"	8.00	13	18	---
66"	8.58	14	19	---
72"	9.17	15	20	---
78"	9.75	16	21	---
84"	10.33	16	21	---
90"				

NL=NO LIMIT TO BOTTOM OF PIPE

BD=MAXIMUM TRENCH WIDTH AT 12" ABOVE TOP OF PIPE. IF DITCH IS CUT WIDER THAN BD SHOWN, THE CONTRACTOR, AT HIS OWN EXPENSE, WILL BE REQUIRED TO INCREASE BEDDING TO COMPENSATE FOR ADDITIONAL LOAD ON THE PIPE.

(PERMISSIBLE DEPTH (IN FEET) TO BOTTOM OF PIPE FOR SATURATED CLAY EARTH LOAD, 130 LBS./CU. FT. (SATURATED CLAY).)

#### NOTES

##### STANDARD BEDDING

MATERIAL SHALL BE PLACED AS SHOWN BY THE STANDARD DETAILS FOR THE TYPE OF PIPE USED. THE BEDDING SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID PER LINEAR FOOT OF PIPE FOR VARIOUS TYPES, SIZES, AND DEPTHS LISTED IN THE BID SCHEDULE.

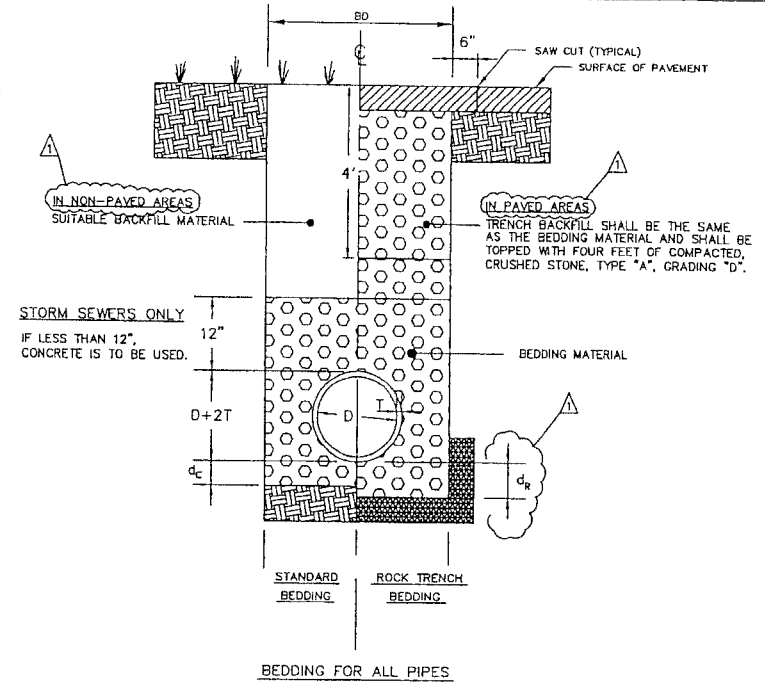
CLASS "B" BEDDING MATERIAL (SECTION 204.04, TENNESSEE D.O.T. SPECIFICATIONS)- MATERIAL FOR CLASS "B" BEDDING FOR PIPE CULVERTS SHALL CONSIST OF SAND OR A NATURAL SANDY SOIL, ALL OF WHICH PASSES A 3/8-INCH SIEVE AND NOT MORE THAN TEN PERCENT PASSES A NO. 200 SIEVE; OR STONE, GRAVEL, CHERT, OR SLAG MEETING THE GRADING REQUIREMENTS FOR EITHER GRADING C, D, OR E OF SUBSECTION 903.05.

IN ROCK CUTS OR OTHER AREAS DESIGNATED BY THE ENGINEER WHERE A FREE DRAINAGE BEDDING OR BACKFILL MATERIAL IS REQUIRED, THE MATERIAL SHALL BE CRUSHED STONE, CRUSHED SLAG, OR WASHED GRAVEL MEETING THE REQUIREMENTS OF SUBSECTION 903.17.

PVC PIPE BEDDING MATERIAL-NO. 7 WASHED STONE (SECTION 903.22, TENNESSEE D.O.T. SPECIFICATIONS).

##### ROCK TRENCH BEDDING

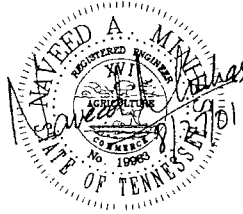
MATERIAL SHALL BE SAME AS FOR CLASS "B" BEDDING AND SHALL BE PLACED AS SHOWN BY THE STANDARD DETAILS FOR THE TYPE OF PIPE USED. QUANTITIES FOR THE ROCK TRENCH BEDDING ARE THE AMOUNTS IN EXCESS OF THOSE REQUIRED FOR CLASS "C" BEDDING.



### TRENCH DETAILS

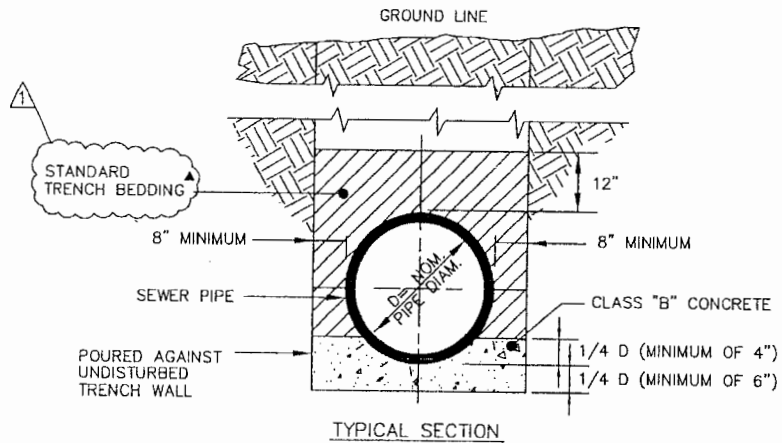
D	d <sub>c</sub>	d <sub>r</sub>
8" AND LESS	6"	10"
10" TO 18"	8"	12"
20" TO 30"	10"	14"
32" AND LARGER	12"	16"

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		<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
		<b>TRENCH DETAILS AND BEDDING (STORM/SANITARY SEWERS)</b>	
1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE
0	INITIAL ISSUE	12/10/99	
NO.	REVISION	DATE	DECEMBER 10, 1999
			STANDARD NUMBER: SD-307.01

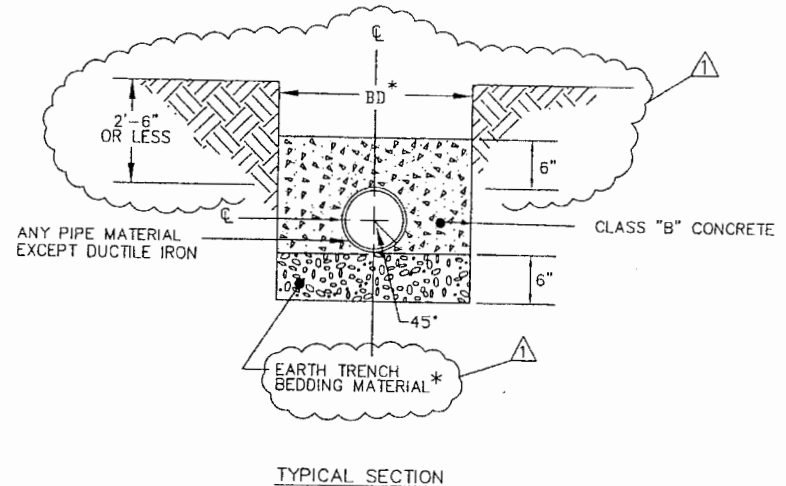
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CONCRETE CRADLE

NOTES

1. CLASS "B" CONCRETE IS TO BE POURED 16 HOURS BEFORE PLACING BACKFILL, AND IN A MANNER THAT PREVENTS THE FLOATING OF PIPES.
2. PIPES ARE TO BE LAID BEFORE THE CONCRETE HARDENS.
- ▲ 3. SEE STANDARD DRAWING SD-307.01.



CONCRETE CAP FOR SHALLOW PIPE

NOTES

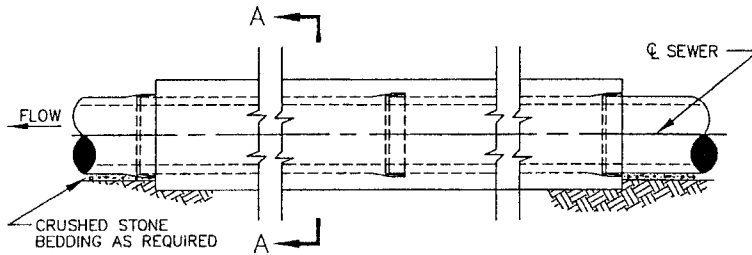
1. CLASS "B" CONCRETE IS TO BE POURED 36 HOURS BEFORE PLACING BACKFILL, AND IN A MANNER THAT PREVENTS THE FLOATING OF PIPES.
2. CONCRETE ENCASUREMENT IS REQUIRED FOR DITCHES AND CREEKS WHERE THE COVER IS 2'-6" OR LESS.
- ▲ \* 3. SEE STANDARD DRAWING SD-307.01.



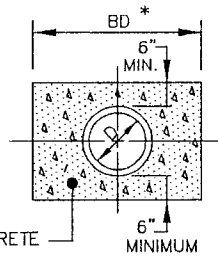
NO.	REVISION	DATE
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99

<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
<i>TRENCH DETAILS (CONCRETE PROTECTION)</i>	
DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER : <b>SD-308.01</b>

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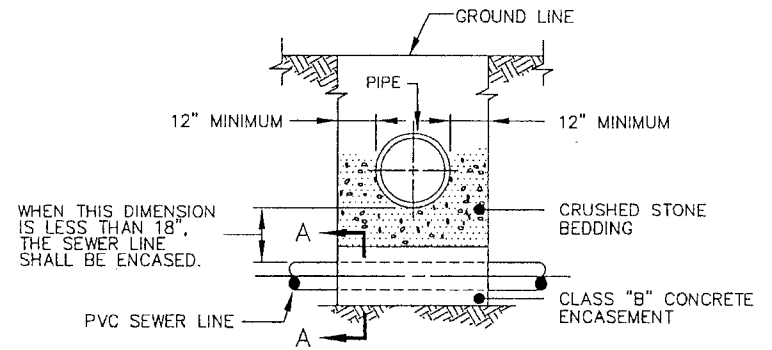
ELEVATION



CLASS "B" CONCRETE  
ENCASEMENT

SECTION A-A

BD\* - SEE STANDARD  
SD-307.01.

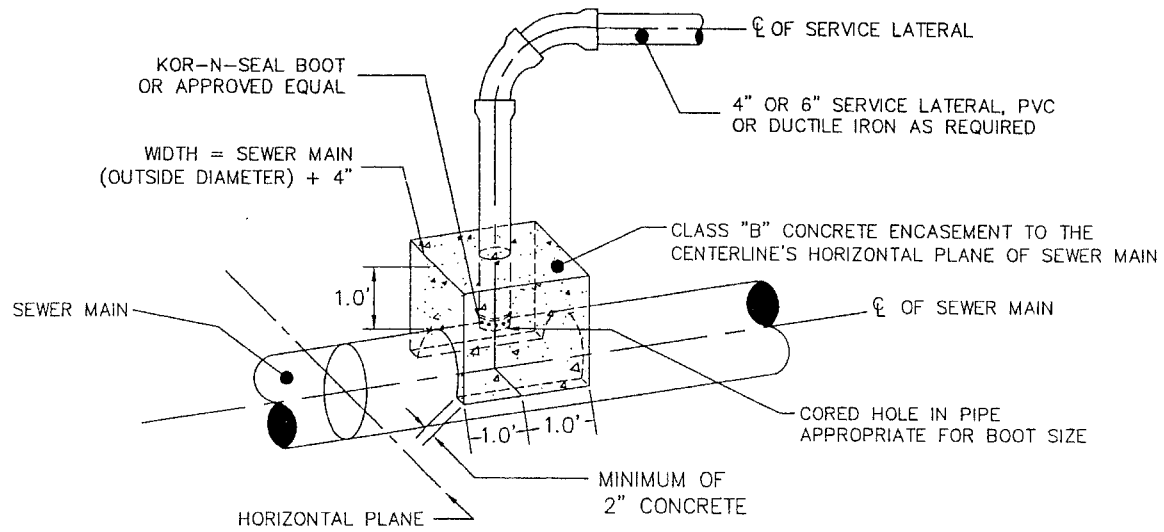


**CONCRETE ENCASEMENT**

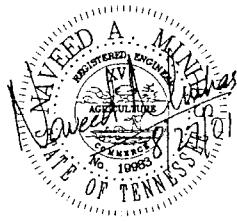


<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>			
<i>TRENCH DETAILS (CONCRETE PROTECTION)</i>			
1	DELETED TABLE	8/24/01	DATE OF ORIGINAL ISSUE
0	INITIAL ISSUE	12/10/99	<b>STANDARD NUMBER : SD-308.02</b>
NO.	REVISION	DATE	

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**NOTE**  
 ALL SUCH CONNECTIONS TO  
 PIPES 15" OR LARGER MUST  
 HAVE PRIOR APPROVAL BY CITY.



<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>			
<b>SEWER SERVICE TAP (15" OR LARGER SEWER MAIN)</b>			
		DATE OF ORIGINAL ISSUE	AUGUST 24, 2001
0	INITIAL ISSUE	8/24/01	STANDARD NUMBER: SD-309.01
NO.	REVISION	DATE	