



December 16, 1999

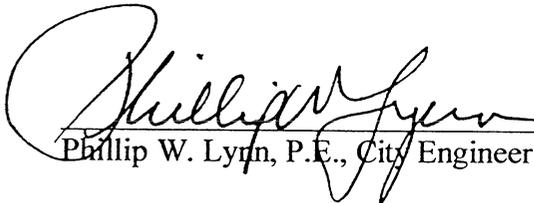
To: See Distribution

Re: City of Chattanooga and Hamilton County Design and Construction Standards

Enclosed is a set of Design and Construction Standards for your use on all future projects within Hamilton County and the City of Chattanooga. These standards were prepared through a collaborative effort of the Engineering Division, Department of Public Works, City of Chattanooga and the Engineering Department, Public Works Division, Hamilton County.

We intend that this be a 'live' document with the City of Chattanooga maintaining the master copy and providing periodic revisions as required. Please use the attached comment sheet to inform us of suggested additions and of any changes that may be needed. Your comments are very important to keeping this document up to date.

Sincerely,

  
Phillip W. Lynn, P.E., City Engineer

  
Mike Howard, P.E., County Engineer

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Enclosure

Distribution:



September 28, 2001

To: Persons Having Copies of Design and Construction Standards

Re: Revision-One Issue

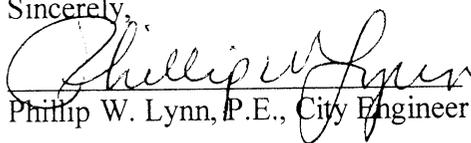
The first revisions have been made to sheets in the City of Chattanooga and Hamilton County's manual Design and Construction Standards, and four sheets with new drawings have been added to it. Please find attached a copy of the cover sheet stamped to indicate the latest revision level and a copy of each of the referenced sheets with a complete listing of them on revised index sheets 1-3.

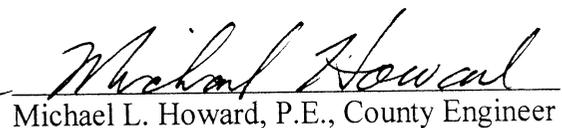
Because the changes and additions are now in effect, add the sheets to your manual, and remove the corresponding, unrevised ones. Also, there is a comment sheet for your use if you want to suggest additions or changes for a future issue of the manual.

Included too is a copy of the current back sheet (SD-703.01) to replace the one you have should it be damaged when you remove the tape to insert other sheets.

We hope that you have found the manual to be convenient and useful and that these revisions and additions will make it even better.

Sincerely,

  
Phillip W. Lynn, P.E., City Engineer

  
Michael L. Howard, P.E., County Engineer

ELB/ck

Enclosures:

Revised Sheets (39)  
New Sheets (4)  
Comment Sheet  
Cover Sheet  
Back Sheet (SD-703.01)



CITY OF CHATTANOOGA  
AND  
HAMILTON COUNTY  
TENNESSEE



DESIGN AND  
CONSTRUCTION  
STANDARDS

CITY OF CHATTANOOGA  
DEPARTMENT OF PUBLIC WORKS  
ENGINEERING DIVISION

HAMILTON COUNTY  
PUBLIC WORKS DIVISION  
ENGINEERING DEPARTMENT



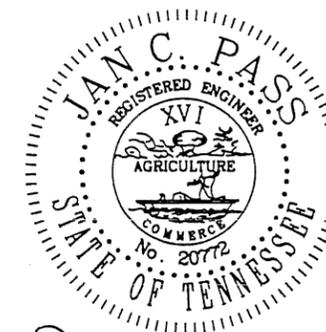
*Naveed A. Minhas*

12-9-99

NAVEED A. MINHAS, P.E. DATE  
ENGINEERING MANAGER  
STATE LICENSE NO. 19983

*Phillip W. Lynn* 12/10/99  
**APPROVED FOR RELEASE** DATE  
PHILLIP W. LYNN, P.E.  
CITY ENGINEER

REVISION LEVEL		
NO.	DATE	APPROVED
1	8/24/01	N/A



*Jan C. Pass* 12-9-99  
JAN C. PASS, P.E. DATE  
ENGINEERING PROJECTS MANAGER  
STATE LICENSE NO. 20772

*Michael L. Howard* 12-10-99  
**APPROVED FOR RELEASE** DATE  
MICHAEL L. HOWARD, P.E.  
COUNTY ENGINEER

# INDEX OF DRAWINGS

DRAWING NUMBER

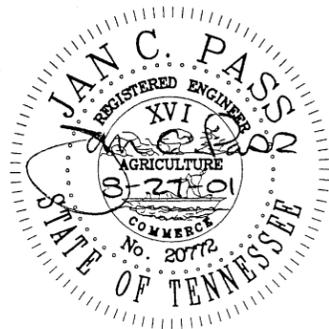
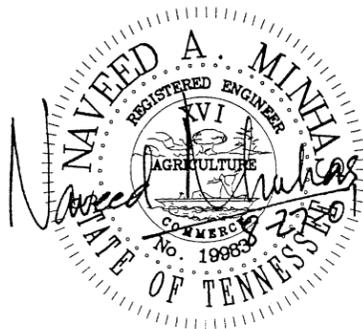
TITLE

REVISION NUMBER

DATE

	<u>GENERAL</u>		
SD-100.01	GENERAL NOTES	1	8-24-01
SD-100.02	GENERAL NOTES	1	8-24-01
SD-101.01	UTILITY OWNERS	1	8-24-01
	<u>HIGHWAYS, ROADS, AND STREETS</u>		
SD-200.01	ROADWAY SECTIONS	1	8-24-01
SD-200.02	ROADWAY SECTIONS	1	8-24-01
SD-201.01	CONCRETE CURBS (6" DETACHED AND HEADER)	1	8-24-01
SD-202.01	CONCRETE CURB AND GUTTER (TYPE "A")	1	8-24-01
SD-202.02	CONCRETE CURB AND GUTTER (TYPE "A")	1	8-24-01
SD-203.01	CONCRETE CURB (RESIDENTIAL)	1	8-24-01
SD-203.02	CONCRETE CURB (RESIDENTIAL)	0	12-10-99
SD-204.01	PRIVATE DRIVEWAY APPROACH (RESIDENTIAL)	1	8-24-01
SD-205.01	HANDICAP RAMP DETAILS	0	12-10-99
SD-205.02	HANDICAP RAMP DETAILS	1	8-24-01
SD-206.01	MOUNTABLE ISLAND CURB	0	8-24-01
	<u>SANITARY SEWERS</u>		
SD-300.01	SANITARY/STORM MANHOLE (PRECAST)	1	8-24-01
SD-301.01	SANITARY/STORM MANHOLE DETAILS	1	8-24-01
SD-301.02	SANITARY/STORM MANHOLE DETAILS	0	12-10-99
SD-301.03	SANITARY/STORM MANHOLE DETAILS	1	8-24-01
SD-301.04	SANITARY/STORM MANHOLE DETAILS	1	8-24-01
SD-302.01	SANITARY MANHOLE DROP CONNECTION	1	8-24-01
SD-303.01	SANITARY SEWER SERVICE CONNECTION AND LATERAL DETAIL	1	8-24-01
SD-304.01	HIGHWAY CROSSING FOR SANITARY SEWERS	1	8-24-01
SD-305.01	CREEK AND DITCH CROSSINGS FOR SANITARY SEWERS	0	12-10-99
SD-306.01	TRENCH CHECK DAM	1	8-24-01
SD-307.01	TRENCH DETAILS AND BEDDING (SANITARY SEWERS/STORM SEWERS)	1	8-24-01
SD-308.01	TRENCH DETAILS (CONCRETE PROTECTION)	1	8-24-01
SD-308.02	TRENCH DETAILS (CONCRETE PROTECTION)	1	8-24-01
SD-309.01	SEWER SERVICE TAP (15" OR LARGER SEWER MAIN)	0	8-24-01
SD-310.01	OIL SKIMMER	0	8-24-01

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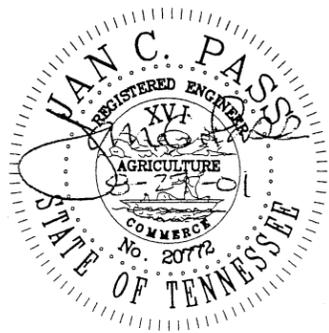


<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>			
<i>INDEX OF DRAWINGS - 1/3</i>			
1	ADDED SD-206.01, 309.01, 310.01;	8/24/01	
	OTHER REVISIONS AS NOTED	DATE OF ORIGINAL ISSUE	
0	INITIAL ISSUE	12/10/99	<b>DECEMBER 10, 1999</b>
NO.	REVISION	DATE	<b>STANDARD NUMBER: (INDEX - 1/3)</b>

# INDEX OF DRAWINGS

<u>DRAWING NUMBER</u>	<u>TITLE</u>	<u>REVISION NUMBER</u>	<u>DATE</u>
<b>STREETSCAPE</b>			
SD-500.01	TREEWELL DETAILS	1	8-24-01
SD-500.02	TREEWELL DETAILS	1	8-24-01
SD-501.01	PAVER LAYOUT	1	8-24-01
SD-501.02	PAVER LAYOUT	1	8-24-01
SD-502.01	STREETSCAPE UTILITY COLLAR DETAILS	0	12-10-99
SD-503.01	PAVER EDGE DETAILS AND COLOR CHART	1	8-24-01
SD-504.01	PAVER INTERSECTION DETAIL	1	8-24-01
SD-505.01	STREETSCAPE GUARDRAIL DETAIL	0	12-10-99
SD-506.01	FOUNDATION DETAILS (39' STREETLIGHT POLE)	1	8-24-01
SD-507.01	FOUNDATION DETAILS (12' PEDESTRIAN LIGHT POLE)	1	8-24-01
SD-508.01	PARKING METER DETAILS	0	12-10-99
SD-509.01	PERVIOUS CONCRETE PAVER DETAIL	0	8-24-01
<b>DRAINAGE</b>			
SD-300.01	SANITARY/STORM MANHOLE (PRECAST)	1	8-24-01
SD-301.01	SANITARY/STORM MANHOLE DETAILS	1	8-24-01
SD-301.02	SANITARY/STORM MANHOLE DETAILS	0	12-10-99
SD-301.03	SANITARY/STORM MANHOLE DETAILS	1	8-24-01
SD-301.04	SANITARY/STORM MANHOLE DETAILS	1	8-24-01
SD-307.01	TRENCH DETAILS AND BEDDING (SANITARY SEWERS/STORM SEWERS)	1	8-24-01
SD-308.01	TRENCH DETAILS (CONCRETE PROTECTION)	1	8-24-01
SD-308.02	TRENCH DETAILS (CONCRETE PROTECTION)	1	8-24-01
SD-310.01	OIL SKIMMER	0	8-24-01
SD-600.01	STORM MANHOLE (BRICK/CAST-IN-PLACE)	0	12-10-99
SD-601.01	CONCRETE ENDWALL (TYPE "S")	0	12-10-99
SD-602.01	CONCRETE ENDWALL (TYPE "L")	0	12-10-99
SD-603.01	CONCRETE ENDWALL (TYPE "U")	0	12-10-99
SD-604.01	CONCRETE ENDWALL (TYPE "W")	0	12-10-99
SD-605.01	CONCRETE ENDWALL (PRECAST/FLARED)	0	12-10-99
SD-606.01	DROP INLET	0	12-10-99
SD-607.01	DROP INLET (PRECAST CONCRETE)	1	8-24-01
SD-608.01	CATCH BASIN (STANDARD), FRAME, AND GRATE	1	8-24-01
SD-608.02	CATCH BASIN (STANDARD), FRAME, AND GRATE	1	8-24-01
SD-609.01	CURB INLET (CONCRETE/BRICK)	0	12-10-99
SD-609.02	CURB INLET (CONCRETE/BRICK)	1	8-24-01
SD-610.01	CURB INLET (PRECAST CONCRETE)	0	12-10-99
SD-610.02	CURB INLET (PRECAST CONCRETE)	1	8-24-01

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1	ADDED SD-310.01 AND SD-509.01;	8/24/01	
0	OTHER REVISIONS AS NOTED	12/10/99	
NO.	REVISION	DATE	

## CITY OF CHATTANOOGA AND HAMILTON COUNTY

### INDEX OF DRAWINGS - 2/3

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

STANDARD NUMBER: *(INDEX - 2/3)*

# INDEX OF DRAWINGS

DRAWING NUMBER

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REVISION NUMBER

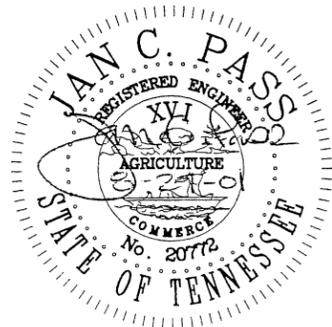
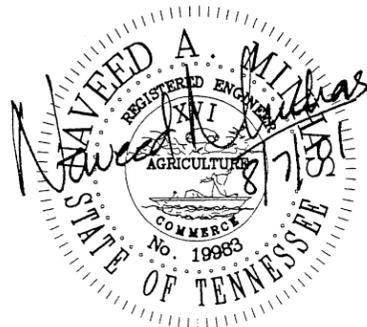
DATE

REPAIRS

SD-700.01	REPAIR DETAILS (ROADWAY)	1	8-24-01
SD-700.02	REPAIR DETAILS (ROADWAY)	0	12-10-99
SD-701.01	REPAIR DETAILS (CURB AND GUTTER/SIDEWALK)	0	12-10-99
SD-702.01	REPAIR DETAILS (SIDEWALK) - POLE REPLACEMENT	0	12-10-99
SD-703.01	REPAIR DETAILS (DRIVEWAY/PARKING LOT)	0	12-10-99



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1	REVISION 1 ISSUE	8/24/01
0	INITIAL ISSUE	12/10/99
NO.	REVISION	DATE

**CITY OF CHATTANOOGA AND HAMILTON COUNTY**

*INDEX OF DRAWINGS - 3/3*

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

STANDARD NUMBER: *(INDEX - 3/3)*

# GENERAL

# GENERAL NOTES

## GRADING AND EXCAVATION

1. FINISHED GRADES ON PROFILES ARE THE SAME AS FINISHED GRADES SHOWN ON TYPICAL SECTIONS AND ON CROSS SECTIONS.
2. WHEN SPECIFIED GRADING REQUIREMENTS ARE NOT SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL GRADE TO DRAIN ALL AREAS WITHIN THE LIMITS OF CONSTRUCTION, OR OTHERWISE DISTURBED BY CONSTRUCTION, AND ALSO TO MATCH THE EXISTING, ADJACENT GROUND.
3. THE CONTRACTOR SHALL PERFORM ALL NECESSARY STRIPPING OF EXISTING TOPSOIL ON THE JOBSITE.
4. ON THE PROJECT, NEWLY GRADED, EARTH AREAS NOT TO BE PAVED, RIP-RAPPED, OR STABILIZED, SHALL BE SEED IN ACCORDANCE WITH THE CITY OR COUNTY SPECIFICATIONS. PRIOR TO SEEDING, A FOUR-INCH (4") LAYER OF TOPSOIL SHALL BE PLACED ON THESE AREAS IN ACCORDANCE WITH SAID SPECIFICATIONS. ALL EXISTING ROADS OR RAMPS TO BE ABANDONED WITHIN THE RIGHT-OF-WAY SHALL BE SCARIFIED AND OBLITERATED, THEN HAVE TOPSOIL AND SEED ADDED.
5. THE CONTRACTOR IS TO DISPOSE OF, AT HIS OWN EXPENSE, ALL UNSUITABLE AND/OR SURPLUS, EXCAVATED MATERIAL AS DIRECTED BY THE ENGINEER. ALL SUITABLE, EXCAVATED MATERIAL SHALL BE USED AS DIRECTED BY THE ENGINEER.
6. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE SECTIONS OF EXISTING CURB, OR CURB AND GUTTER, THAT ARE RENDERED OBSOLETE.
7. EXCAVATION ADJACENT TO EXISTING PAVEMENT SHALL BE MADE TO A NEAT LINE.

## EROSION/POLLUTION CONTROL

8. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO CONTROL EROSION AND WATER POLLUTION THROUGH THE CONSTRUCTION PERIOD. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE IN PLACE BEFORE EARTH MOVING OPERATIONS BEGIN. CLEARING AND GRUBBING SHALL BE HELD TO A MINIMUM WIDTH NECESSARY TO ACCOMMODATE ROADWAY SLOPES. EMBANKMENTS AND EXCAVATED AREAS SHALL BE PROMPTLY STABILIZED TO MINIMIZE EROSION. BALED STRAW EROSION CHECKS AND SILT FENCING SHALL BE USED ALONG THE TOE OF FILL SLOPES, IN DITCHES, AND IN OTHER AREAS WHERE EROSION IS A PROBLEM AND SILT-LADEN RUNOFF MAY ENTER A STREAM OR ADJACENT PROPERTY.
9. ANY STOCKPILED SOIL OR FILL MATERIAL SHALL BE LOCATED AND TREATED IN A MANNER TO PREVENT SILT'S ENTERING STREAMS. NO EXCAVATED MATERIAL SHALL BE DISCHARGED INTO DITCHES. THE CONTRACTOR SHALL DISPOSE OF ALL EXCAVATED MATERIAL IN A LOCATION, APPROVED BY THE ENGINEER, ABOVE THE NORMAL HIGH WATER ELEVATION.
10. THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL EROSION CONTROL PROVISIONS AS SET FORTH IN THE BEST MANAGEMENT PRACTICES MANUAL AVAILABLE FROM THE ENGINEERING/STORMWATER DIVISION OF THE CITY OF CHATTANOOGA, DEPARTMENT OF PUBLIC WORKS. REFER TO CITY ORDINANCE 9942, AS AMENDED.
11. THE CONTRACTOR SHALL PROVIDE TEMPORARY EROSION AND WATER CONTROL MEASURES (SUCH AS BERMS, SEDIMENT BASINS, SLOPE DRAINS, HAY BALES, AND SILT FENCES) AS DIRECTED BY THE ENGINEER. THESE TEMPORARY MEASURES SHALL BE COORDINATED WITH THE PERMANENT EROSION CONTROL FEATURES TO ASSURE ECONOMICAL, EFFECTIVE, AND CONTINUOUS EROSION CONTROL THROUGHOUT THE PROJECT.
12. NO EARTH OR OTHER ERODIBLE MATERIAL SHALL BE USED TO DIVERT STREAM FLOW OR TO CONSTRUCT COFFERDAMS. CLEAN CUT ROCK WITH FINES MAY BE USED, OR, IN THE CASE OF COFFERDAMS, STEEL SHEETING IS PERMISSIBLE. WATER OR SEDIMENT ISOLATED BY COFFERDAMS OR DISPLACED FOOTINGS SHALL BE PUMPED INTO SEDIMENT BASINS ON THE BANK OF THE STREAM.

## DRAINAGE

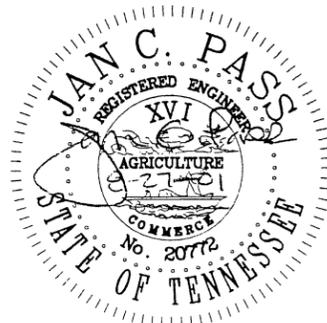
13. THE CONTRACTOR IS REQUIRED TO CONNECT ALL EXISTING STORM DRAINAGE PIPING TO PROPOSED DRAINAGE STRUCTURES AS MAY BE REQUIRED BY THE FIELD ENGINEER.
14. EXISTING DOWNSPOUT DRAINAGE THAT IS CONNECTED TO THE PRESENT STORM SEWER SYSTEM SHALL BE CONNECTED TO THE PROPOSED STORM SEWER SYSTEM.
15. THE CONTRACTOR SHALL BE REQUIRED TO BACKFILL STORM SEWERS WITH BACKFILL MATERIAL ACCORDING TO THESE STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER.

## UTILITIES

16. LOCATIONS OF UTILITIES, PUBLIC AND/OR PRIVATE, ARE APPROXIMATE ONLY, AND THE EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD. IT IS POSSIBLE THAT SOME EXISTING FACILITIES ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING ALL UNDERGROUND UTILITY FACILITIES LOCATED AND MARKED PRIOR TO THE BEGINNING OF CONSTRUCTION.
17. UTILITY OWNERS ARE TO RESET, RELAY, OR ADJUST, AT THEIR OWN EXPENSE, POWER AND TELEPHONE LINES, POWER POLES, WATER AND GAS LINES, AND ALL OTHER FACILITIES INCLUDING METERS, VALVES, PITS, ETC., CONFLICTING WITH THE PROPOSED IMPROVEMENTS WITHIN THE EXISTING RIGHT-OF-WAY. ALL RELOCATED POLES, METERS, VALVES, ETC., ARE TO BE LOCATED BEHIND THE SIDEWALK OR ON THE RIGHT-OF-WAY LINE.
18. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTACTING ALL AFFECTED UTILITY OWNERS PRIOR TO SUBMITTING HIS BID, SO THAT HE MAY DETERMINE THE EXTENT OF DELAYS THAT UTILITY RELOCATIONS AND/OR ADJUSTMENTS MAY HAVE UPON THE SCHEDULING OF WORK FOR THE PROJECT. SOME UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS, WHILE SOME WORK MAY BE REQUIRED AROUND UTILITY FACILITIES THAT SHALL REMAIN IN PLACE. IT IS SPECIFIED AND AGREED THAT THE CONTRACTOR SHALL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS OR INCONVENIENCE CAUSED BY UTILITY ADJUSTMENTS.
19. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITY OWNERS PRIOR TO INTERRUPTING ANY GAS, WATER, OR SEWER SERVICES. THE CONTRACTOR SHALL ALSO NOTIFY AFFECTED UTILITY CUSTOMERS AT LEAST 24 HOURS BEFORE INTERRUPTING THE CUSTOMERS' SERVICE. WHERE INDIVIDUAL SERVICES ARE TO BE DISCONTINUED FOR MORE THAN 4 HOURS, THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR PROVIDING TEMPORARY SERVICE SATISFACTORY TO THE AFFECTED CUSTOMER. THE REPAIR OR REPLACEMENT OF UTILITY COMPONENTS SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS OF THE UTILITY OWNER. NO SEPARATE PAYMENT SHALL BE MADE FOR THESE ACTIVITIES, AND COMPENSATION SHALL BE INCLUDED IN THE CONTRACT PRICES FOR OTHER ITEMS.
20. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. SHOULD SPECIAL EQUIPMENT BE REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR SHALL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FROM FURNISHING SPECIAL EQUIPMENT SHALL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
21. ANY EXISTING STORM SEWER DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AS RAPIDLY AS POSSIBLE AND THEN BE INSPECTED BY ITS RESPECTIVE OWNER. THE ENGINEER SHALL DETERMINE IF DAMAGE IS THE RESULT OF THE CONTRACTOR'S NEGLIGENCE OR OF AN UNAVOIDABLE CAUSE.
22. IF ANY SANITARY SEWER IS DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY'S OWNER. REPAIR OF THE SEWER SHALL THEN BE ACCORDING TO THE OWNER'S INSTRUCTIONS. THE ENGINEER SHALL DETERMINE IF DAMAGE IS THE RESULT OF THE CONTRACTOR'S NEGLIGENCE OR OF AN UNAVOIDABLE CAUSE.
23. ALL CUTS AND FILLS ARE TO BE IN PLACE, AND FILLS COMPACTED, PRIOR TO INSTALLATION OF SANITARY SEWERS AND APPURTENANCES.
24. ALL SANITARY SEWER CONSTRUCTION MUST BE DONE BY A LICENSED MUNICIPAL UTILITY CONTRACTOR-CLASSIFICATION MU.
25. TRANSITION JOINTS ON SANITARY SEWER PIPES OF DIFFERENT MATERIALS MUST BE APPROVED BY THE JURISDICTIONAL ENGINEER, AND CONSTRUCTION MUST BE DONE WITH APPROVED FITTINGS AND/OR ADAPTERS.
26. ALL PROPOSED SANITARY SEWER LINES AND MANHOLES SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF CHATTANOOGA/HAMILTON COUNTY STANDARD DETAILS AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AT (423)757-5120 (CITY) OR (423)209-6410 (COUNTY) AT LEAST 48 HOURS PRIOR TO THE START OF SEWER CONSTRUCTION.



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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>GENERAL NOTES</i>	
DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER : <b>SD-100.01</b>

# GENERAL NOTES

- 28. SANITARY SEWER LINES SHALL BE OF DUCTILE IRON PIPE AT ALL LOCATIONS WHERE SANITARY LINES CROSS WITHIN 18 INCHES ABOVE OR BELOW A STORM SEWER LINE. AS AN ALTERNATE, IF SANITARY SEWER LINES ARE PVC, THEN CONCRETE PROTECTION SHALL BE PROVIDED.
- 29. WHERE WATER PIPING CROSSES THE SANITARY SEWER LINE, THE WATER SERVICE WITHIN 10 FEET OF THE POINT OF CROSSING SHALL BE AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER LINE. THE SEWER LINE SHALL BE OF DUCTILE IRON WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF THE CROSSING.
- 30. ANCHOR COLLARS SHALL BE PROVIDED ON SANITARY SEWER LINES WITH SLOPES EXCEEDING 18% WITH SPACING AS SPECIFIED BY THE STATE OF TENNESSEE DESIGN CRITERIA FOR SEWAGE WORKS.
- 31. SERVICE LATERALS EXTENDING TO THE PROPERTY LINE SHALL EACH HAVE A CLEANOUT AT THE PROPERTY LINE.
- 32. ALL CONNECTIONS TO EXISTING MANHOLES MUST BE CORED AND BOOTED AND THE INVERTS REFORMED.
- 33. TOPS OF ALL MANHOLES SHALL BE RAISED TO BE AT LEAST FLUSH WITH OR ABOVE NEW FINISHED GRADES AND BE VISIBLE.
- 34. MANHOLES RAISED 8 INCHES OR LESS SHALL BE DONE BY THE USE OF CONCRETE RINGS OR "DOUGHNUTS". MANHOLES RAISED GREATER THAN 8 INCHES SHALL REQUIRE THE REMOVAL OF THE CONE SECTION AND PLACEMENT OF THE APPROPRIATE SIZE MANHOLE RISER. THE CONE SECTION SHALL THEN BE REINSTALLED OR REPLACED DEPENDING ON CONDITION.
- 35. ALL SEWER LINES SHALL BE TESTED AND APPROVED AFTER ALL OTHER UTILITIES HAVE BEEN INSTALLED.
- 36. UPON COMPLETION OF THE PROJECT, ALL PUBLIC SEWER EASEMENTS OBTAINED SHALL BE SUBMITTED TO THE JURISDICTIONAL WASTEWATER AUTHORITY WITHIN 30 DAYS.
- 37. ALL NEWLY CONSTRUCTED SANITARY SEWERS SHALL BE TELEVISED AT THE REQUEST OF THE JURISDICTIONAL ENGINEER.

1

### TRAFFIC

- 38. UPON NOTICE OF AWARD OF A CITY OF CHATTANOOGA CONTRACT, THE CONTRACTOR SHALL SUBMIT, WITHIN TEN (10) DAYS, A CONSTRUCTION SCHEDULE. THE CITY OF CHATTANOOGA'S TRAFFIC ENGINEERING DEPARTMENT SHALL PROVIDE A WORK ZONE TRAFFIC CONTROL PLAN WITHIN FIVE (5) DAYS THEREAFTER.
- 39. DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN TRAFFIC AND PROVIDE TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE CONTRACTOR SHALL ALSO FURNISH AND INSTALL TRAFFIC SIGNS AND MARKINGS AS REQUIRED BY THE MUTCD AND THE CITY OF CHATTANOOGA'S TRAFFIC ENGINEERING DEPARTMENT OR HAMILTON COUNTY'S ENGINEERING DEPARTMENT, WHICHEVER IS APPROPRIATE.
- 40. PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE PLACED BY THE CITY/COUNTY UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- 41. THE CONTRACTOR SHALL MAINTAIN ALL BUSINESS, VEHICULAR, AND PEDESTRIAN ENTRANCES.
- 42. THE CONTRACTOR SHALL PROVIDE A PEDESTRIAN WALKWAY THAT SEPARATES AND INSULATES THE PEDESTRIAN FROM THE CONSTRUCTION SITE AND VEHICULAR TRAFFIC. WHERE POSSIBLE, THE WALKWAY SHALL BE ON THE SAME SIDE OF THE STREET AS THE CONSTRUCTION SITE. WHERE OVERHEAD DANGER EXISTS, THE CONTRACTOR SHALL PROVIDE A COVERED WALKWAY.
- 43. PRIOR TO CLOSING THE ROAD TO THROUGH TRAFFIC, THE CONTRACTOR SHALL NOTIFY ALL AFFECTED LOCAL AGENCIES ABOUT THE PROPOSED ROAD CLOSURE. THOSE TO BE CONTACTED SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING: FIRE DEPARTMENT, POLICE DEPARTMENT, SHERIFF'S DEPARTMENT, POST OFFICE, CITY TRAFFIC ENGINEER'S OFFICE, AND THE BOARD OF EDUCATION.

### DRIVEWAYS

- 44. WHEN A CONCRETE CURB AND GUTTER IS BUILT, THE CONTRACTOR SHALL INSTALL A DROP CURB FOR EACH LOT AT A LOCATION CHOSEN BY THE ENGINEER. A DOWNTOWN LOT SHALL BE EXEMPT WHEN A BUILDING EXISTS ACROSS THE PROPERTY FRONTAGE OR IS PLANNED TO BE CONSTRUCTED ACROSS THE FRONTAGE.
- 45. EXISTING, PAVED DRIVEWAYS SHALL BE REPLACED IN KIND TO THE TIE-IN POINT. EACH EXISTING, UNPAVED DRIVEWAY SHALL RECEIVE A FIVE FEET CONCRETE APRON BEHIND, AND ADJACENT TO, THE BACK CURB LINE AND THEN BE REPLACED IN KIND FROM THERE TO THE TIE-IN POINT.

### RIGHTS-OF-WAY/EASEMENTS

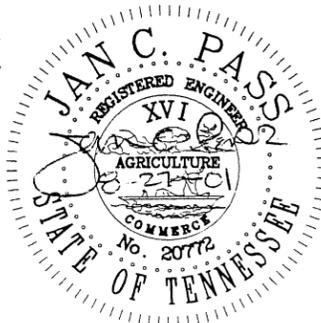
- 46. BEFORE CONSTRUCTION BEGINS, THE APPROPRIATE GOVERNMENTAL AGENCY SHALL SECURE ALL RIGHTS-OF-WAY AND EASEMENTS REQUIRED FOR COMPLETION OF THE PROJECT.

### MISCELLANEOUS

- 47. THE ENGINEER SHALL HAVE THE AUTHORITY TO DESIGNATE AND/OR LIMIT AREAS OF CONSTRUCTION.
- 48. THE OWNER MAKES NO REPRESENTATIONS ABOUT SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED WITHIN THE LIMITS OF THE PROJECT. THEREFORE, THE CONTRACTOR SHOULD SATISFY HIMSELF BY ON-SITE INSPECTIONS, CORE DRILLINGS, OR OTHER METHODS, OF THE SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED. THE RISK OF ENCOUNTERING AND CORRECTING UNFAVORABLE, SUBSURFACE CONDITIONS SHALL BE BORNE SOLELY BY THE CONTRACTOR.
- 49. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL FIELD LAYOUTS FOR APPROVAL BY THE ENGINEER.
- 50. SHOULD AN EXISTING BENCH MARK BE LOCATED ON A POWER POLE, TELEPHONE POLE, ETC., THAT IS TO BE RELOCATED DURING CONSTRUCTION, THE BENCH MARK SHALL BE RELOCATED BY A CITY OR COUNTY SURVEY CREW PRIOR TO CONSTRUCTION.
- 51. ALL SALVAGEABLE MATERIAL FROM EXISTING PIPING AND STRUCTURES SHALL REMAIN PROPERTY OF THE CITY OF CHATTANOOGA OR OF HAMILTON COUNTY. SAID MATERIAL SHALL BE CLEANED AND THEN DELIVERED TO THE OWNER AT A LOCATION DESIGNATED BY THE ENGINEER.
- 52. ALL UNSUITABLE MATERIAL, AS DETERMINED BY THE ENGINEER OR THROUGH TESTING, IS TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL.
- 53. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING, AT HIS OWN EXPENSE, ANY AND ALL DAMAGES THAT MAY OCCUR OUTSIDE THE LIMITS OF THIS PROJECT AS A RESULT OF CONSTRUCTION.
- 54. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EXISTING COMBINED CURB AND GUTTERS WHERE APPLICABLE.
- 55. ALL ABANDONED STRUCTURES (E.G., CATCH BASINS, MANHOLES, FOUNDATIONS, ETC.), UTILITY FACILITIES, AND SIMILAR ITEMS WITHIN THE LIMITS OF PAVING SHALL BE REMOVED TO A MINIMUM OF TWO FEET BELOW THE TOP OF SUBGRADE, AND REMAINING VOIDS SHALL BE FILLED WITH COMPACTED, CRUSHED STONE TO THE TOP OF SUBGRADE.
- 56. THE CONTRACTOR SHALL NOT BE ALLOWED TO REMOVE ANY FENCE OTHER THAN THAT NECESSARY FOR THE CONSTRUCTION OF THE PROJECT OR RELATED APPURTENANCES. ANY FENCE REMOVED IS TO BE REPLACED IN KIND BY THE CONTRACTOR. TEMPORARY FENCING MAY BE REQUIRED.
- 57. THE CONTRACTOR SHALL GIVE THE AFFECTED PROPERTY OWNERS ONE WEEK'S NOTICE PRIOR TO CUTTING FENCES.
- 58. THE CONTRACTOR SHALL PROVIDE RECORD DRAWINGS OF THE PROJECT WITHIN THIRTY (30) DAYS AFTER SUBSTANTIAL COMPLETION OF THE WORK. ("SUBSTANTIAL COMPLETION" SHALL BE DEFINED BY THE JURISDICTIONAL ENGINEER.) THE ENGINEER RESERVES THE RIGHT TO WITHHOLD THE RETAINER UNTIL RECEIVING A COMPLETE SET OF SAID DRAWINGS.
- 59. SHOULD THERE BE A CONFLICT BETWEEN THESE GENERAL NOTES, CONTRACT DRAWINGS, AND/OR SPECIFICATIONS, THE MOST RESTRICTIVE INTERPRETATION SHALL PREVAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING FROM THE ENGINEER ANY CLARIFICATION OR INTERPRETATION OF GENERAL NOTES, CONTRACT DRAWINGS AND/OR SPECIFICATIONS IN WRITING AND IN ADVANCE OF THE BEGINNING OF CONSTRUCTION.
- 60. ALL CONCRETE SHALL BE CLASS "A" (4,000 P.S.I.) UNLESS OTHERWISE NOTED ON A DRAWING. (CLASS "B" CONCRETE SHALL BE 3,000 P.S.I.)

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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>GENERAL NOTES</i>	
DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER : <b>SD-100.02</b>

# UTILITY OWNERS

△ BELLSOUTH (TELEPHONE)  
300 EAST M.L. KING BOULEVARD  
CHATTANOOGA, TN 37403  
PHONE: (423)752-4339

△ TENNESSEE-AMERICAN WATER CO.  
1101 BROAD STREET  
P.O. BOX 6338  
CHATTANOOGA, TN 37402  
PHONE: (423)755-7654

CHATTANOOGA GAS COMPANY  
6125 PRESERVATION DRIVE  
CHATTANOOGA, TN 37416  
PHONE: (423)490-4289

△ ELECTRIC POWER BOARD  
ENGINEERING DIVISION  
P.O. BOX 182255  
CHATTANOOGA, TN 37422-7255  
PHONE: (423)629-3495

EASTSIDE UTILITY DISTRICT  
P.O. BOX 22037  
CHATTANOOGA, TN 37422-2307  
PHONE: (423)892-2890

VOLUNTEER ELECTRIC COOPERATIVE  
9931 HIGHWAY 58 NORTH  
GEORGETOWN, TN 37336  
PHONE: (423)344-8382

COMCAST CABLE TELEVISION CO.  
2030 EAST POLYMER DRIVE  
CHATTANOOGA, TN 37422  
PHONE: (423)855-3900  
PHONE: (423)855-4300

△ HIXSON UTILITY DISTRICT  
5201 HIXSON PIKE  
HIXSON, TN 37343  
PHONE: (423)877-3513

CITY OF CHATTANOOGA  
DEPARTMENT OF PUBLIC  
WORKS  
ENGINEERING DIVISION  
STORMWATER SECTION  
1001 LINDSAY STREET  
CHATTANOOGA, TN 37402  
PHONE: (423)757-5120

CITY OF CHATTANOOGA  
TRAFFIC ENGINEERING  
ADMINISTRATION  
SUITE 32, CITY HALL  
CHATTANOOGA, TN 37402  
PHONE: (423)757-5005

△ CITY OF CHATTANOOGA  
WASTE RESOURCES DIVISION  
455 MOCCASIN BEND ROAD  
CHATTANOOGA, TN 37405  
PHONE: (423)757-5026

CENTURY TELEPHONE OF  
OOLTEWAH-COLLEGEDALE, INC.  
5616 MAIN STREET  
OOLTEWAH, TN 37363  
PHONE: (423)238-6872

△ HAMILTON COUNTY WATER AND  
WASTEWATER TREATMENT AUTHORITY  
117 EAST 7TH STREET  
300 NEWELL TOWER  
CHATTANOOGA, TN 37402  
PHONE: (423)209-6410

MIDDLE TENNESSEE NATURAL GAS  
951 MARKET STREET  
DAYTON, TN 37321  
PHONE: (423)775-2422

△ MOWBRAY MOUNTAIN UTILITY DISTRICT  
(OFFICE CLOSED-REFER ALL CALLS  
TO SODDY-DAISY FALLING WATER  
UTILITY DISTRICT.)  
PHONE: (423)332-2809

SALE CREEK UTILITY DISTRICT  
2141 HILLTOP CREST DRIVE  
SODDY DAISY, TN 37373  
PHONE: (423)332-2921

SAVANNAH VALLEY UTILITY DISTRICT  
10700 HIGHWAY 58  
GEORGETOWN, TN 37336  
PHONE: (423)344-8440

△ SIGNAL MOUNTAIN WATER  
UTILITY DISTRICT  
SIGNAL MOUNTAIN TOWN HALL  
1111 RIDGEWAY AVENUE  
SIGNAL MOUNTAIN, TN 37377  
PHONE: (423)886-2177

SODDY-DAISY FALLING WATER  
UTILITY DISTRICT  
9864 DAYTON PIKE  
SODDY DAISY, TN 37379  
PHONE: (423)332-2427

△ UNION FORK-BAKEWELL  
UTILITY DISTRICT  
405 RETRO HUGHES ROAD, BOX 17  
BAKEWELL, TN 37304  
PHONE: (423)332-9733

WALDEN'S RIDGE UTILITY DISTRICT  
3900 TAFT HIGHWAY  
SIGNAL MOUNTAIN, TN 37377  
PHONE: (423)886-2683

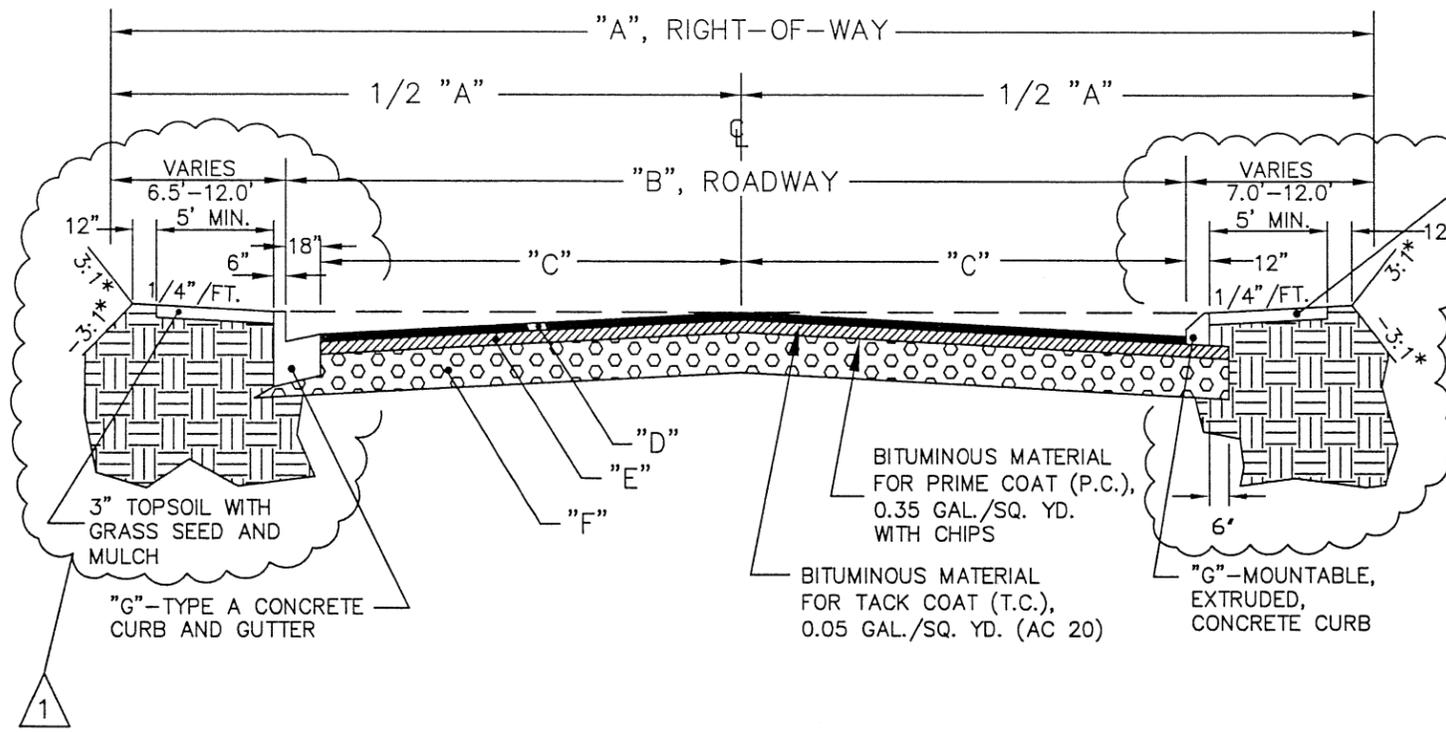


**BEFORE YOU DIG, DRILL, OR BLAST**  
CALL TOLL FREE 1-800-351-1111  
FOR LOCATING UNDERGROUND UTILITY LINES.  
- IT'S THE LAW. -  
TENNESSEE ONE-CALL SYSTEM, INC.

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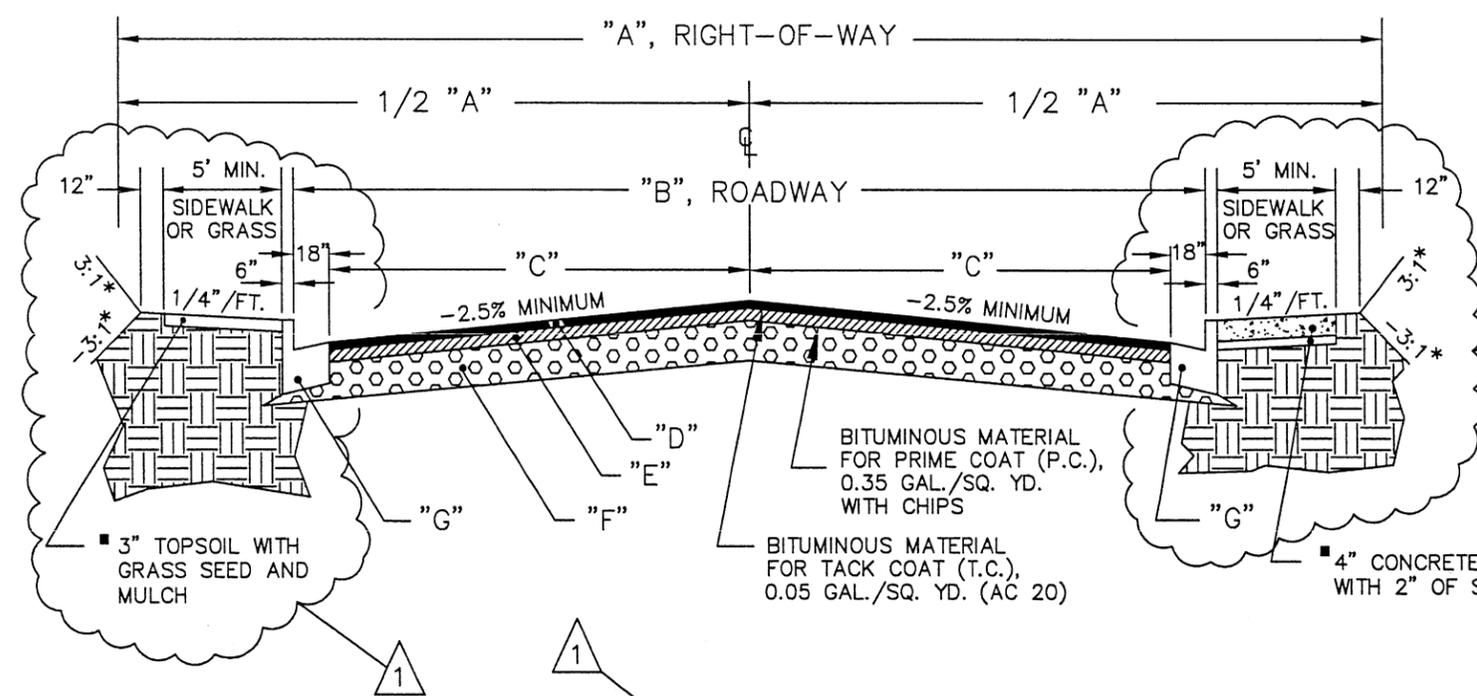
			<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
			<i>UTILITY OWNERS</i>	
1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE	
0	INITIAL ISSUE	12/10/99	<b>DECEMBER 10, 1999</b>	
NO.	REVISION	DATE		STANDARD NUMBER : <b>SD-101.01</b>

# HIGHWAYS, ROADS, AND STREETS



- NOTES**
1. TYPE A CONCRETE CURB AND GUTTER OR MOUNTABLE, EXTRUDED, CONCRETE CURB ON EACH SIDE AS REQUIRED BY SITE-SPECIFIC DRAWINGS.
  2. CROWN AND TOP OF CURB SHALL BE AT THE SAME ELEVATION (AS SHOWN ABOVE).
  3. FOR SUB-DIVISION PROJECTS, REFER TO DETAILS IN THE CURRENT HAMILTON COUNTY OR CITY OF CHATTANOOGA SUB-DIVISION REGULATIONS.

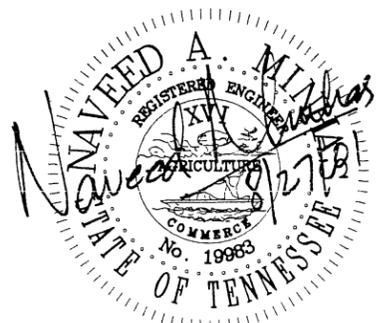
**LOCAL STREETS**  
 (RIGHTS-OF-WAY OF 50' OR LESS)



**ARTERIAL AND COLLECTOR STREETS**  
 (RIGHTS-OF-WAY GREATER THAN 50')

\* ALL CUT AND FILL SLOPES SHALL HAVE A MINIMUM OF 3" OF TOP SOIL WITH SEED AND MULCH.

■ SIDEWALK OR GRASS STRIP ON EACH SIDE AS REQUIRED BY SITE-SPECIFIC DRAWINGS.



NO.	REVISION	DATE
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**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
 ROADWAY SECTIONS

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

STANDARD NUMBER: **SD-200.01**

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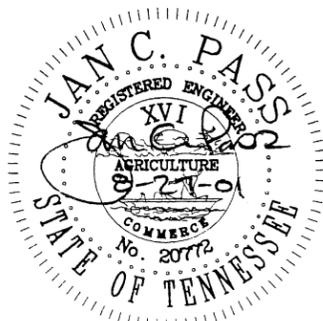
### DIMENSIONS FOR ROADWAY SECTIONS

ROADWAY CLASSIFICATION	"A" RIGHT-OF-WAY	"B" ROADWAY WIDTH	"C" 1/2 PAVED SECTION	"D" ASPHALTIC CONCRETE SURFACE	"E" ASPHALTIC CONCRETE BINDER	"F" MINERAL AGGREGATE BASE	"G" CONCRETE CURB/ CURB AND GUTTER
				GRADING E (SEE NOTE 1 BELOW.)	GRADING B, C, OR B MODIFIED (SEE NOTE 2 BELOW.)	TYPE A (SEE NOTE 3 BELOW.)	
PRINCIPAL ARTERIAL	100'	84'	40'-6"	1.5"	3.5"	15"	TYPE A
MINOR ARTERIAL	80'	60'	28'-6"	1.5"	3.5"	15"	TYPE A
COLLECTOR STREET	60'	36'	16'-6"	1.5"	2.5"	8"	TYPE A
LOCAL STREET	50'	26'	11'-6"	1.5"	2.5"	8"	SEE NOTE 1 WITH TYPICAL SECTION.

1. ASPHALTIC CONCRETE SURFACE SHALL BE GRADING E, CITY OF CHATTANOOGA SPECIFICATIONS, CONTAINING AT LEAST 45% RIVER SAND.  
 2. ASPHALTIC CONCRETE BINDER SHALL BE GRADING B MODIFIED OR GRADING C, CITY OF CHATTANOOGA SPECIFICATIONS; OR GRADING B, TENNESSEE D.O.T. SPECIFICATIONS.  
 3. MINERAL AGGREGATE BASE SHALL BE COMPACTED 303-01, TYPE A, GRADING D ("33-P"), TENNESSEE D.O.T. SPECIFICATIONS.

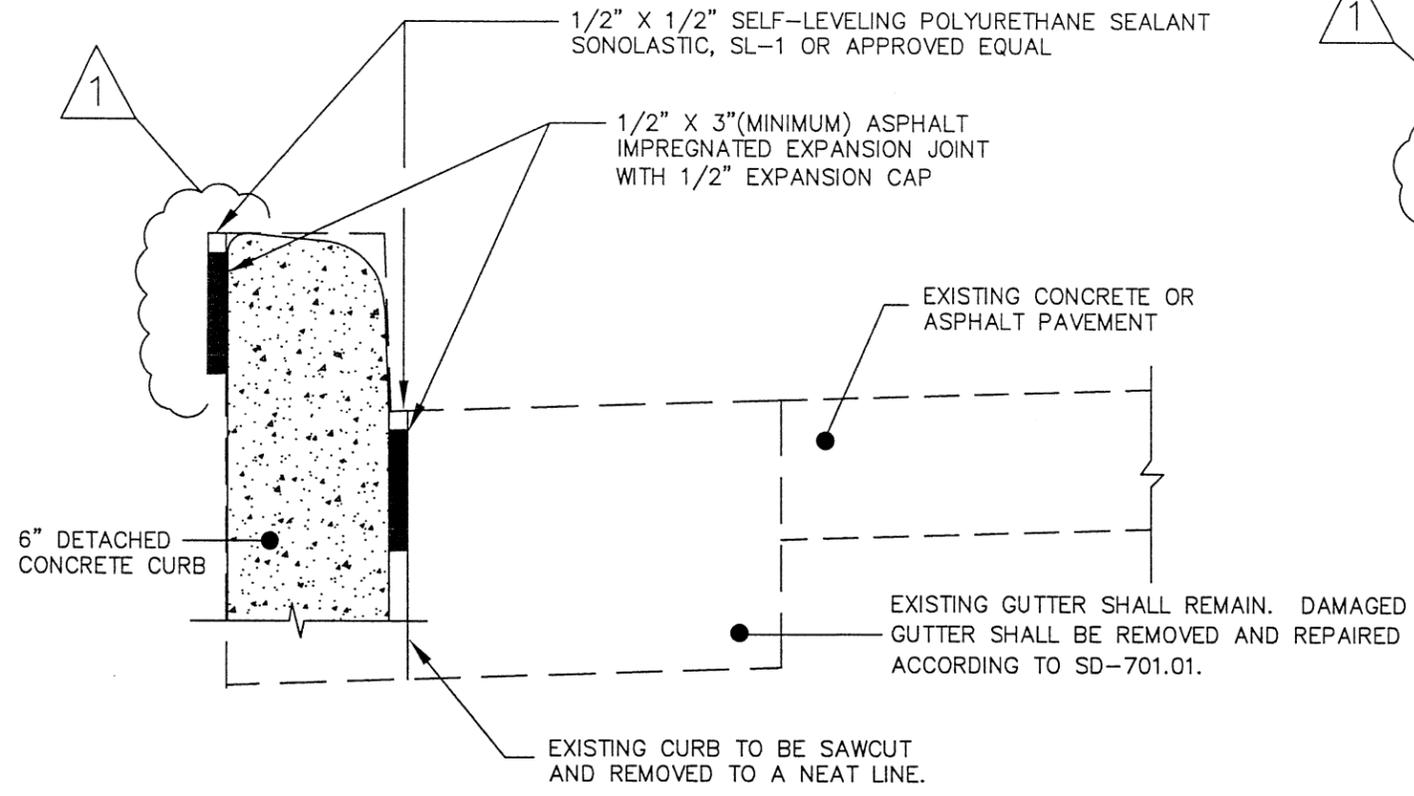


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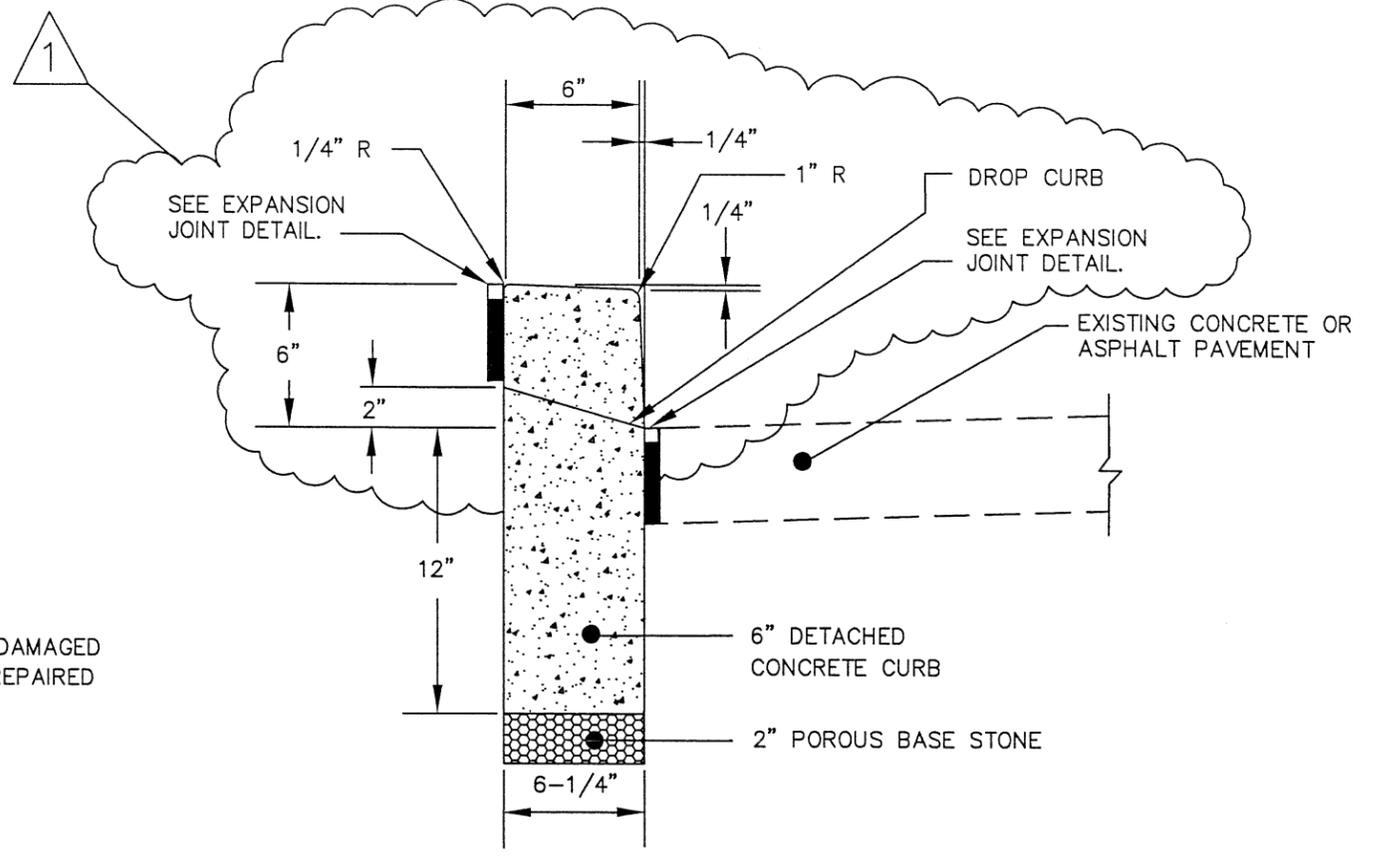


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NO.	REVISION	DATE

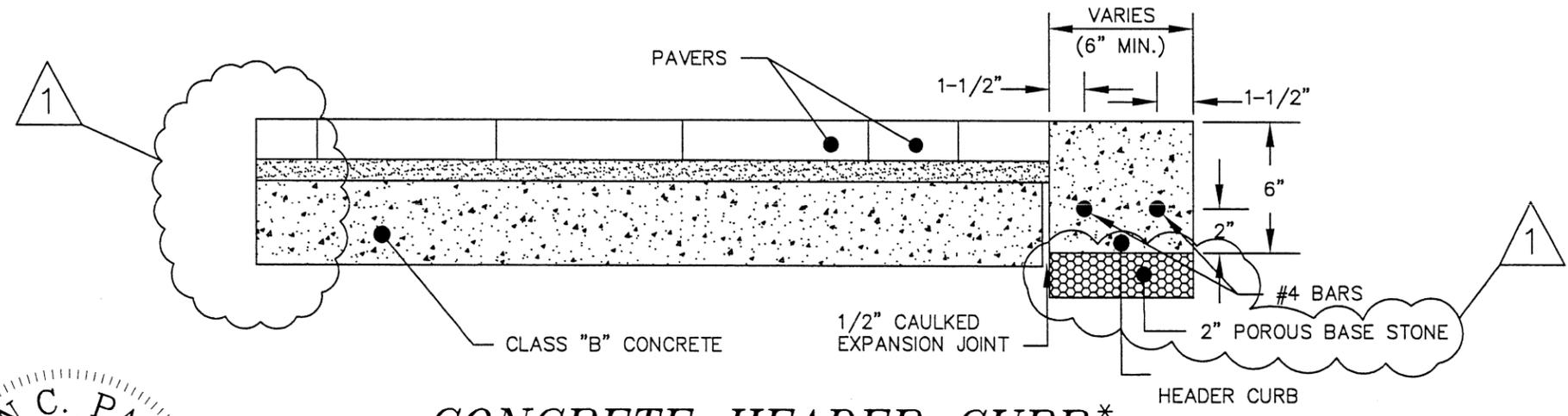
<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
<i>ROADWAY SECTIONS</i>	
DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER : <i>SD-200.02</i>



**EXPANSION JOINT DETAIL**

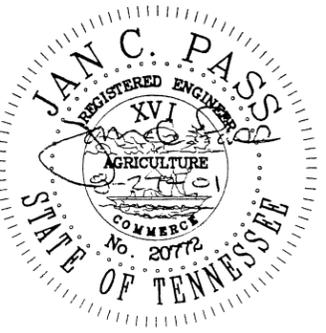
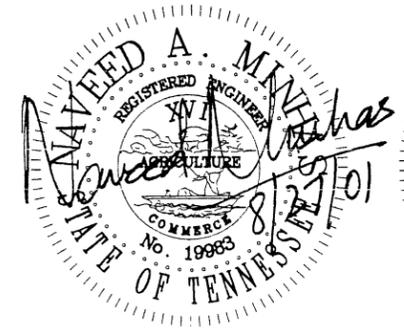


**6\"/>**



**CONCRETE HEADER CURB\***

\* FOR USE IN SIDEWALK AREAS ONLY

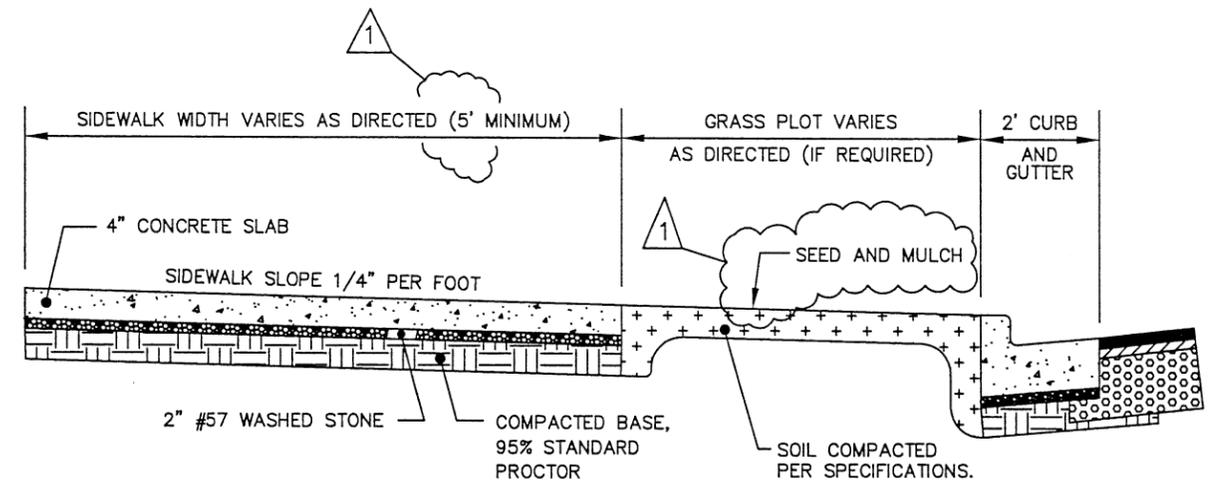


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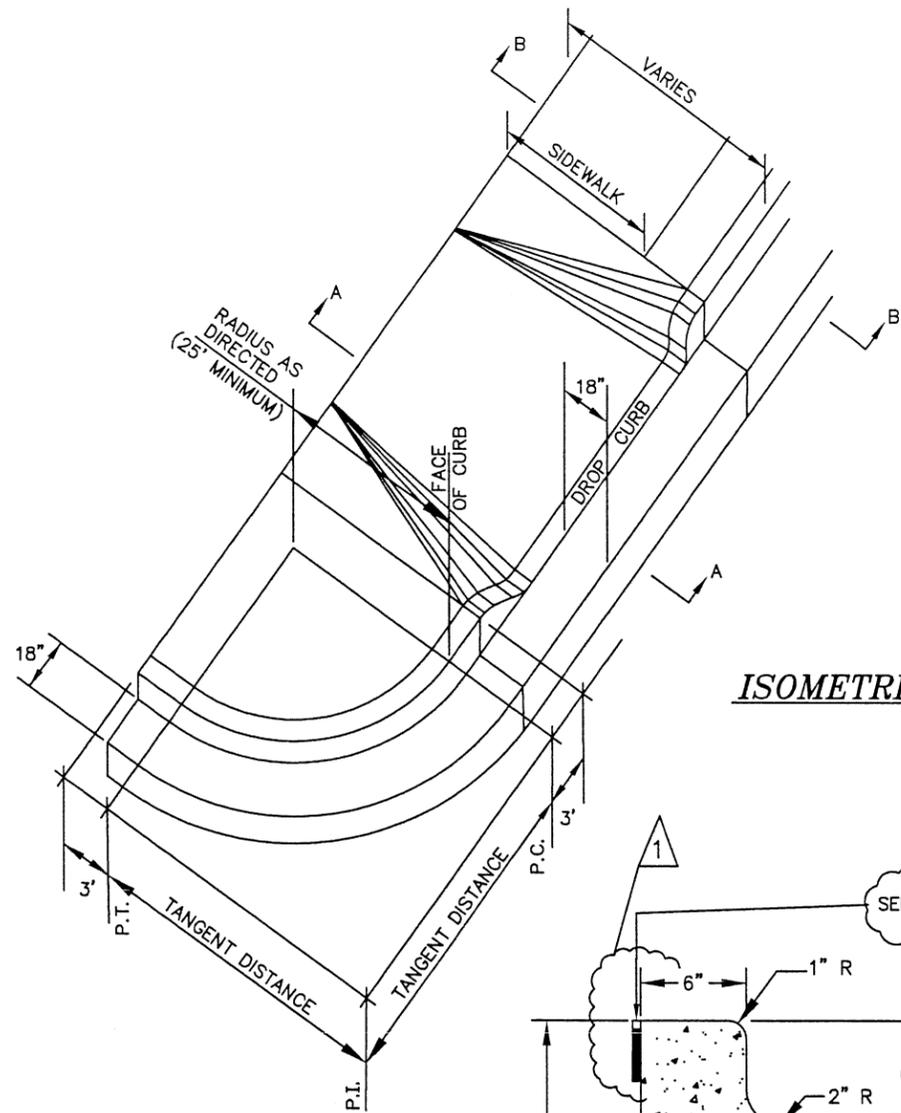
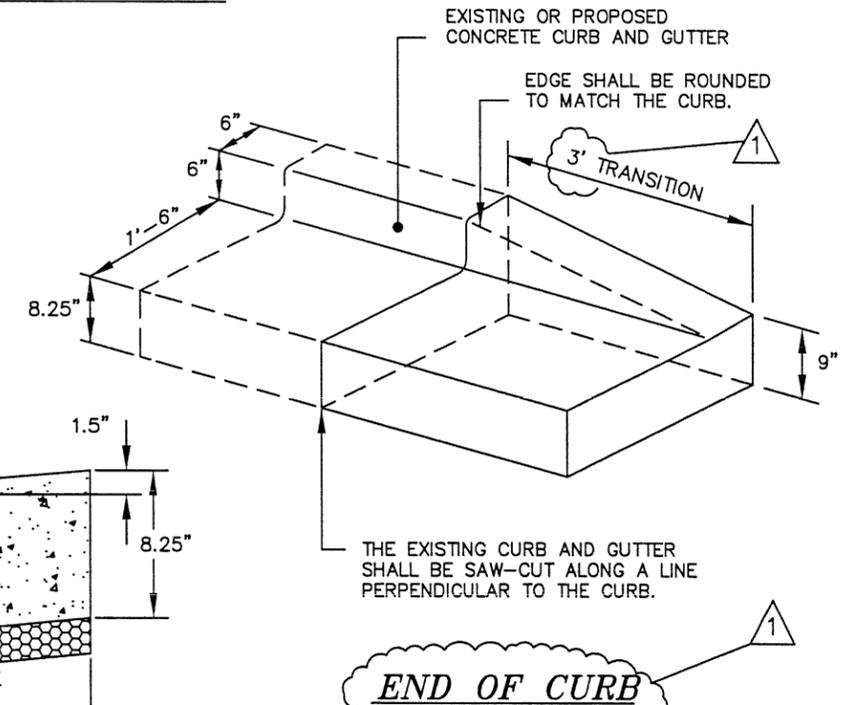
<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
<b>CONCRETE CURBS (6\"/&gt; </b>	
DATE OF ORIGINAL ISSUE	<b>DECEMBER 10, 1999</b>
STANDARD NUMBER: <b>SD-201.01</b>	

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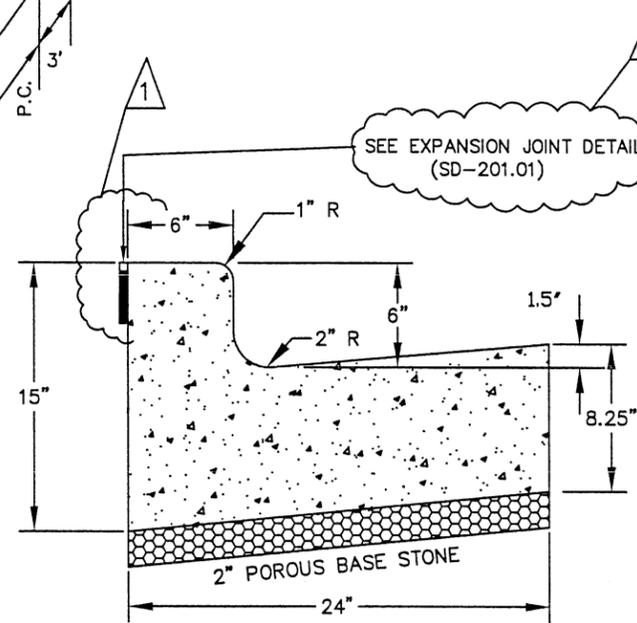
**SECTION A-A**  
(SEE STANDARD SD-202.02.)



**SECTION B-B**

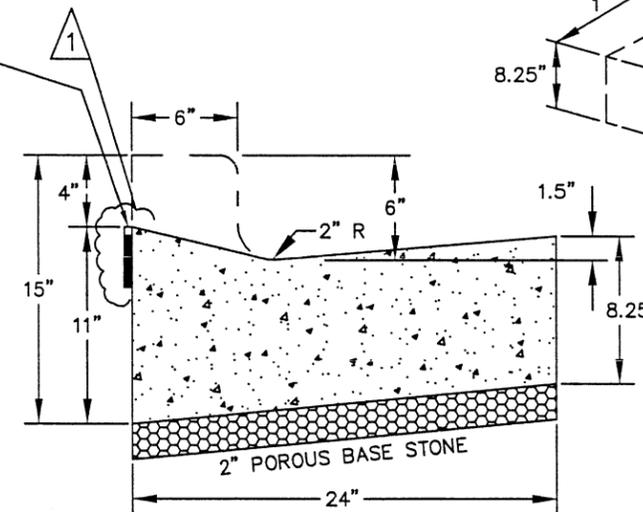


**ISOMETRIC VIEW**



**TYPICAL SECTION**

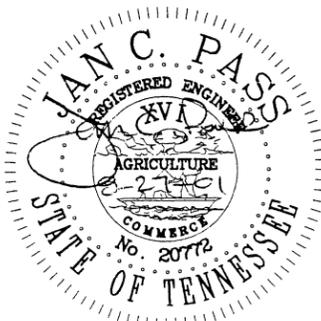
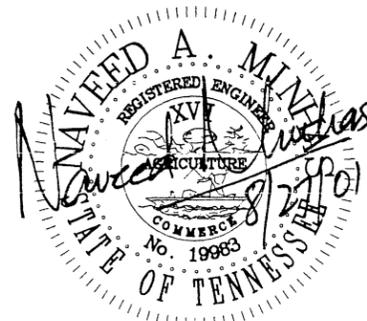
**TYPE "A", CONCRETE CURB AND GUTTER**



**TYPICAL SECTION**

**TYPE "A", CONCRETE DROP CURB**

\* NOTE  
SEE NOTES ON STANDARD SD-203.01.



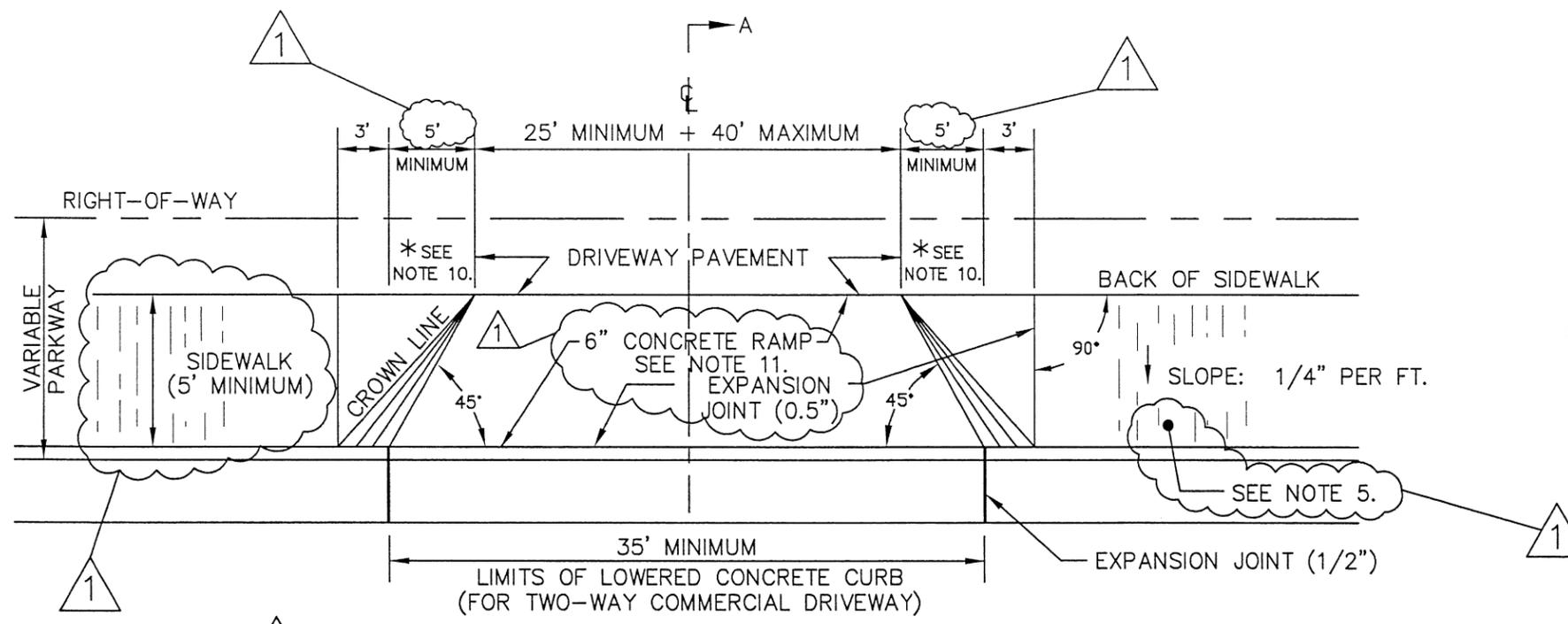
NO.	REVISION	DATE
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99

**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
**CONCRETE CURB AND GUTTER (TYPE "A")**

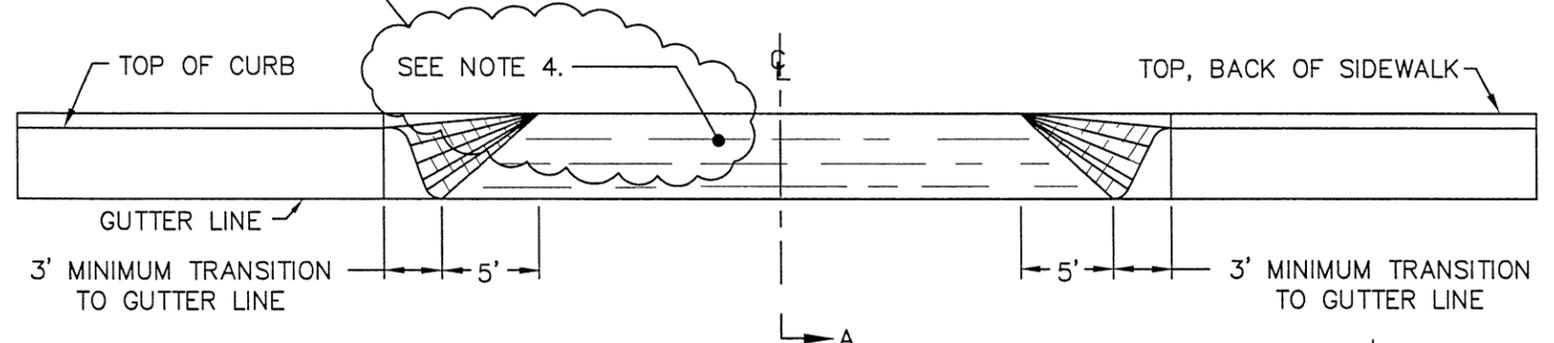
DATE OF ORIGINAL ISSUE  
**DECEMBER 10, 1999**

STANDARD NUMBER : **SD-202.01**

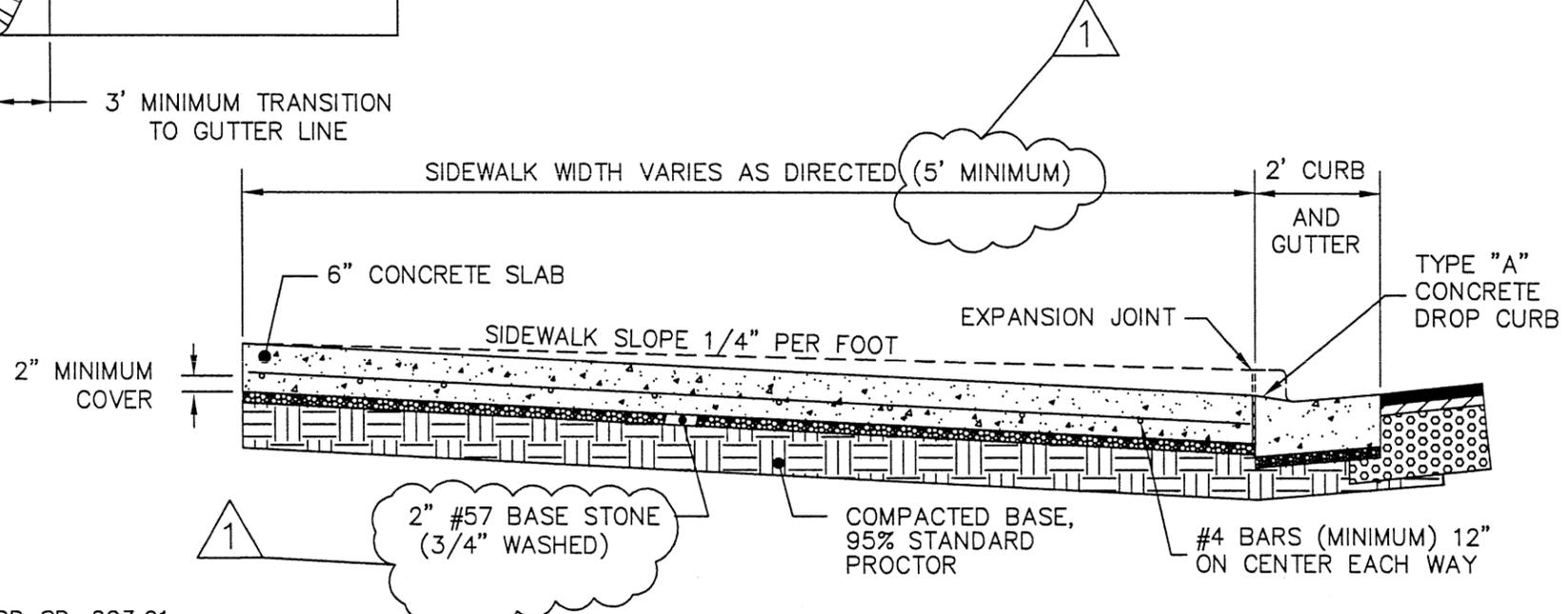
**TYPE "A", COMMERCIAL,  
CONCRETE, DROP CURB DESIGN**



**PLAN**

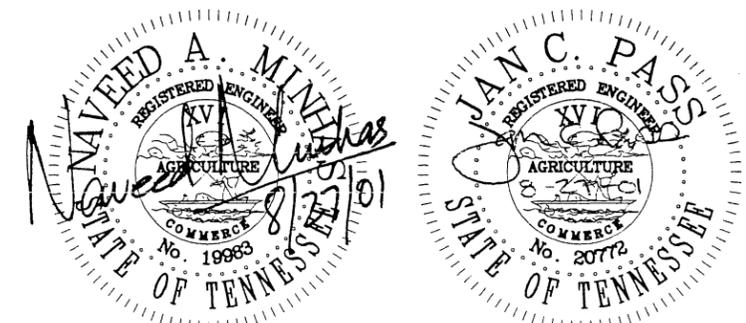


**ELEVATION**



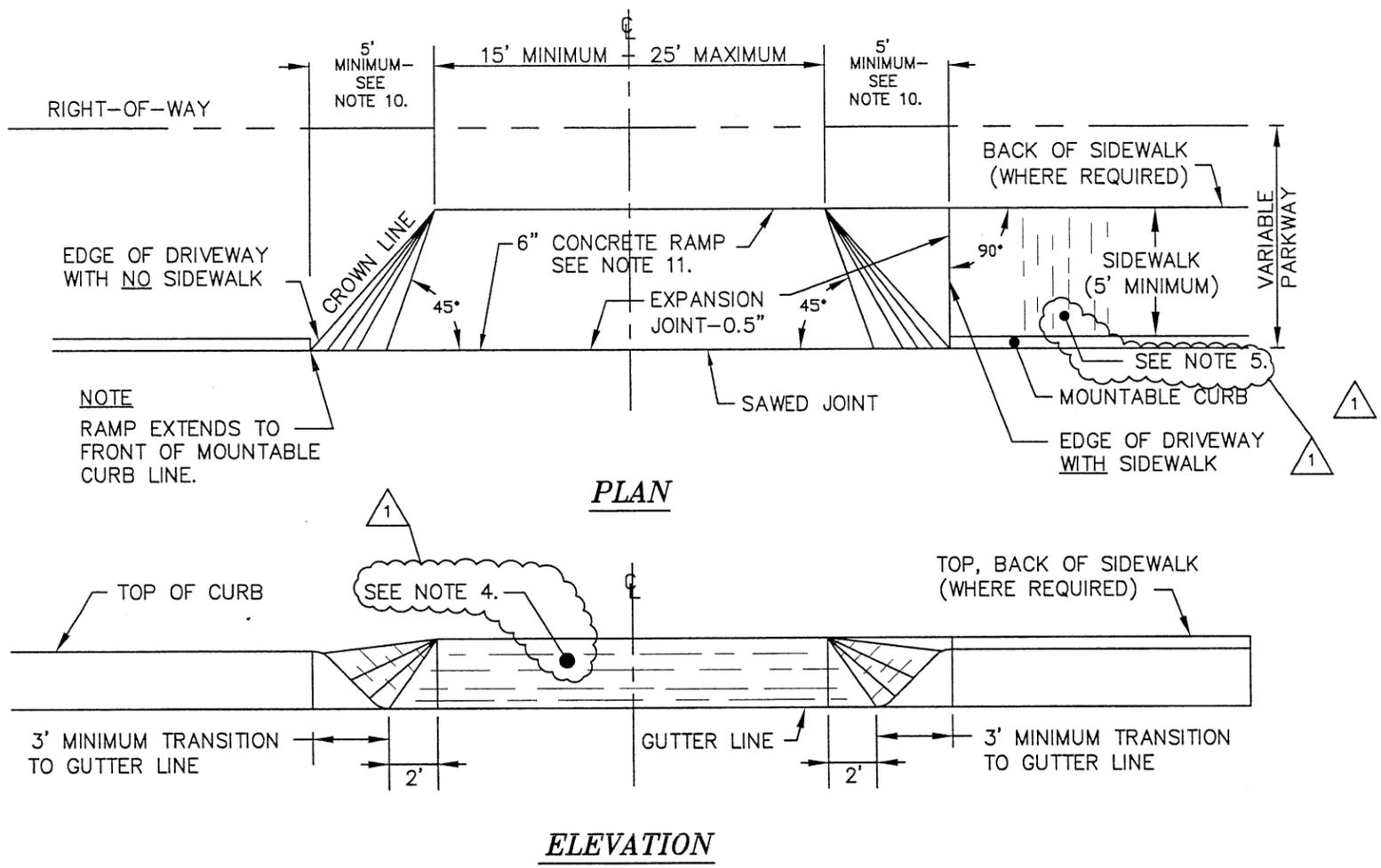
**SECTION A-A**

**\* NOTES**  
SEE NOTES ON STANDARD SD-203.01.



<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>		
<b>CONCRETE CURB AND GUTTER (TYPE "A")</b>		
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
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DATE OF ORIGINAL ISSUE		DECEMBER 10, 1999
STANDARD NUMBER:		SD-202.02

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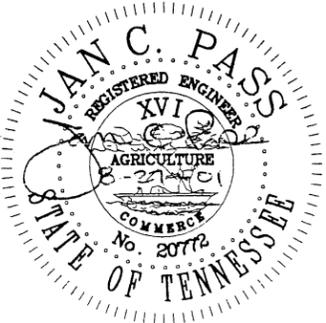
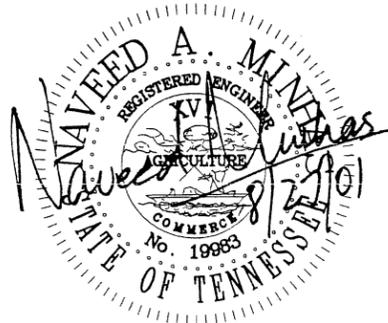


**NOTES**

1. DETAILS SHOWN ON THIS SHEET APPLY TO ALL CONSTRUCTION OR RECONSTRUCTION OF STREETS, CURBS, AND/OR SIDEWALKS.
2. CURB CUT RAMPS SHALL BE LOCATED AS SHOWN ON THE PLANS.
3. HANDICAP RAMPS SHALL BE PROVIDED AT ALL CORNERS OF STREET INTERSECTIONS WHERE THERE ARE EXISTING OR PROPOSED SIDEWALKS. CURB CUT RAMPS SHALL ALSO BE PROVIDED AT CROSSWALK LOCATIONS IN MID-BLOCK. (SEE SD-205.01 AND SD-205.02.)
4. THE SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A TRANSVERSE, COARSE BROOMING OF THE ENTIRE SLOPE OF THE RAMP. (SEE ELEVATION.)
5. THE SURFACE TEXTURE OF THE SIDEWALK SHALL BE THAT OBTAINED BY A TRANSVERSE, COARSE BROOMING ALONG ITS ENTIRE LENGTH. (SEE PLAN.)
6. CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, FREE OF SAGS AND SHORT GRADE CHANGES.
7. DRAINAGE STRUCTURES SHALL NOT BE PLACED IN LINE WITH RAMPS.
8. THE NORMAL GUTTER LINE PROFILE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
9. CROSSWALK AND STOPLINE MARKINGS, IF USED, SHALL BE LOCATED SO THAT TRAFFIC STOPS SHORT OF RAMP CROSSINGS.
10. DIMENSIONS SHOWN ARE TO BE USED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
11. GREATER OF FIVE FEET (5') OR WIDTH OF SIDEWALK. (SEE PLAN AT TOP, LEFT.)
12. REINFORCEMENT: #4 BARS (MINIMUM) TWELVE INCHES (12") ON CENTER EACH WAY. (SEE PLAN AT TOP, LEFT.)

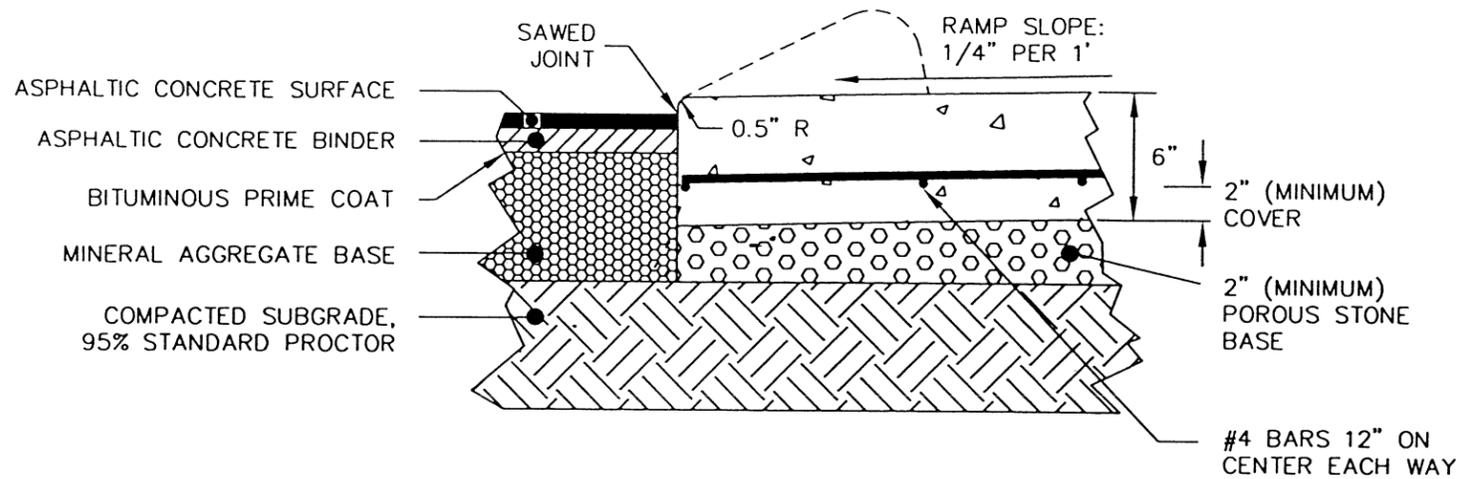
**RESIDENTIAL, MOUNTABLE, EXTRUDED CONCRETE CURB DESIGN WITH CONCRETE RAMP APPROACH**

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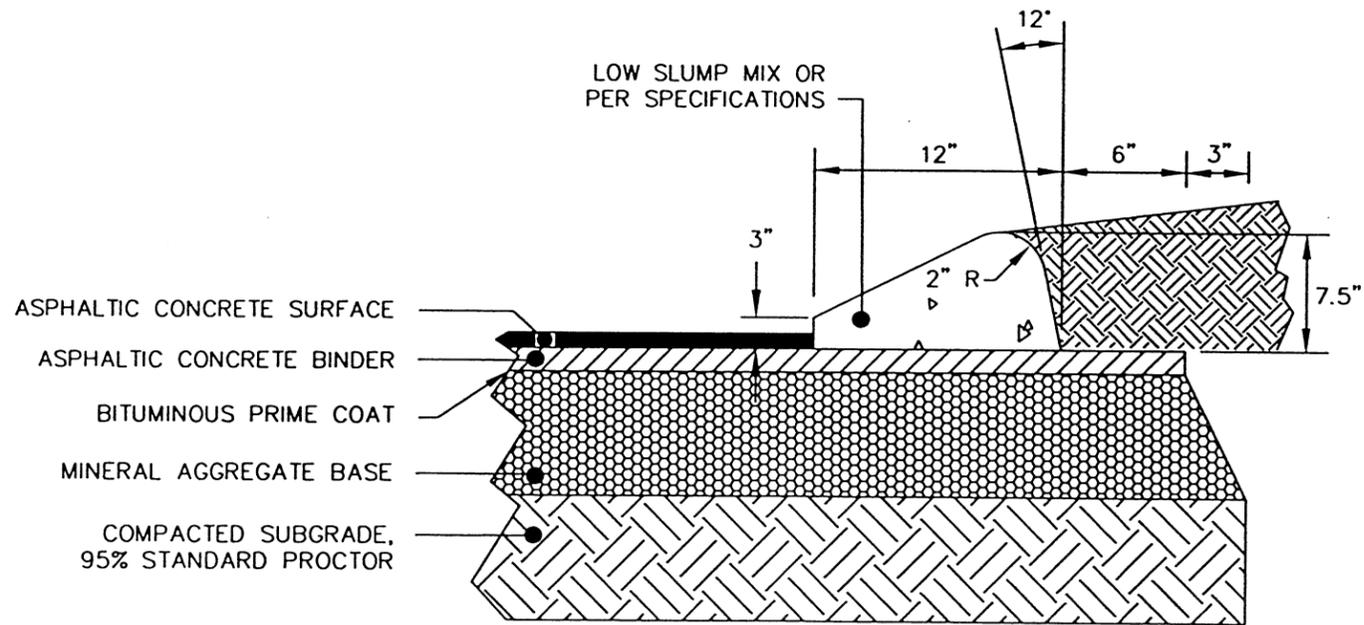


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<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
<b>CONCRETE CURB (RESIDENTIAL)</b>	
DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER : <b>SD-203.01</b>

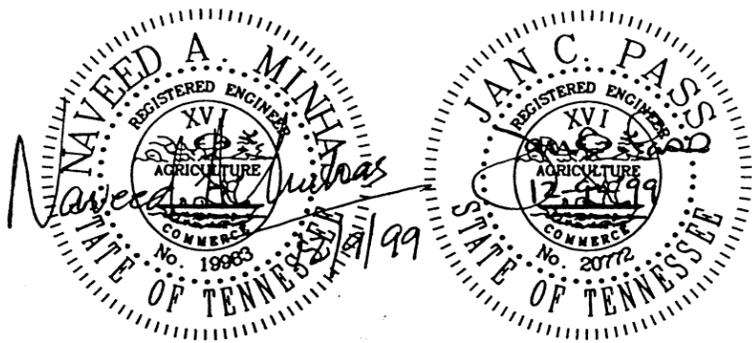


**RESIDENTIAL, MOUNTABLE,  
CONCRETE RAMP DETAIL**



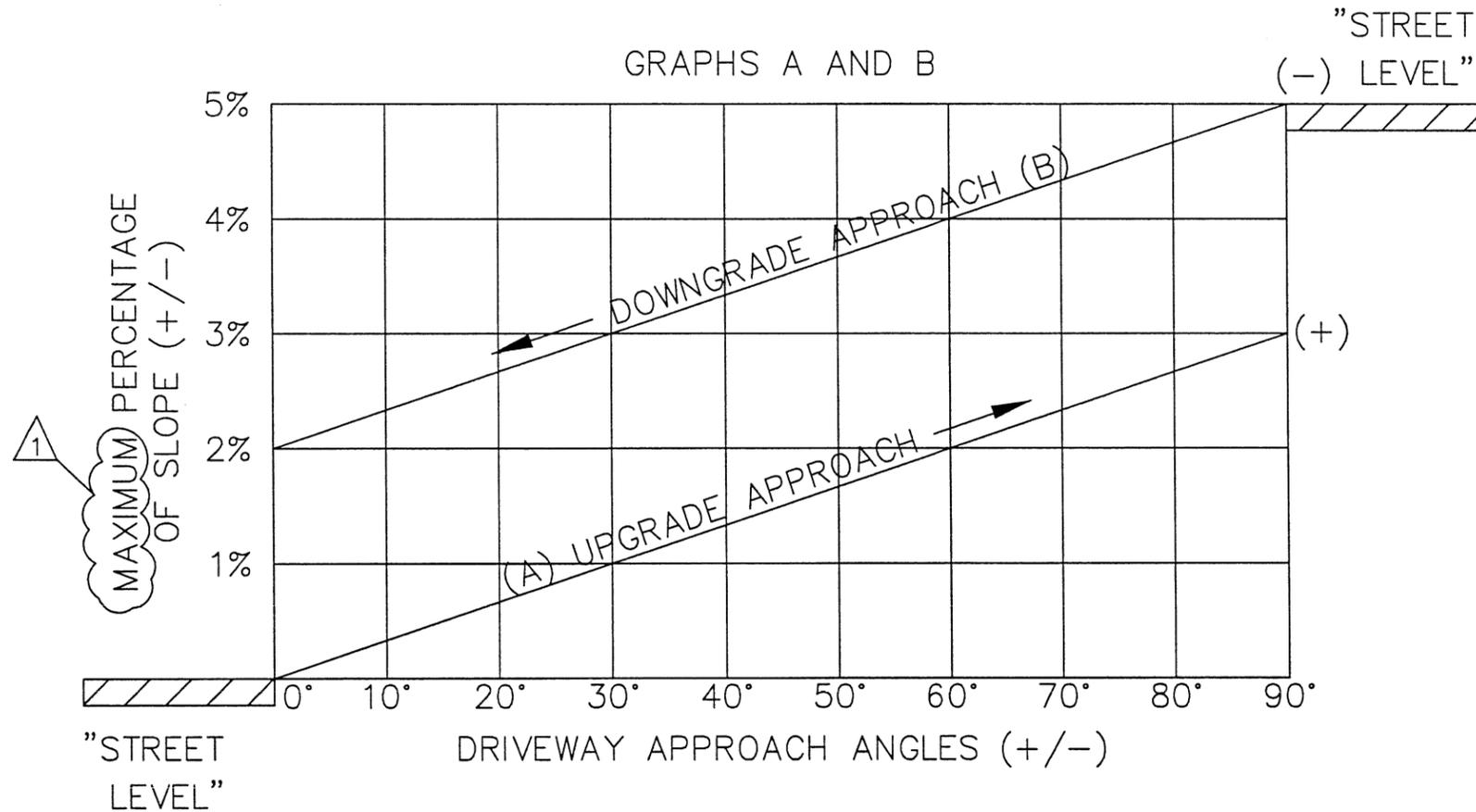
\* NOTE  
SEE NOTES ON STANDARD SD-203.01.

**RESIDENTIAL, MOUNTABLE, EXTRUDED  
CONCRETE CURB DETAIL**

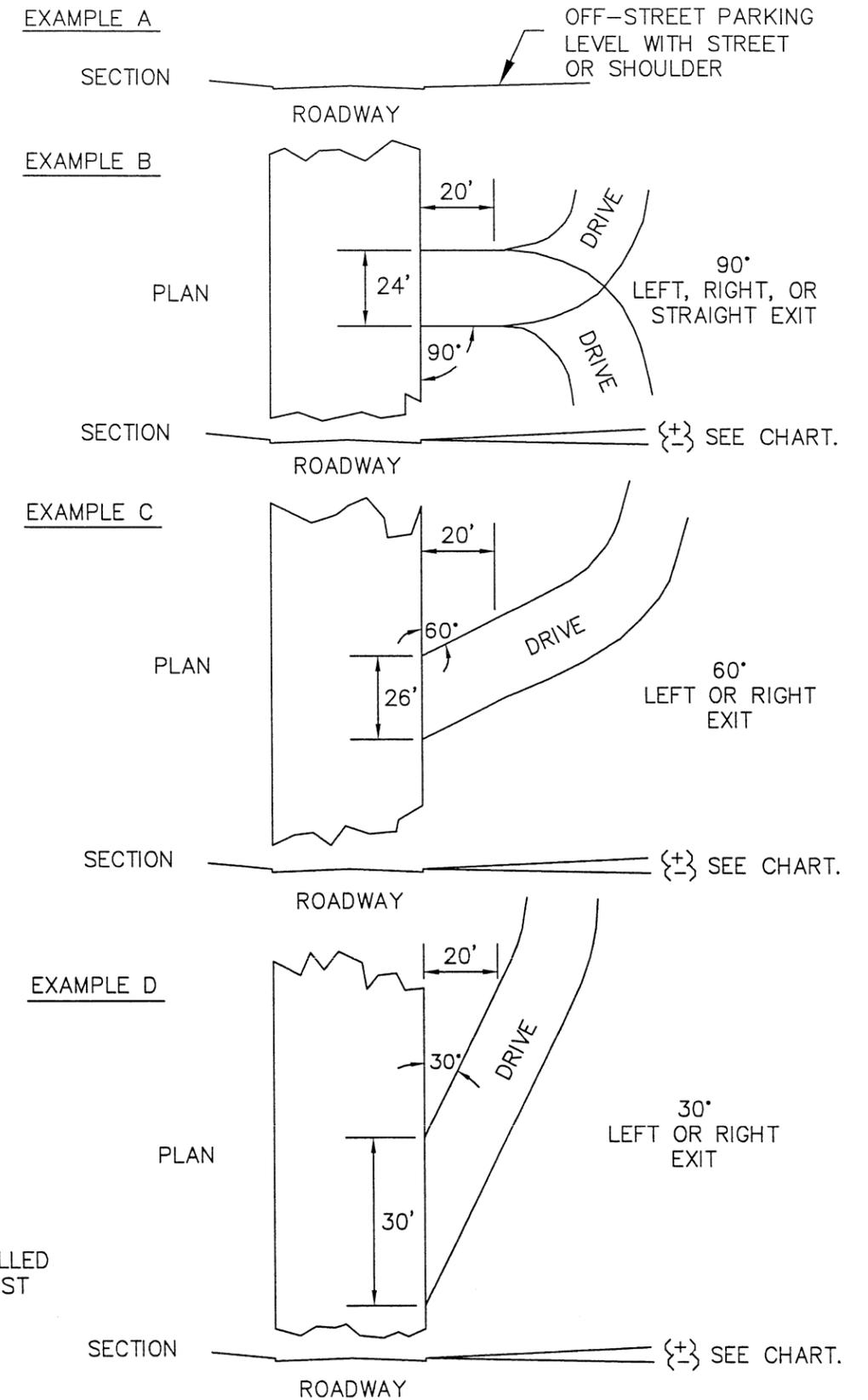


			<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
			<b>CONCRETE CURB (RESIDENTIAL)</b>	
			DATE OF ORIGINAL ISSUE	STANDARD NUMBER : <b>SD-203.02</b>
			<b>DECEMBER 10, 1999</b>	
0	INITIAL ISSUE	12/10/99		
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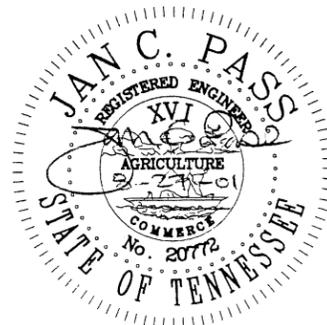
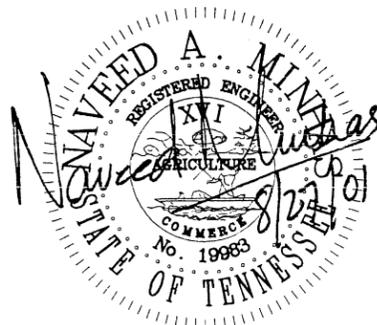
DRIVEWAY APPROACH ANGLES	DRIVE WIDTHS AT EXITS
LEFT OR RIGHT	WIDTH X DEPTH
90°	24' X 20' MIN.
60°-89°	26' X 20' MIN.
0°-59°	30' X 20' MIN.



**NOTE**  
 THE INITIAL DRIVEWAY SHALL HAVE A DRIVEWAY TILE INSTALLED BY THE OWNER. SIZE AND LOCATION OF THE TILE MUST FIRST BE APPROVED BY THE STORMWATER MANAGEMENT SECTION.

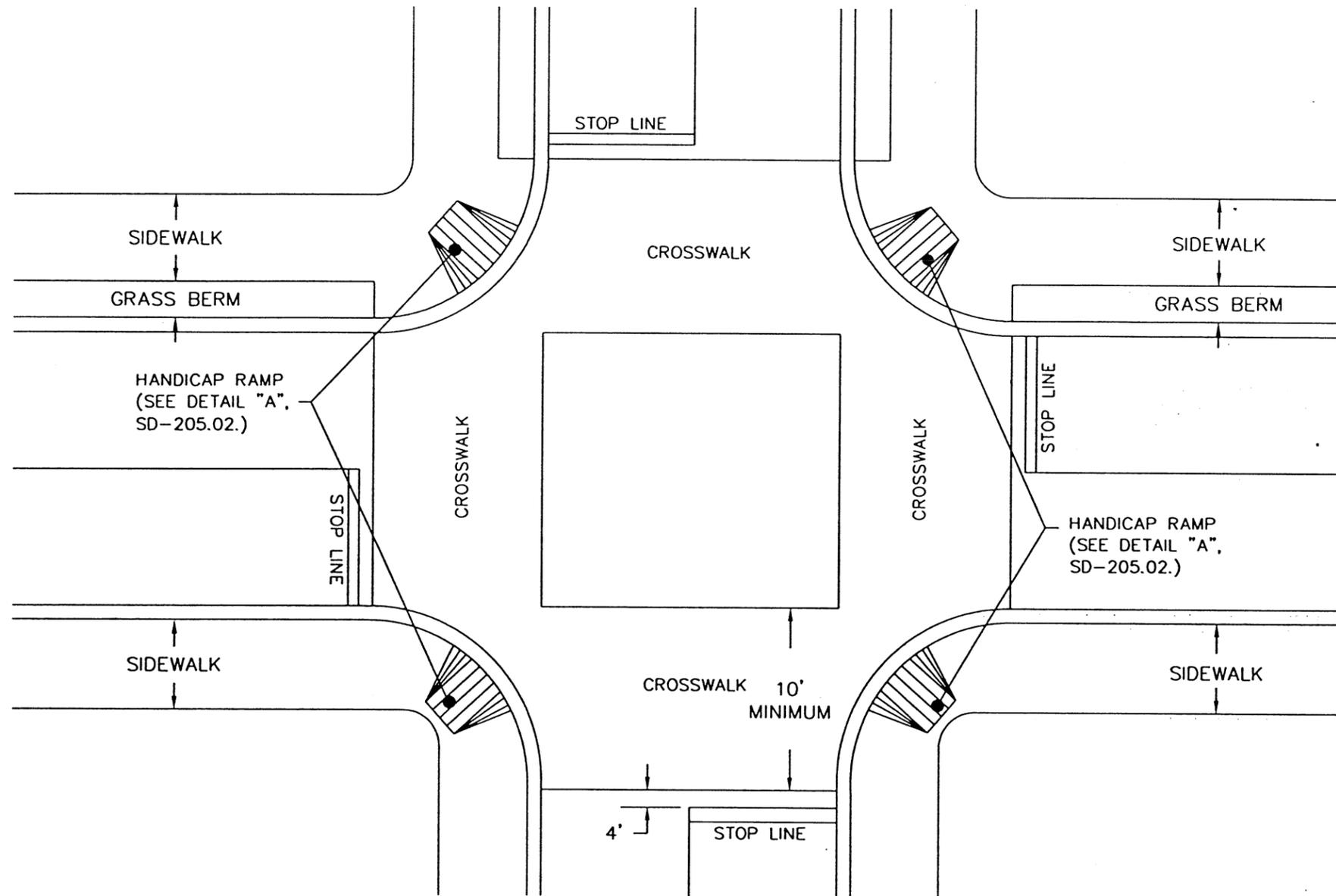


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NO.	REVISION	DATE
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99

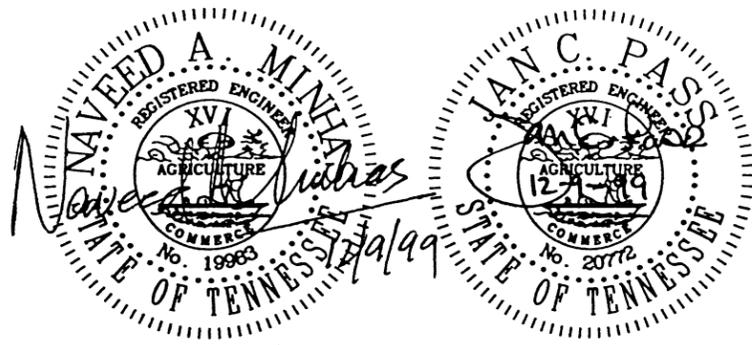
CITY OF CHATTANOOGA AND HAMILTON COUNTY	
PRIVATE DRIVEWAY APPROACH (RESIDENTIAL)	
DATE OF ORIGINAL ISSUE DECEMBER 10, 1999	STANDARD NUMBER: SD-204.01



PLAN

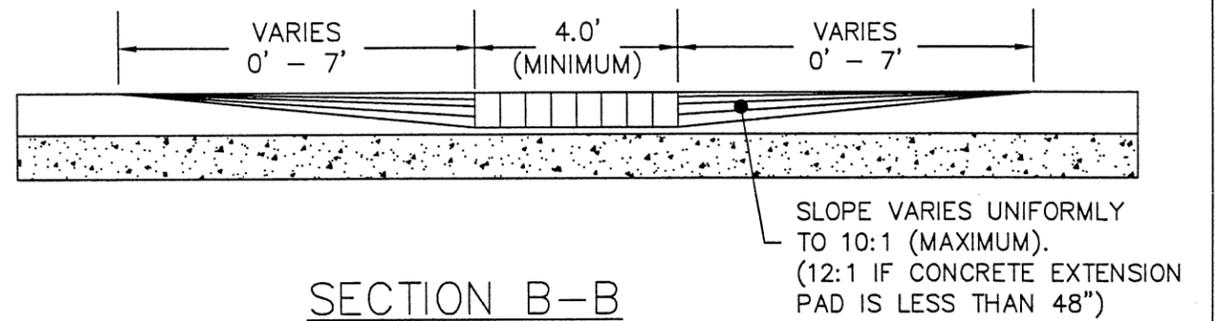
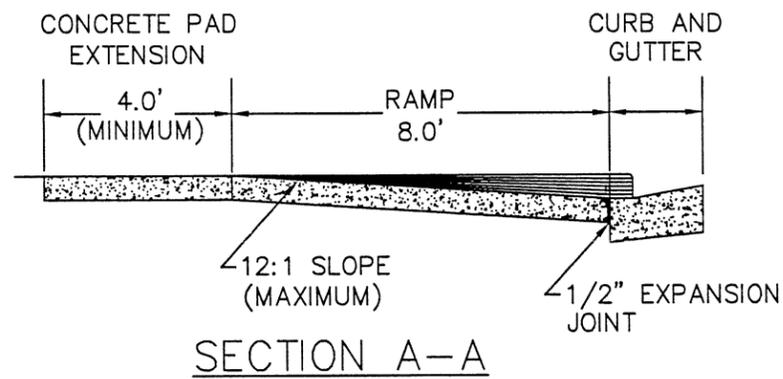
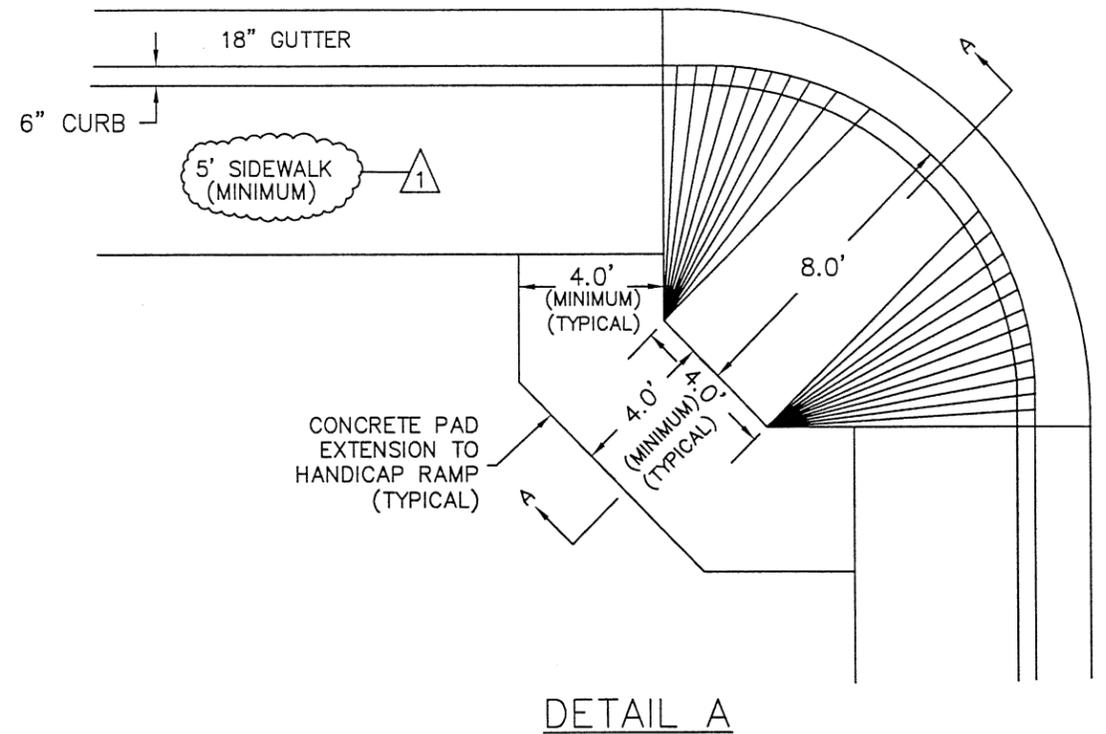
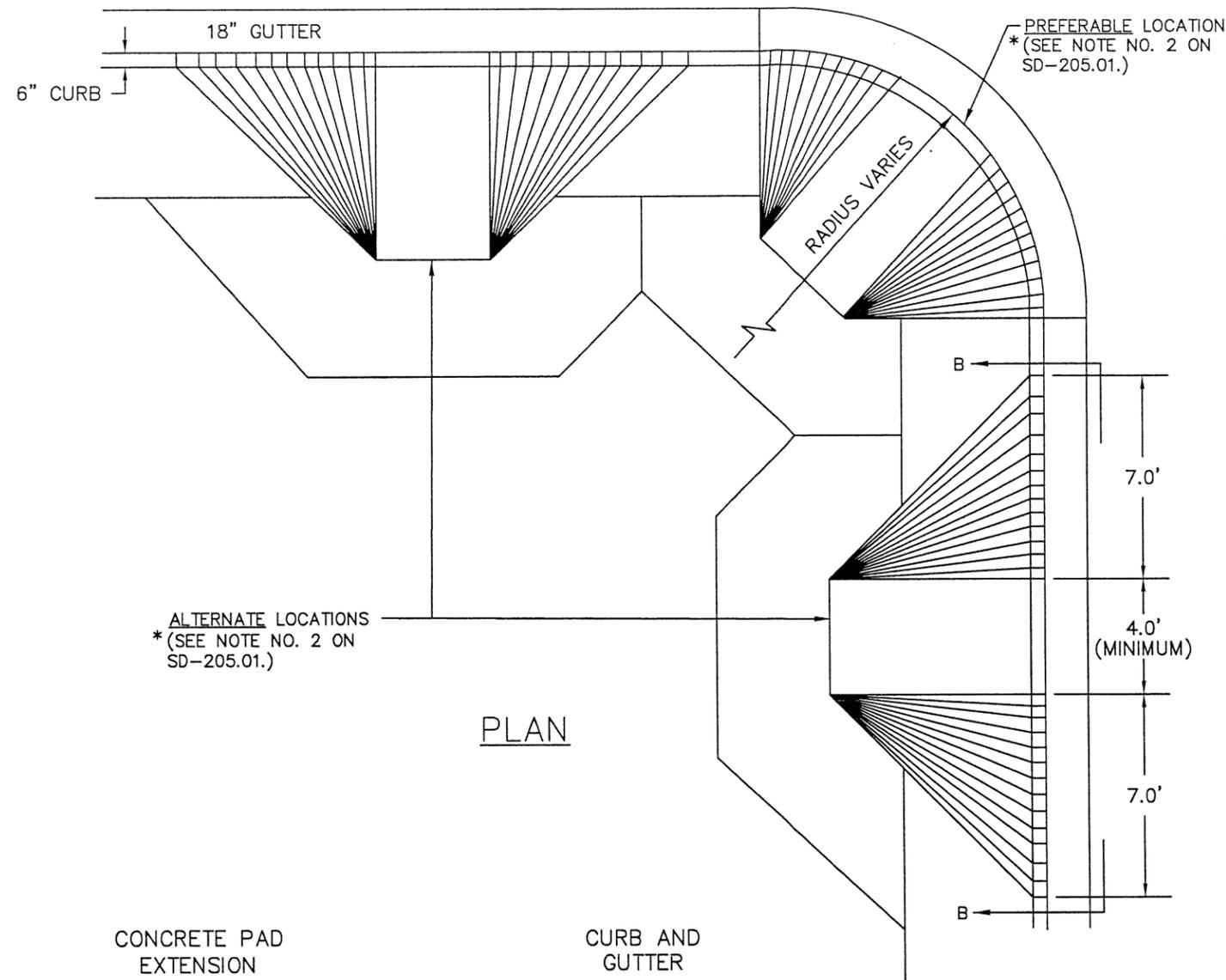
NOTES

1. DETAILS SHOWN ON THIS PLAN APPLY TO ALL CONSTRUCTION OR RECONSTRUCTION OF STREETS, CURBS, AND/OR SIDEWALKS.
2. CURB CUT RAMPS SHALL BE LOCATED AS SHOWN ON THE PLANS.
3. HANDICAP RAMPS SHALL BE PROVIDED AT ALL CORNERS OF STREET INTERSECTIONS WHERE THERE ARE EXISTING OR PROPOSED SIDEWALKS. CURB CUT RAMPS SHALL ALSO BE PROVIDED AT CROSSWALK LOCATIONS IN MID-BLOCK.
4. THE SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE, TRANSVERSE, BROOMING OF THE SLOPE OF THE RAMP.
5. CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, FREE OF SAGS AND SHORT GRADE CHANGES.
6. DRAINAGE STRUCTURES SHALL NOT BE PLACED IN LINE WITH RAMPS.
7. THE NORMAL GUTTER LINE PROFILE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
8. CROSSWALK AND STOPLINE MARKINGS, IF USED, SHALL BE LOCATED SO THAT TRAFFIC STOPS SHORT OF RAMP CROSSINGS.
9. DESIRABLE DIMENSIONS SHALL BE USED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



			<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
			<i>HANDICAP RAMP DETAILS</i>	
0	INITIAL ISSUE	12/10/99	DATE OF ORIGINAL ISSUE	
NO.	REVISION	DATE	<b>DECEMBER 10, 1999</b>	
			STANDARD NUMBER: <b>SD-205.01</b>	

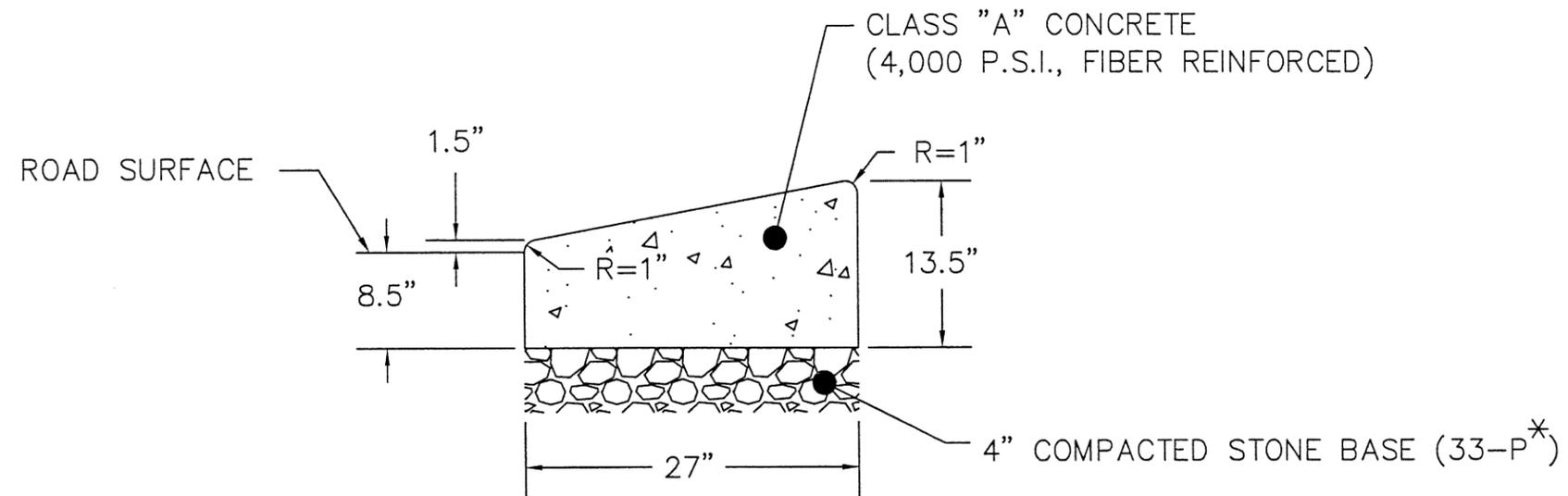
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NO.	REVISION	DATE
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99

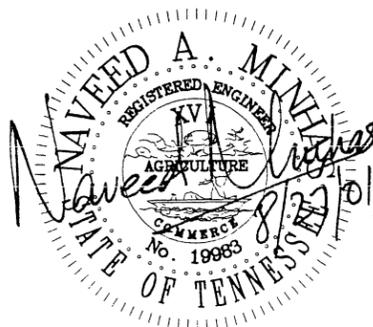
CITY OF CHATTANOOGA AND HAMILTON COUNTY	
HANDICAP RAMP DETAILS	
DATE OF ORIGINAL ISSUE DECEMBER 10, 1999	STANDARD NUMBER: SD-205.02

F:\STDDWGS\Curb, Mountable Island\Mountable Island Curb.dwg



TYPICAL SECTION

\* "33-P (PUG)" - 303.01,  
 TYPE A, GRADING D ("33-P"),  
 TENNESSEE D.O.T. SPECIFICATIONS



			<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
			<i>MOUNTABLE ISLAND CURB</i>	
		DATE OF ORIGINAL ISSUE	STANDARD NUMBER: <i>SD-206.01</i>	
		<i>AUGUST 24, 2001</i>		
0	INITIAL ISSUE	8/24/01		
NO.	REVISION	DATE		

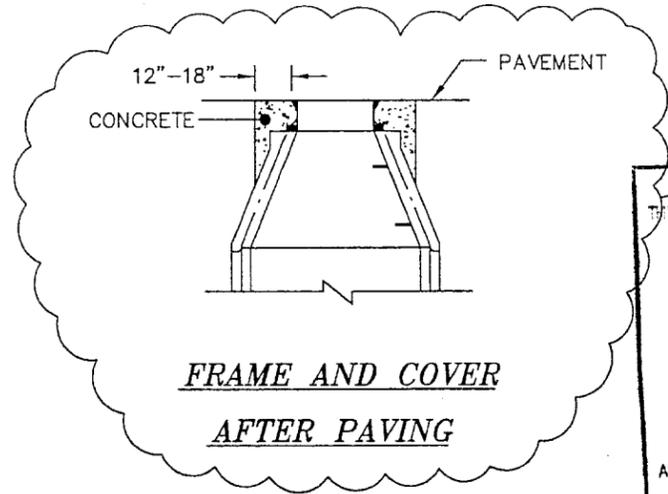
# SANITARY SEWERS

WPC 04-0173

NOTES

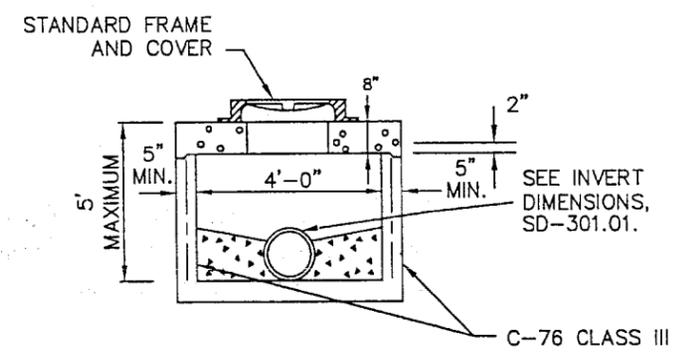
1. ALL MATERIALS, DESIGN, MANUFACTURE, PHYSICAL TEST REQUIREMENTS, FINISH, MARKING, INSPECTION, REJECTION, AND REPAIRS SHALL MEET A.S.T.M. C478 FOR PRECAST, REINFORCED CONCRETE MANHOLE RISERS AND TOPS EXCEPT AS MAY BE MODIFIED IN THESE SPECIFICATIONS.
2. SIZE AND LOCATE PIPE CUTOUTS AS REQUIRED.
3. MANHOLE 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.

1

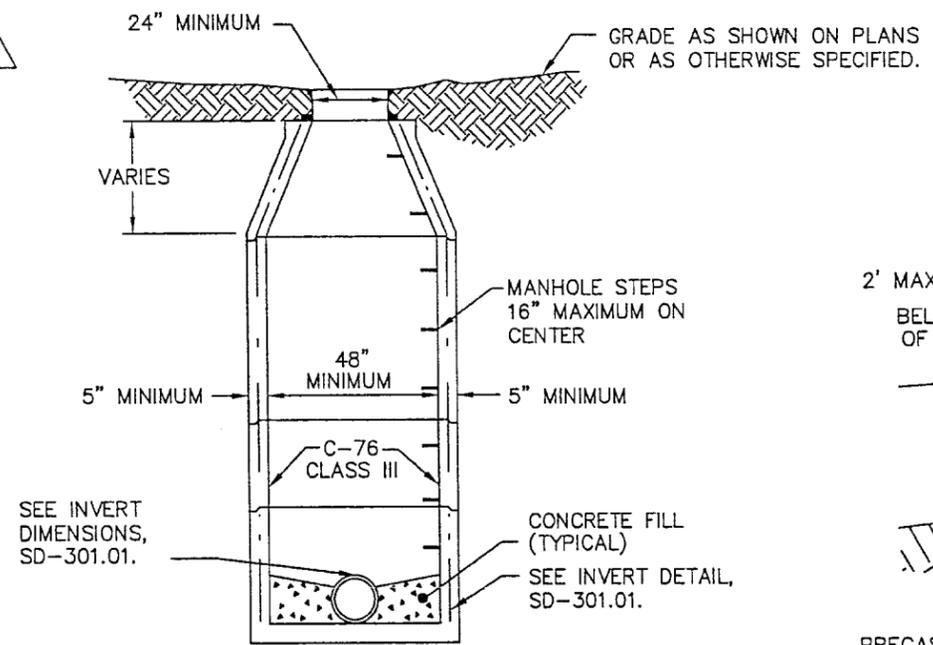


APPROVED FOR CONSTRUCTION  
 THIS DOCUMENT BEING THE DESIGN, SPECIFIED AND REVIEWED BY THE  
 TENNESSEE DEPT. OF ENVIRONMENT & CONSERVATION  
 DIVISION OF WATER POLLUTION CONTROL  
 AND IS HEREBY APPROVED FOR CONSTRUCTION BY THE COMMISSIONER  
  
 FEB 25 2004  
  
 THE APPROVAL OF THIS DOCUMENT AS CARRYING A PRESUMPTION OF  
 CORRECT OPERATION OF FACILITIES BY THE USER OF THE APPROVED  
 APPROVED FACILITIES WILL BE THE DESIGNER'S RESPONSIBILITY AS COMMISSIONER  
 BY \_\_\_\_\_

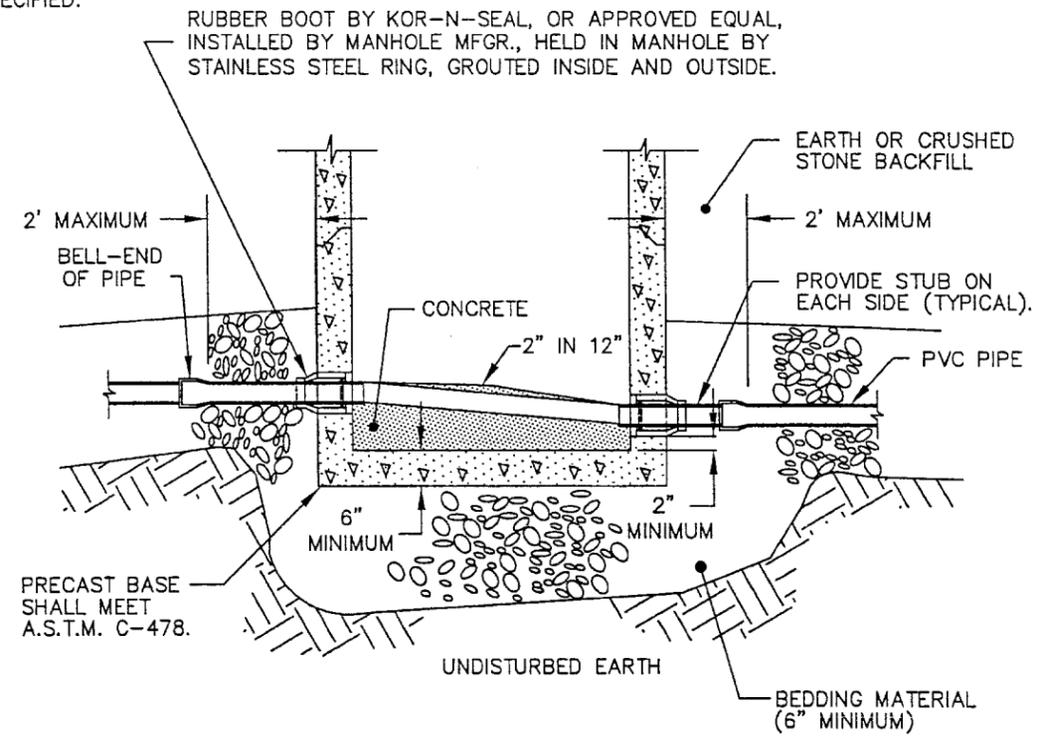
\* "33-P (PUG)" - 303-01, TYPE A,  
 GRADING D ("33-P"), TENNESSEE D.O.T.  
 SPECIFICATIONS



**SPECIAL SHALLOW MANHOLE**



**CONCENTRIC CONE**



**BOOTED, TUB-BOTTOM MANHOLE**

APPROVAL EXPIRES  
 FEB 25 2007  
 TN. DEPT. OF ENVIRONMENT & CONSERVATION  
 DIVISION OF WATER POLLUTION CONTROL

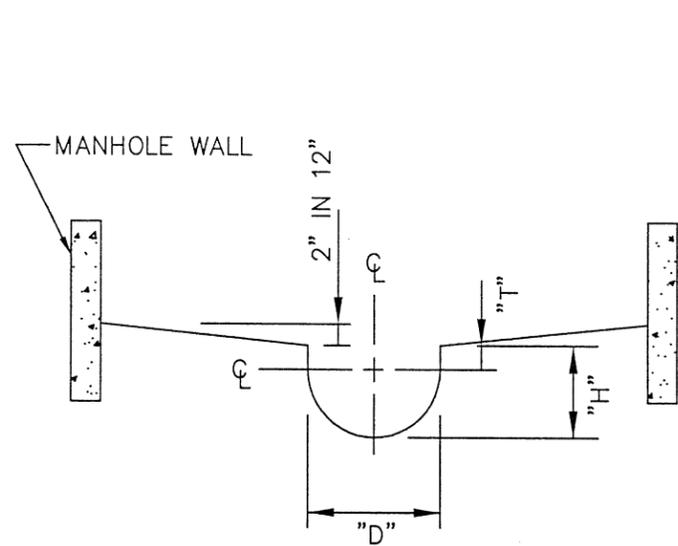
**PRECAST CONCRETE MANHOLES**



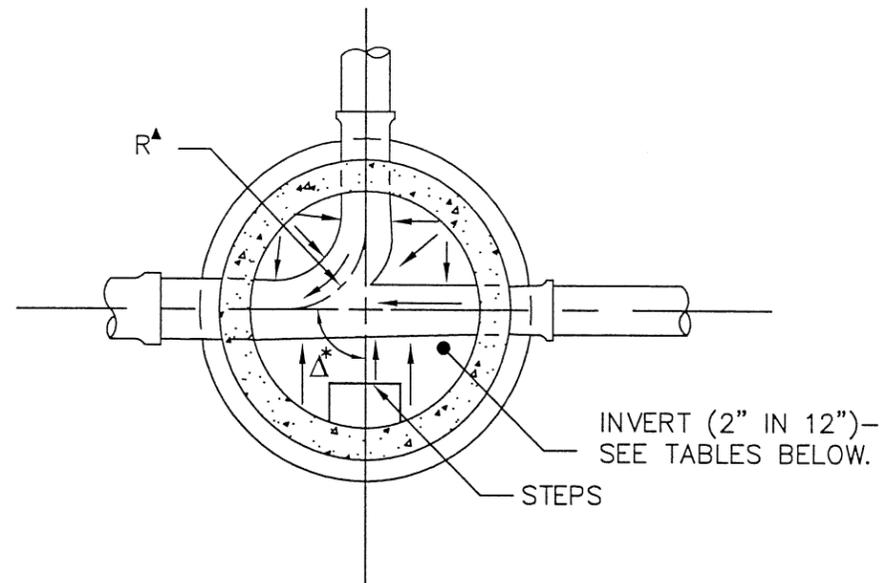
CITY OF CHATTANOOGA AND HAMILTON COUNTY		
SANITARY/STORM MANHOLE (PRECAST)		
STANDARD NUMBER: SD-300.01		
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99
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DATE OF ORIGINAL ISSUE		DECEMBER 10, 1999

F:\STDDWG\PreCast-CastinplaceManhole-County\PRECAST-CASTINPLACE-MANHOLE.dwg

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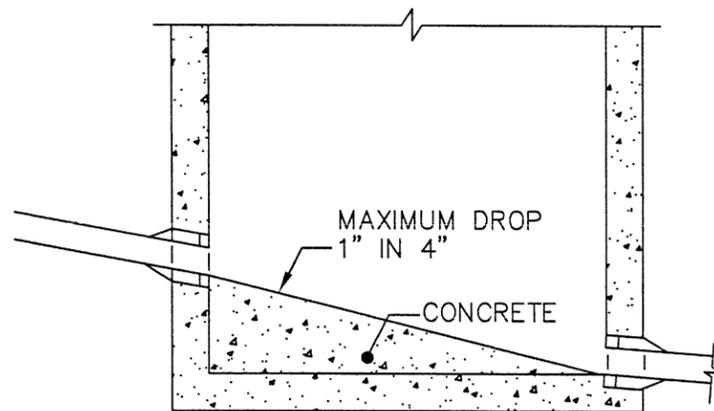
**INVERT SECTION**



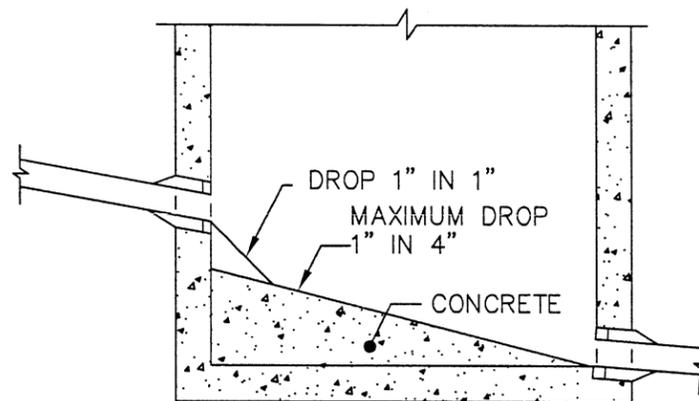
**INVERT PLAN**

**NOTE**

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



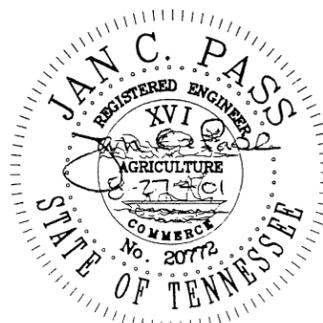
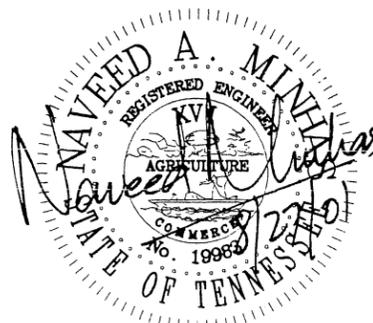
**INVERT DETAIL  
(WITH DROP LESS THAN 12")**



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

"D"	"T"	"H"
INSIDE DIAM. PIPE	VERTICAL TANGENT	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"

PIPE SIZE	Δ* ANGLE	BASE DIAM.	R <sup>▲</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	



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**CITY OF CHATTANOOGA AND HAMILTON COUNTY**

**SANITARY/STORM MANHOLE DETAILS**

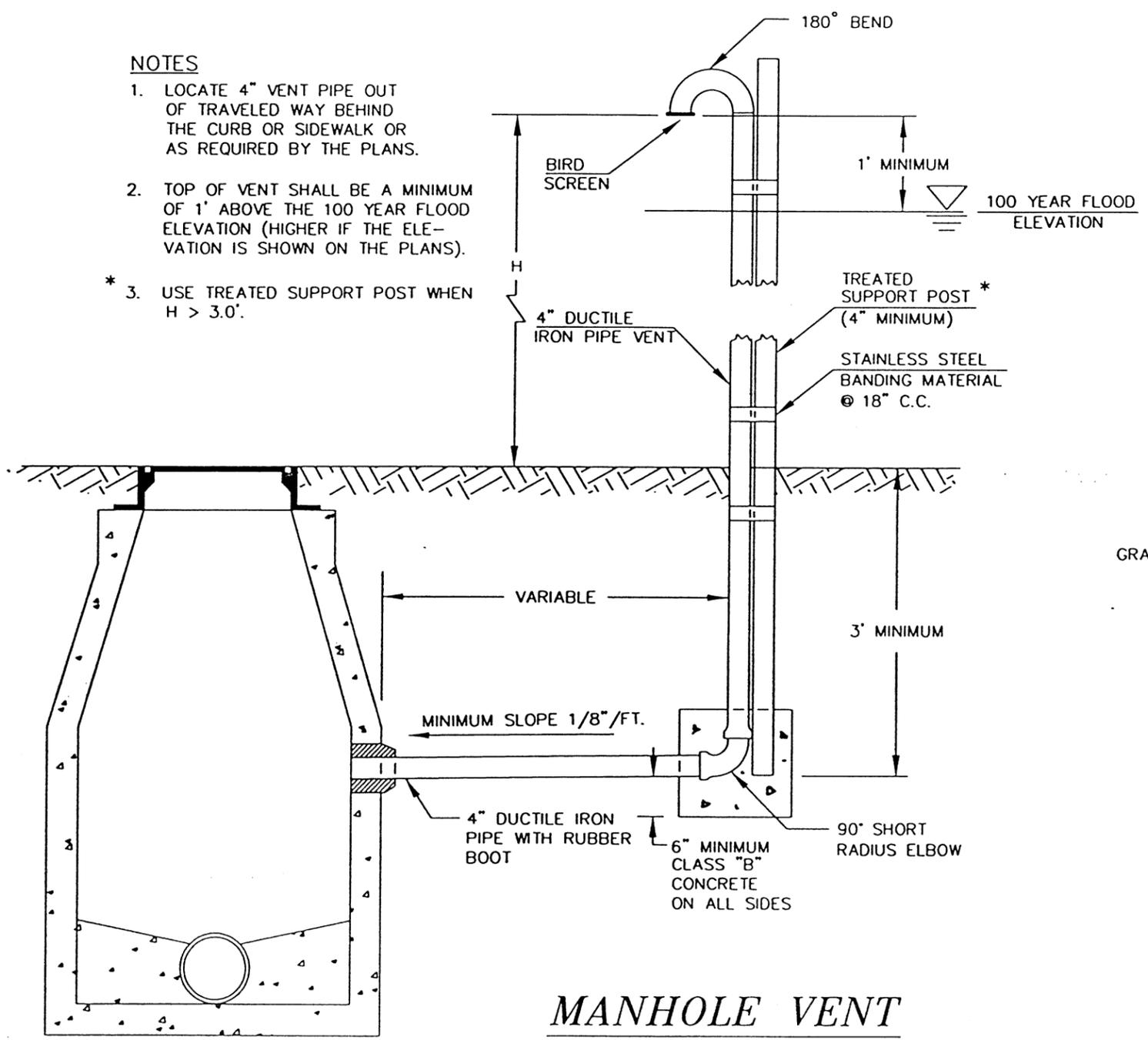
DATE OF ORIGINAL ISSUE  
**DECEMBER 10, 1999**

STANDARD NUMBER : **SD-301.01**

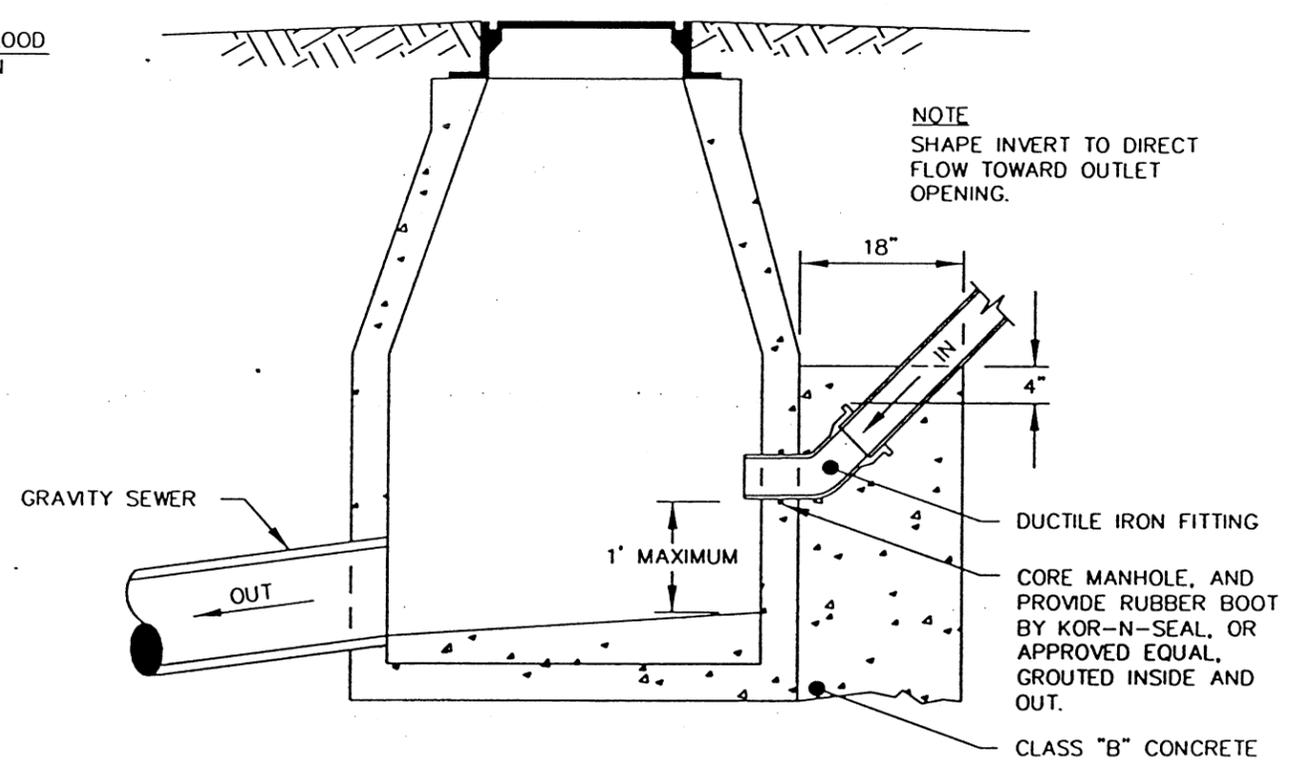
F:\STDDWG\St\_mhole (Drop) -County\manhole-Drop-County\_1.dwg Wed Dec 16:08:22 1999 STATIONS 24

**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**

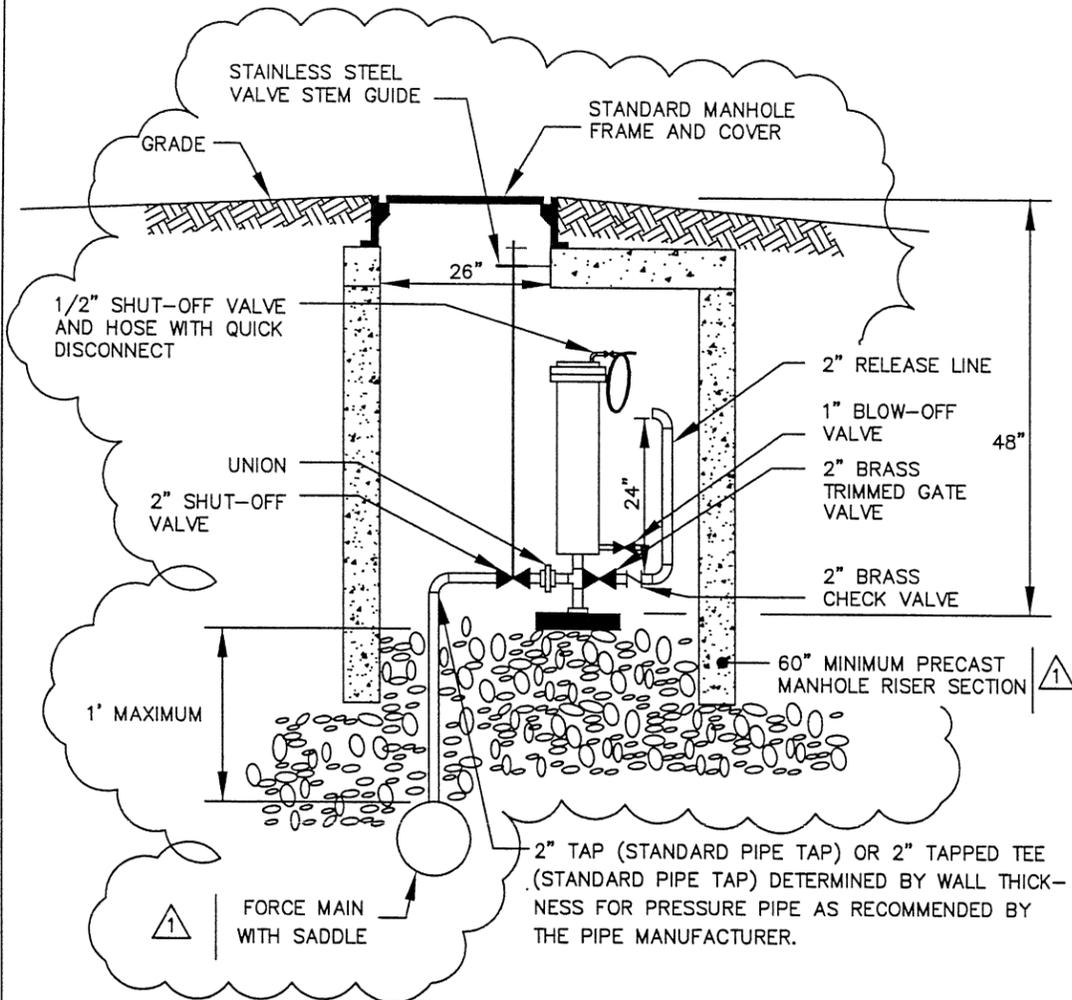


0	INITIAL ISSUE	12/10/99
NO.	REVISION	DATE

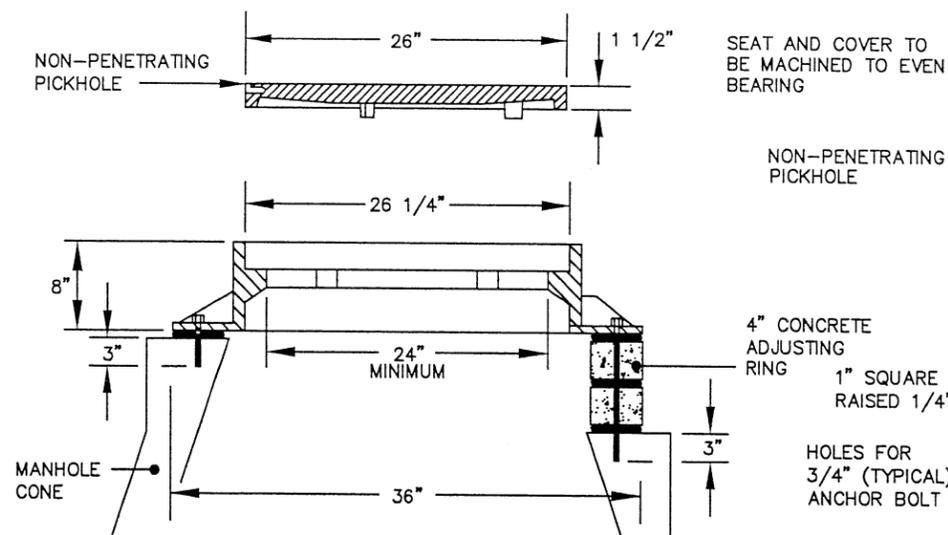
<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
<b>SANITARY/STORM MANHOLE DETAILS</b>	
DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER: <b>SD-301.02</b>

**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.

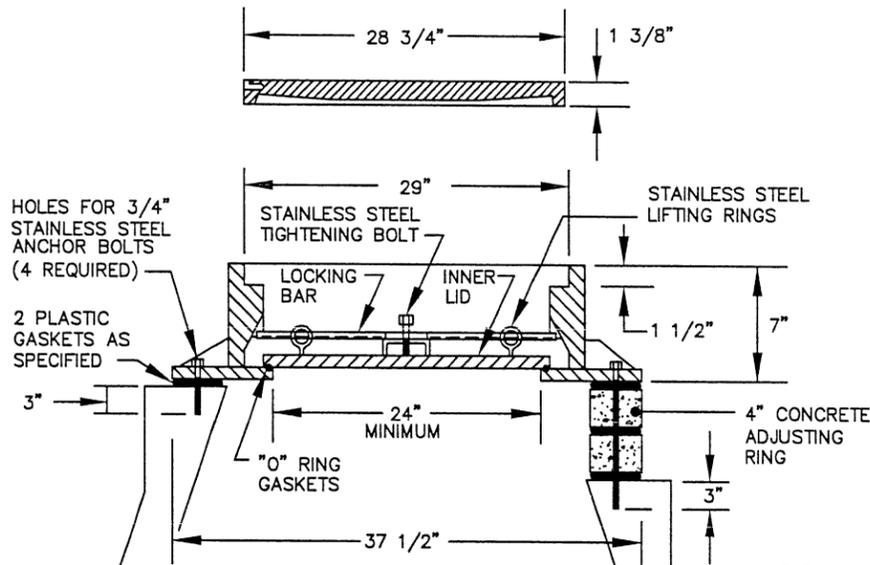


**AIR RELEASE VALVE  
(SANITARY FORCE MAIN)**



**SECTION  
STANDARD FRAME AND COVER**

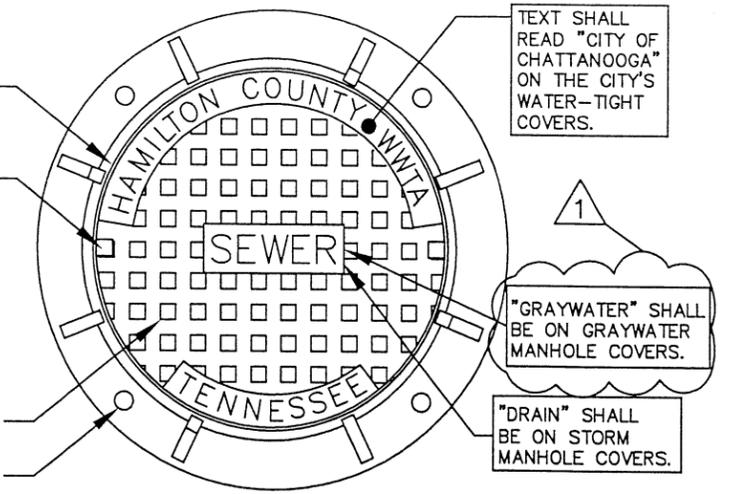
ACHESON FOUNDRY A-2024-81C (CITY),  
A-2024-81D (CITY-"DRAIN"),  
A-2024-81H (COUNTY),  
OR APPROVED EQUAL



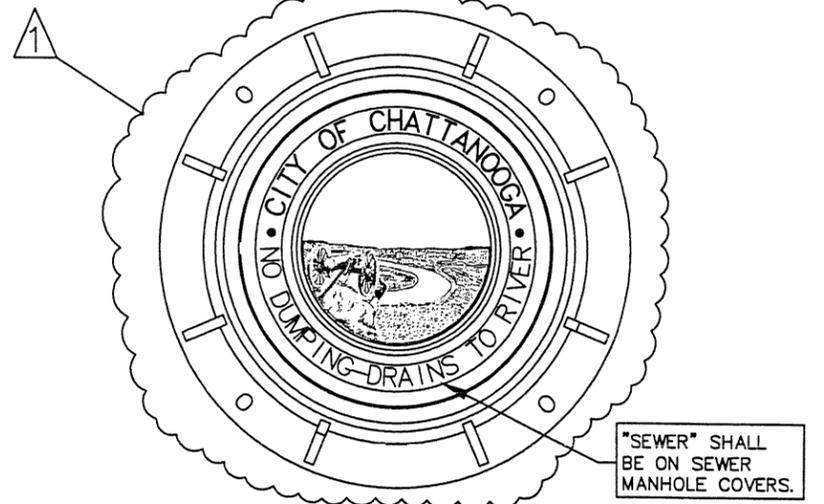
**SECTION  
WATER-TIGHT FRAME  
AND COVER**

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.

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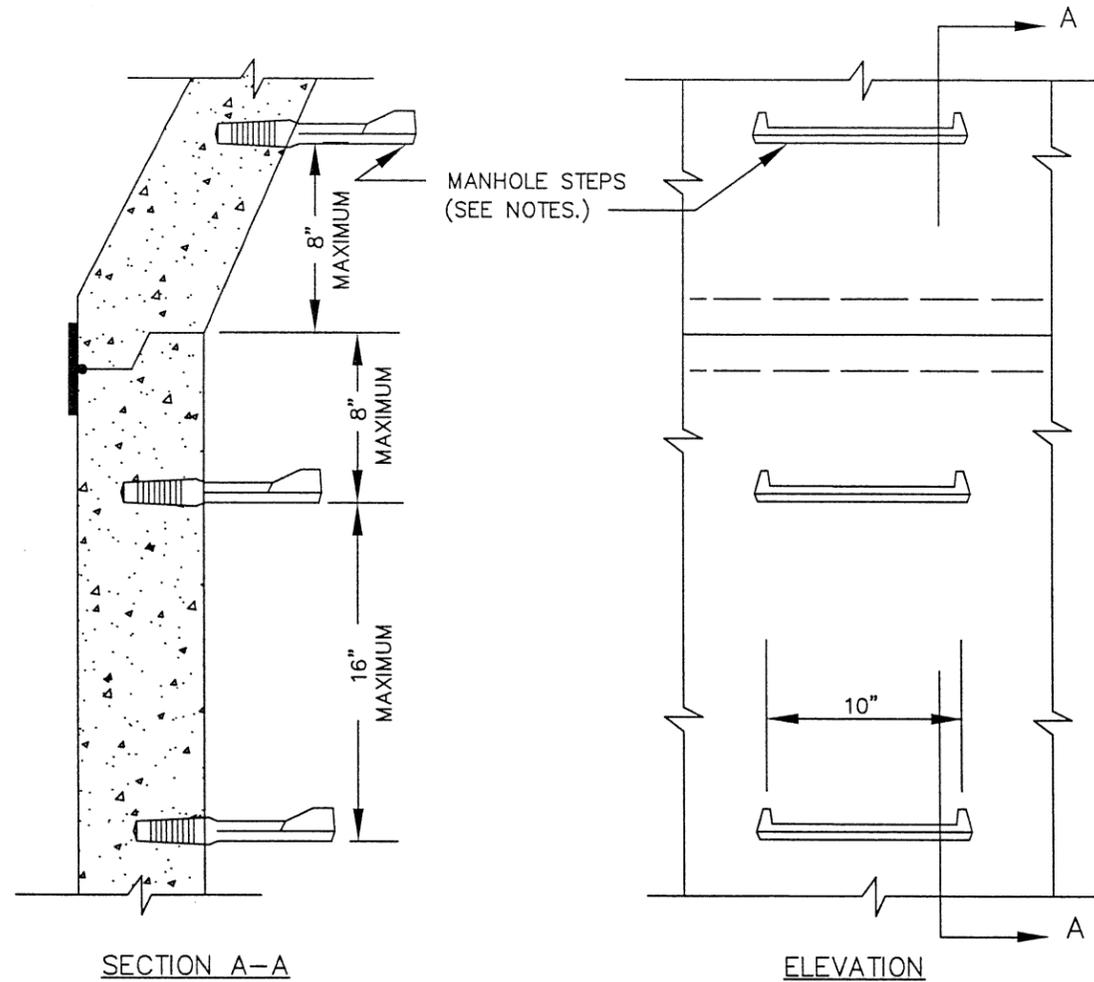
NO.	REVISION	DATE
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99

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

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

STANDARD NUMBER: **SD-301.03**

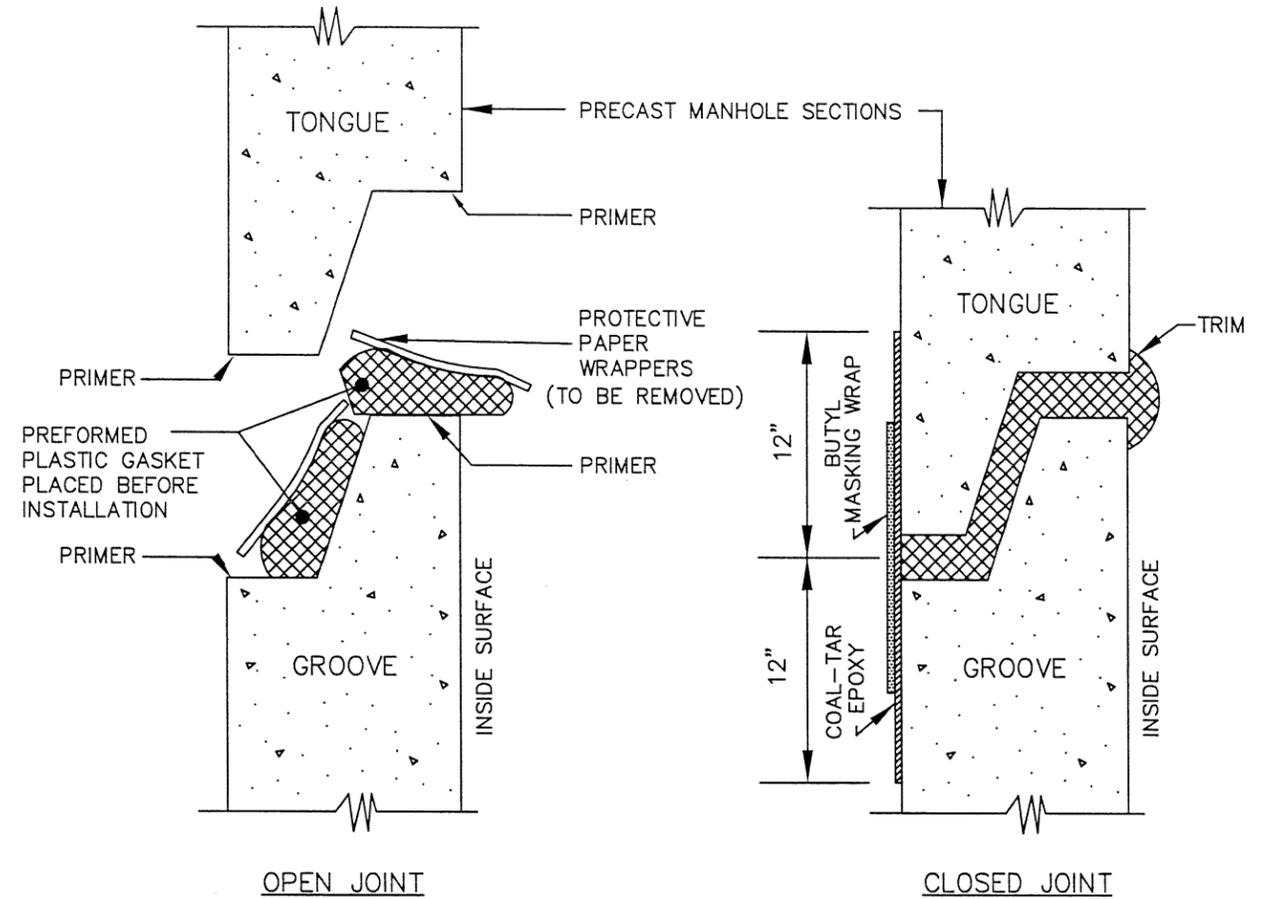
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**NOTES**

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**



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

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

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

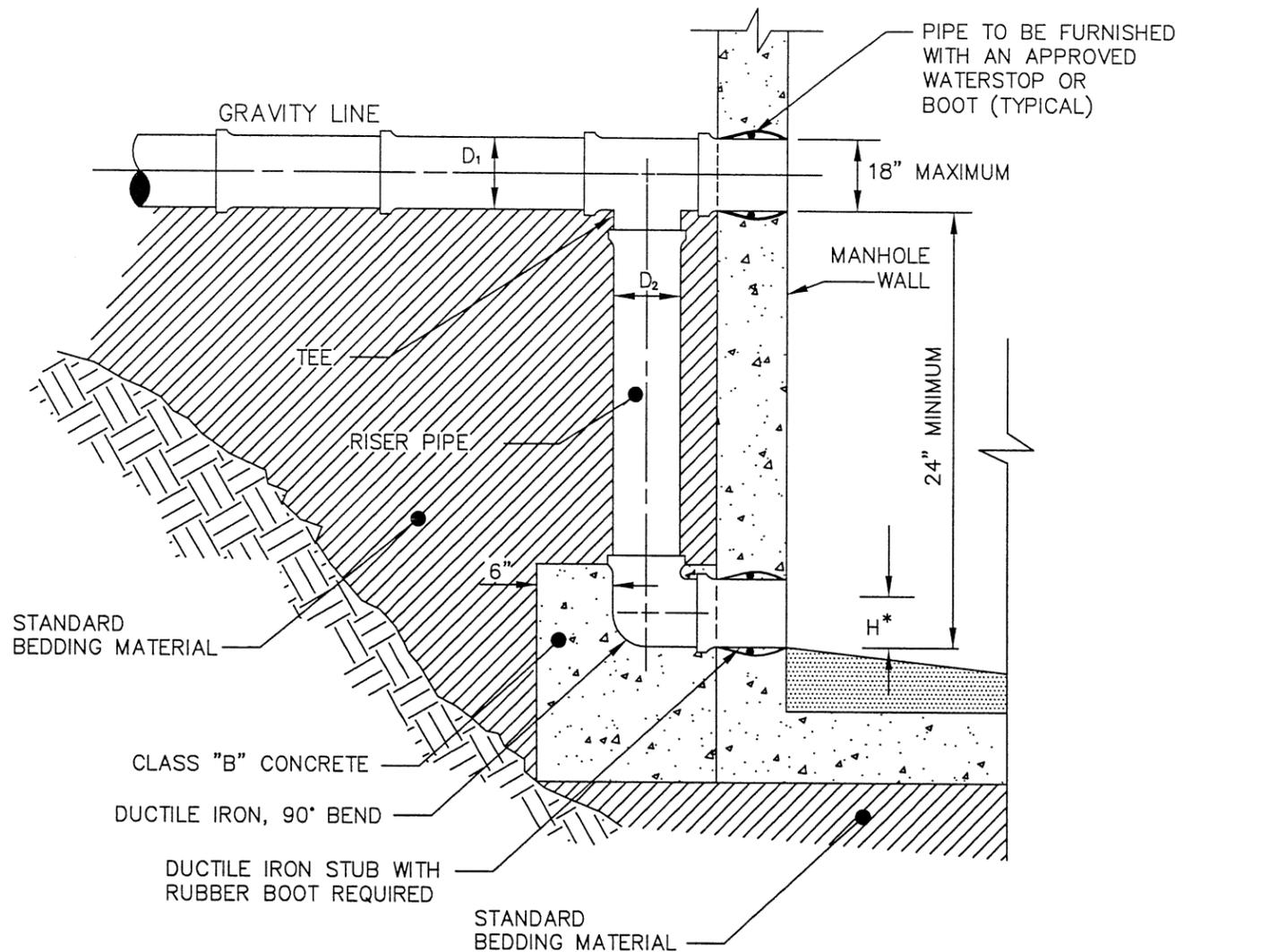
STANDARD NUMBER: **SD-301.04**

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

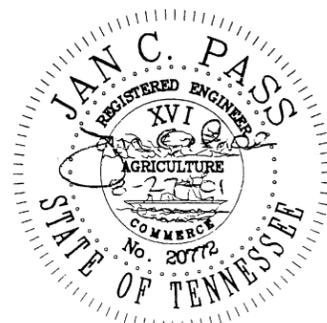
**NOTES**

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.



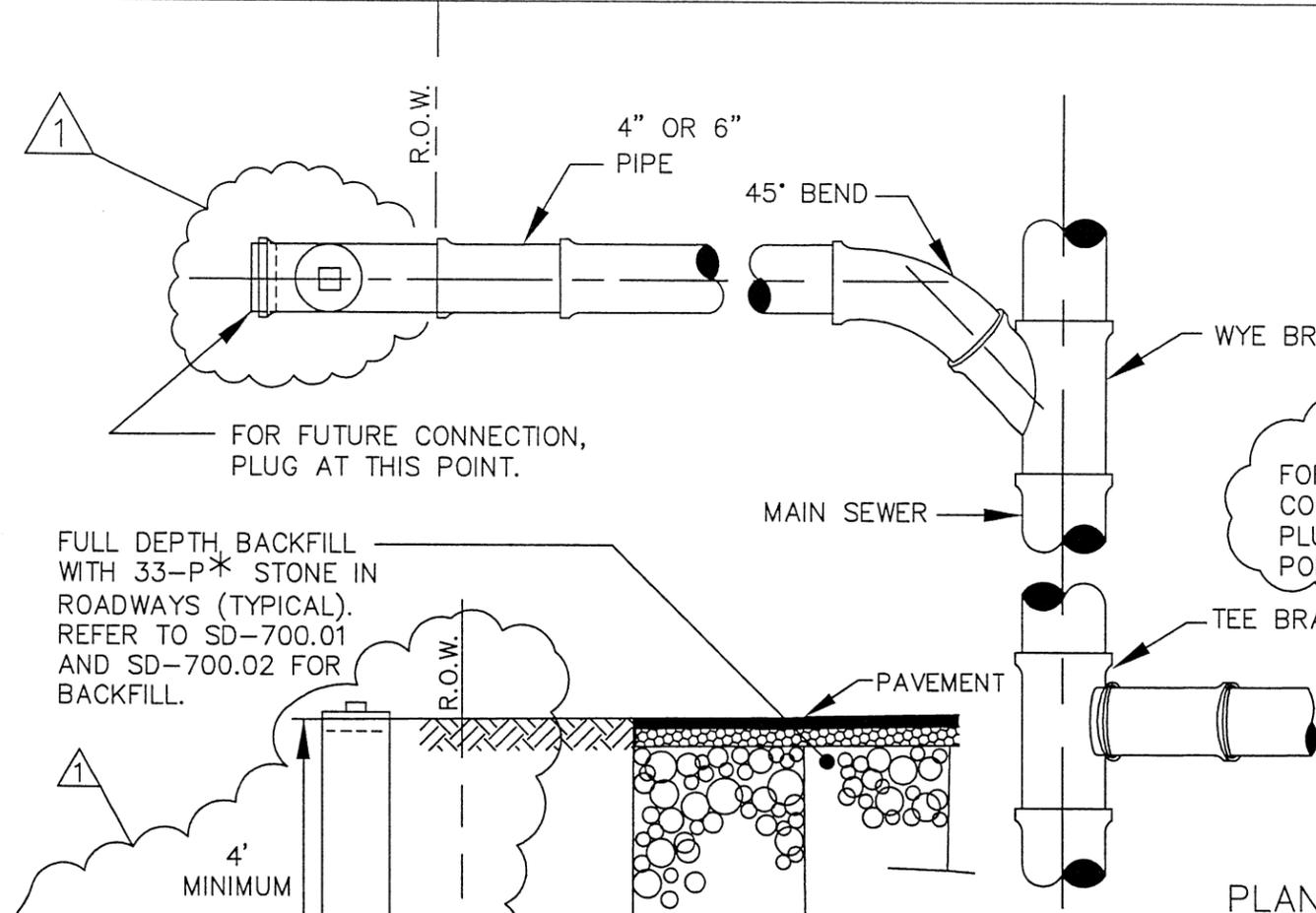
H\* - SEE STANDARD INVERT DIMENSIONS, TABLE 1, SD-301.01.

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

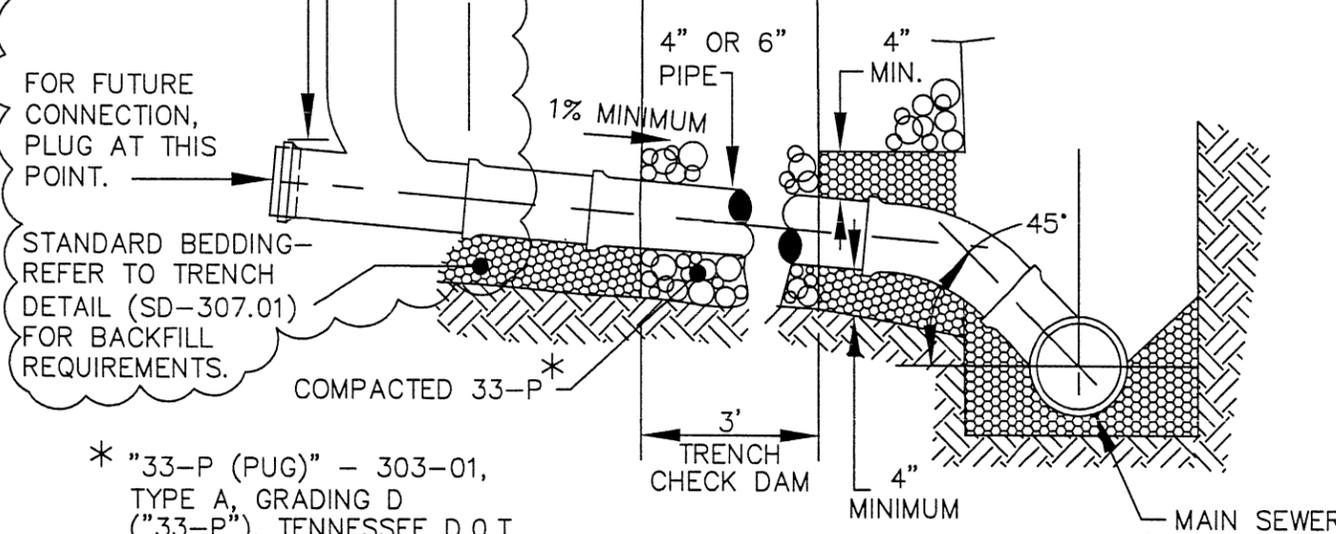


			<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
			<b>SANITARY MANHOLE DROP CONNECTION</b>	
1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE	STANDARD NUMBER: <b>SD-302.01</b>
0	INITIAL ISSUE	12/10/99	<b>DECEMBER 10, 1999</b>	
NO.	REVISION	DATE		

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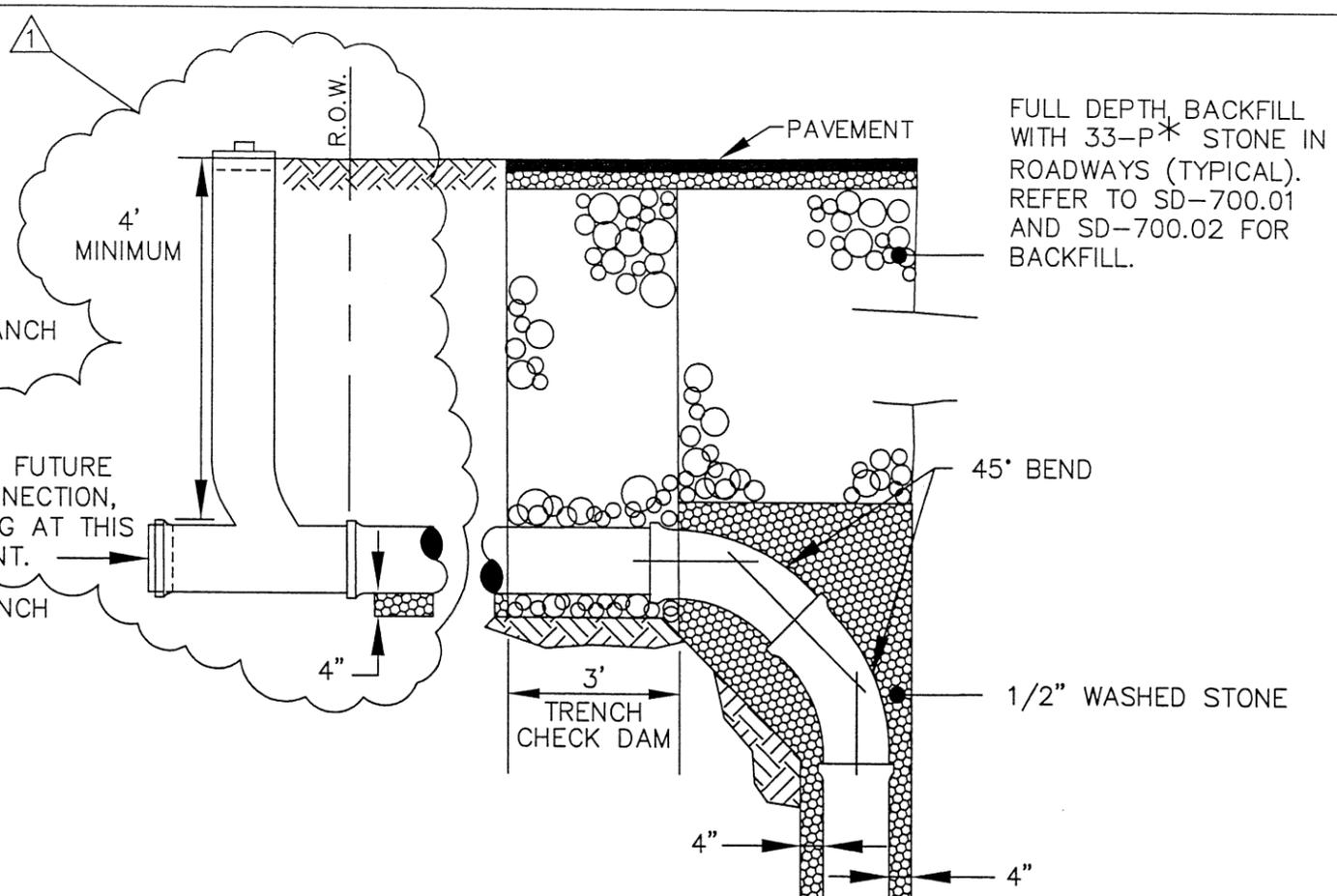


PLAN



PROFILE

**SHALLOW SEWER**



PROFILE

**DEEP SEWER**

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.

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

**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.



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

**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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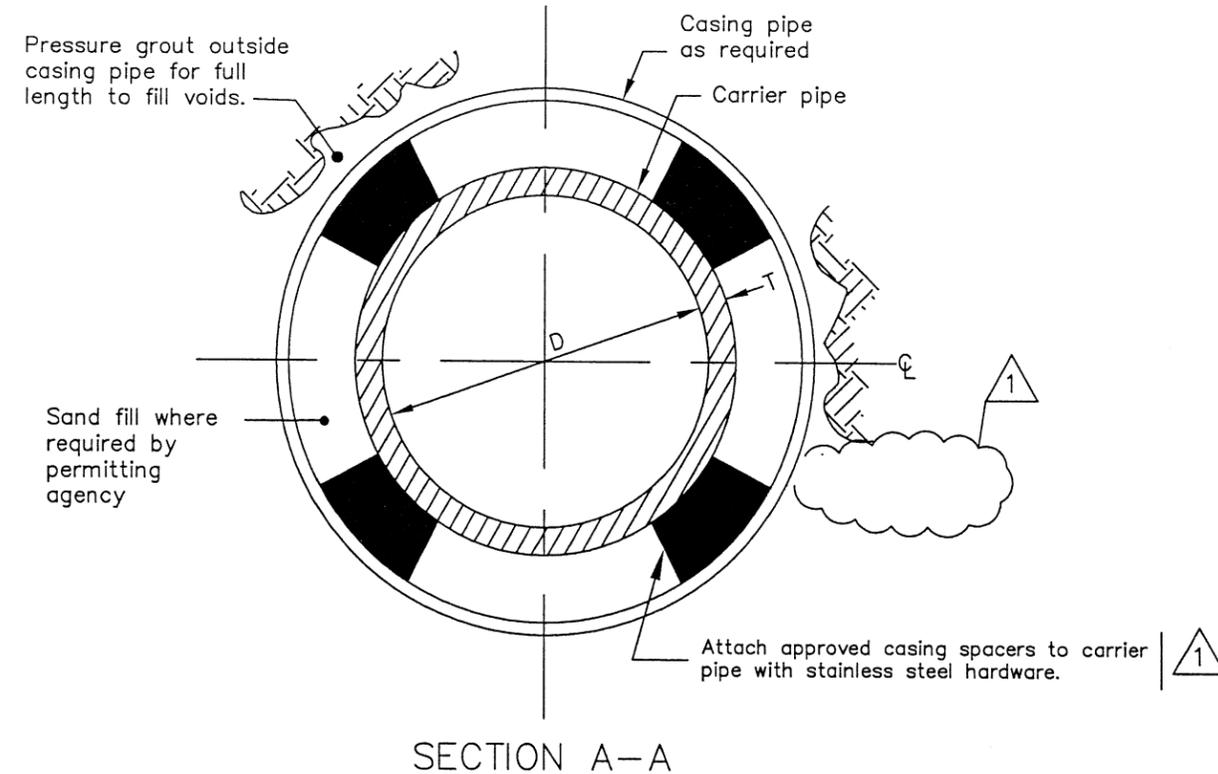
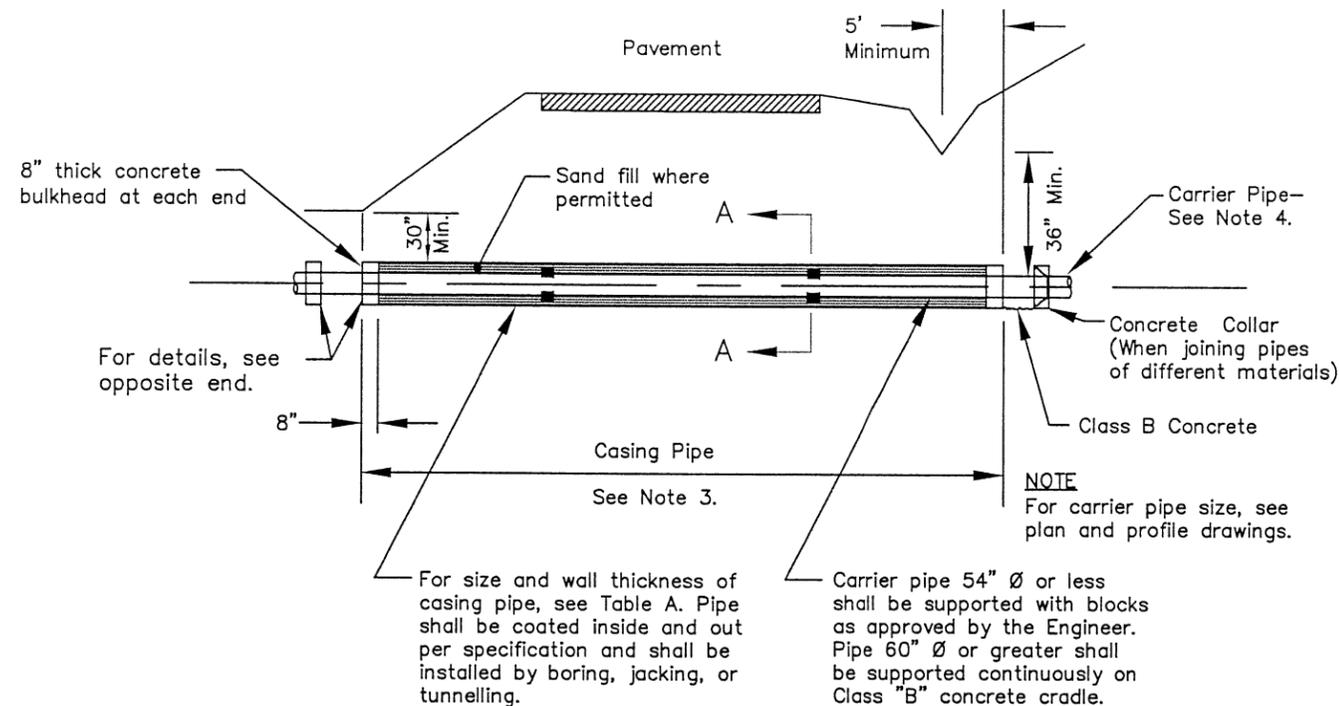


TABLE "A"		
PIPE SIZE		
Carrier Pipe (Inches)	Casing Pipe	
	Diameter (Inches)	Steel Pipe Wall Thick
8	16	1/4"
10	20	5/16"
12	24	3/8"
14	30	1/2"
18	36	1/2"
24	36	1/2"
30	54	SEE TABLE "B".
36	54	"
42	66	"
48	72	"
54	78	"
60	84	"
66	96	"
72	108	"
84	120	"
96	144	"

\* Ductile Iron  
Or Cast Iron  
R.C.P.

1 \* HAMILTON COUNTY WWTA ALLOWS PVC PIPE.

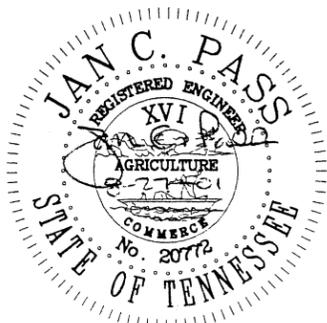
TABLE "B"									
Gauges of Liner Plate									
For Continuous Load-Carrying Structures									
Nominal Diameter (Inches)	Height of Cover (Feet)								
	2-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45
48	12	12	12	12	12	12	12	12	10
54	12	12	12	12	12	12	12	10	8
60	12	12	12	12	12	12	10	8	7
66	12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

CASING PIPE  
SIZE AND THICKNESS OF  
PIPE FOR HIGHWAY CROSSING

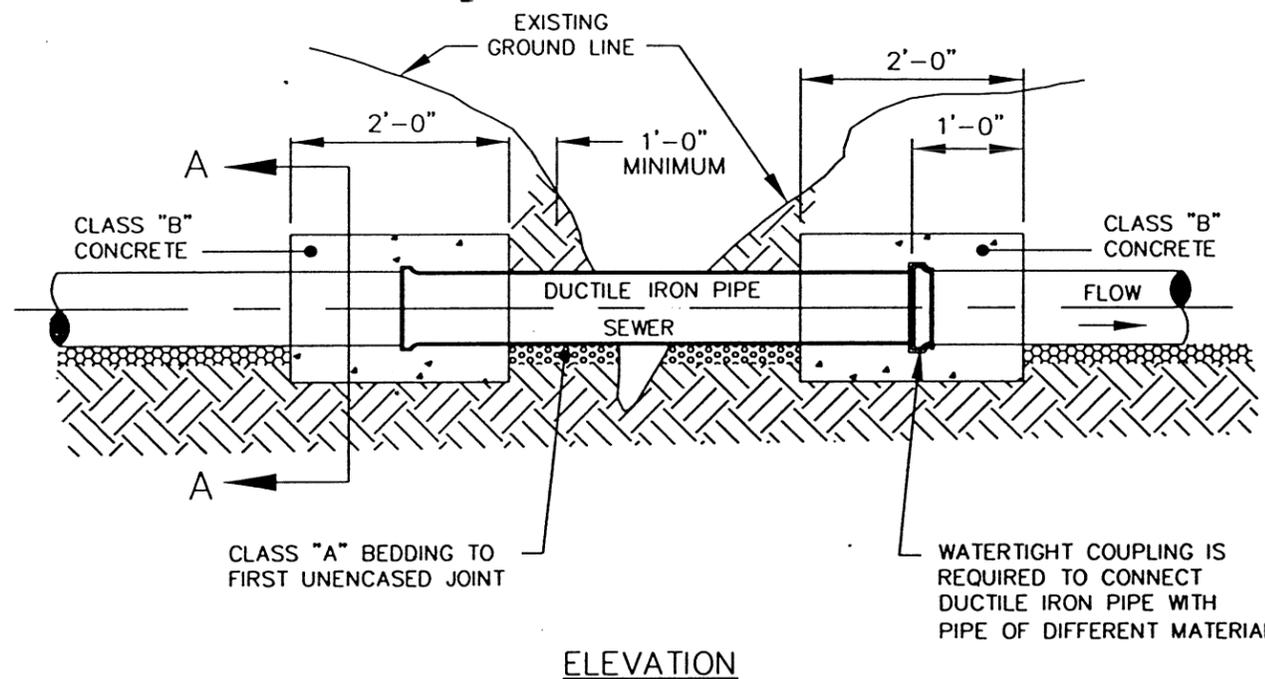
HIGHWAY CROSSING NOTES FOR PLACING SEWER LINES WITHIN THE RIGHT-OF-WAY OR CROSSING STATE AND U.S. HIGHWAYS AND DESIGNATED CITY STREETS

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.

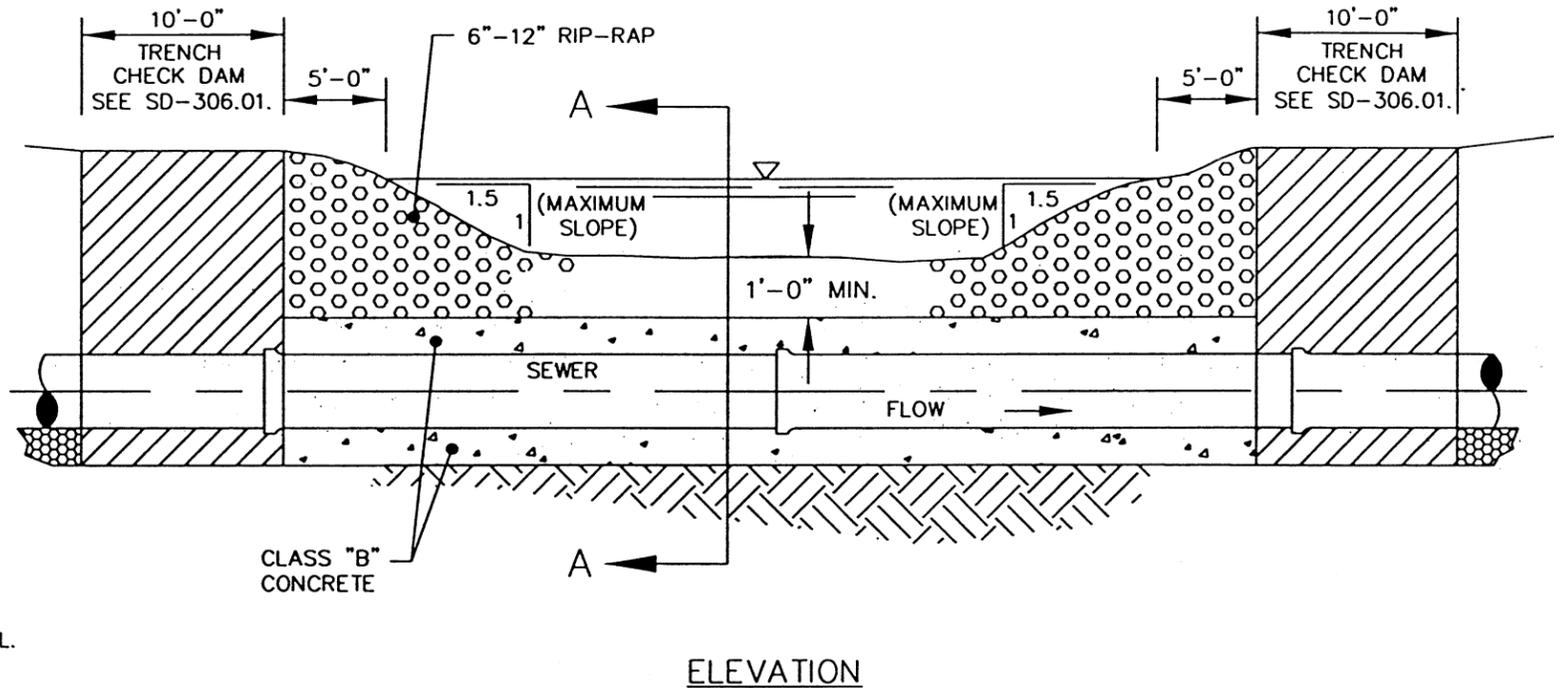
HIGHWAY CROSSING DETAILS



CITY OF CHATTANOOGA AND HAMILTON COUNTY			
HIGHWAY CROSSING FOR SANITARY SEWERS			
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-304.01

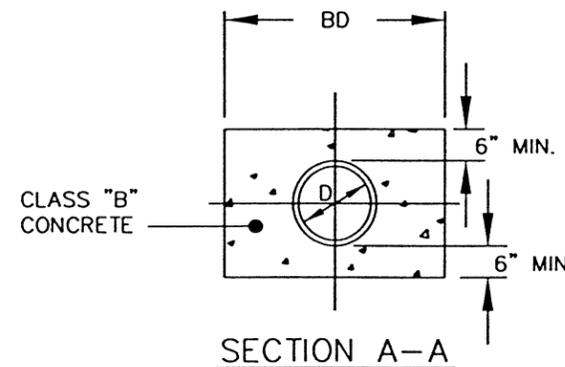


DITCH CROSSING DETAIL

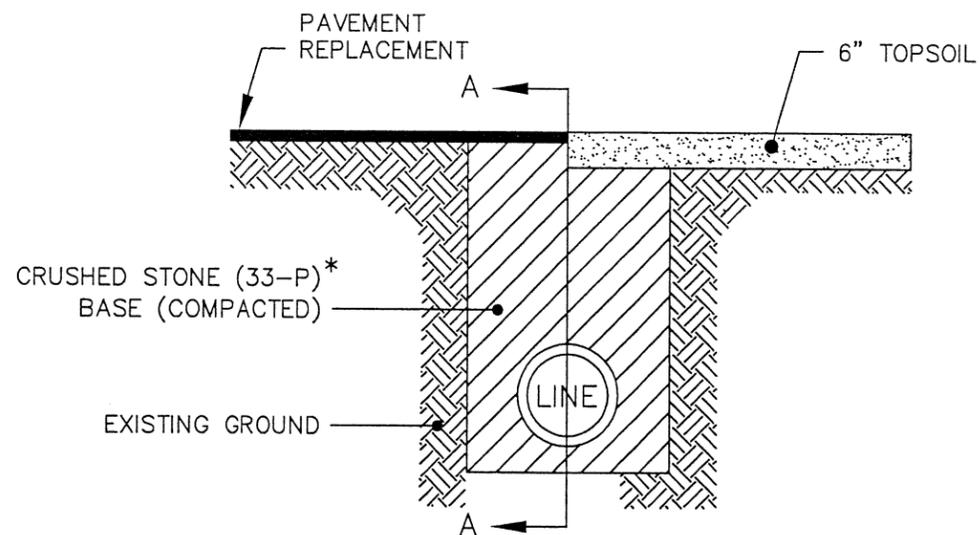


CREEK CROSSING DETAIL

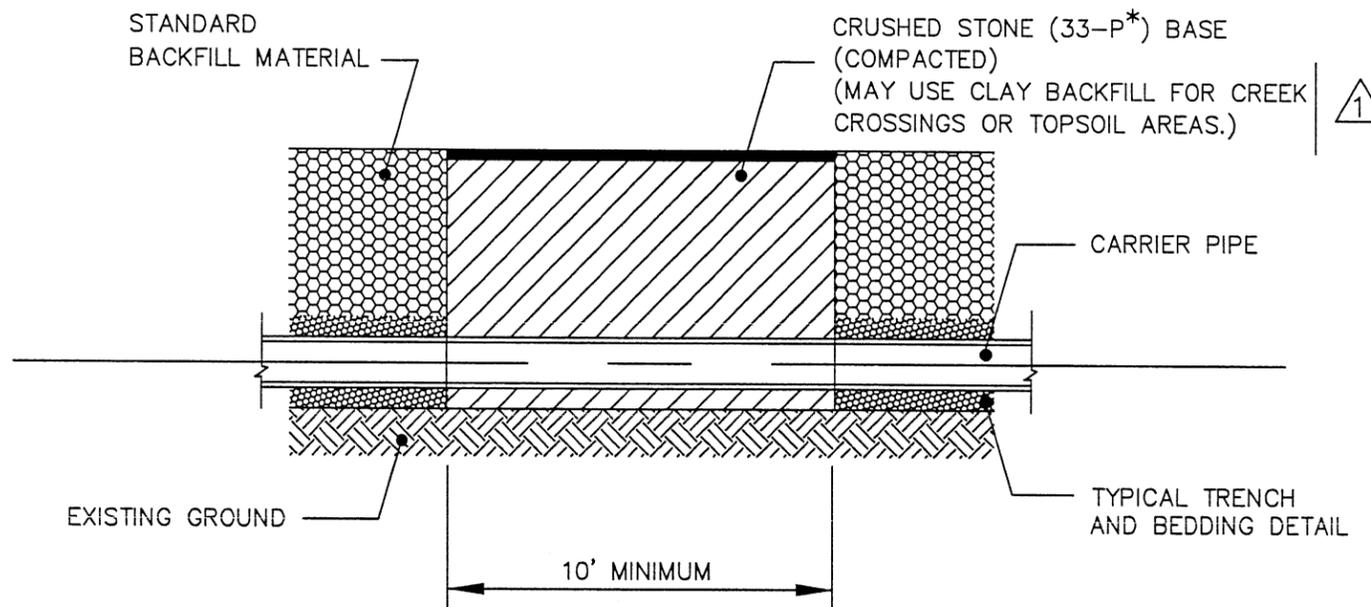
PIPE SIZE "D" (IN)	TRENCH WIDTH "BD" (FT)
6	2.00
8	2.33
10	2.50
12	2.67
15	3.00
18	3.25
24	3.83
30	4.42
36	5.67
42	6.25
48	6.83



<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>		
<b>CREEK AND DITCH CROSSINGS FOR SANITARY SEWERS</b>		
	DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER: <b>SD-305.01</b>
0 NO.	INITIAL ISSUE REVISION	12/10/99 DATE



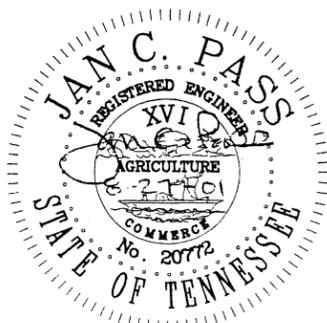
END VIEW  
(SPLIT SECTION)



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.



			<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
			<b>TRENCH CHECK DAM</b>	
1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE	STANDARD NUMBER : <i>SD-306.01</i>
0	INITIAL ISSUE	12/10/99	<b>DECEMBER 10, 1999</b>	
NO.	REVISION	DATE		

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 CL 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 EXPENCE, 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.

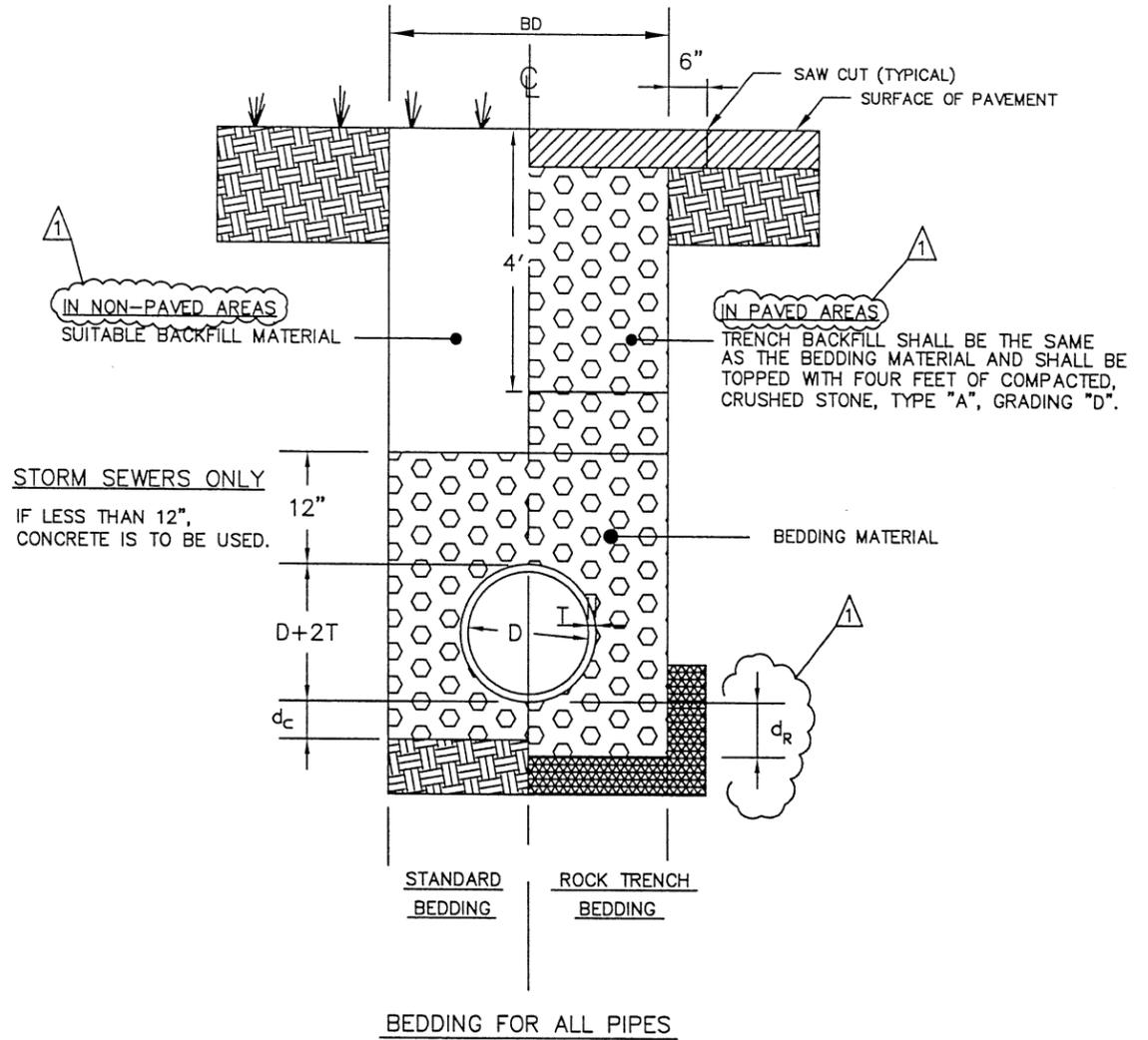
CLASS "B" BEDDING MATERIAL (SECTION 204.04, TENNESSEE D.O.T. SPECIFICATIONS)- MATERIAL FOR CLASS "B" BEDDING FOR PIPE CULVERTS SHALL CONSIST OF SAND OR A NATURAL SANDY SOIL, ALL OF WHICH PASSES A 3/8-INCH SIEVE AND NOT MORE THAN TEN PERCENT PASSES A NO. 200 SIEVE; OR STONE, GRAVEL, CHERT, OR SLAG MEETING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

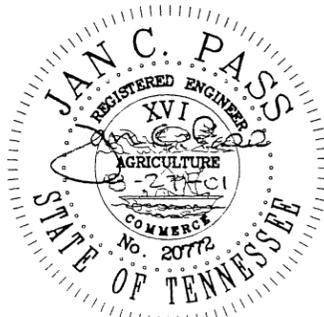
PVC PIPE BEDDING MATERIAL-NO. 7 WASHED STONE (SECTION 903.22, TENNESSEE D.O.T. SPECIFICATIONS).

#### 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.



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1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99

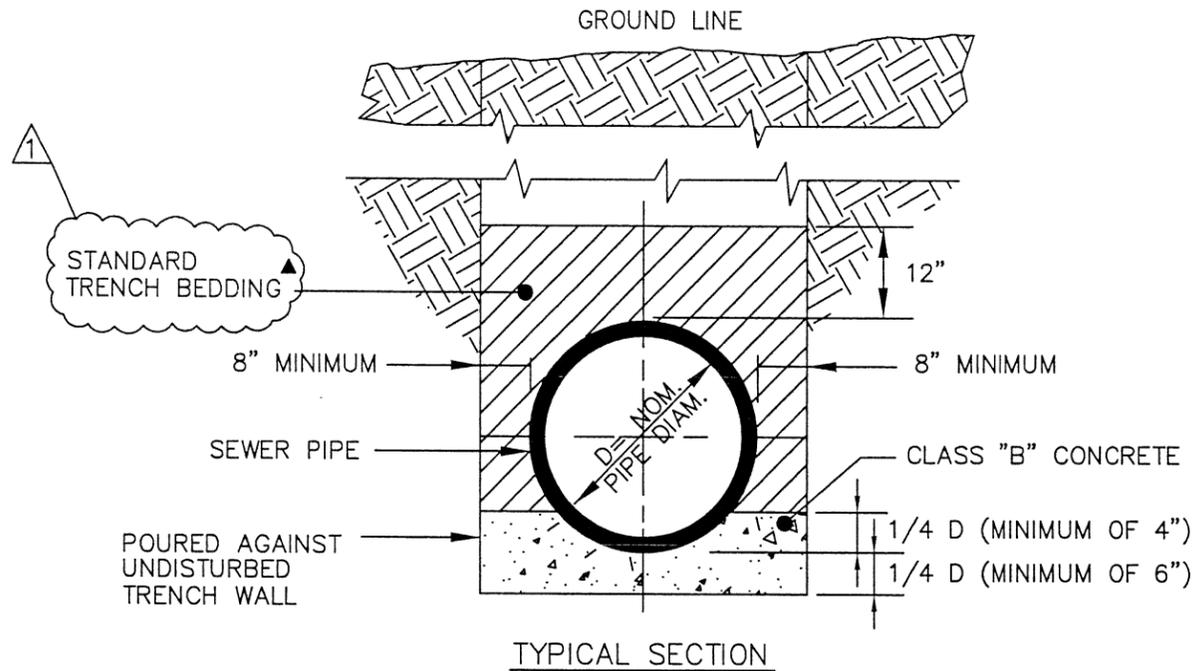
**CITY OF CHATTANOOGA AND HAMILTON COUNTY**

**TRENCH DETAILS AND BEDDING (STORM/SANITARY SEWERS)**

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

STANDARD NUMBER: **SD-307.01**

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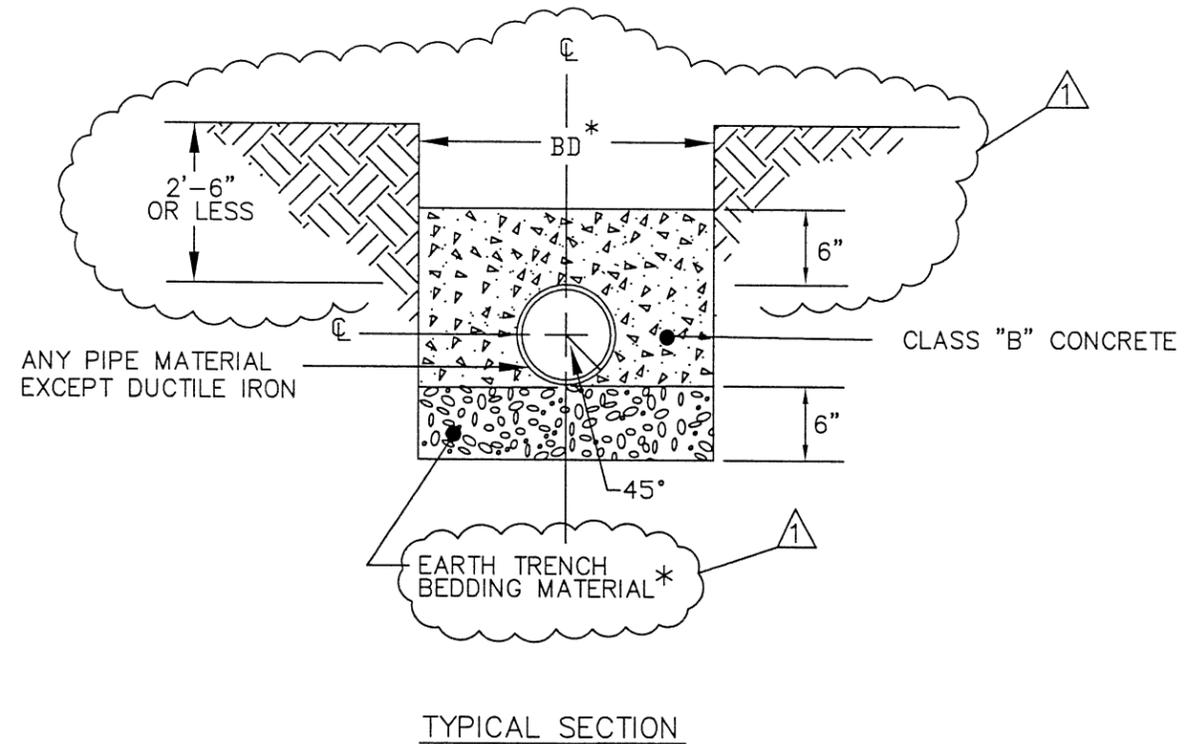


CONCRETE CRADLE

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.

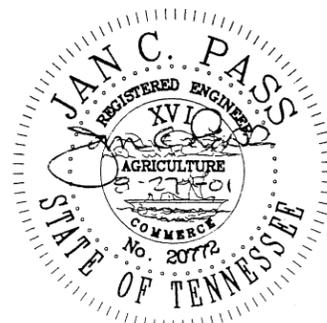
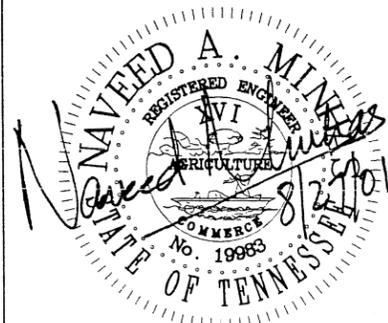


CONCRETE CAP FOR SHALLOW PIPE

NOTES

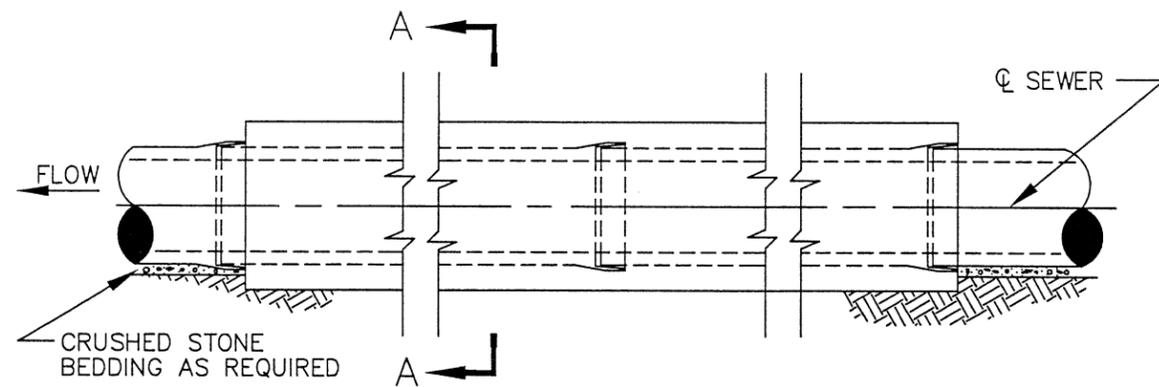
1. CLASS "B" CONCRETE IS TO BE POURED 36 HOURS BEFORE PLACING BACKFILL, AND IN A MANNER THAT PREVENTS THE FLOATING OF PIPES.
2. CONCRETE ENCASEMENT IS REQUIRED FOR DITCHES AND CREEKS WHERE THE COVER IS 2'-6" OR LESS.

▲\* 3. SEE STANDARD DRAWING SD-307.01.

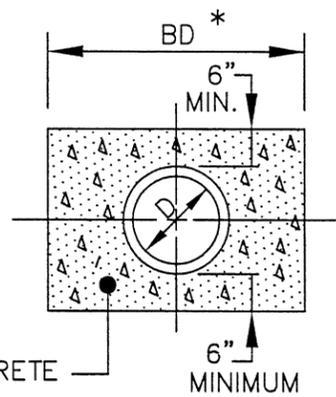


NO.	REVISION	DATE
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99

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

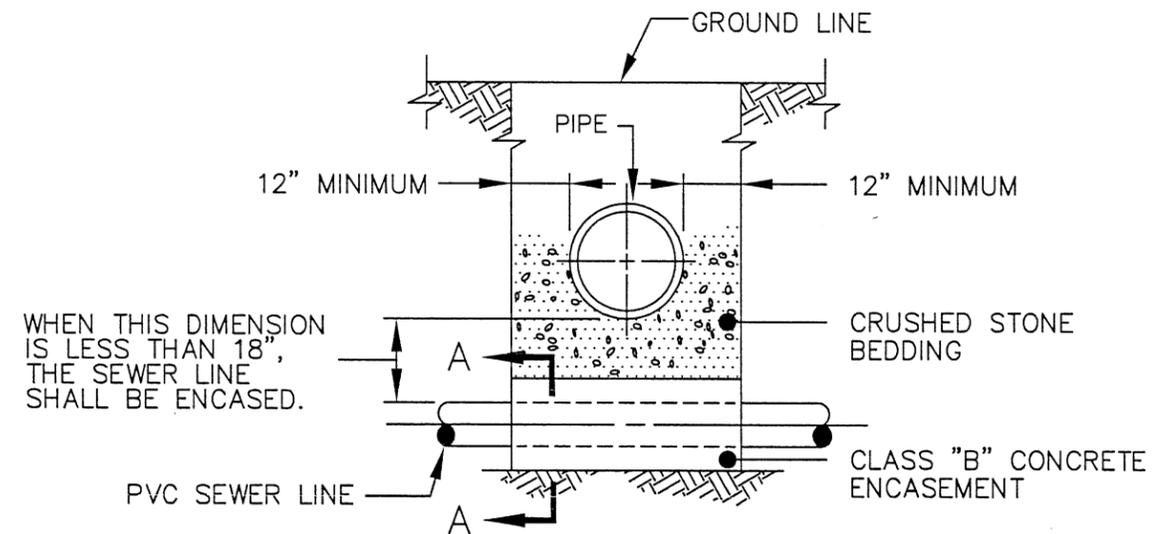


ELEVATION

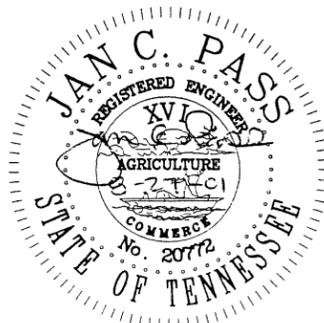


SECTION A-A

BD\* - SEE STANDARD  
SD-307.01.

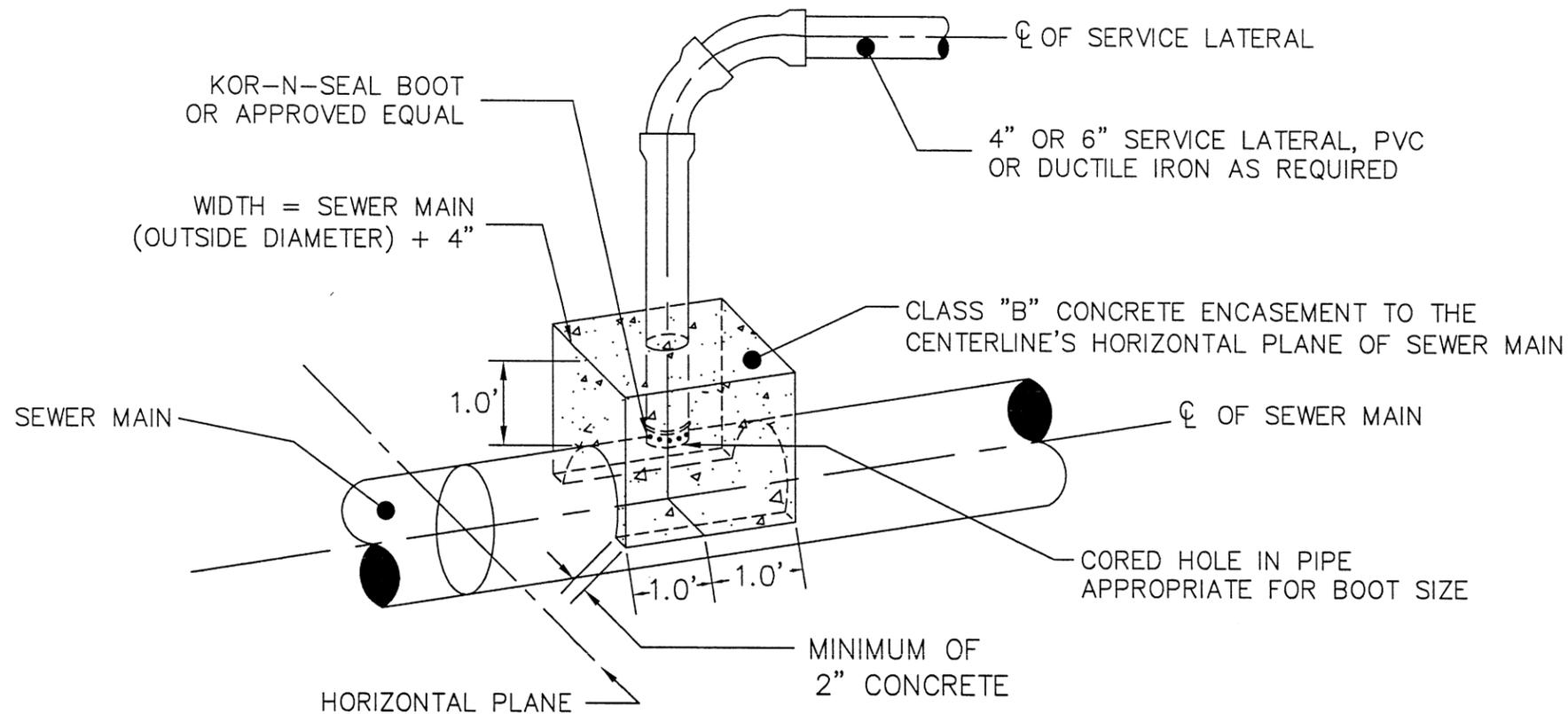


**CONCRETE ENCASEMENT**

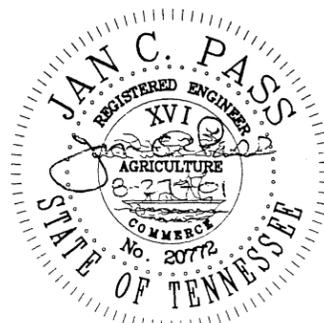
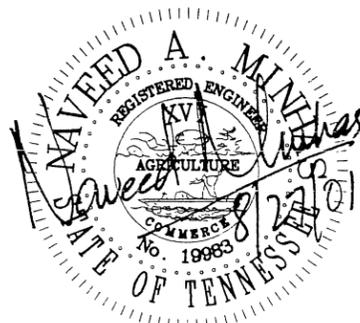


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1	DELETED TABLE	8/24/01
0	INITIAL ISSUE	12/10/99

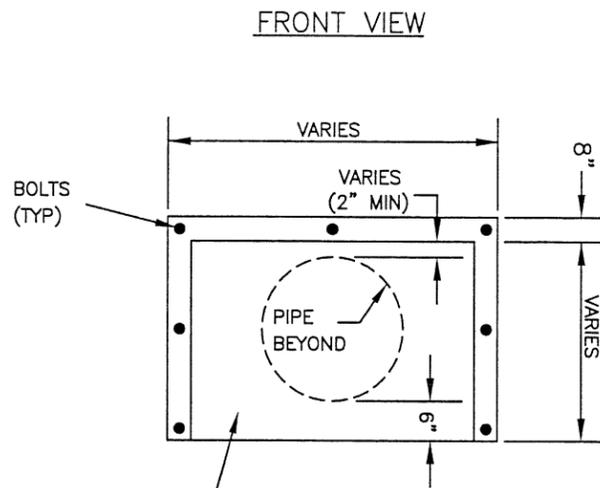
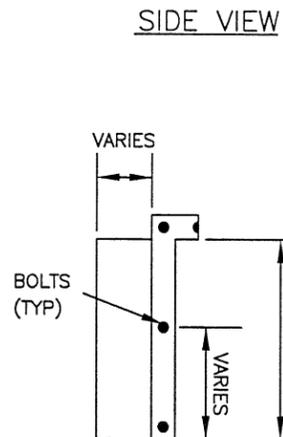
<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
<i>TRENCH DETAILS (CONCRETE PROTECTION)</i>	
DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER : <b>SD-308.02</b>



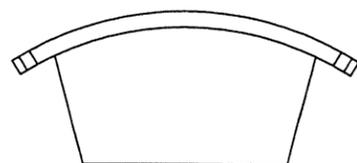
**NOTE**  
 ALL SUCH CONNECTIONS TO  
 PIPES 15" OR LARGER MUST  
 HAVE PRIOR APPROVAL BY CITY.



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



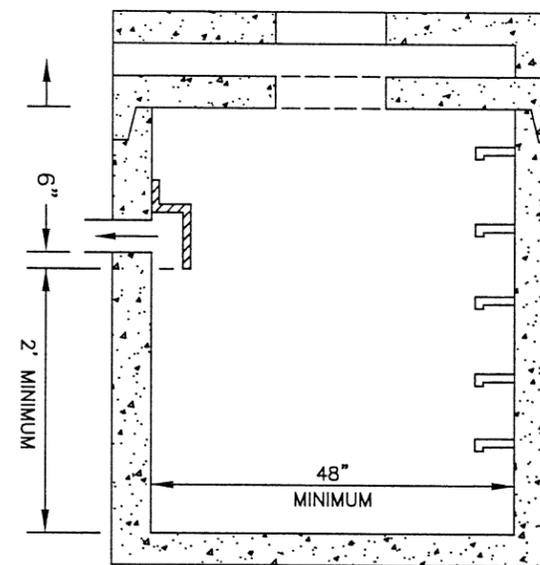
APPROVED FIBERGLASS (OR 1/4" A36 GALVANIZED STEEL PLATE) WITH CONTINUOUS WELDS, SECURED TO WALLS WITH 1/2" X 2" ANCHOR BOLTS. ALL BOLTS TO BE ZINC COATED IN ACCORDANCE WITH A.S.T.M. BS33 SCI TYPE 111.



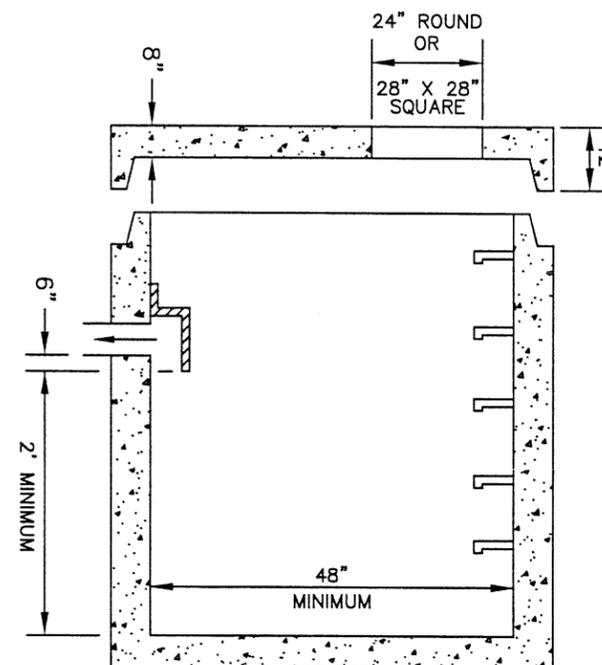
TOP VIEW

**BAFFLE**

TYPICAL CURB INLET TOP



SECTION - CURB INLET

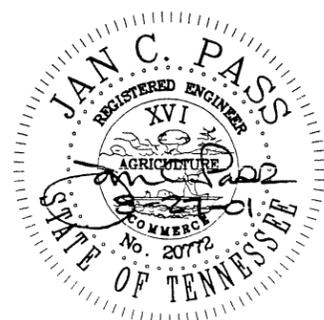


SECTION - FLAT TOP

NOTES

1. ALL MATERIAL, DESIGN, MANUFACTURE, PHYSICAL TEST REQUIREMENTS, FINISH MARKING, INSPECTION, REJECTION, AND REPAIRS SHALL MEET TENTATIVE SPECIFICATIONS FOR PRECAST, REINFORCED CONCRETE MANHOLE RISERS AND TOPS PER A.S.T.M.-C478 LATEST REVISIONS.
2. PLASTIC STEPS SHALL BE PLACED IN LINE ON 16" CENTERS.
3. FOR USE IN COMBINED SEWER AREAS AS AN ODOR TRAP OR AS DIRECTED/REQUIRED.
4. MAY BE USED IN MANHOLES AND CATCH BASINS.

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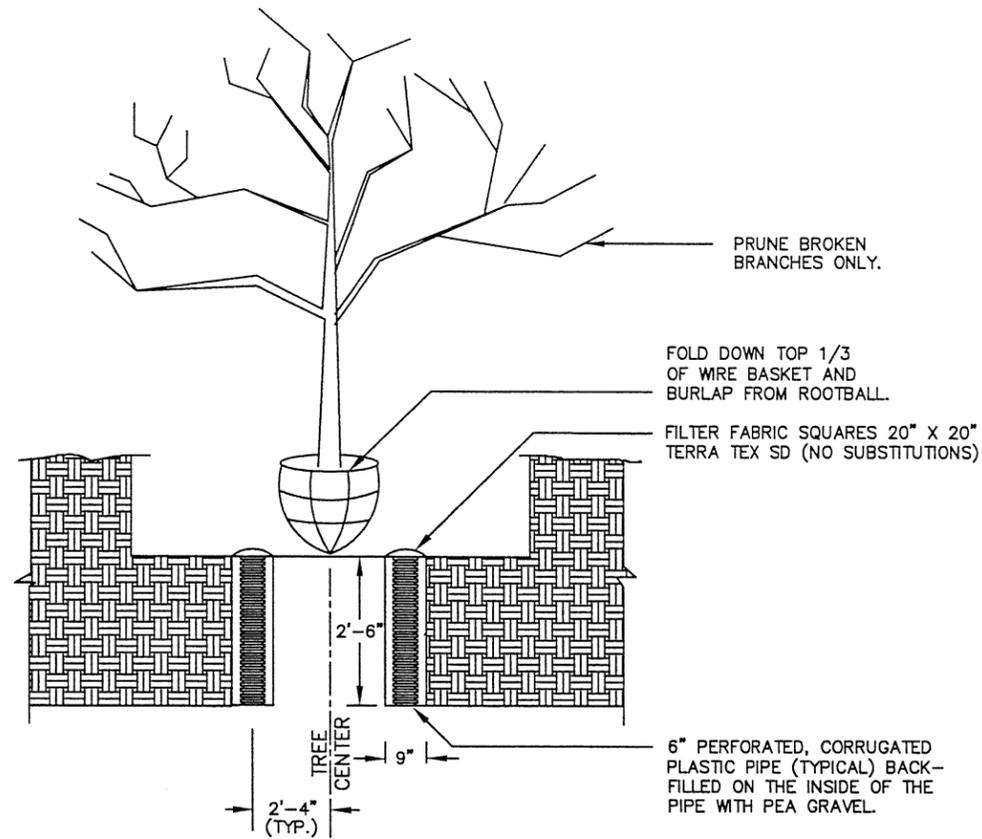
**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
**OIL SKIMMER**

0	INITIAL ISSUE	8/24/01
NO.	REVISION	DATE

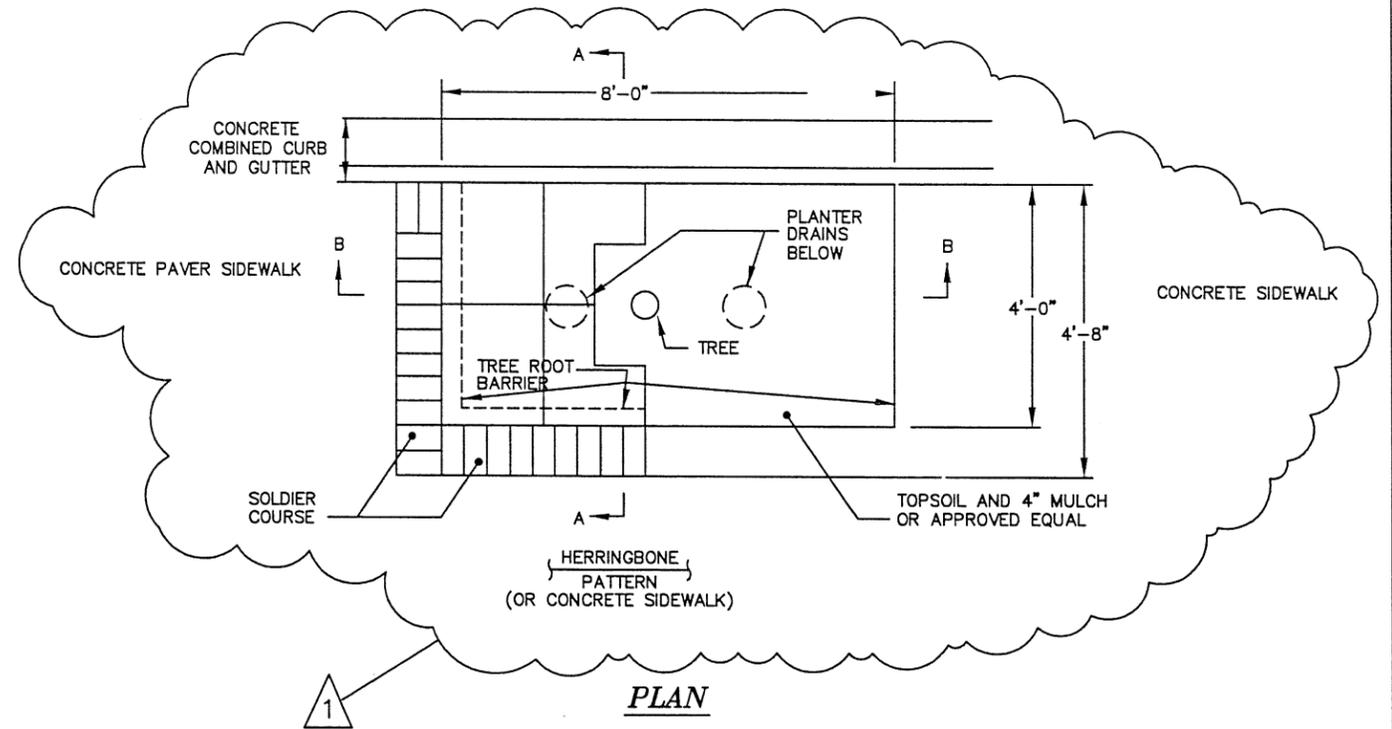
DATE OF ORIGINAL ISSUE  
**AUGUST 24, 2001**

STANDARD NUMBER: **SD-310.01**

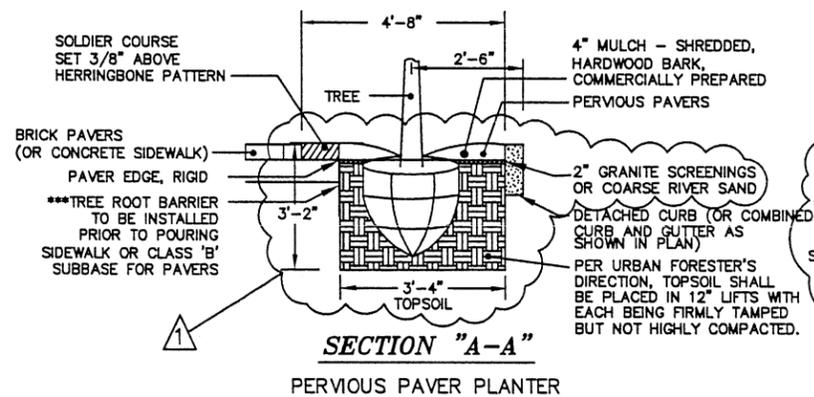
# STREETSCAPE



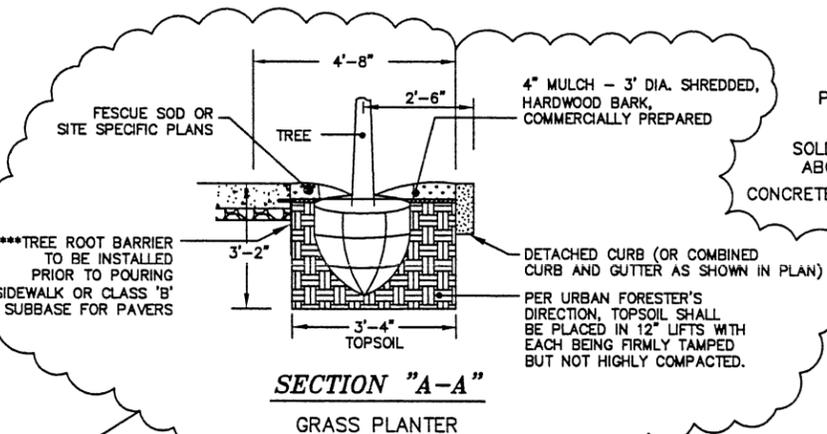
**PLANTER DRAIN DETAIL**



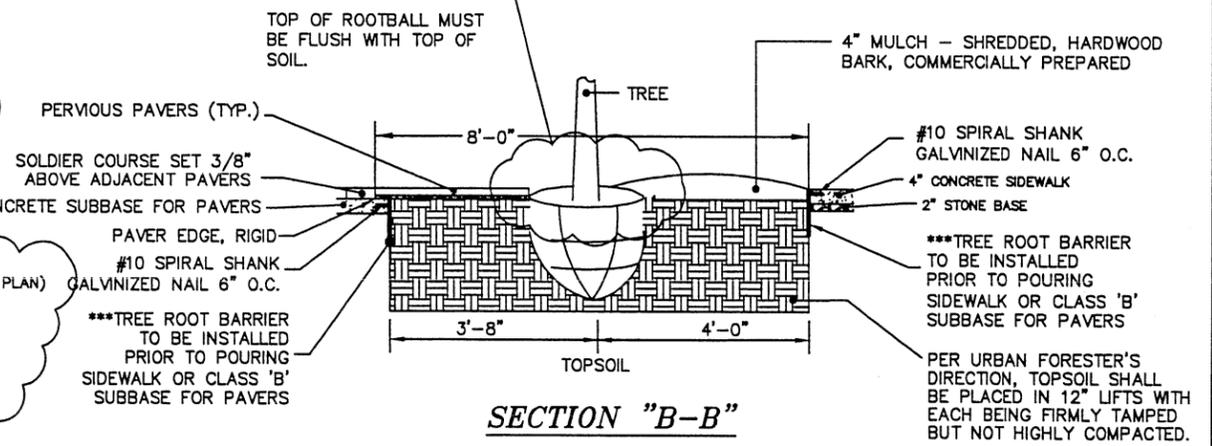
**PLAN**



**SECTION "A-A"**  
PERUVIAN PAVER PLANTER

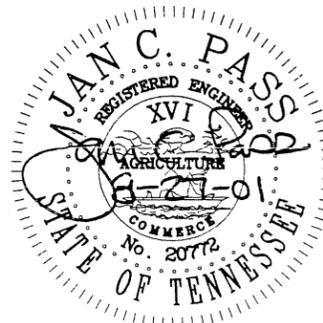


**SECTION "A-A"**  
GRASS PLANTER



**SECTION "B-B"**

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

**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
**TREEWELL DETAILS**

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

STANDARD NUMBER: **SD-500.01**

GENERAL NOTES PERTAINING TO EXISTING TREES

JOB CONDITIONS

Protections: Provide protection as required to designated landscape improvements to avoid damage caused by falling building materials or the removal of materials resulting from either construction or demolition operations.

Existing trees and other plantings designated to remain in place, shall be protected from unnecessary cutting, breaking, or skinning of roots; skinning and bruising of bark; smothering of trees by stockpiling materials of any kind within the drip line; and from excess foot or vehicular traffic or parking of vehicles within the drip line. Provide temporary guards to protect trees and plantings to be left standing.

Tree Protection: Install a shield of 1" X 4" wooden planks completely around each tree trunk from ground level to where the trunk begins to "branch out". Attach such protection with 12 gauge galvanized wire around tree trunk at the top, bottom, and middle of the planking.

Tree Pit Protection: Protect tree pits and pit vegetation from falling, sliding, or washing building materials by placing bales of straw around the perimeter of each pit or over the top of the pit as directed by the URBAN FORESTER.

Straw bales shall remain whole and unbroken and have no loose straw that may become scattered around the area.

Tree Repairs: Trees and/or vegetation that have been designated to remain and that have been damaged by demolition operations, are to be replaced or repaired in a manner acceptable to the URBAN FORESTER.

Tree Replacement: "Tree replacement" is defined as the complete excavation of an existing tree and its root system and the subsequent planting, back-filling, and adequate fertilization and watering of its replacement tree for a period of one year after planting.

The CONTRACTOR shall, at his own expense, replace trees that cannot be repaired and restored to a healthy status, as determined by the URBAN FORESTER. Replacement trees shall be in good health and shall be equal in species, height, shape, and caliper to the tree(s) being replaced.

GENERAL NOTES PERTAINING TO PROPOSED TREES

No tree shall be placed until the URBAN FORESTER has inspected and accepted it.

△ The tree shall be placed in the pit so that the top of the rootball is at approximately the same level as the surrounding soil.

The top 1/3 of the wire basket and the burlap around the rootball shall each be folded down.

All rope, trunk wrap, and other restrictive materials shall be removed at the time of planting.

No staking shall be permitted unless there is a demonstrated need approved by the URBAN FORESTER (Examples: windy sites, sandy soils, or a need to reduce vandalism). All staking materials including hose, straps, wire, and stakes shall be removed twelve (12) months after installation of the tree.

Only broken or crossing branches may be removed at the time of planting.

After a tree has been installed, the tree pit should be backfilled in 12" lifts of approved topsoil with each lift being firmly tamped but not highly compacted. Acceptable firmness may be attained with the use of a roller no heavier than 200 pounds and with at least two passes (perpendicular) of the roller.

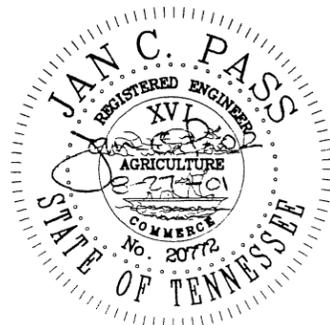
Four inches (4") of shredded, hardwood bark mulch, commercially prepared, shall be placed over the top of the rootball of each newly installed tree.

TOPSOIL SPECIFICATIONS

This material shall be native topsoil, natural and fertile, and shall be either screened or void of roots, large rocks, and rootballs of plants, especially Johnson grass. Any soil with high clay content or a pH higher than 7.0 shall be rejected. A small volume of soil, approximately one pint, shall be submitted to the URBAN FORESTER for inspection and approval before use in the planting pits. Soil

△ ammendment recommendations shall be made based on the lab analysis of the soil sample. (Preferred blend is "HydeMix" available from Agricultural Distributors, Inc., or approved equal.)

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1	REVISIONS AS MARKED OR CLOUDED	8/24/01
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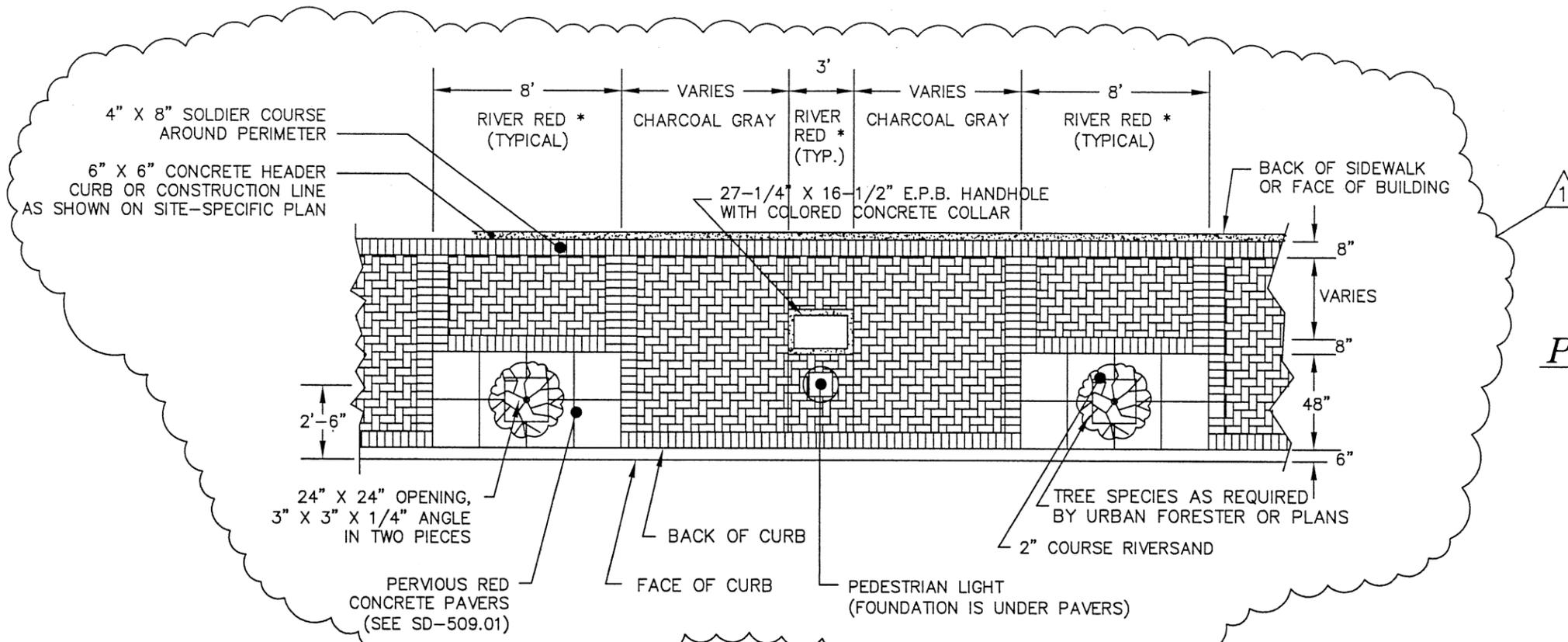
**CITY OF CHATTANOOGA AND HAMILTON COUNTY**

**TREEWELL DETAILS**

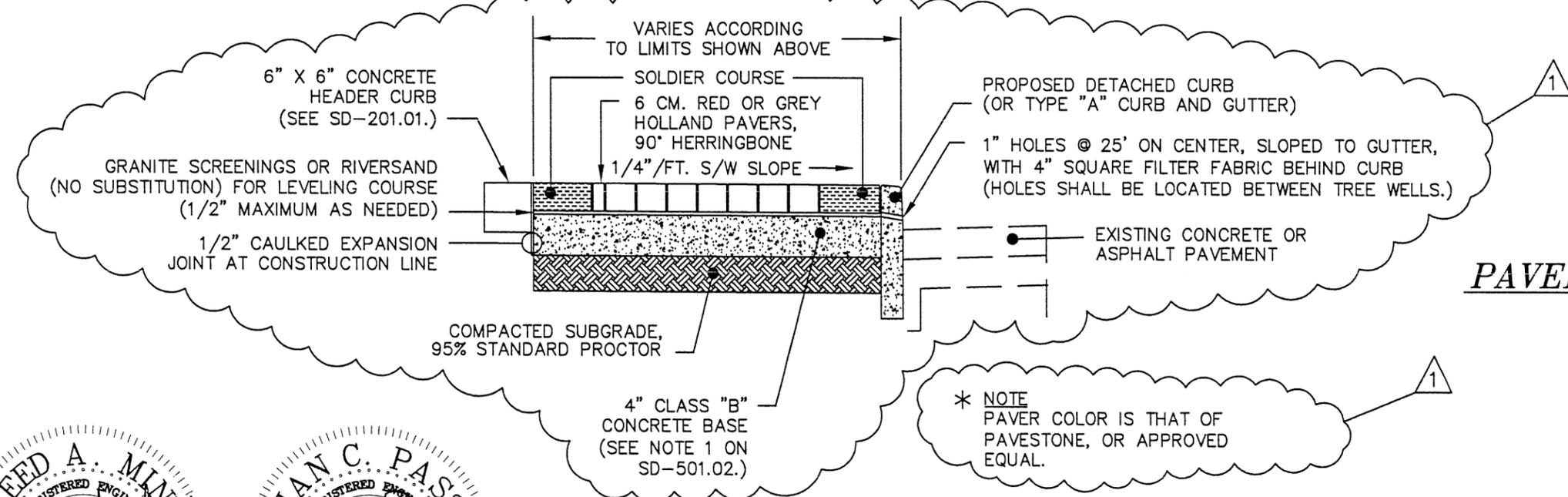
DATE OF ORIGINAL ISSUE  
**DECEMBER 10, 1999**

STANDARD NUMBER : **SD-500.02**

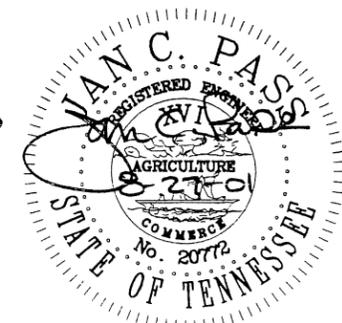
F:\STDDWGS\PAVERSTYP\PAVER LAYOUT\_1.dwg



**PAVER LAYOUT DETAIL**

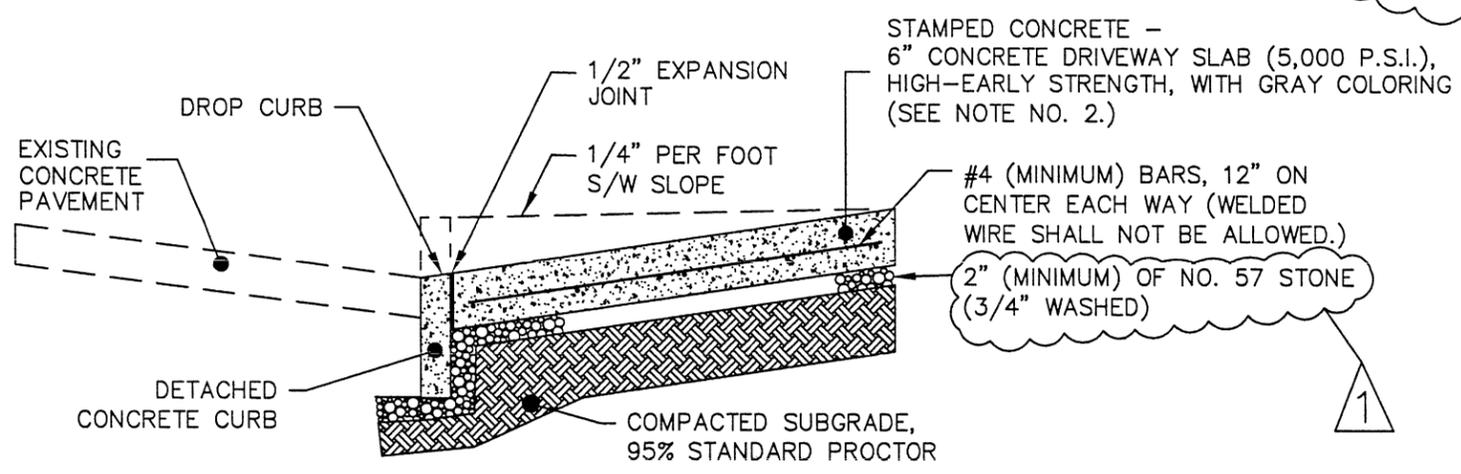
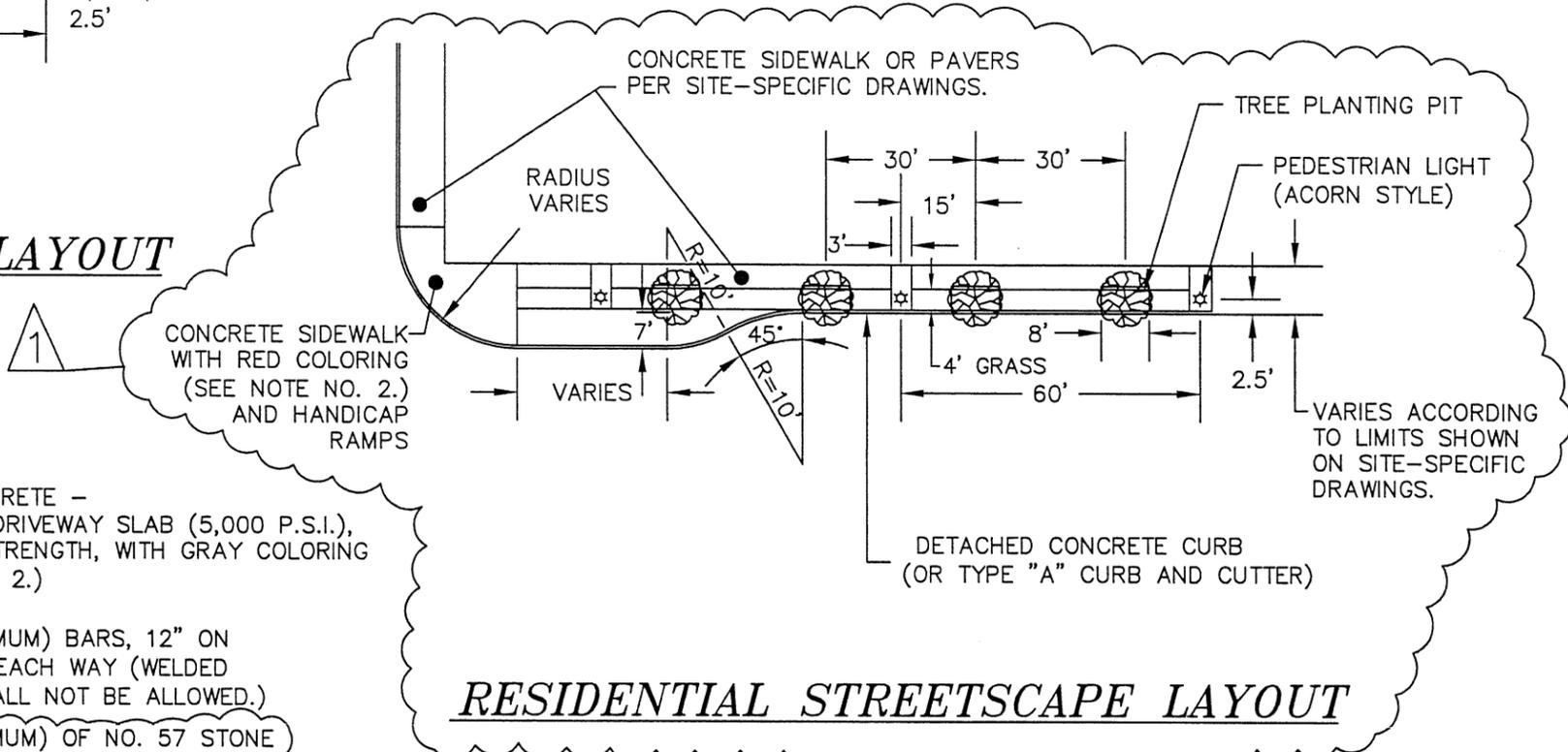
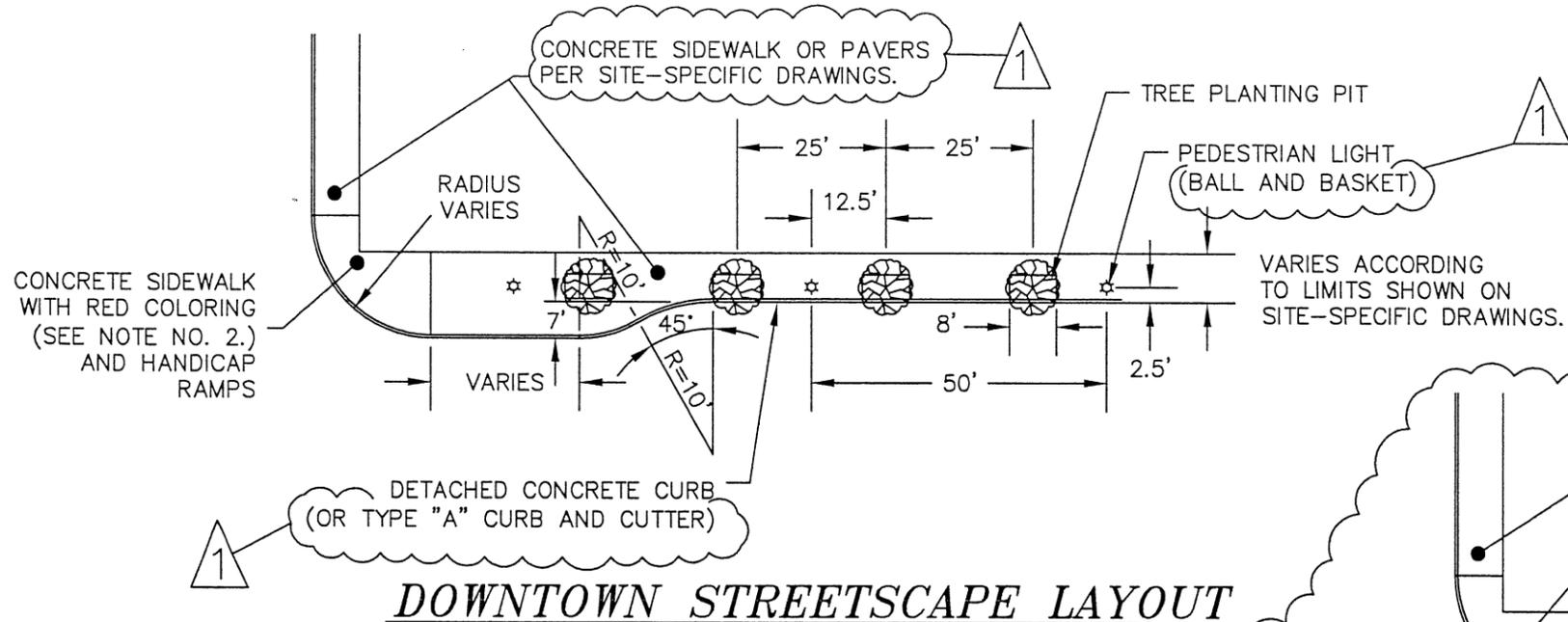


**PAVER SIDEWALK DETAIL**



<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>			
<b>PAVER LAYOUT</b>			
1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE
0	INITIAL ISSUE	12/10/99	<b>DECEMBER 10, 1999</b>
NO.	REVISION	DATE	STANDARD NUMBER : <b>SD-501.01</b>

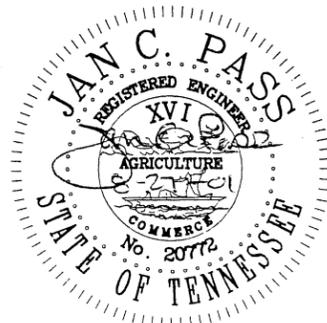
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**TYPE 'B' DRIVEWAY APRON DETAIL**

**NOTES**

1. ALL SECTIONS OF THE APPROPRIATE SPECIFICATION SHALL APPLY, INCLUDING THOSE FOR CONSTRUCTION AND EXPANSION JOINTS, EXCEPT THAT CLASS "B" CONCRETE SHALL BE USED FOR A 4" CONCRETE BASE UNDER THE PAVERS.
2. ALL PIGMENTATION MATERIAL SHALL BE ACCORDING TO THE CONCRETE COLOR CHART ON STANDARD DRAWING NO. SD-503.01. CONTRACTOR MAY USE AN EQUIVALENT PIGMENTATION ONLY WITH GOVERNMENTAL ENGINEER'S APPROVAL.



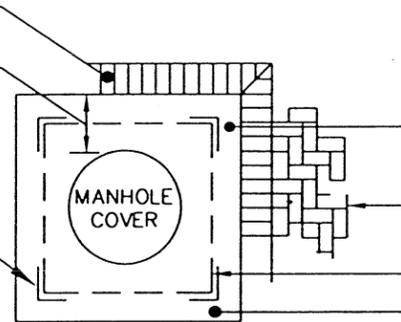
NO.	REVISION	DATE
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99

<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
<b>PAVER LAYOUT</b>	
DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER: <b>SD-501.02</b>

INSTALL SOLDIER COURSE  
AROUND UTILITY COLLAR.

12" MINIMUM  
(TYPICAL)  
ALL SIDES

CORNER TIE BAR



COLORED TO MATCH  
ADJACENT CONCRETE  
PAVERS OR STAMPING

90° HERRINGBONE  
STAMPING

BAR - SEE SECTION BELOW  
FOR SIZE AND LOCATION.

CONCRETE COLLAR WITH  
COARSE BROOM FINISH

NOTE  
FOR COLOR MIX, SEE  
CONCRETE COLOR CHART  
ON STANDARD DRAWING  
SD-503.01.

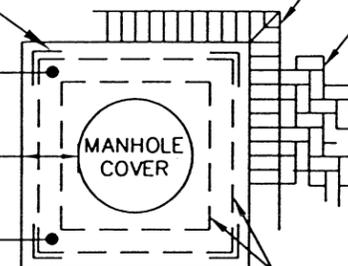
PLAN

INSTALL SOLDIER COURSE  
AROUND UTILITY COLLAR.

CORNER TIE BAR  
COLORED TO MATCH  
ADJACENT CONCRETE  
PAVERS OR STAMPING

12" MINIMUM  
(TYPICAL)  
ALL SIDES

CONCRETE COLLAR WITH  
COARSE BROOM FINISH



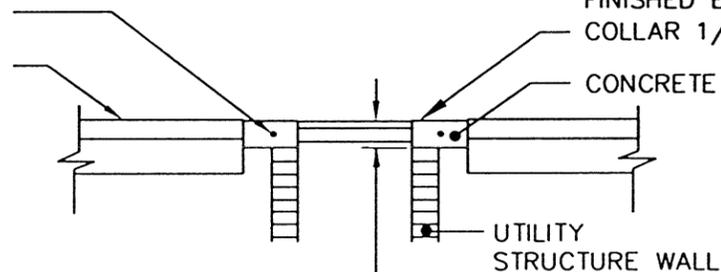
90° HERRINGBONE  
STAMPING

BARS - SEE SECTION BELOW  
FOR SIZES AND LOCATIONS.

PLAN

ONE #4 BAR,  
2" MINIMUM  
CLEARANCE

BRICK PAVERS  
(OR CONCRETE  
SIDEWALK)



FINISHED ELEVATION OF CONCRETE  
COLLAR 1/4" BELOW PAVERS

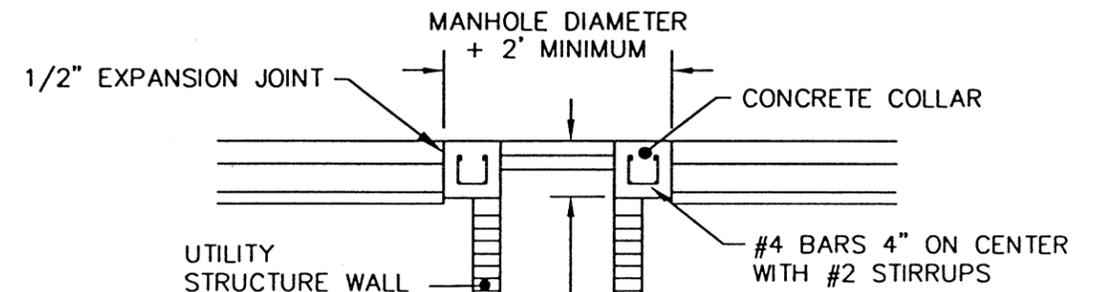
CONCRETE COLLAR

UTILITY  
STRUCTURE WALL

6" MINIMUM  
DEPTH ON  
ALL SIDES

TYPICAL SECTION

UTILITY COLLAR - SIDEWALK



MANHOLE DIAMETER  
+ 2' MINIMUM

1/2" EXPANSION JOINT

CONCRETE COLLAR

UTILITY  
STRUCTURE WALL

#4 BARS 4" ON CENTER  
WITH #2 STIRRUPS

12" MINIMUM  
DEPTH ON  
ALL SIDES

TYPICAL SECTION

UTILITY COLLAR - ROADWAY

NOTES

1. ALL BARS SHALL BE 60 K.S.I. DEFORMED BARS.
2. CONCRETE UTILITY COLLARS SHALL BE SQUARE AND AT RIGHT ANGLES TO THE BRICK PATTERN.



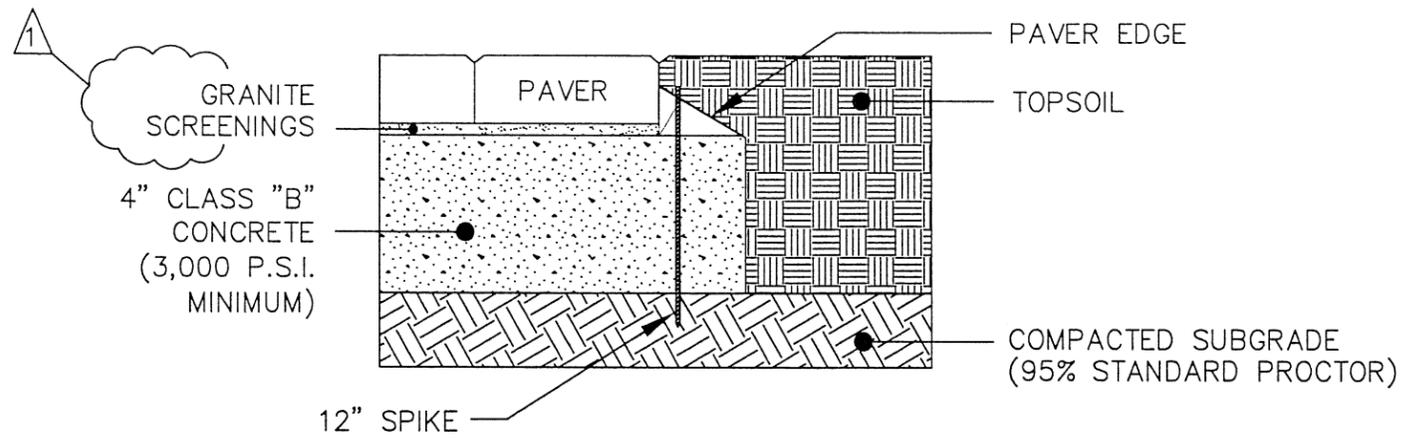
0	INITIAL ISSUE	12/10/99
NO.	REVISION	DATE

**CITY OF CHATTANOOGA AND HAMILTON COUNTY**

**STREETSCAPE UTILITY COLLAR DETAILS**

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

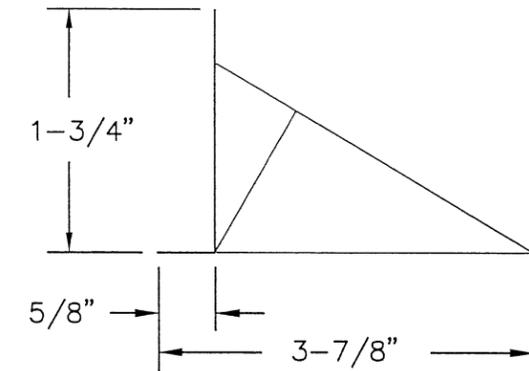
STANDARD NUMBER: **SD-502.01**



TYPICAL SECTION

PAVER EDGE INSTALLATION

NOTE  
ALL PAVER EDGES WILL  
BE RIGID UNLESS OTHER-  
WISE SPECIFIED.



RIGID

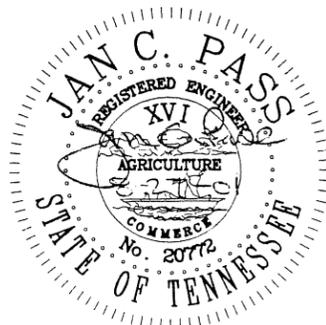
PAVER EDGE

CONCRETE COLOR CHART \*

INTEGRAL COLOR	INCRETE SYSTEMS COLORCRETE	RED	GRAY
		20 LBS. PER C.Y. TILE RED	15 LBS. PER C.Y. CHARCOAL GRAY
COLOR HARDENER	INCRETE SYSTEMS COLOR HARDENER	AB RED	AB GRAY
RELEASE AGENT	INCRETE SYSTEMS COLOR RELEASE	SUN GRAY	DARK GRAY
SEALANT	INCRETE SYSTEMS CLEAR SEAL	YES	YES
90° HERRING-BONE	KRAFT TOOL CO. NEW HERRINGBONE BRICK TOOL #CC505R	YES	YES

- \* 1. BRAND NAMES LISTED ABOVE ESTABLISH A STANDARD. OTHER COMBINATIONS REQUIRE THE ENGINEER'S APPROVAL.
- 2. CONTRACTOR SHALL ENSURE COLOR MATCH BETWEEN CONCRETE AND PAVERS BY SUBMITTAL OF A 4' X 4' ON-SITE SAMPLE FOR THE ENGINEER'S APPROVAL PRIOR TO PLACEMENT OF STAMPED CONCRETE OR BRICK PAVERS.

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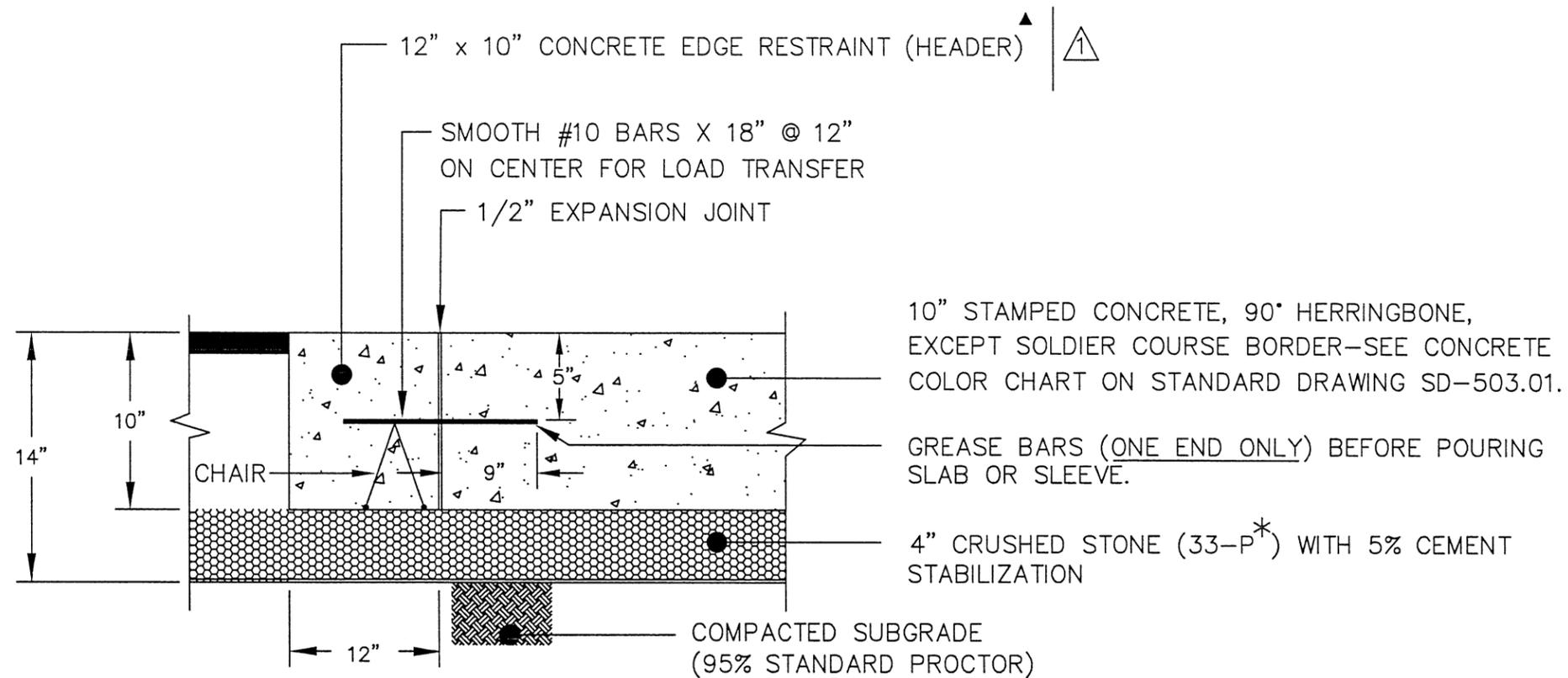
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99
NO.	REVISION	DATE

**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
**PAVER EDGE DETAILS AND COLOR CHART**

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

STANDARD NUMBER : **SD-503.01**

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12" x 10" CONCRETE EDGE RESTRAINT (HEADER) ▲

SMOOTH #10 BARS X 18" @ 12"  
ON CENTER FOR LOAD TRANSFER

1/2" EXPANSION JOINT

10" STAMPED CONCRETE, 90° HERRINGBONE,  
EXCEPT SOLDIER COURSE BORDER—SEE CONCRETE  
COLOR CHART ON STANDARD DRAWING SD-503.01.

GREASE BARS (ONE END ONLY) BEFORE POURING  
SLAB OR SLEEVE.

4" CRUSHED STONE (33-P\*) WITH 5% CEMENT  
STABILIZATION

CHAIR

9"

5"

14"

10"

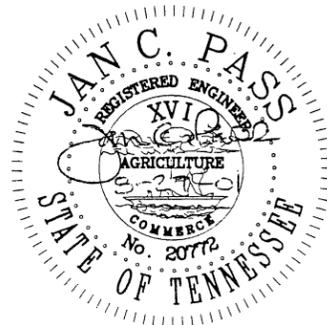
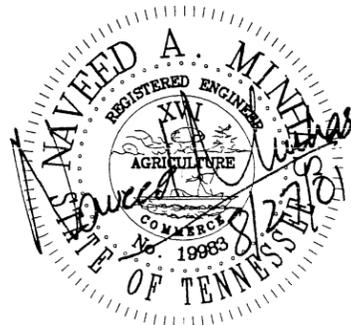
12"

COMPACTED SUBGRADE  
(95% STANDARD PROCTOR)

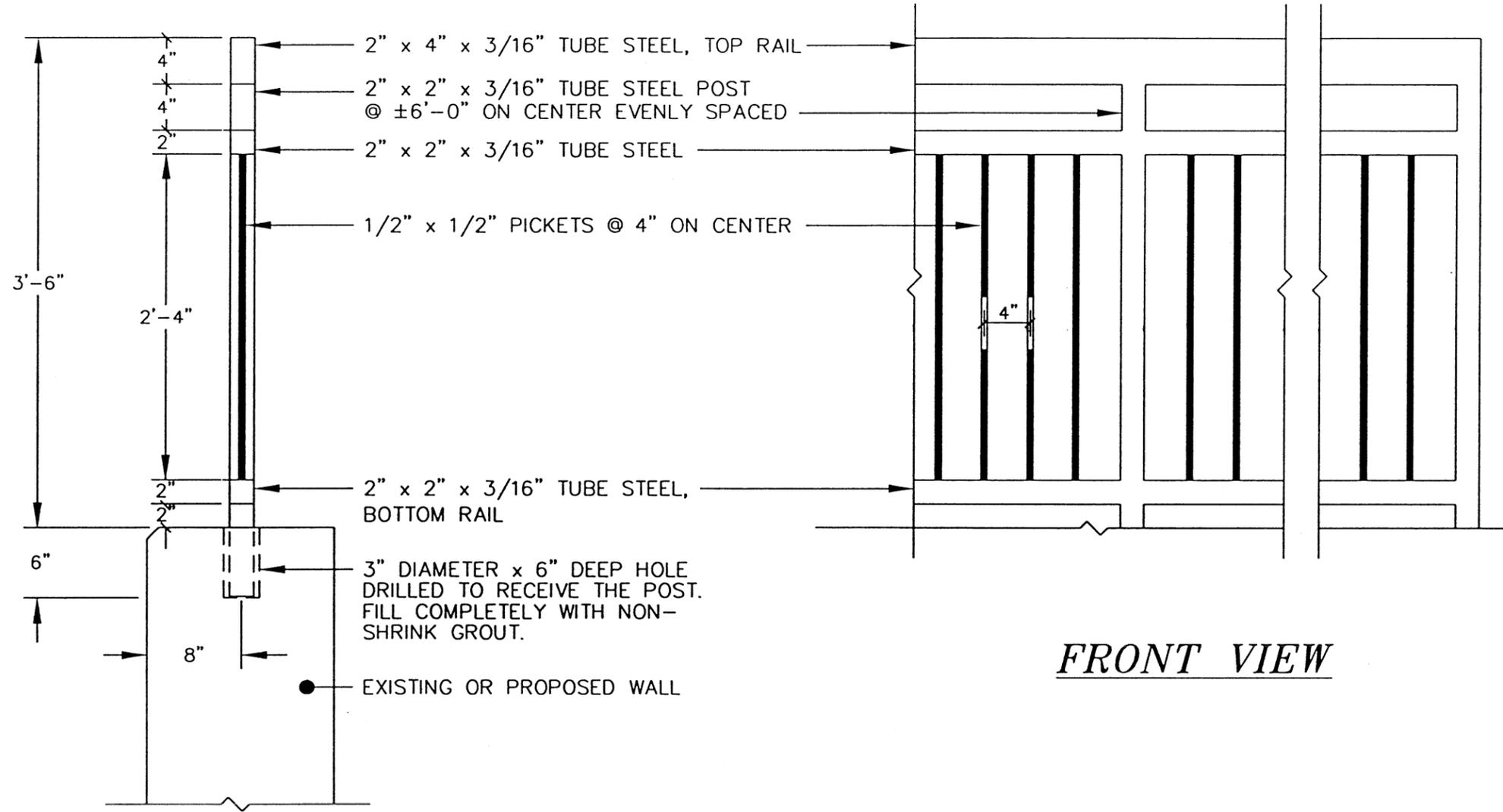
NOTES

1. ALL BARS SHALL BE PERPENDICULAR TO THE FACE AND BE LEVEL.
2. SAWED CONTROL JOINTS SHALL BE CAULKED WITH APPROPRIATELY COLORED SEALANT.
3. CONSTRUCTION JOINTS SHALL OCCUR ON LANE LINES.
- ▲ 4. EDGE RESTRAINT (HEADER) SHALL BE CONSTRUCTED BETWEEN RED COLOR STAMPED CONCRETE AND CHARCOAL COLOR STAMPED CONCRETE.

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



			<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
			<i>PAVER INTERSECTION DETAIL</i>	
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-504.01</b>	



**FRONT VIEW**

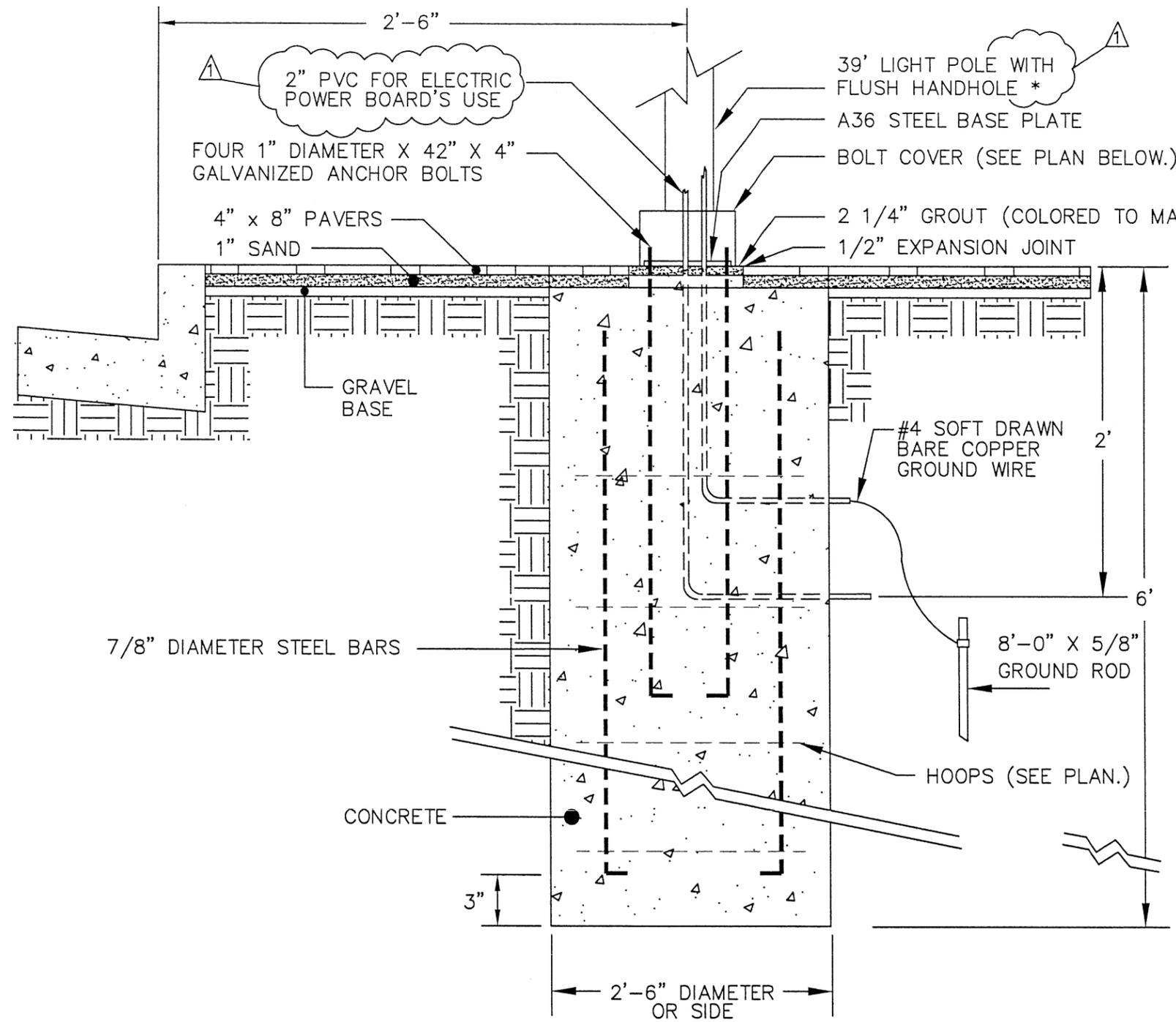
**SIDE VIEW**

**NOTE**  
 PAINT SHALL BE JONES-BLAIR  
 "POLE GREEN PAINT", OR AS  
 APPROVED BY THE GOVERNMENTAL  
 ENGINEER, APPLIED PER MANUFACTURER'S  
 RECOMMENDATIONS.

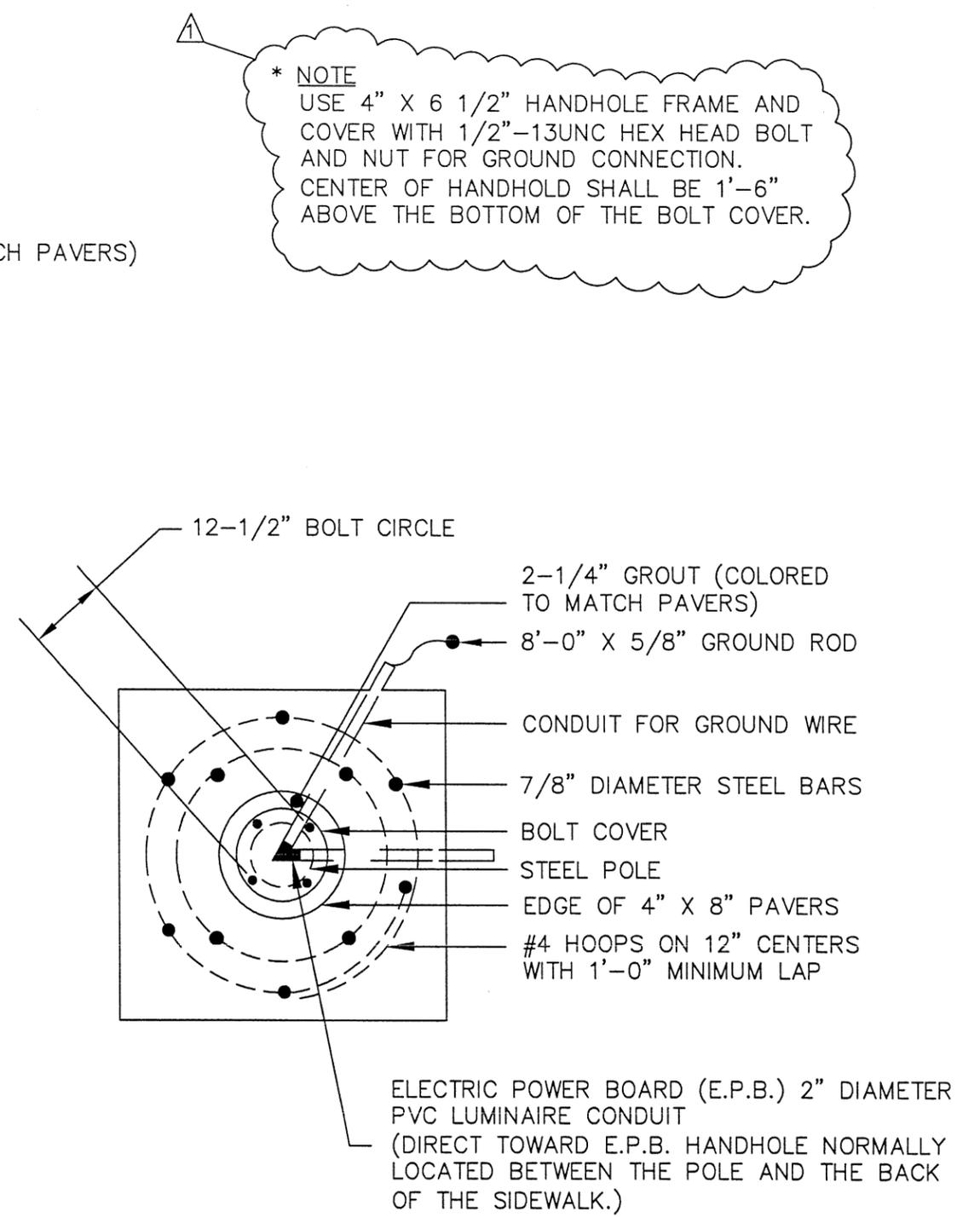


			<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
			<b>STREETScape GUARDRAIL DETAIL</b>	
		DATE OF ORIGINAL ISSUE		
		DECEMBER 10, 1999		
0	INITIAL ISSUE	12/10/99		
NO.	REVISION	DATE	STANDARD NUMBER: SD-505.01	

STDDWGS\Foundation Details - 39' Pole\FOUND.TLS.dwg



ELEVATION



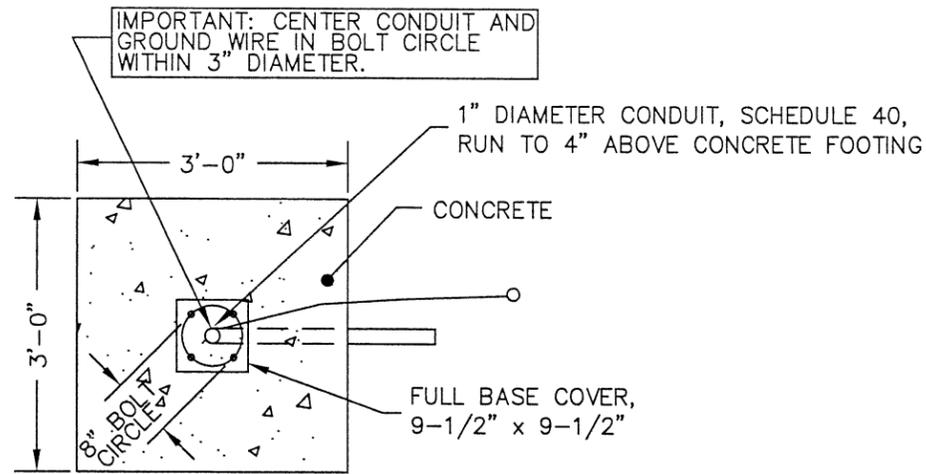
PLAN

**\* NOTE**  
 USE 4" X 6 1/2" HANDHOLE FRAME AND COVER WITH 1/2"-13UNC HEX HEAD BOLT AND NUT FOR GROUND CONNECTION. CENTER OF HANDHOLE SHALL BE 1'-6" ABOVE THE BOTTOM OF THE BOLT COVER.

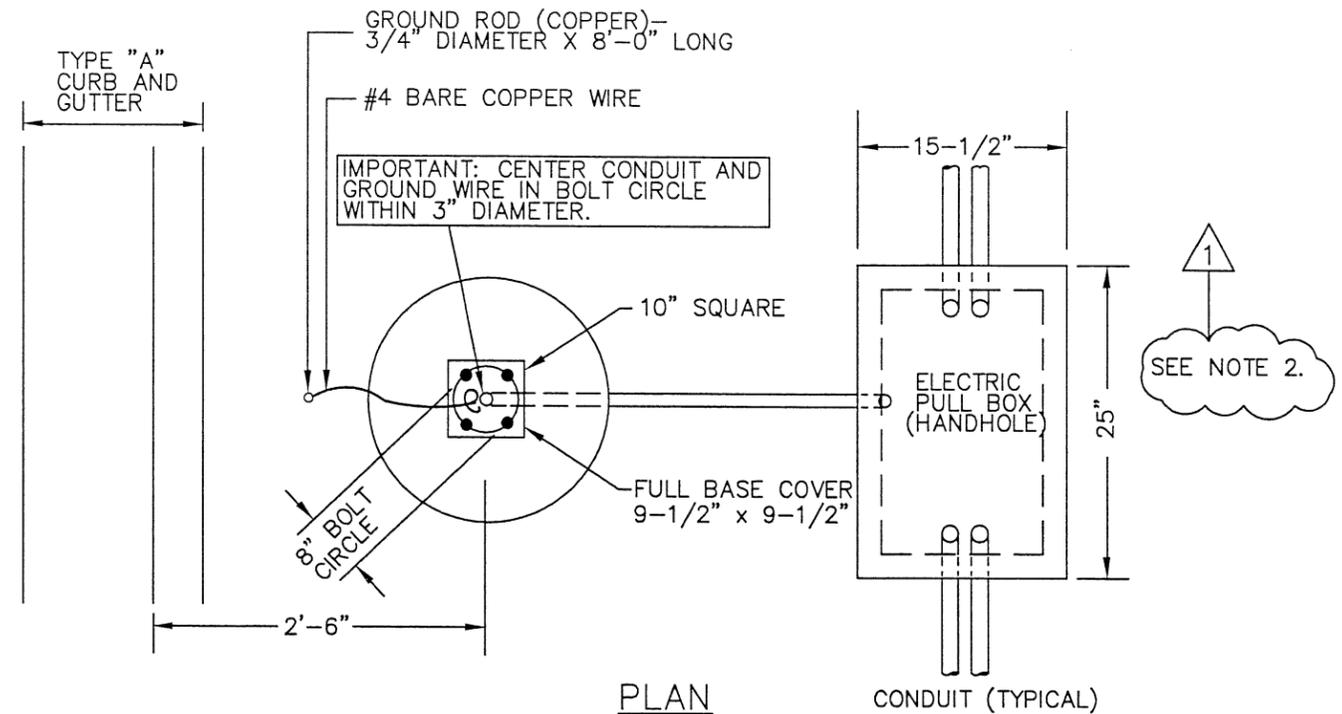


NO.	REVISION	DATE
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99

<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
<i>FOUNDATION DETAILS (39' STREETLIGHT POLE)</i>	
DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER: <b>SD-506.01</b>

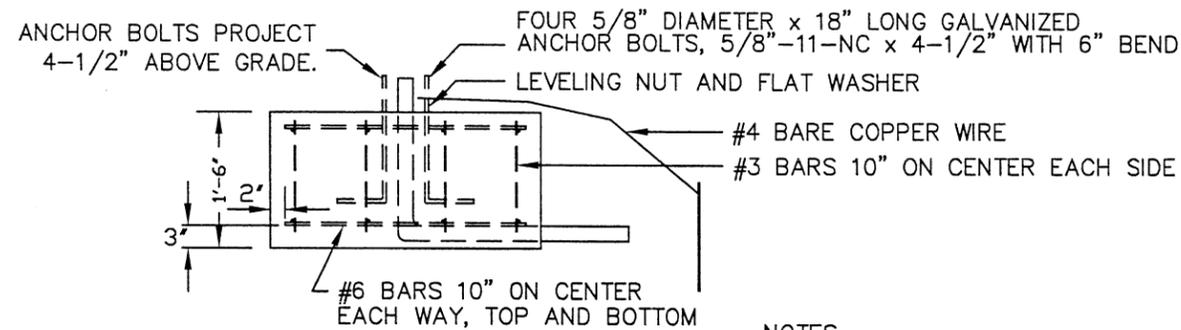


PLAN



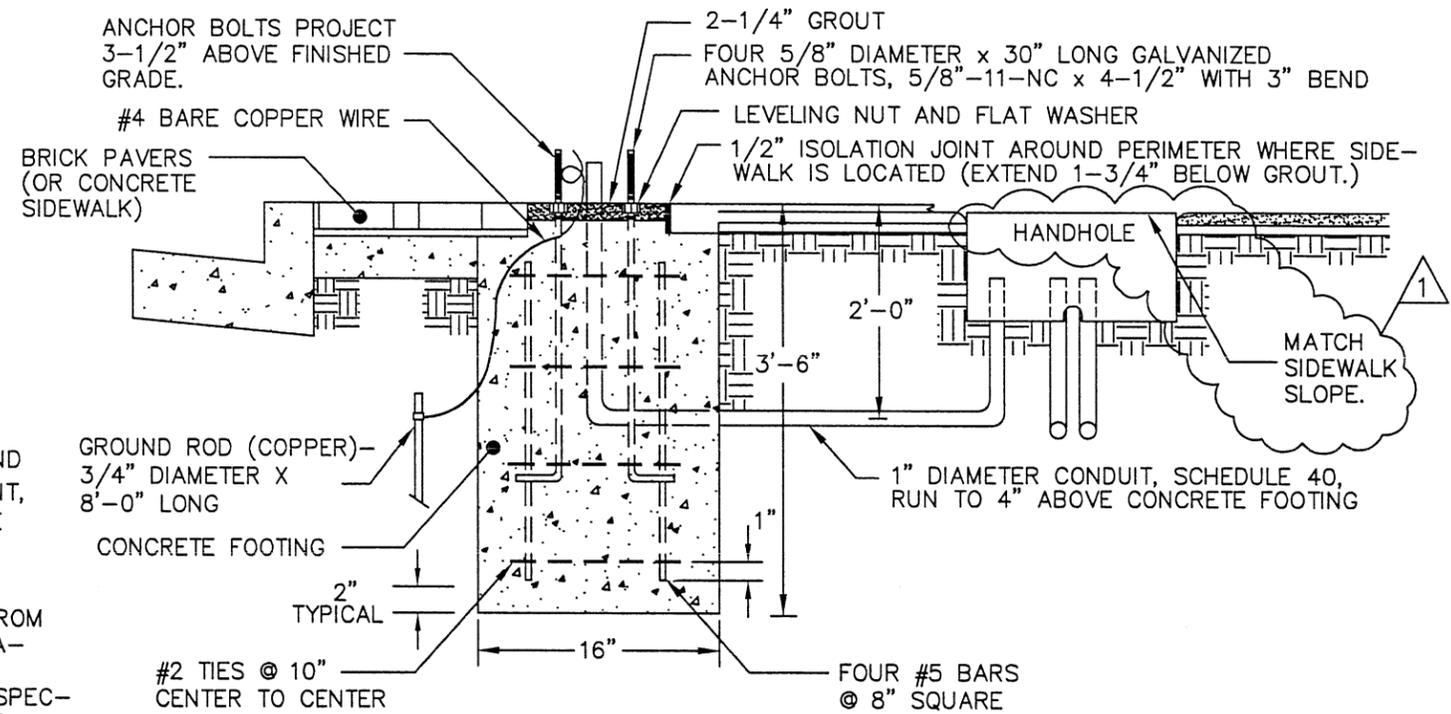
PLAN

CONDUIT (TYPICAL)



ELEVATION

**SPREAD FOOTING**



ELEVATION

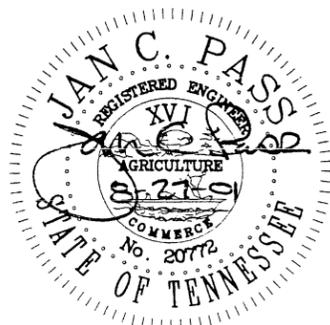
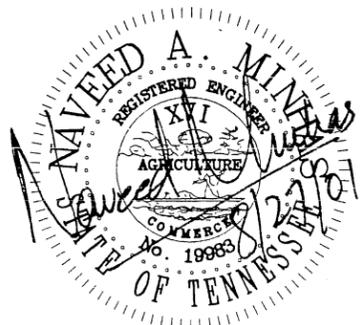
**FOUNDATION**

**NOTES**

1. SPREAD FOOTINGS ARE TO BE USED AS AN ALTERNATE WHEN UTILITY AND DRAINAGE STRUCTURES ARE PRESENT, SUBJECT TO THE APPROVAL OF THE GOVERNMENTAL ENGINEER.
2. ELECTRIC PULL BOXES (HANDHOLES) ARE TO BE A UNIFORM DISTANCE FROM THE BACK OF THE SIDEWALK. LOCATIONS SHALL BE DETERMINED BY ELECTRIC POWER BOARD (E.P.B.) INSPECTOR AND GOVERNMENTAL INSPECTOR.
3. CONDUIT TRENCHING PER E.P.B. APPROVED SITE PLAN DRAWING AND TRENCH SPECIFICATION OF 24" DEEP X 6" WIDE. BACKFILL TRENCH WITH 33-P\* STONE.

\*"33-P (PUG)" - 303.01, TYPE A, GRADING D ("33-P"), TENNESSEE D.O.T. SPECIFICATIONS

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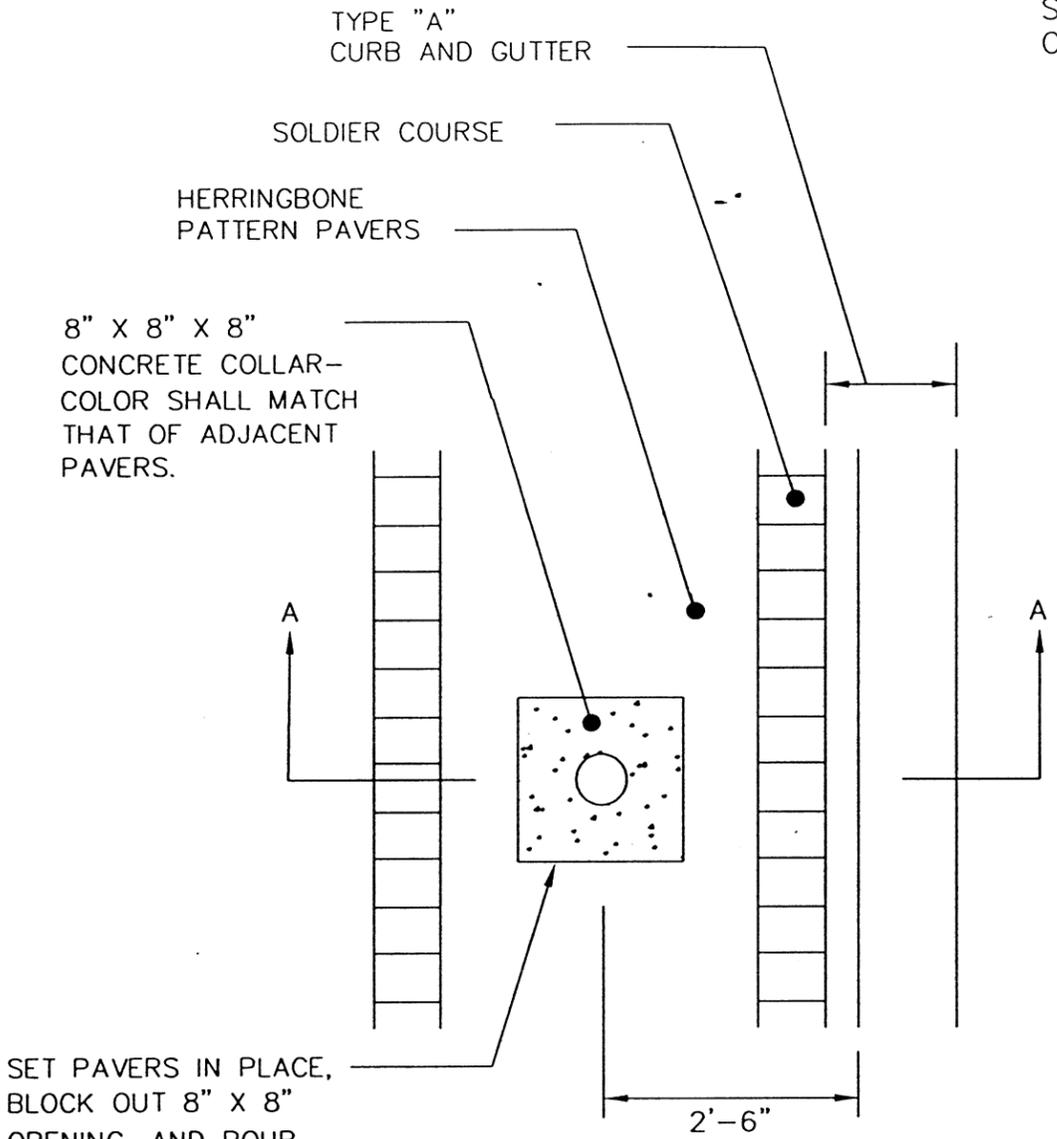


NO.	REVISION	DATE
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99

<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
<b>FOUNDATION DETAILS (12' PEDESTRIAN LIGHT POLE)</b>	
DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER: <b>SD-507.01</b>

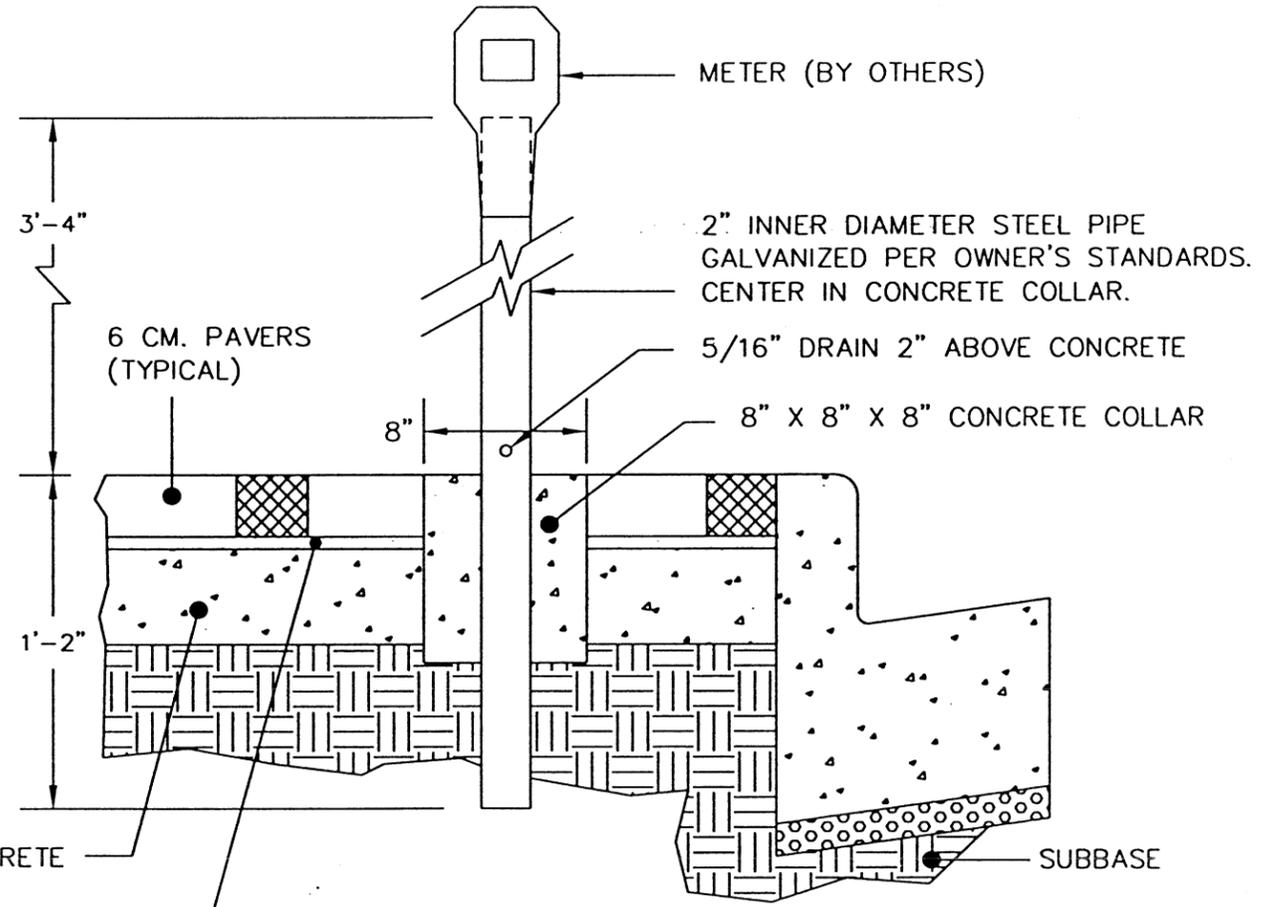
F:\STDWGS\parkmetr\parkmetr.dwg Thu Dec 09 08:21:02 1999 STATIONS 24

**NOTE**  
 USE CONCRETE COLOR AS SPECIFIED ON CONCRETE COLOR CHART, SD-503.01.



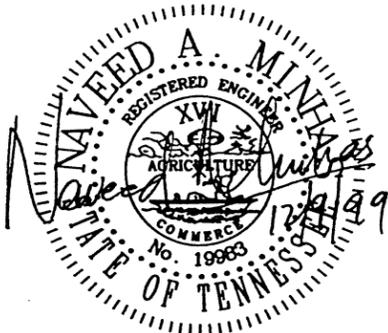
SET PAVERS IN PLACE, BLOCK OUT 8" X 8" OPENING, AND POUR CONCRETE. CUTTING OF PAVERS SHALL BE KEPT TO A MINIMUM.

**PLAN**

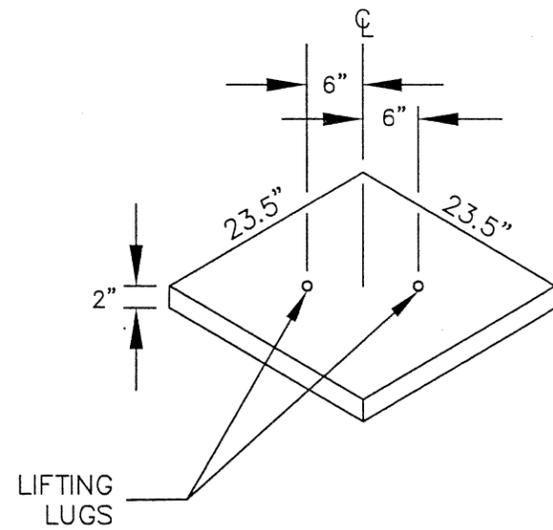


4" CLASS "B" CONCRETE  
 1/2" SAND OR OTHER LEVELING MATERIAL APPROVED BY THE ENGINEER

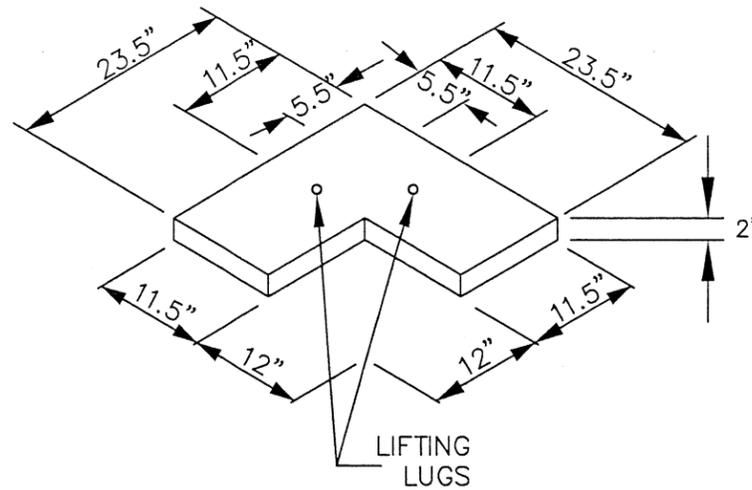
**SECTION A-A**



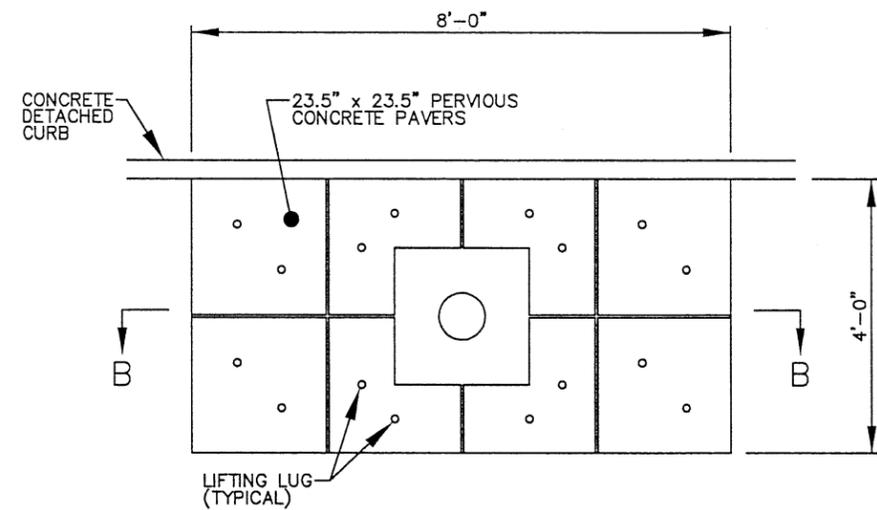
			<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
			<i>PARKING METER DETAILS</i>	
		DATE OF ORIGINAL ISSUE	STANDARD NUMBER : <i>SD-508.01</i>	
		<i>DECEMBER 10, 1999</i>		
0	INITIAL ISSUE	12/10/99		
NO.	REVISION	DATE		



**TYPE "A"**



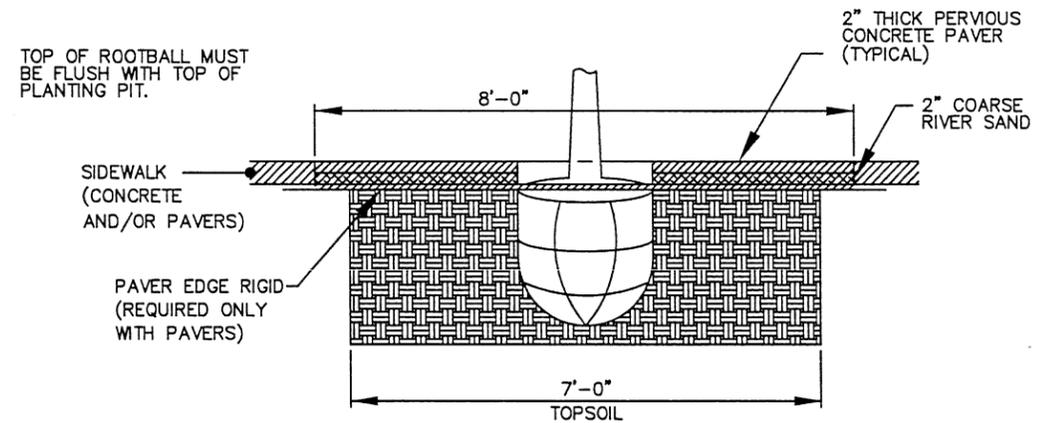
**TYPE "B"**



**PLAN**

**NOTES**

1. PERVIOUS CONCRETE PAVERS AS MANUFACTURED BY ARCHITECTURAL ORNAMENTAL CASTINGS OF TENNESSEE, LLC, OR APPROVED EQUAL - PAVERS SHALL BE CAPABLE OF ALLOWING PASSAGE OF A MINIMUM OF 70% OF WATER THROUGH BLOCK.
2. THE PAVERS SHALL BE CONSTRUCTED OF A MIXTURE OF #89 STONE, FIBERMESH, AND PORTLAND CEMENT.
3. COLOR - BRICK RED - WITH STANDARD 7% RED CEMENT COLOR FROM SOUTHERN COLOR, OR APPROVED EQUAL.
4. EACH PAVER SHALL HAVE INSTALLED LIFTING LUGS AS SHOWN TO FACILITATE INSTALLATION AND MAINTENANCE. LIFTING LUGS SHALL BE 1/2" FX-19 FERRULE WING INSERTS WITH 1/2" FC-18 THREADED PLASTIC PLUG BY MEADOW BURKE PRODUCTS, OR APPROVED EQUAL.
5. COARSE RIVER SAND SHALL BE SWEEPED INTO CRACKS (TYPICAL).
6. SEE STANDARD DRAWINGS SD-500.01 AND SD-500.02.



**SECTION B-B**

**TREE PLANTER WITH PERVIOUS PAVERS**

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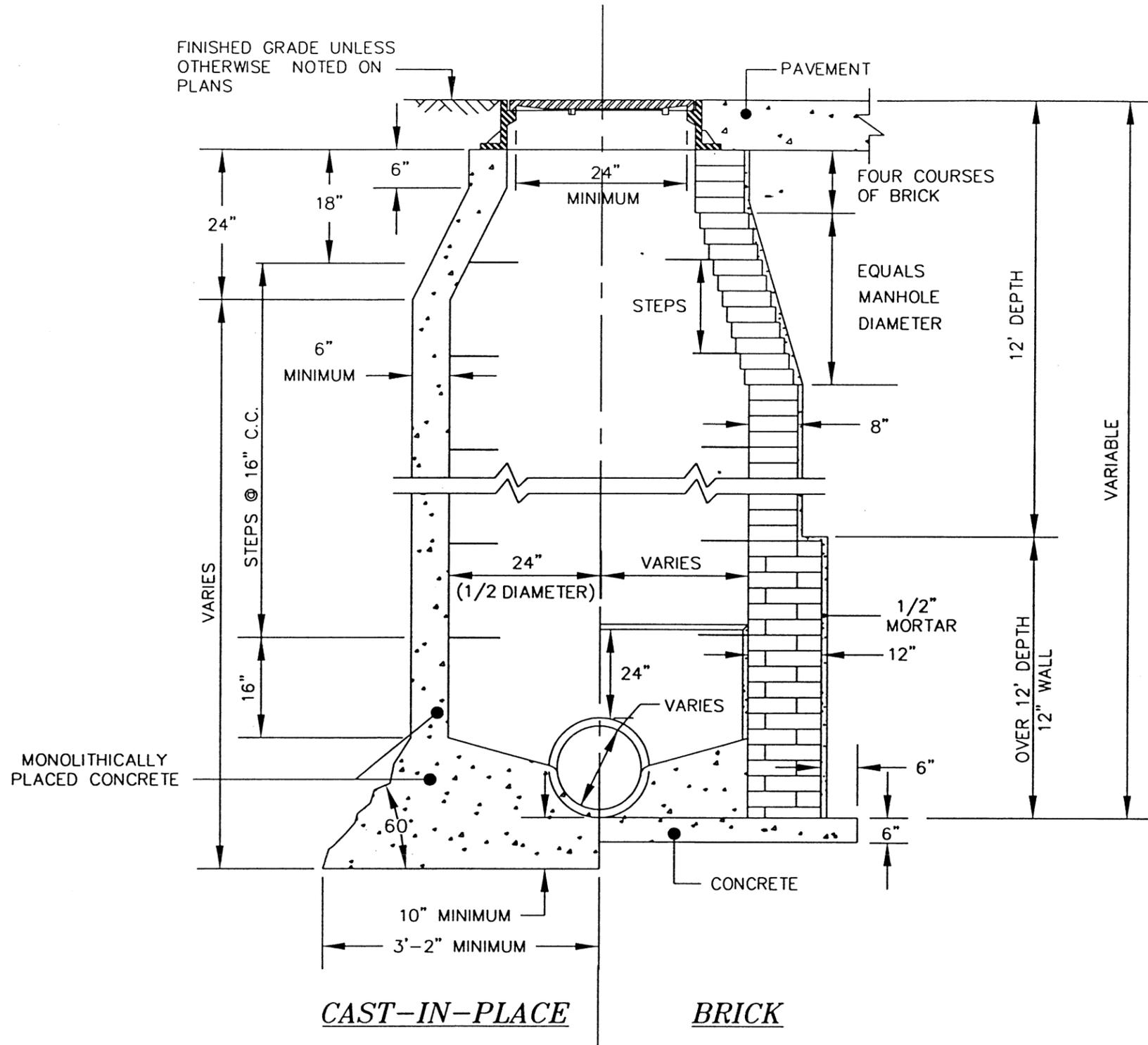
0	INITIAL ISSUE	8/24/01
NO.	REVISION	DATE

**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
**PERVIOUS CONCRETE PAVER DETAIL**

DATE OF ORIGINAL ISSUE  
**AUGUST 24, 2001**

STANDARD NUMBER : **SD-509.01**

# DRAINAGE



**NOTES**

**CAST-IN-PLACE**

1. CONCRETE SHALL BE VIBRATED INSIDE OF FORMS AND OUT AS DIRECTED BY THE ENGINEER
2. A MANHOLE MORE THAN 12' IN DEPTH SHALL HAVE APPROVED REINFORCING.
3. A MAXIMUM OF TWO CONCRETE RINGS MAY BE USED FOR ELEVATION ADJUSTMENT OF MANHOLE FRAMES.

**BRICK**

4. FOR BRICK CONSTRUCTION, JOINTS SHALL ALWAYS BE COMPLETELY FILLED WITH MORTAR. BRICKS SHALL BE LAID WITH VERTICAL MORTAR JOINTS NOT MORE THAN 3/8" THICK AND HORIZONTAL MORTAR JOINTS NOT LESS THAN 3/8" THICK AT THE INSIDE FACE. INSIDE JOINTS SHALL BE TROWEL STRUCK, FLUSH JOINTS TO PROVIDE A SMOOTH, CLEAN SURFACE, WHILE OUTSIDE WALLS SHALL BE ENTIRELY COVERED WITH MORTAR FOR A SMOOTH, CLEAN SURFACE.

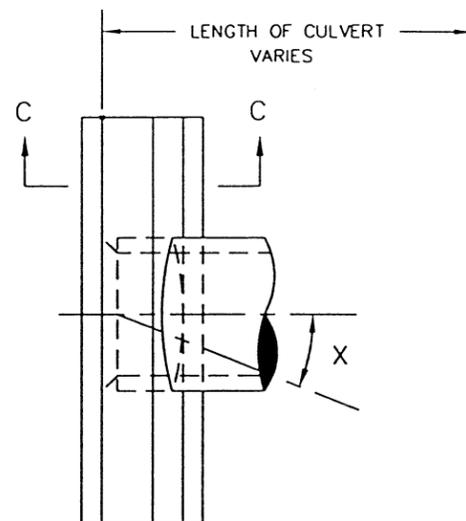
**ALL**

5. FOR INVERT DETAILS, SEE SD-301.01.
6. FOR MANHOLE STEP DETAILS, SEE SD-301.04.
7. FOR MANHOLE FRAME AND COVER DETAILS, SEE SD-301.03.

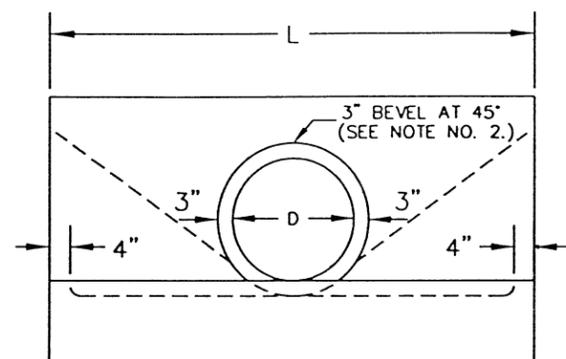


0	INITIAL ISSUE	12/10/99
NO.	REVISION	DATE

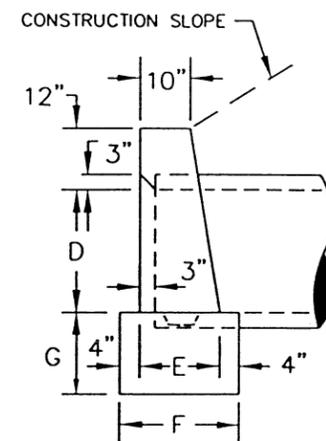
<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
<b>STORM MANHOLE (BRICK/CAST-IN-PLACE)</b>	
DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER: <b>SD-600.01</b>



PLAN



FRONT ELEVATION



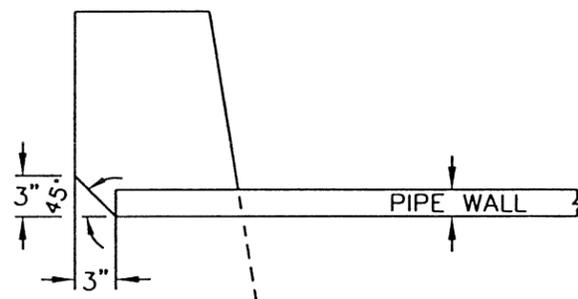
SIDE ELEVATION

TABLE "A" - DIMENSIONS FOR ONE STRAIGHT, CONCRETE ENDWALL (X=0°)

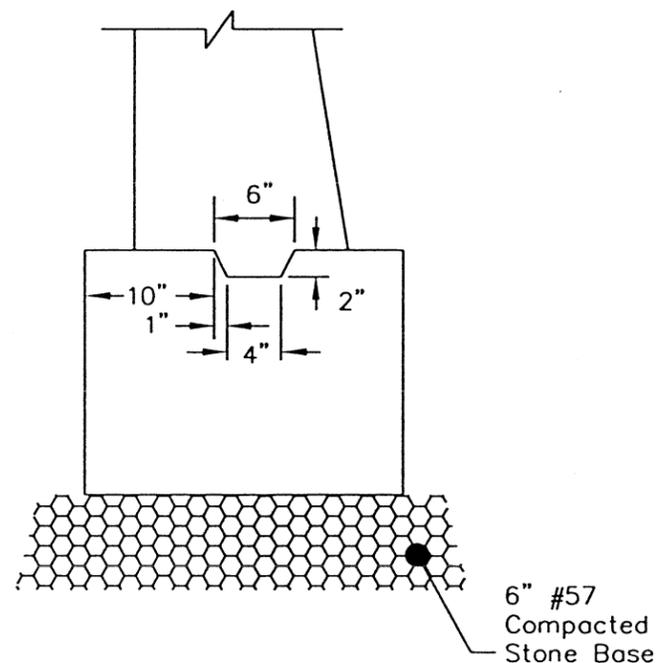
DIMENSIONS					
OPENING	WALL		FOOTING		
D	L	H	E	F	G
1'-6"	6'-0"	2'-6"	1'-3"	1'-11"	1'-3"
2'-0"	8'-0"	3'-0"	1'-4"	2'-0"	1'-4"
2'-6"	10'-0"	3'-6"	1'-6"	2'-2"	1'-6"

TABLE "B" - VALUE OF "L" WHEN ANGLE "X" IS GREATER THAN 0°

D	0(+)-10'	10(+)-20'	20(+)-30'	30(+)-40'	40(+)-50'
1'-6"	6'-0"	6'-5"	6'-11"	7'-10"	9'-4"
2'-0"	8'-2"	8'-6"	9'-3"	10'-5"	12'-6"
2'-6"	10'-2"	10'-7"	11'-6"	13'-2"	15'-7"



DETAIL OF BEVEL



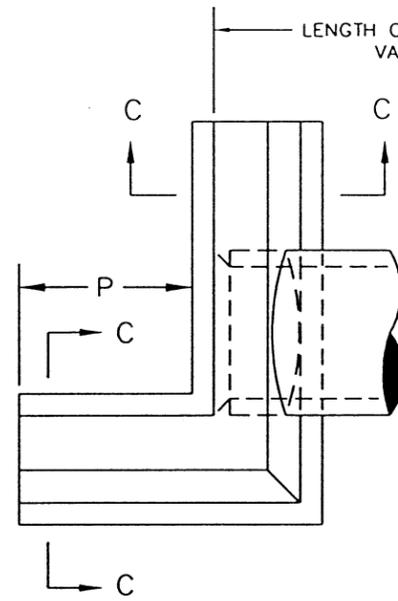
SECTION C-C  
SHOWING CONSTRUCTION JOINT

NOTES

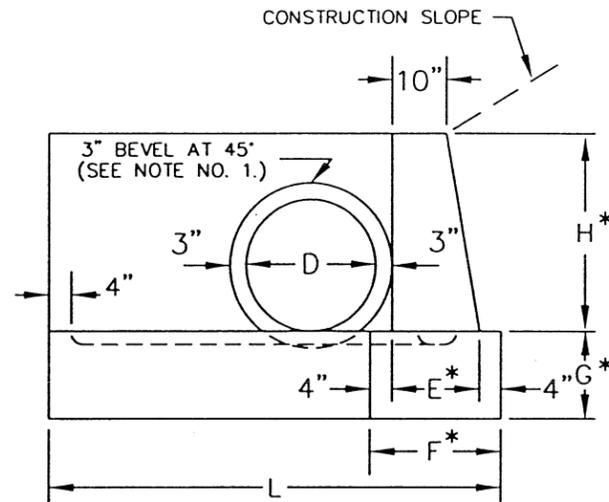
1. WHEN A PIPE IS ON A SKEW, REFER TO TABLE "B" FOR THE VALUE OF "L".
2. ALL TYPE "S", CONCRETE ENDWALLS ON THE INLET END OF THE PIPE AND AT 90° TO THE PIPE SHALL BE BEVELED 3" AT A 45° ANGLE. THE BEVEL WILL NOT BE REQUIRED WHEN THE ENDWALL IS CONSTRUCTED ON THE "BELLED" END OF A CONCRETE PIPE.
3. WHEN MORE THAN ONE LINE OF PIPE IS REQUIRED, THE DISTANCE FROM CENTER TO CENTER OF PIPES SHALL BE (D+1'-0").
4. A 1" CHAMFER SHALL BE USED ON EACH EXPOSED EDGE AND CORNER.
5. ENDWALLS SHALL HAVE #4 BARS AT 12" ON CENTER, EACH WAY, IN THE CENTER OF ALL SLABS AND WALLS.
6. EIGHT INCH (8") BRICK WALLS MAY BE SUBSTITUTED FOR CONCRETE WALLS WHEN "D" IS 36" OR LESS.



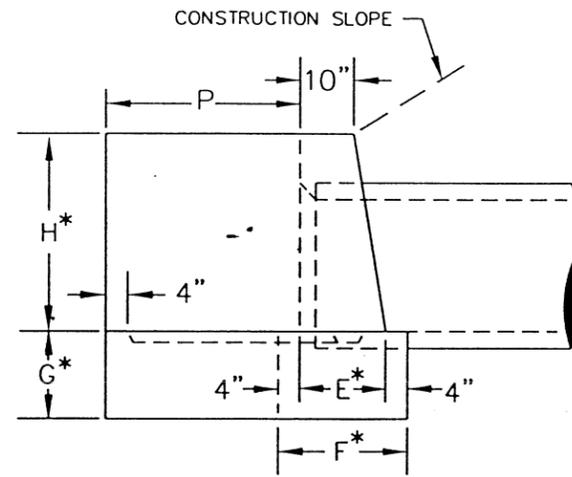
<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>		
<b>CONCRETE ENDWALL (TYPE "S")</b>		
0	INITIAL ISSUE	DATE OF ORIGINAL ISSUE
NO.	REVISION	DATE
		<b>DECEMBER 10, 1999</b>
		<b>STANDARD NUMBER: SD-601.01</b>



PLAN

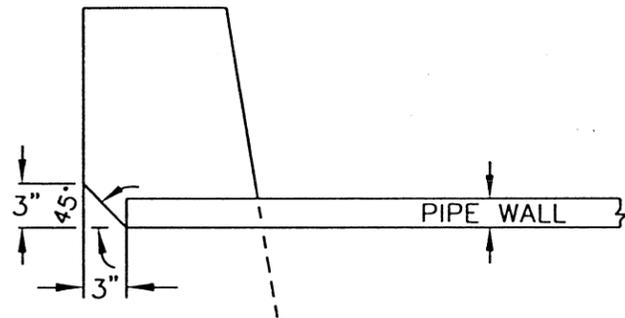


FRONT ELEVATION

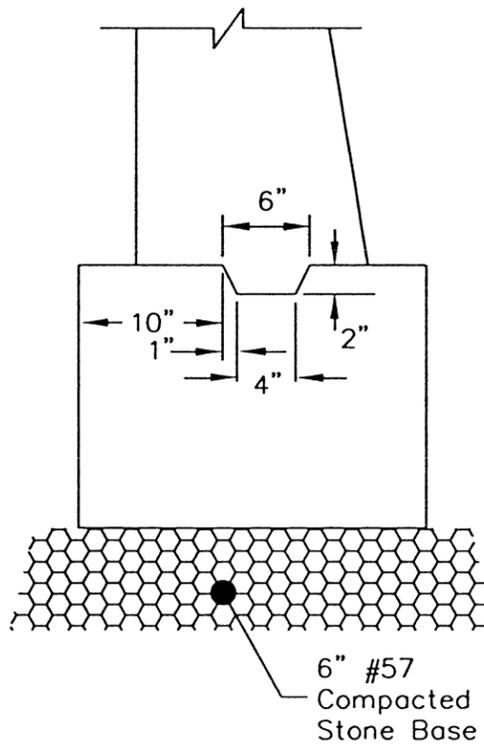


SIDE ELEVATION

TABLE OF DIMENSIONS FOR ONE TYPE "L", CONCRETE ENDWALL		
DIMENSIONS *		
D	P	L
1'-3"	2'-3"	5'-9"
1'-6"	2'-3"	6'-0"
2'-0"	3'-0"	8'-0"
2'-6"	3'-9"	10'-0"



DETAIL OF BEVEL



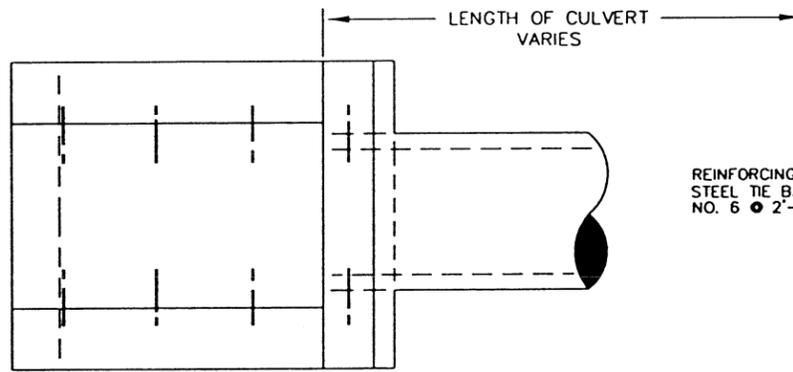
SECTION C-C  
SHOWING CONSTRUCTION JOINT

NOTES

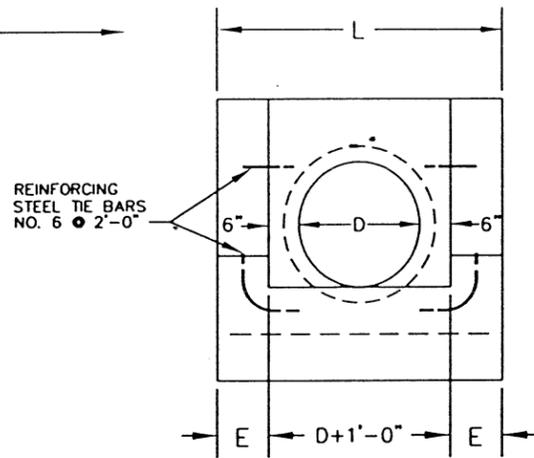
- ALL TYPE "L", CONCRETE ENDWALLS ON THE INLET END OF THE PIPE AND AT 90° TO THE PIPE SHALL BE BEVELED 3" AT A 45° ANGLE. THE BEVEL WILL NOT BE REQUIRED WHEN THE ENDWALL IS CONSTRUCTED ON THE "BELLED" END OF A CONCRETE PIPE.
- WHEN MORE THAN ONE LINE OF PIPE IS REQUIRED, THE DISTANCE FROM CENTER TO CENTER OF PIPES SHALL BE (D+1'-0").
- A 1" CHAMFER SHALL BE USED ON EACH EXPOSED EDGE AND CORNER.
- ENDWALLS SHALL HAVE #4 BARS AT 12" ON CENTER, EACH WAY, IN THE CENTER OF ALL SLABS AND WALLS.
- \* DIMENSIONS NOT SHOWN IN THE TABLE ARE THE SAME AS THOSE FOR A TYPE "S" ENDWALL. SEE SD-601.01.



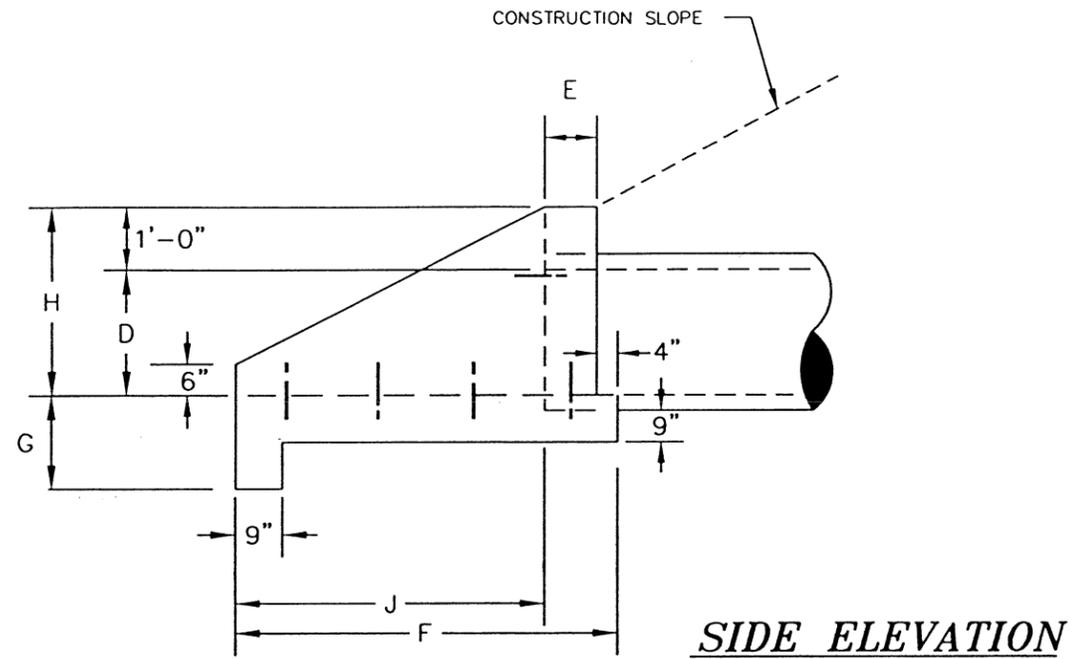
		<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
		<b>CONCRETE ENDWALL (TYPE "L")</b>	
		DATE OF ORIGINAL ISSUE	STANDARD NUMBER: <b>SD-602.01</b>
		<b>DECEMBER 10, 1999</b>	
0	INITIAL ISSUE	12/10/99	
NO.	REVISION	DATE	



PLAN



FRONT ELEVATION



SIDE ELEVATION

NOTES

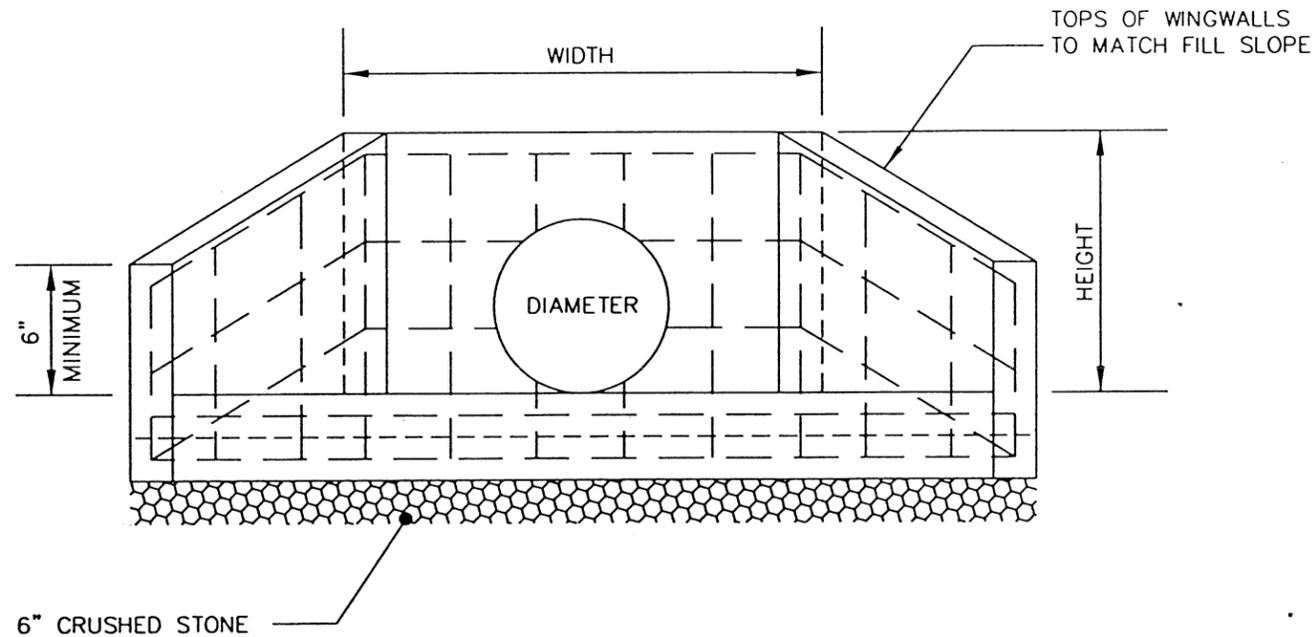
1. WHEN MORE THAN ONE LINE OF PIPE IS REQUIRED, THE DISTANCE FROM CENTER TO CENTER OF PIPES SHALL BE (D+1'-0").
2. A 1" CHAMFER SHALL BE USED ON EACH EXPOSED EDGE AND CORNER.
3. ENDWALLS SHALL HAVE #4 BARS AT 12" ON CENTER, EACH WAY, IN CENTER OF ALL SLABS AND WALLS.

TABLE OF DIMENSIONS TYPE "U", CONCRETE ENDWALL (SLOPE 1-1/2:1 & 2:1)						
DIMENSIONS						
OPENING	WALL			FOOTING		
D	L	H	E	J	F	G
1'-3"	3'-9"	2'-3"	9"	4'-0"	5'-1"	1'-3"
1'-6"	4'-0"	2'-6"	9"	4'-0"	5'-1"	1'-3"
2'-0"	4'-8"	3'-0"	10"	5'-0"	6'-2"	1'-6"
2'-6"	5'-2"	3'-6"	10"	6'-0"	7'-2"	1'-6"

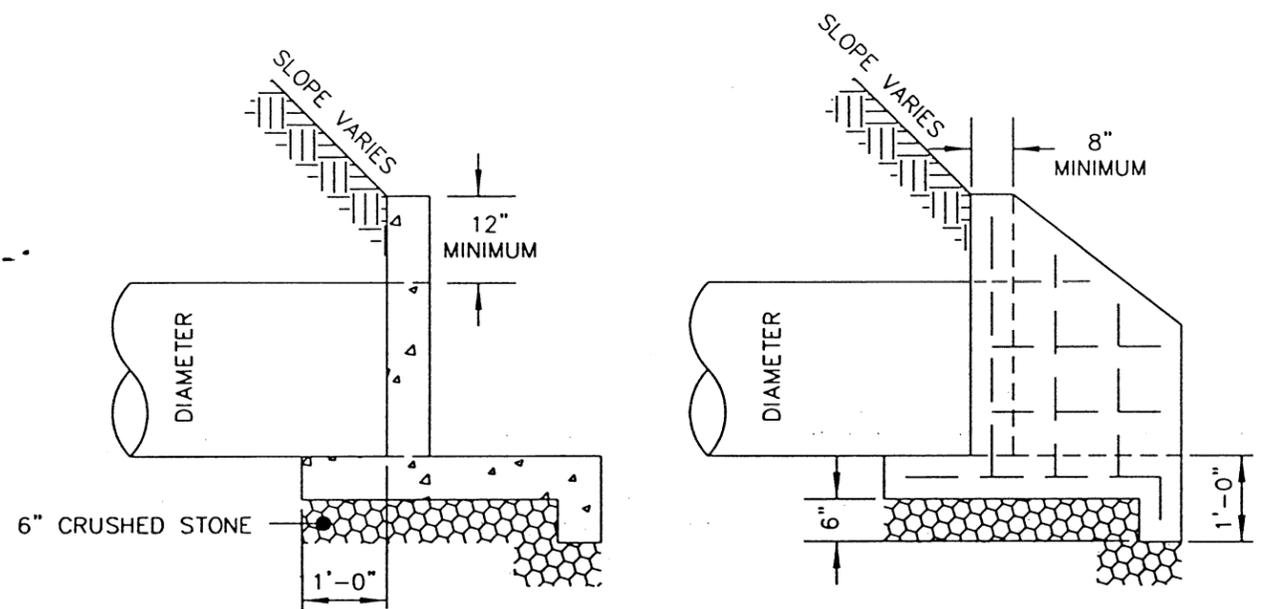
TABLE OF DIMENSIONS TYPE "U", CONCRETE ENDWALL (SLOPE 3:1 OR FLATTER)						
DIMENSIONS						
OPENING	WALL			FOOTING		
D	L	H	E	J	F	G
1'-3"	3'-9"	2'-3"	9"	6'-0"	7'-1"	1'-3"
1'-6"	4'-0"	2'-6"	9"	6'-0"	7'-1"	1'-3"
2'-0"	4'-8"	3'-0"	10"	7'-6"	8'-8"	1'-6"
2'-6"	5'-2"	3'-6"	10"	9'-0"	10'-2"	1'-6"



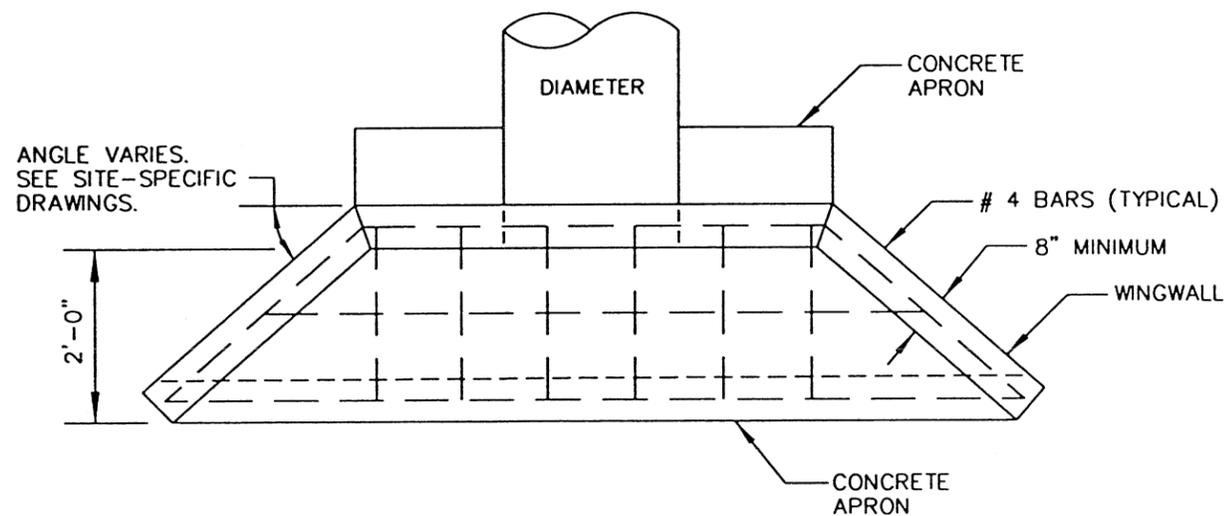
<p><b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b> <b>CONCRETE ENDWALL (TYPE "U")</b></p>		DATE OF ORIGINAL ISSUE	STANDARD NUMBER: <b>SD-603.01</b>
		<p>0 INITIAL ISSUE 12/10/99 NO. REVISION DATE</p> <p><b>DECEMBER 10, 1999</b></p>	



**FRONT VIEW**



**CROSS SECTION**



**PLAN**

PIPE SIZE CHART *				
DIAMETER	15"	18"	24"	30"
HEIGHT	2'-9"	3'-0"	3'-6"	4'-0"
WIDTH	4'-3"	4'-6"	5'-0"	5'-6"

\* ALL DIMENSIONS SHOWN ARE MINIMUMS.

**NOTES**

1. IF CONDITIONS REQUIRE ANY VARIATION IN THE SIZE OF A WINGWALL, IT MUST FIRST BE APPROVED BY THE GOVERNMENTAL ENGINEER BEFORE CONSTRUCTION BEGINS.
2. ALL REINFORCING STEEL SHALL HAVE A 2" (MINIMUM) CONCRETE COVER.
3. SEE PIPE SIZE CHART FOR DIMENSIONS ASSOCIATED WITH PIPE DIAMETERS.
4. A 1" CHAMFER SHALL BE USED ON EACH EXPOSED EDGE AND CORNER.
5. #4 BARS (TYPICAL) SHALL BE @ 1'-0" C.C. EACH WAY IN THE CENTER OF SLABS AND WALLS.



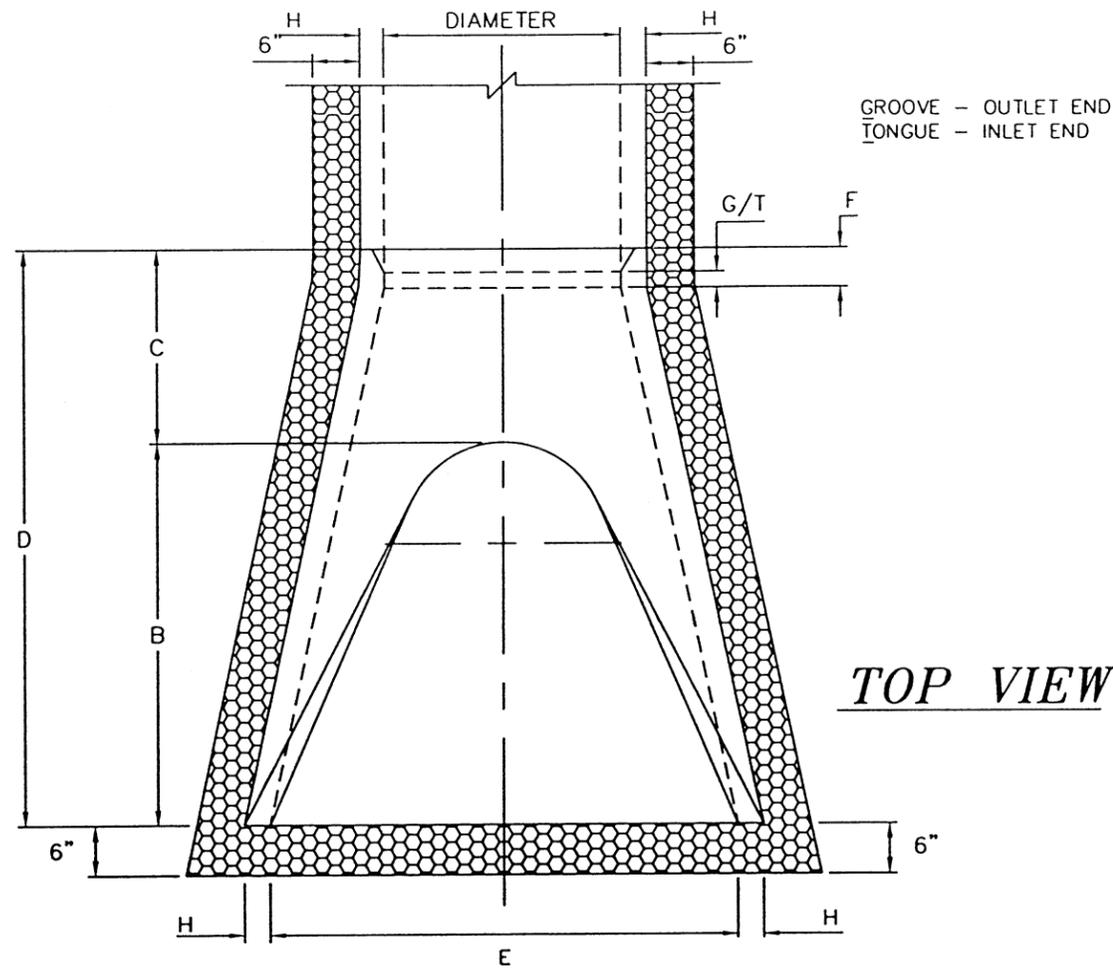
0	INITIAL ISSUE	12/10/99
NO.	REVISION	DATE

**CITY OF CHATTANOOGA AND HAMILTON COUNTY**

**CONCRETE ENDWALL (TYPE "W")**

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

STANDARD NUMBER: **SD-604.01**

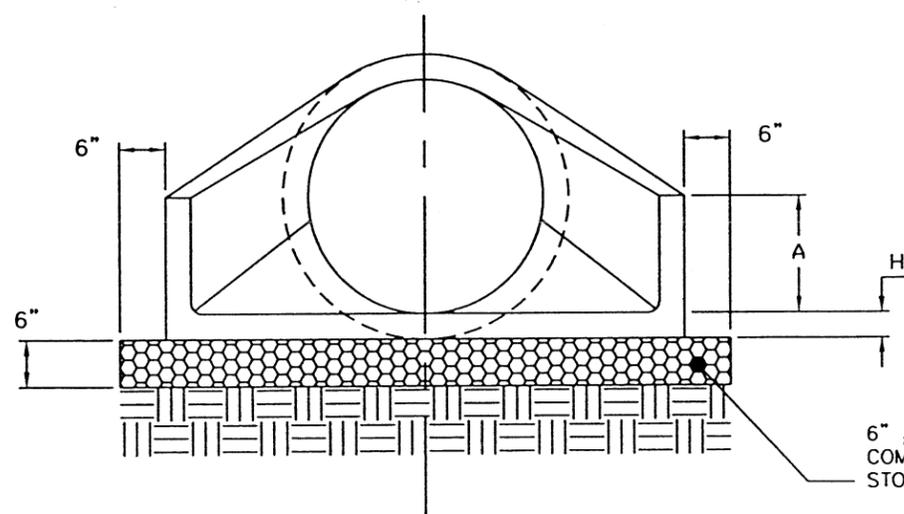


FLARED-END SECTION DIMENSIONS (INCHES)

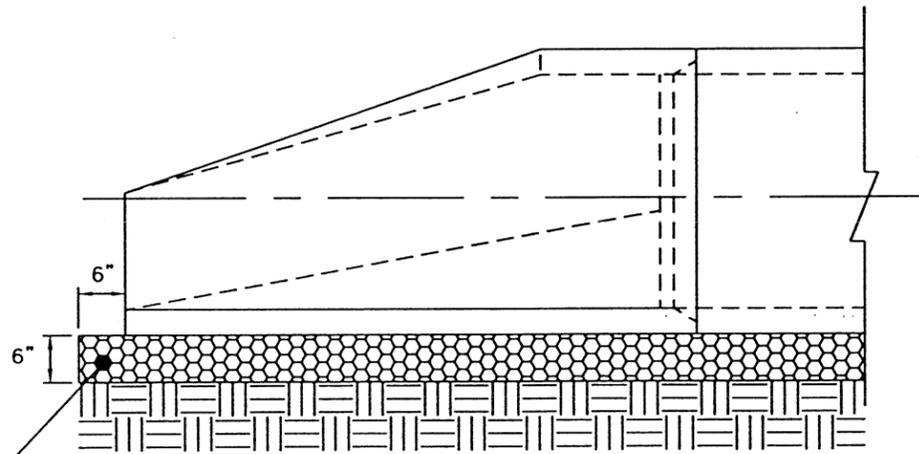
PIPE SIZE	A	B	C	D	E	F	G/T	H
15"	6.0	27.0	46.00	73.00	30	3.5	2.0	2.25
18"	9.0	27.0	46.00	73.00	36	4.0	2.5	2.50
24"	9.5	43.5	30.00	73.50	48	4.5	2.5	3.00
30"	12	54.0	19.75	73.75	60	5.0	3.0	3.25

**NOTES**

G DENOTES GROOVE - OUTLET END.  
 T DENOTES TONGUE - INLET END.  
 H DENOTES THE WALL THICKNESS.



6" #57  
 COMPACTED  
 STONE BASE

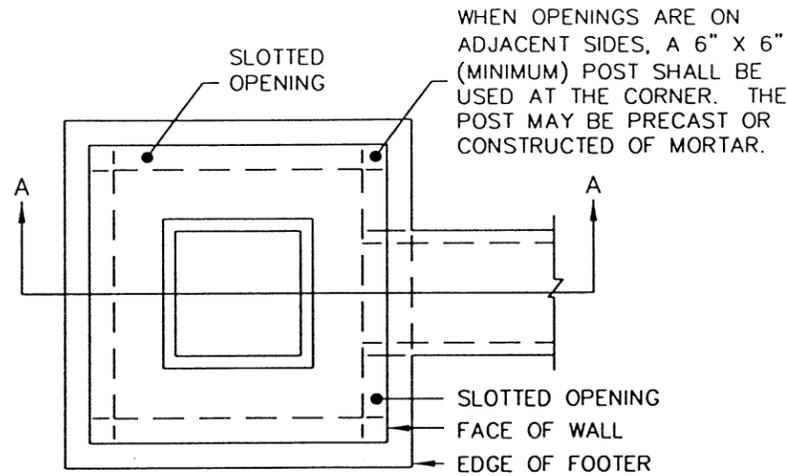


**FRONT VIEW**

**RIGHT SIDE VIEW**

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

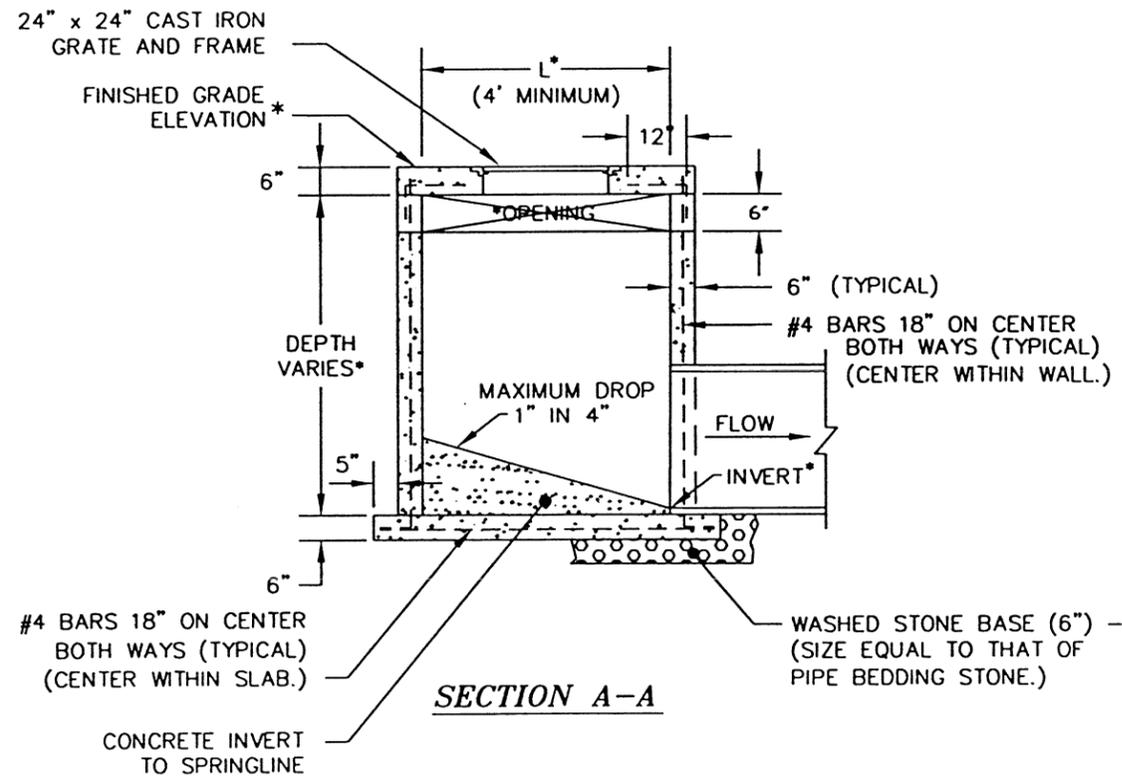
<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
<b>CONCRETE ENDWALL (PRECAST/FLARED)</b>	
DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER: <b>SD-605.01</b>



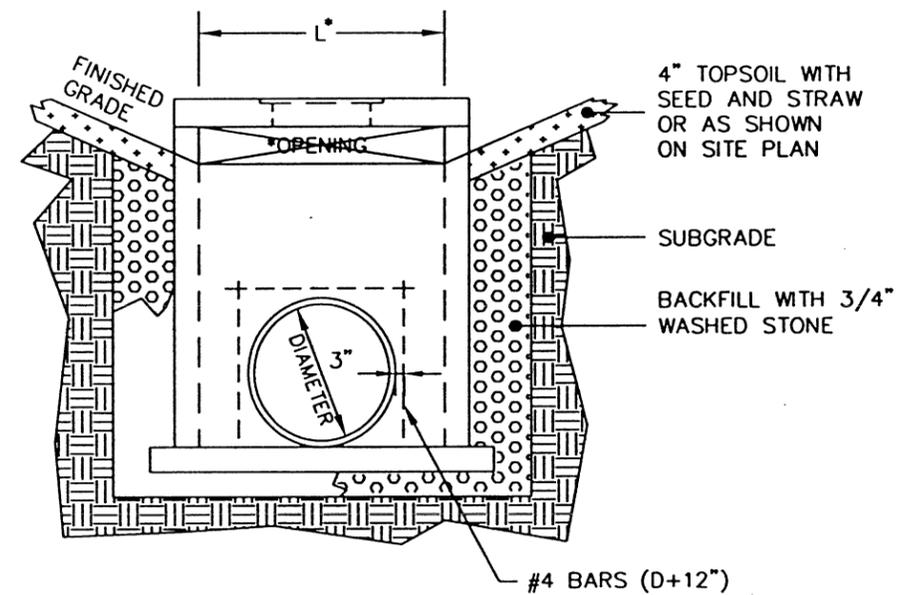
**PLAN**

**NOTES**

1. WHEN THE DEPTH OF THE STRUCTURE IS GREATER THAN 4'-0", STEPS SHALL BE PROVIDED AT 16" ON CENTER.
2. PRECAST ELEMENTS SHALL BE ALLOWED UP TO THE BOTTOM OF THE OPENING, WITH DOWELS ON 12" CENTERS SECURING THE REMAINDER THAT SHALL BE CAST-IN-PLACE CONCRETE.
3. CONCRETE CONSTRUCTION IS SHOWING, BUT 8" BRICK CONSTRUCTION WILL BE ALLOWED.



**SECTION A-A**



**SIDE VIEW**

\* SEE SITE-SPECIFIC PLANS AND PROFILES FOR 'L', DEPTHS, ELEVATIONS, AND NUMBER AND LOCATIONS OF OPENINGS.

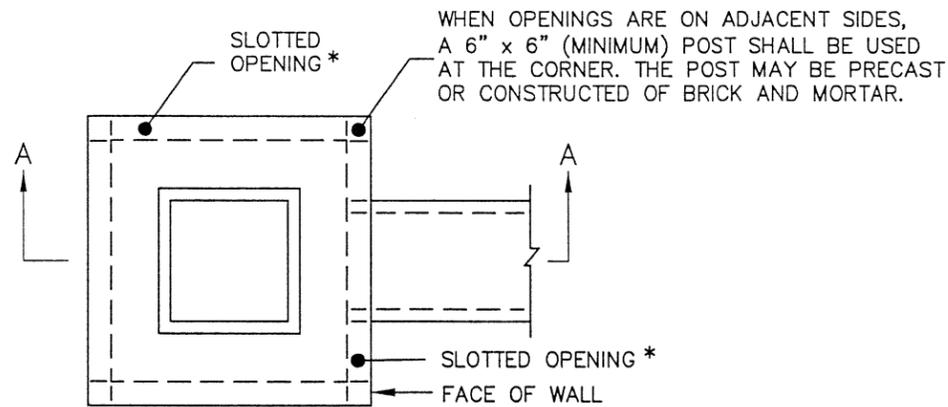


0	INITIAL ISSUE	12/10/99
NO.	REVISION	DATE

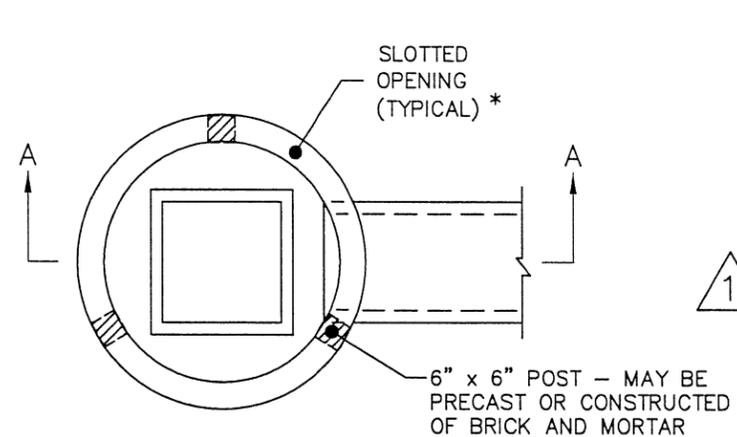
**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
**DROP INLET**

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

STANDARD NUMBER: **SD-606.01**



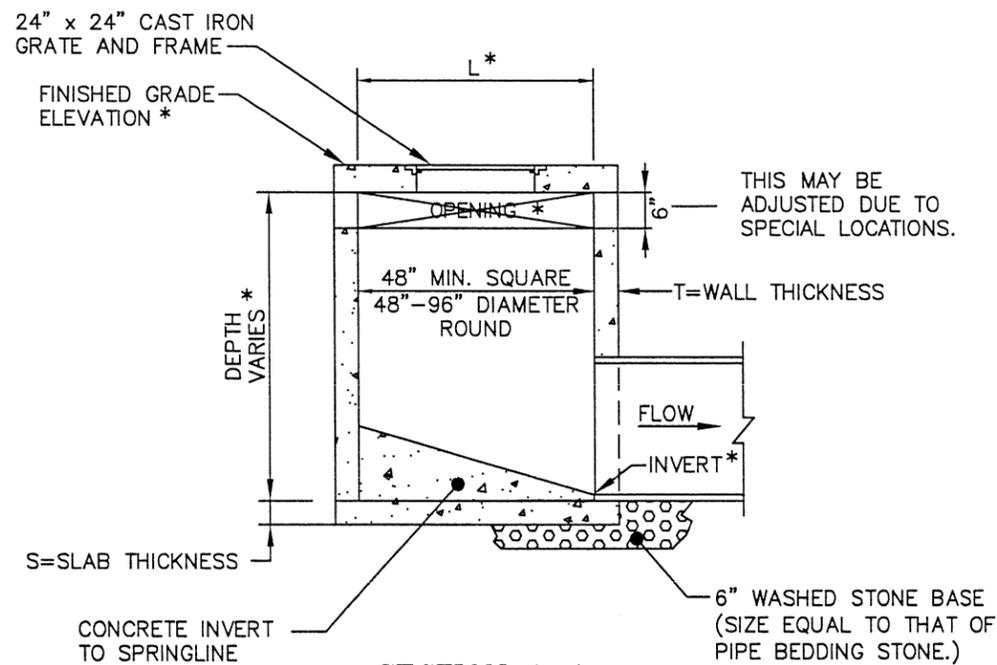
**PLAN**  
SQUARE BASIN  
(48" x 48" MINIMUM) \*\*



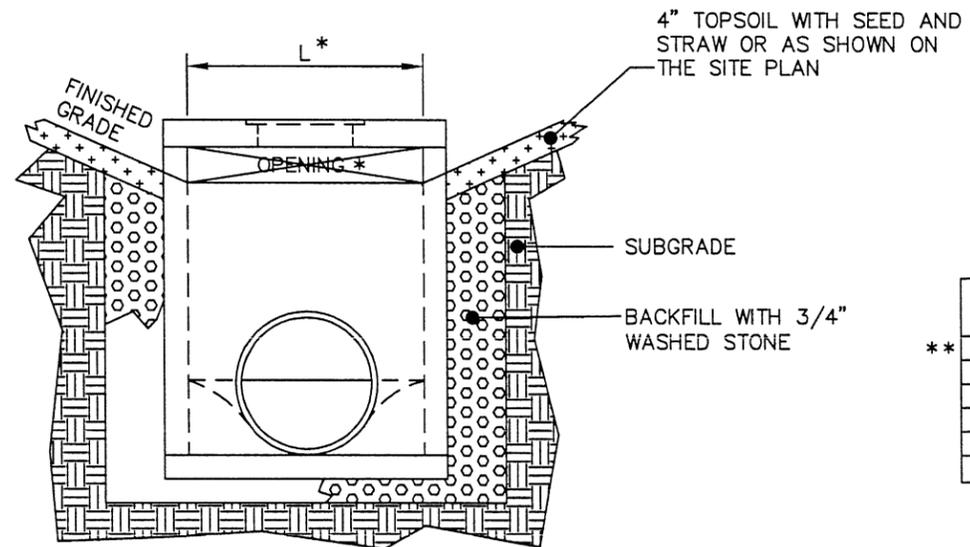
**PLAN**  
ROUND MANHOLE TYPE  
(48" DIAMETER - 96" DIAMETER)

**NOTES**

1. STEPS SHALL BE PROVIDED WHEN THE DEPTH OF THE STRUCTURE IS GREATER THAN 4'-0". STEPS SHALL BE PLACED ON 16" CENTERS.
2. SQUARE INLETS MAY HAVE FOUR OPENINGS AND MAY BE LOCATED ON ANY OR ALL SIDES. ROUND-MANHOLE-TYPE DROP INLETS MAY HAVE A MAXIMUM OF THREE OPENINGS.
- \*\* 3. SQUARE INLETS SHALL MEET A.S.T.M. C 913 REQUIREMENTS FOR WALL THICKNESS, SLAB THICKNESS, CONCRETE STRENGTH, AND STEEL REINFORCEMENT REQUIREMENTS. ROUND INLETS SHALL MEET A.S.T.M. C 478.
4. THE TOP AND ITS SUPPORTS MAY BE PRECAST AS ONE UNIT.



**SECTION A-A**



**SIDE VIEW**

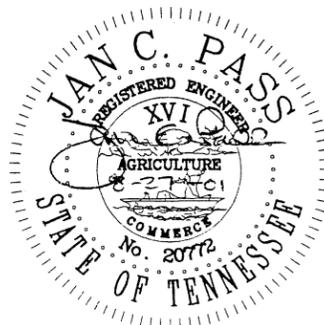
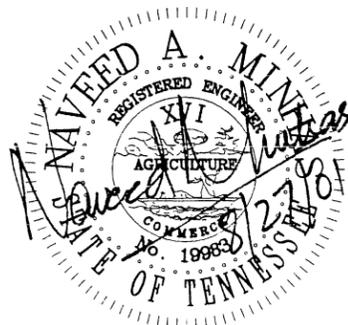
STRUCTURE TYPE	(T) WALL THICKNESS	(S) SLAB THICKNESS
** 48" x 48"	8"	8"
48" DIAM.	5"	6"
60" DIAM.	6"	8"
72" DIAM.	7"	8"
84" DIAM.	8"	8"
96" DIAM.	8"	8"

\* SEE SITE-SPECIFIC PLANS AND PROFILES FOR 'L', DEPTHS, ELEVATIONS, AND NUMBER AND LOCATIONS OF OPENINGS.

\*\* LARGER SIZES MEETING A.S.T.M. C 913 REQUIREMENTS ARE AVAILABLE UPON REQUEST.



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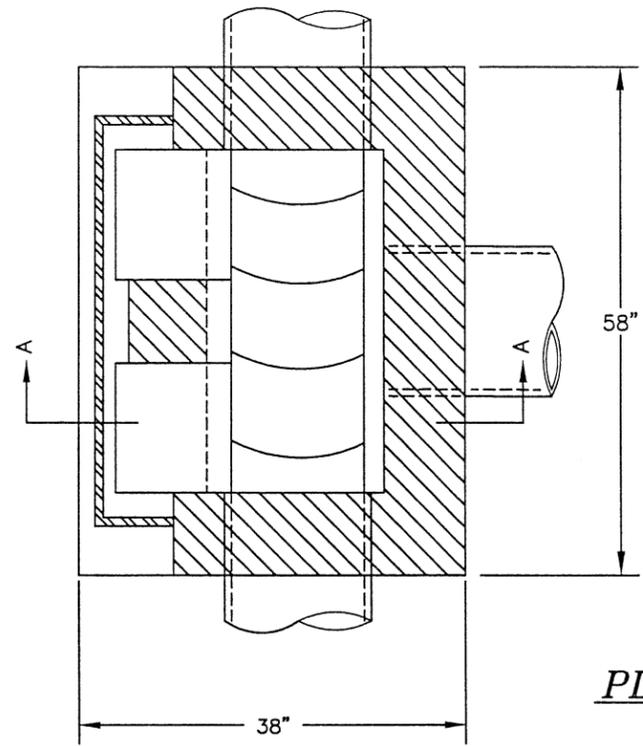


NO.	REVISION	DATE
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99

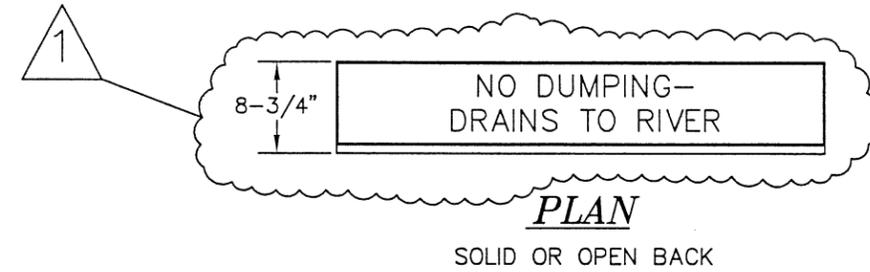
**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
**DROP INLET (PRECAST CONCRETE)**

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

STANDARD NUMBER: **SD-607.01**

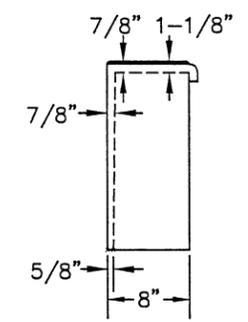


**PLAN**

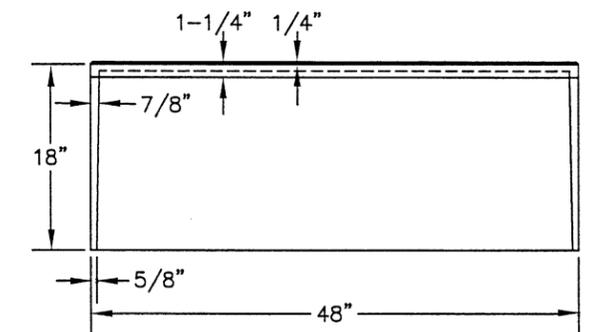


**PLAN**

SOLID OR OPEN BACK

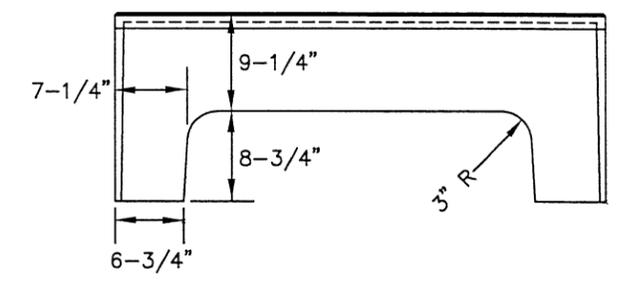


**SIDE VIEW**



**FRONT VIEW**

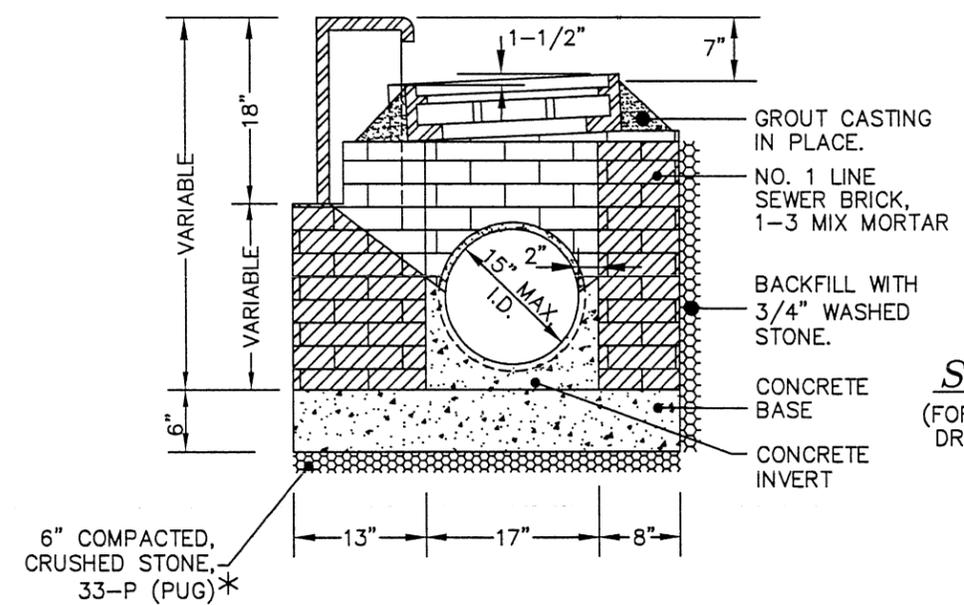
SOLID BACK



**FRONT VIEW**

OPEN BACK

**CURB IRON OR UPRIGHT FRAME**



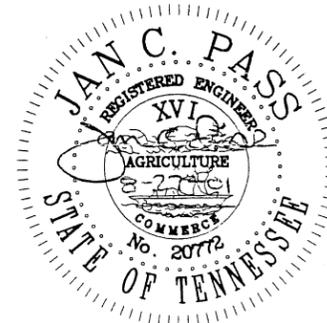
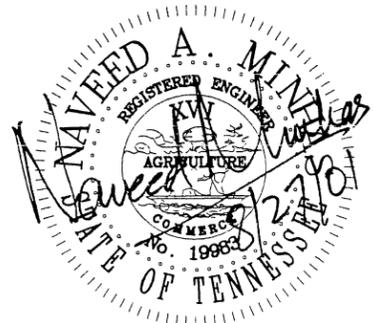
**SECTION A-A**

(FOR CLARITY, THE CROSS DRAIN IS NOT SHOWN.)

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

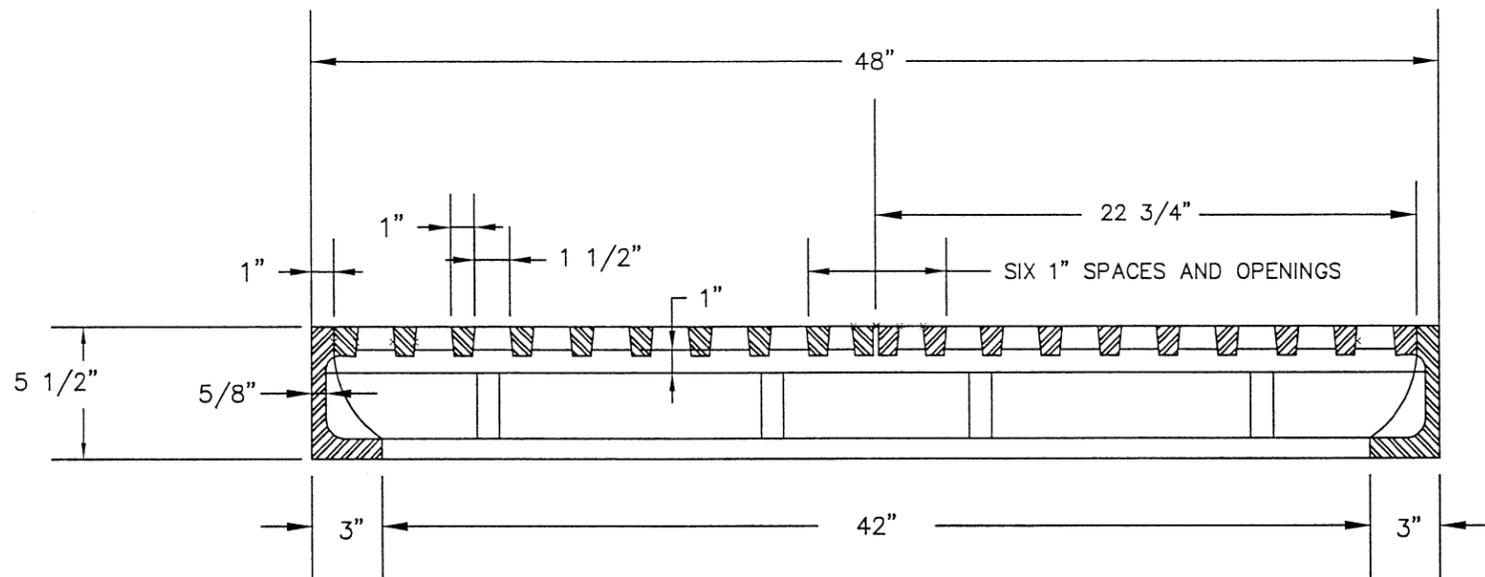
**NOTE**  
FOR BRICK CONSTRUCTION, JOINTS SHALL ALWAYS BE COMPLETELY FILLED WITH MORTAR. BRICKS SHALL BE LAID WITH VERTICAL MORTAR JOINTS NOT MORE THAN 3/8" THICK AND HORIZONTAL MORTAR JOINTS NOT LESS THAN 3/8" THICK AT THE INSIDE FACE. INSIDE JOINTS SHALL BE TROWEL STRUCK, FLUSH JOINTS TO PROVIDE A SMOOTH, CLEAN SURFACE, WHILE OUTSIDE WALLS SHALL BE ENTIRELY COVERED WITH MORTAR FOR A SMOOTH, CLEAN SURFACE.

**CATCH BASIN WITH BACK**

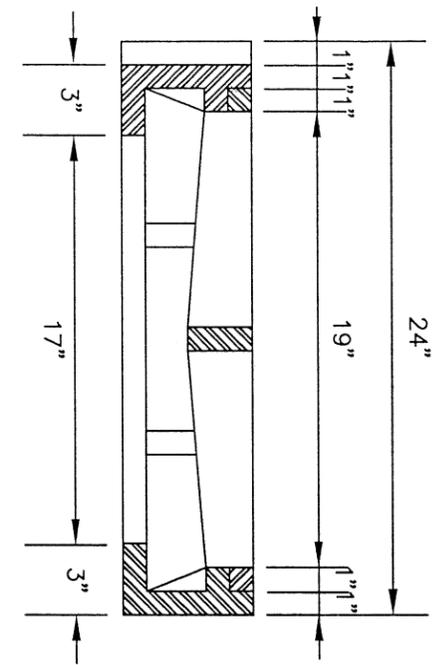


<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>		
<b>CATCH BASIN (STANDARD), FRAME, AND GRATE</b>		
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99
NO.	REVISION	DATE
DATE OF ORIGINAL ISSUE		DECEMBER 10, 1999
STANDARD NUMBER:		SD-608.01

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SECTION C-C

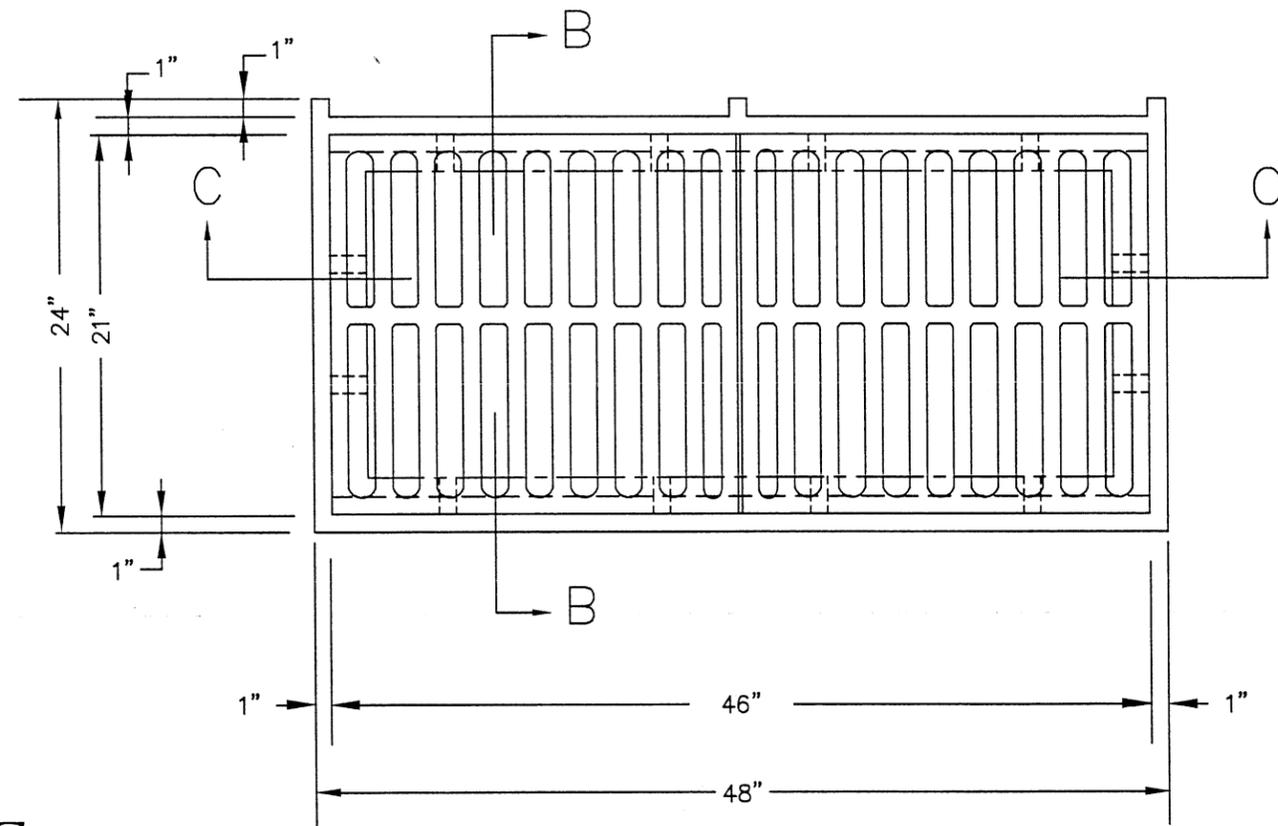


SECTION B-B

NOTES

1. BRICKS SHALL BE GRADE MA, MEDIUM HARD OR BETTER, AND SHALL CONFORM TO THE LATEST A.S.T.M. C-32.
2. CAST IRON STEPS, FRAMES, GRATES, AND CURB IRONS SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF A.A.S.H.T.O. M-105.
3. THESE MAY BE USED IN LIEU OF BRICK OR CAST-IN-PLACE CONCRETE STRUCTURES.
4. THESE SHALL HAVE MINIMUM INSIDE DIMENSIONS OF 28" X 63".
5. ACHESON (#V-4078-2) FRAME AND GRATE X 2, OR EQUAL, SHALL BE USED FOR THESE STRUCTURES.
6. WALL THICKNESS, CONCRETE STRENGTH, AND STEEL REINFORCEMENT SHALL MEET A.S.T.M. C-913.

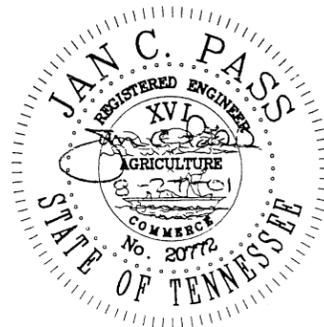
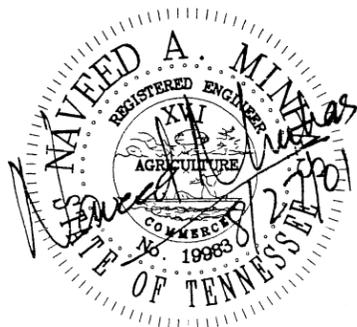
PRECAST STRUCTURES



GRATE

PLAN

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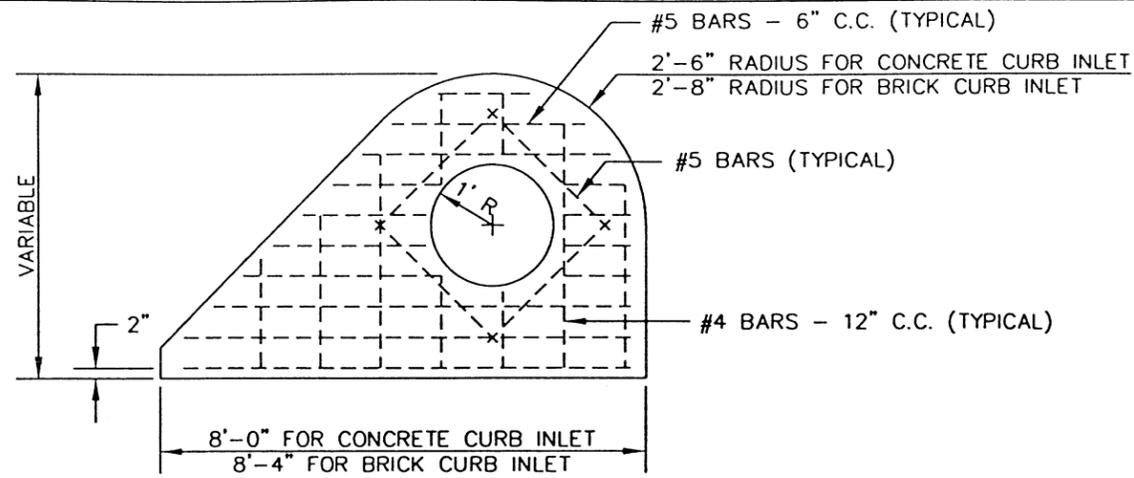
NO.	REVISION	DATE
1	REVISIONS AS MARKED OR CLOUDED	8/24/01
0	INITIAL ISSUE	12/10/99

**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
**CATCH BASIN (STANDARD), FRAME, AND GRATE**

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

STANDARD NUMBER: **SD-608.02**

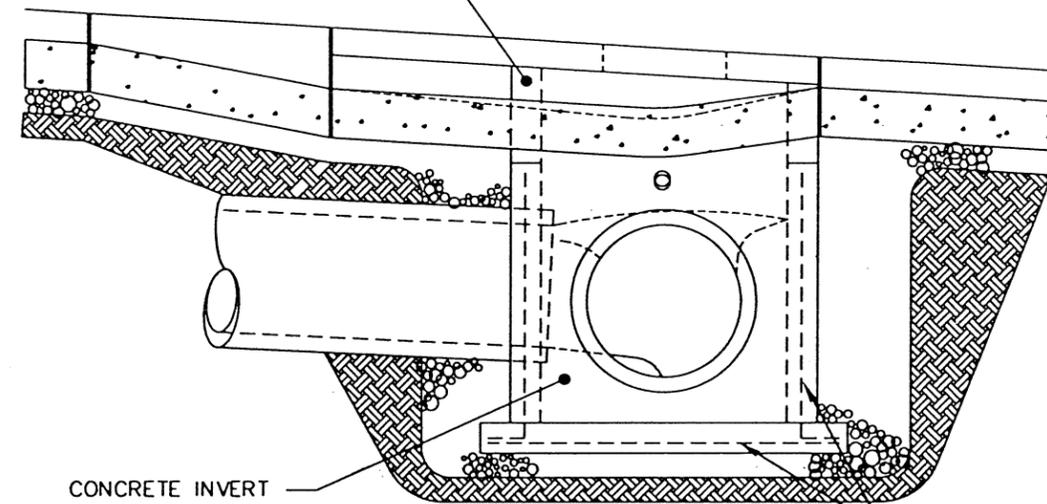
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**LEFT HAND TOP SLAB**

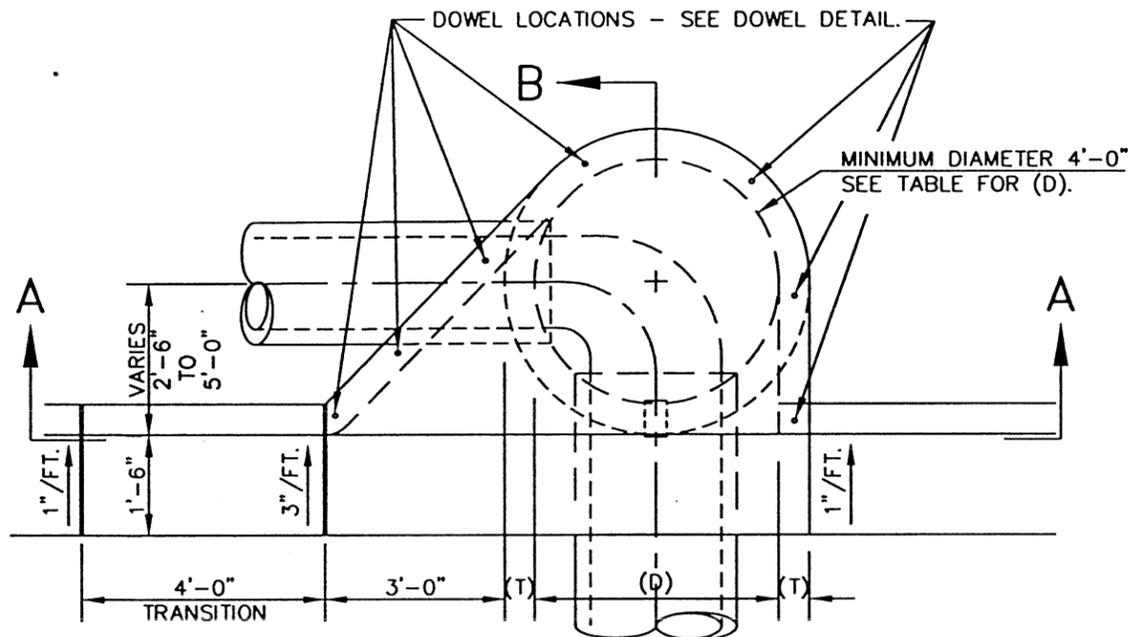
(D) = 4'-0"

TOP 18" OF BARREL SHALL BE CAST-IN-PLACE CONCRETE. LOWER PORTION MAY BE PRECAST OR CAST-IN-PLACE.



**SECTION A-A**

#4 BARS 12" ON CENTER BOTH WAYS (TYPICAL) (CENTER WITHIN SLAB AND WALL.)

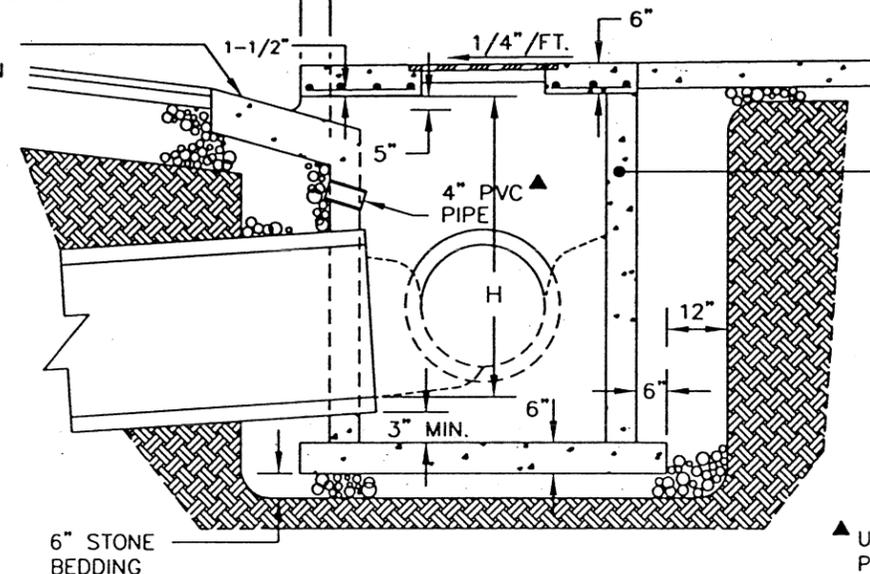


**ECCENTRIC CURB INLET** \*

LEFT HAND PLAN - CONCRETE CONSTRUCTION SHOWN, BUT BRICK MAY BE USED.

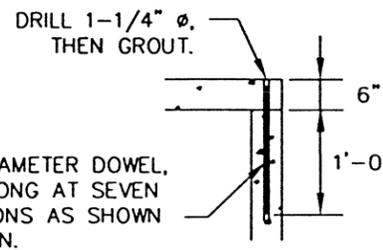
VARIES FROM 0'-0" TO 2'-6" TO ACCOMMODATE EXISTING PIPING WITHIN THESE LIMITS

MAINTAIN SLOPE TO AVOID ACCUMULATION OF SEDIMENT.



**SECTION B-B**

▲ UPPER END OF 4" PVC PIPE SHALL BE COVERED WITH FILTER FABRIC.

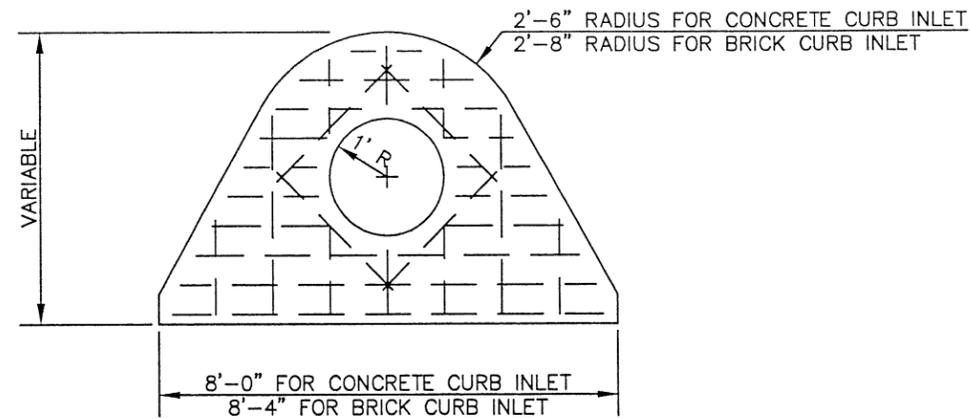


**DOWEL DETAIL**

\* SEE "NOTE" AT BOTTOM OF SD-609.02.

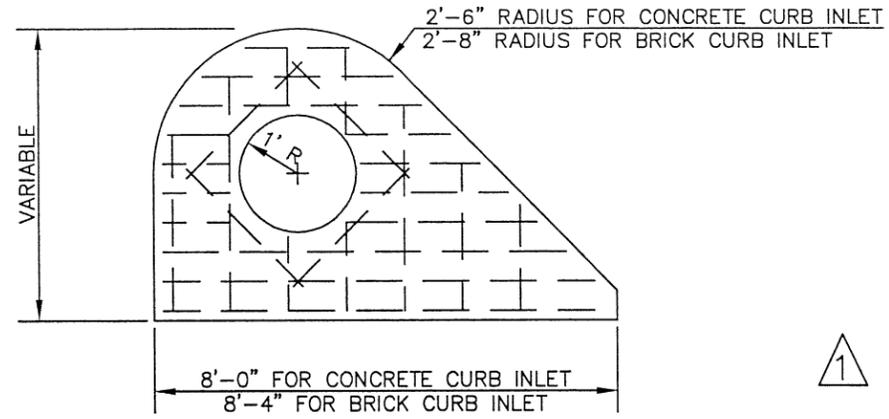


<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>		
<b>CURB INLET (CONCRETE/BRICK)</b>		
0	INITIAL ISSUE	12/10/99
NO.	REVISION	DATE
DATE OF ORIGINAL ISSUE		STANDARD NUMBER: SD-609.01
DECEMBER 10, 1999		



**SUMP INLET TOP SLAB**

(D) = 4'-0"

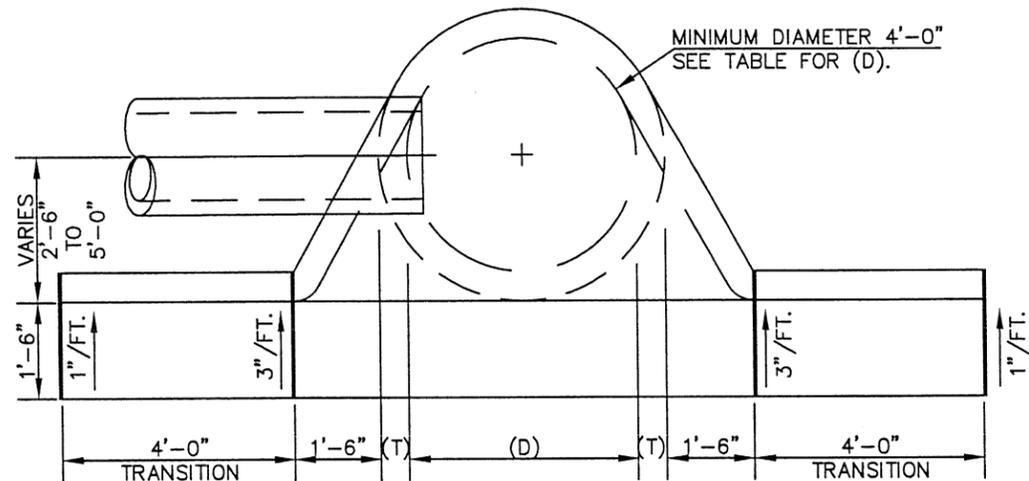


**RIGHT HAND TOP SLAB**

(D) = 4'-0"

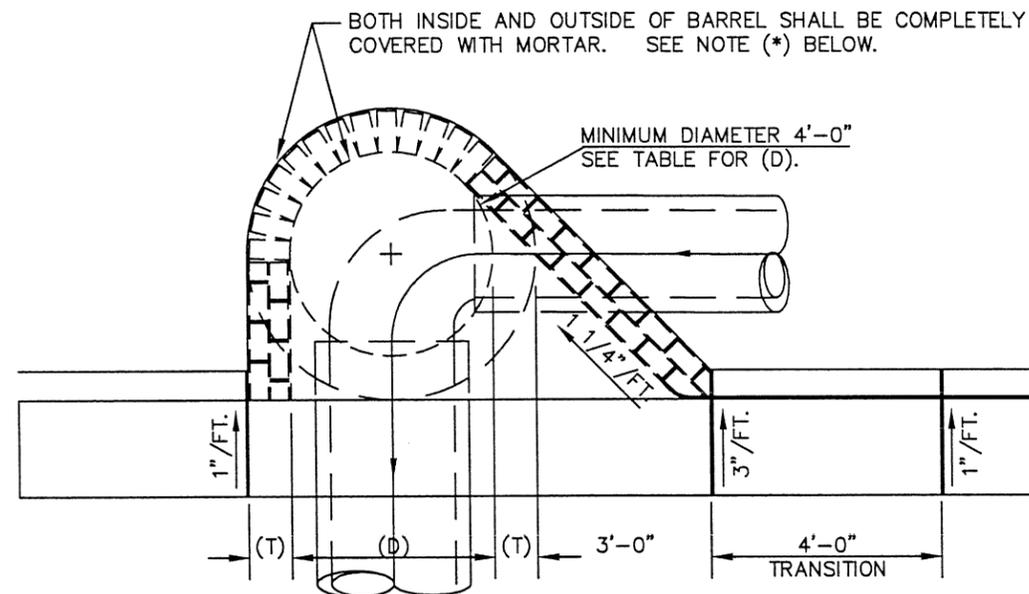
**NOTES**

1. THE TOP COVER IS TO BE PRECAST AND ATTACHED WITH GROUTED DOWELS.
2. MANHOLE STEPS ON 16" CENTERS SHALL BE PROVIDED WHEN CURB INLET DEPTH EXCEEDS FOUR (4) FEET.
3. THE MANHOLE FRAME AND COVER SHALL BE ACHESON FOUNDRY CASTING A-2522-41C OR EQUAL.
4. THE WORDS "NO DUMPING-DRAINS TO RIVER" ARE TO BE ON THE TOP SIDE OF EACH COVER. (SEE SD-301.03.)
5. CATCH BASIN FRAMES, BACKS, AND GRATES THAT ARE REMOVED BY THE CONTRACTOR SHALL REMAIN THE PROPERTY OF THE OWNER.



**SUMP INLET \***

CONCRETE CONSTRUCTION SHOWN, BUT BRICK MAY BE USED.



**ECCENTRIC CURB INLET \***

RIGHT HAND PLAN - BRICK CONSTRUCTION SHOWN, BUT CONCRETE MAY BE USED.

PIPE SIZE	(D) INLET DIAMETER	(T) WALL THICKNESS		(H) MINIMUM DEPTH
		CONC.	BRICK	
12"	4'	6"	8"	2.83'
15"	4'	6"	8"	3.10'
18"	4'	6"	8"	3.38'
21"	4'	6"	8"	3.65'
24"	4'	6"	8"	3.92'
30"	4'	6"	8"	4.46'
36"	5'	8"	12"	5.00'
42"	5'	8"	12"	5.54'
48"	6'	8"	12"	6.08'
54"	7'	8"	12"	6.63'
60"	8'	8"	12"	7.17'

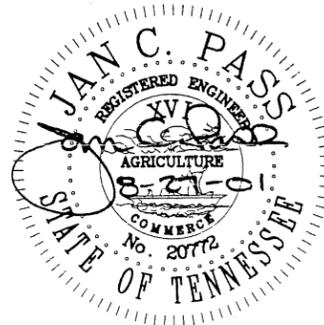
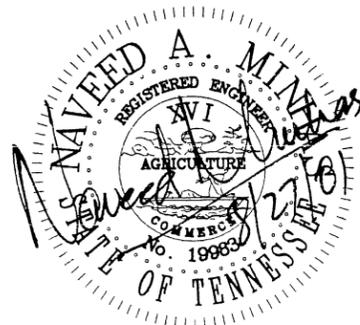
  

SPAN	RISE	(D)	(T) CONC.	(T) BRICK	(H)
14"	9"	4'	6"	8"	2.42'
17"	13"	4'	6"	8"	2.75'
21"	15"	4'	6"	8"	2.92'
24"	18"	4'	6"	8"	3.21'
28"	20"	4'	6"	8"	3.38'
35"	24"	5'	8"	12"	3.71'
42"	29"	5'	8"	12"	4.17'
49"	33"	6'	8"	12"	4.50'
57"	38"	6'	8"	12"	4.92'
64"	43"	7'	8"	12"	5.33'

**\* NOTE**

FOR BRICK CONSTRUCTION, JOINTS SHALL ALWAYS BE COMPLETELY FILLED WITH MORTAR. BRICKS SHALL BE LAID RADIALLY WITH VERTICAL MORTAR JOINTS NOT MORE THAN 3/8" THICK AND HORIZONTAL MORTAR JOINTS NOT LESS THAN 3/8" THICK AT THE INSIDE FACE. INSIDE JOINTS SHALL BE TROWEL STRUCK, FLUSH JOINTS TO PROVIDE A SMOOTH, CLEAN SURFACE, WHILE OUTSIDE WALLS SHALL BE ENTIRELY COVERED WITH MORTAR FOR A SMOOTH, CLEAN SURFACE.

F:\STDDWGS\CurbInlet\C-INLET\_2.dwg



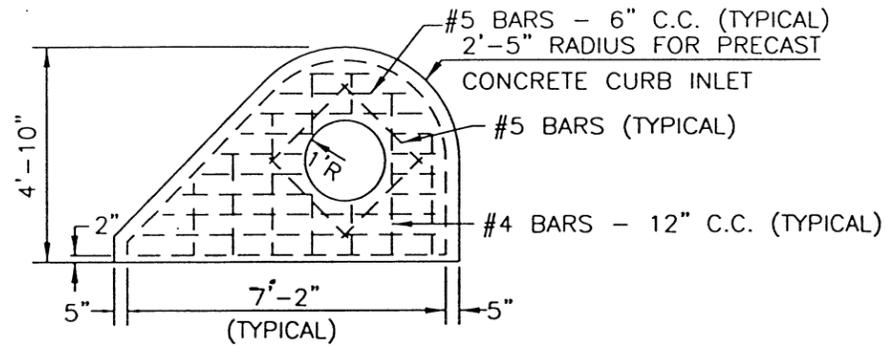
NO.	REVISION	DATE
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**CITY OF CHATTANOOGA AND HAMILTON COUNTY**

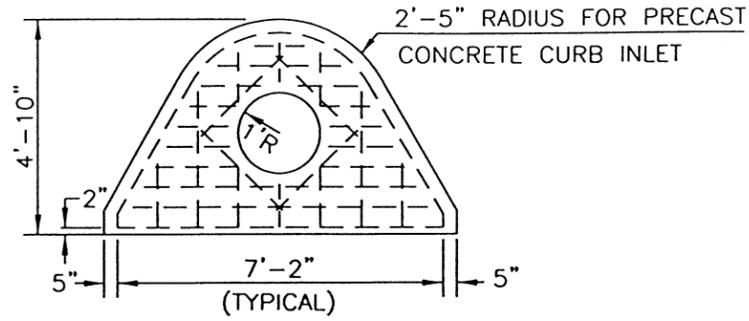
**CURB INLET (CONCRETE/BRICK)**

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

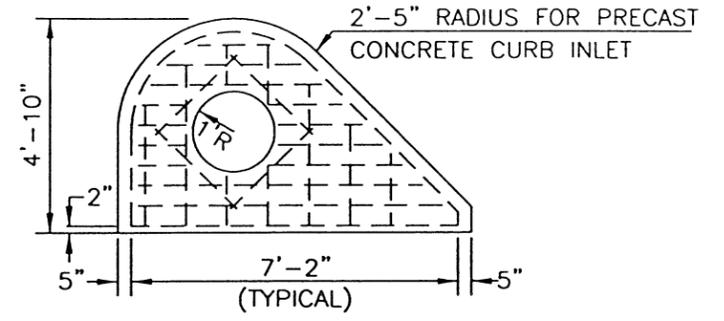
STANDARD NUMBER: **SD-609.02**



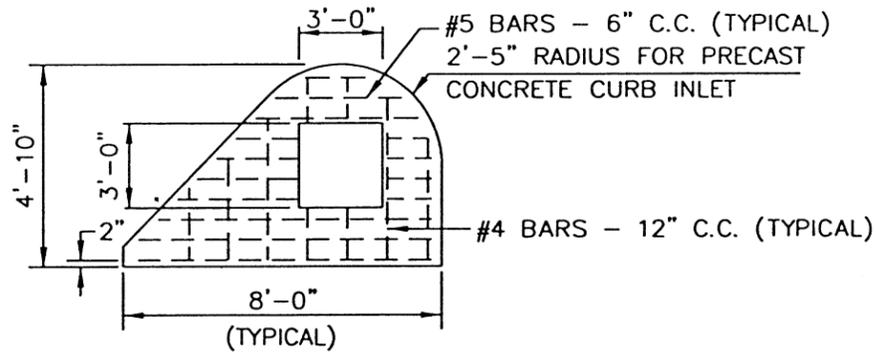
**LEFT HAND TOP SECTION**  
(D) = 4'-8''\*\*



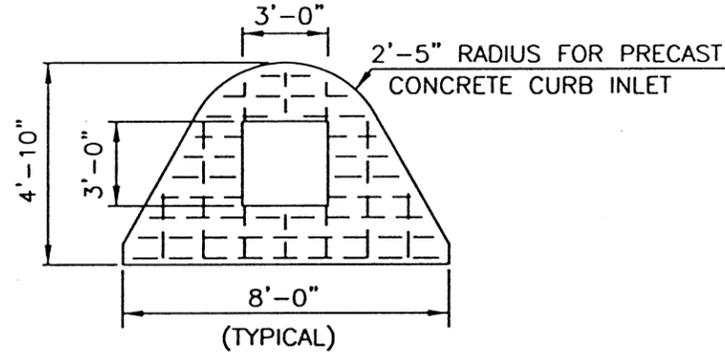
**SUMP INLET TOP SECTION**  
(D) = 4'-8''\*\*



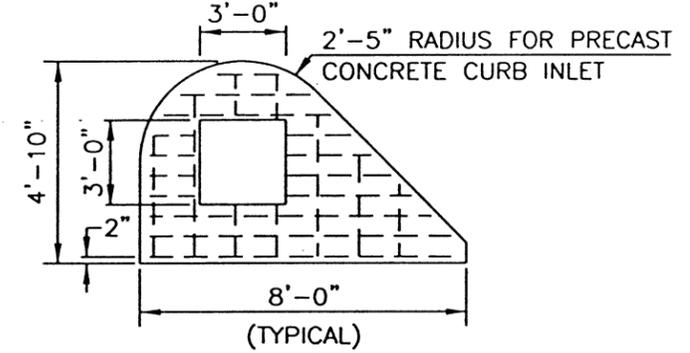
**RIGHT HAND TOP SECTION**  
(D) = 4'-8''\*\*



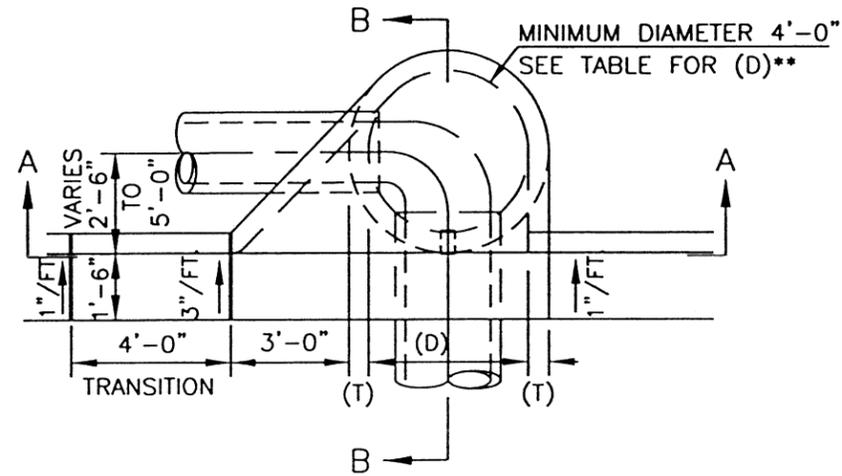
**LEFT HAND BOTTOM SECTION**  
(D) = 4'-8''\*\*



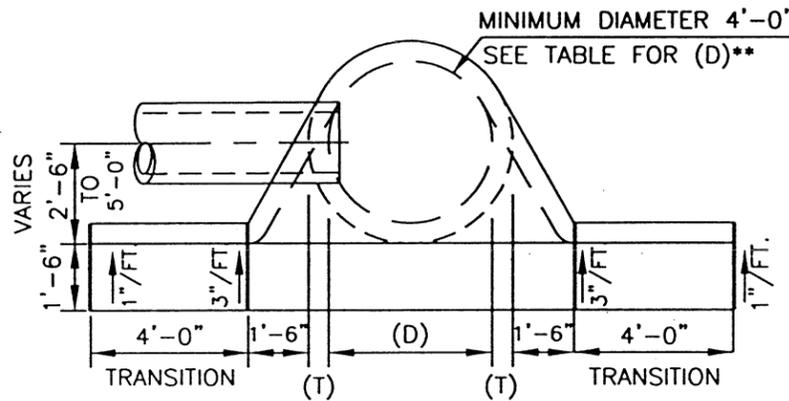
**SUMP INLET BOTTOM SECTION**  
(D) = 4'-8''\*\*



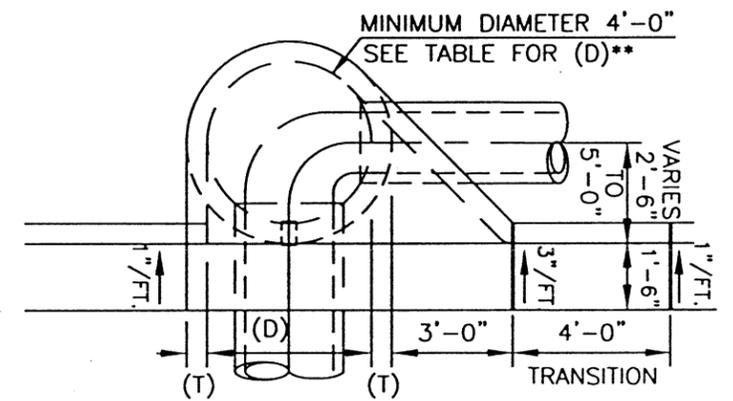
**RIGHT HAND BOTTOM SECTION**  
(D) = 4'-8''\*\*



**ECCENTRIC CURB INLET**  
LEFT HAND PLAN

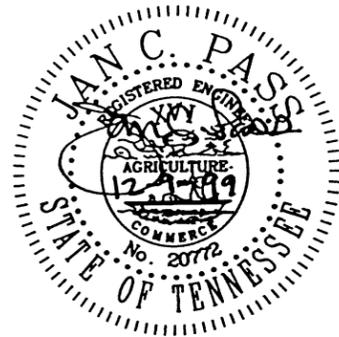


**SUMP INLET**



**ECCENTRIC CURB INLET**  
RIGHT HAND PLAN

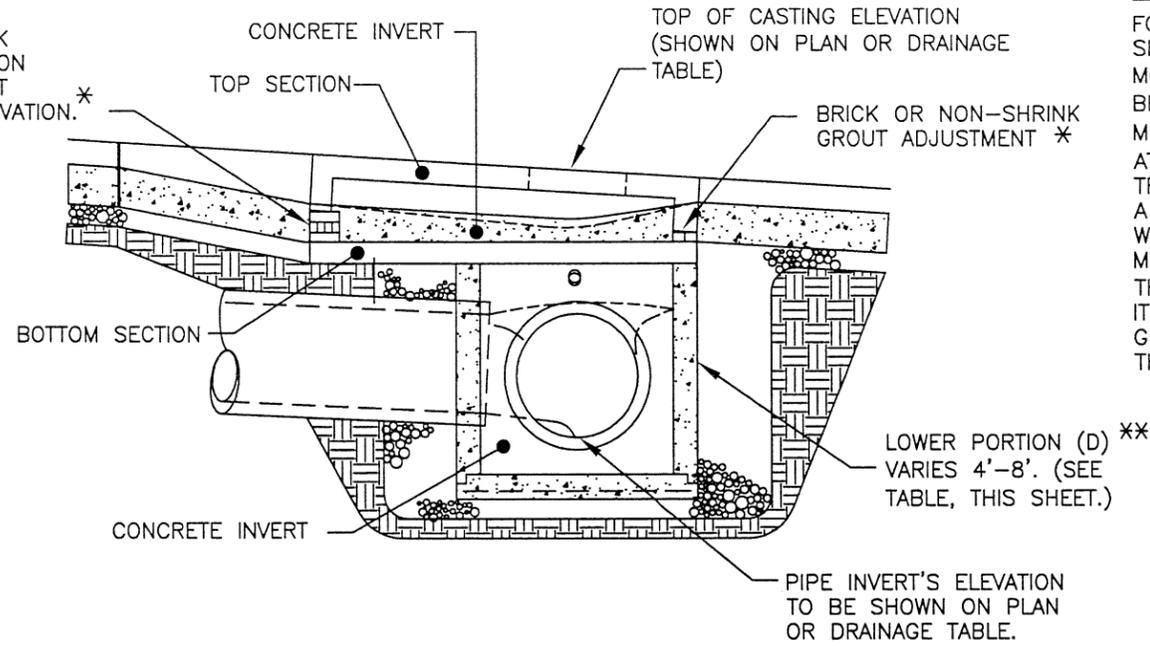
\*\* SEE DETAILS ON SD-610.02 FOR CROSS SECTIONS, NOTES, AND DEPTH TABLE.



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<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
<b>CURB INLET (PRECAST CONCRETE)</b>	
DATE OF ORIGINAL ISSUE <b>DECEMBER 10, 1999</b>	STANDARD NUMBER: <b>SD-610.01</b>

PLACE BRICK OR NON-SHRINK GROUT TO ADJUST TOP SECTION ELEVATION TO PROPERLY MEET ADJACENT TOP-OF-CURB ELEVATION.\*



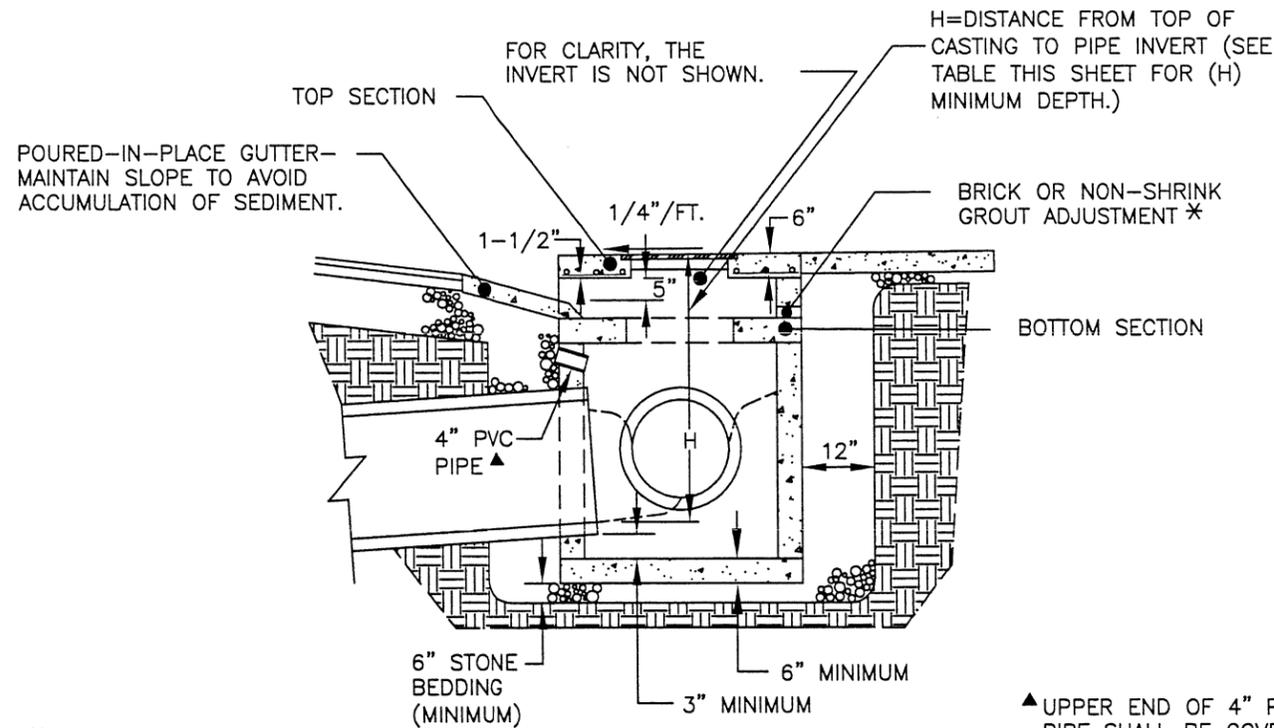
**SECTION A-A**

**\* ADJUSTMENTS**

FOR BRICK ADJUSTMENT CONSTRUCTION, JOINTS SHALL ALWAYS BE COMPLETELY FILLED WITH MORTAR. VERTICAL MORTAR JOINTS SHALL NOT BE MORE THAN 3/8" THICK AND HORIZONTAL MORTAR JOINTS NOT LESS THAN 3/8" THICK AT THE INSIDE FACE. INSIDE JOINTS SHALL BE TROWEL STRUCK, FLUSH JOINTS TO PROVIDE A SMOOTH, CLEAN SURFACE, WHILE OUTSIDE WALLS SHALL BE ENTIRELY COVERED WITH MORTAR FOR A SMOOTH, CLEAN SURFACE. IF THE REQUIRED ADJUSTMENT IS LESS THAN 3", IT SHALL BE MADE BY PLACING NON-SHRINK GROUT TO OBTAIN THE PROPER ELEVATION AT THE TOP OF THE SLAB.

**NOTES**

1. THE LOWER PORTION (ROUND, PRE-CAST MANHOLE) SHALL BE CONSTRUCTED TO MEET A.S.T.M. C-478.
2. MANHOLE STEPS ON 16" CENTERS SHALL BE PROVIDED WHEN THE CURB INLET DEPTH EXCEEDS FOUR (4) FEET.
3. THE MANHOLE FRAME AND COVER SHALL BE ACHESON FOUNDRY CASTING A-2522-41C OR EQUAL.
4. THE WORDS "NO DUMPING-DRAINS TO RIVER" ARE TO BE ON THE TOP SIDE OF EACH COVER. (SEE SD-301.03.)
5. CATCH BASIN FRAMES, BACKS, AND GRATES THAT ARE REMOVED BY THE CONTRACTOR SHALL REMAIN THE PROPERTY OF THE OWNER.
6. THE TOP SURFACE OF THE TOP SECTION SHALL HAVE A BROOM FINISH TO MATCH THE EXISTING OR PROPOSED SIDEWALK.
7. THE BOTTOM SECTION MAY BE RECTANGULAR.



**SECTION B-B**

PIPE SIZE	(D) LOWER PORTION INLET DIAMETER**	(T) WALL THICKNESS CONCRETE	(H) MINIMUM DEPTH
12"	4'	5"	3.75'
15"	4'	5"	4.0'
18"	4'	5"	4.25'
21"	4'	5"	4.75'
24"	4'	5"	5.0'
30"	4'	5"	5.5'
36"	5'	6"	6.75'
42"	6'	7"	7.25'
48"	6'	8"	7.75'
54"	7'	7"	8.3'
60"	8'	9"	8.8'

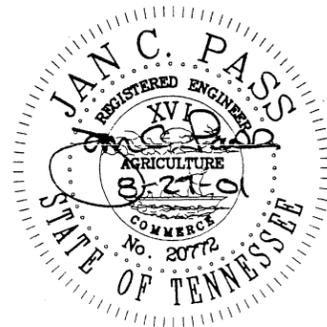
  

SPAN	RISE	(D) LOWER PORTION INLET DIAMETER**	(T) WALL THICKNESS CONCRETE	(H) MINIMUM DEPTH
23"x14"		4'	5"	4.0'
30"x19"		4'	6"	4.25'
38"x24"		5'	6"	5.75'
45"x29"		6'	7"	6.25'
53"x34"		7'	8"	6.75'
60"x38"		8'	9"	7.0'

\*\* DIAMETER OF LOWER PORTION SHALL MEET MINIMUM DIAMETER (D) AS LISTED ABOVE. DIAMETER IS BASED ON PROPOSED PIPE SIZE. A PRECAST TRANSITION SLAB WILL BE UTILIZED TO ACCOMMODATE THE USE OF THE TOP PORTION AS SHOWN AND DIMENSIONED ON THIS DETAIL.

▲ UPPER END OF 4" PVC PIPE SHALL BE COVERED WITH FILTER FABRIC.

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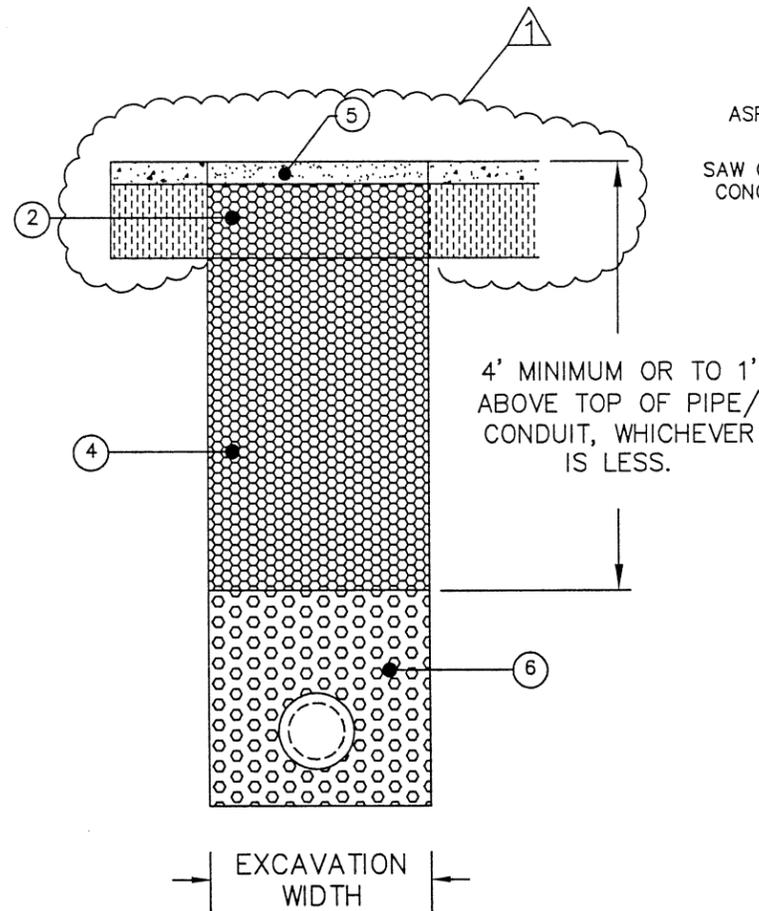
**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
**CURB INLET (PRECAST CONCRETE)**

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

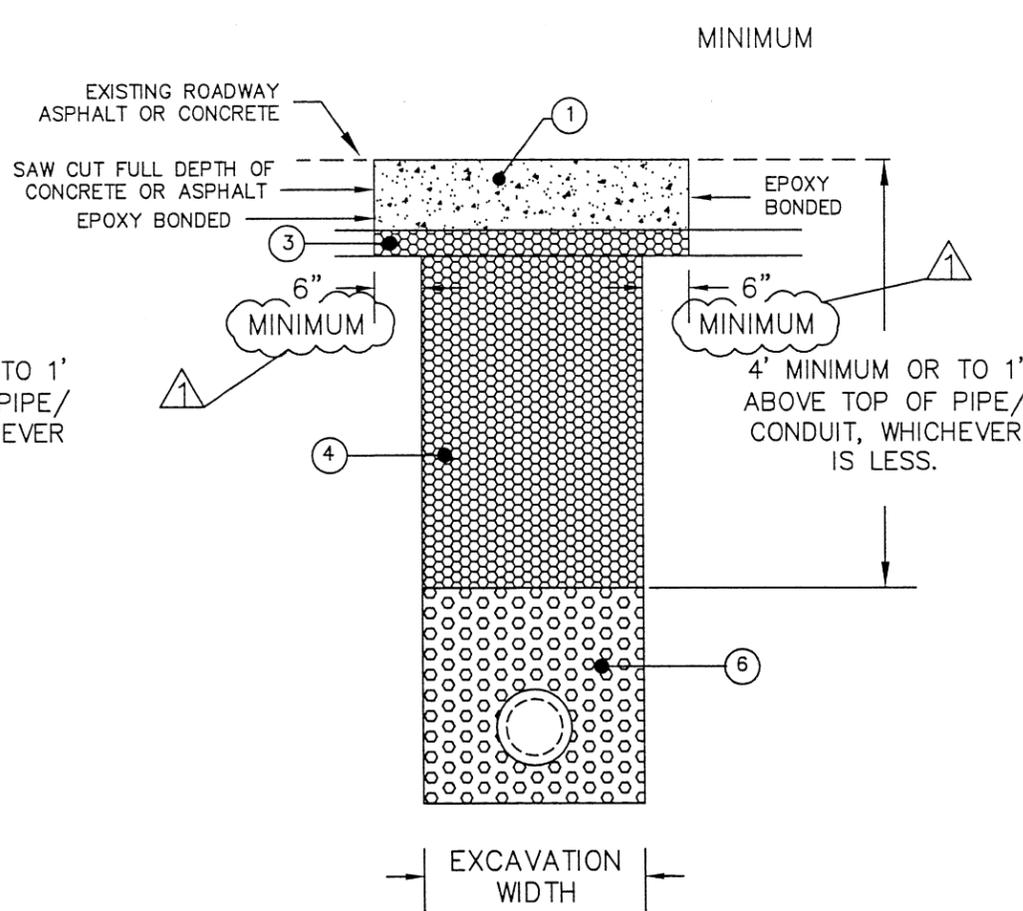
STANDARD NUMBER: **SD-610.02**

# REPAIRS

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**TEMPORARY REPAIR**



**COMPLETED REPAIR**

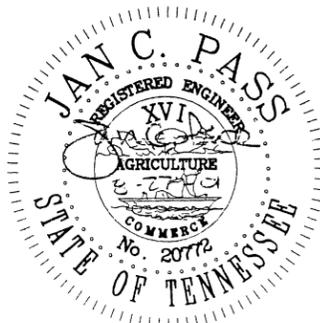
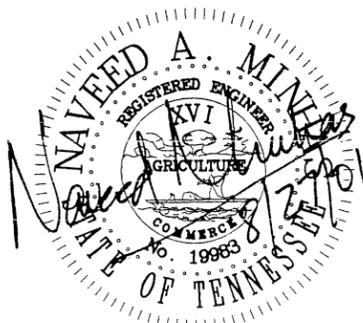
**DRAWING NOTES**

- ① CLASS "A" CONCRETE PAVEMENT (4,000 P.S.I. MINIMUM), 8" MINIMUM THICKNESS, COARSE BROOM FINISH – THE CONCRETE SHALL BE COLORED AND STAMPED TO MATCH THE ADJACENT CONCRETE AS REQUIRED.
- ② MINERAL AGGREGATE BASE, TYPE A, GRADING D (33-P\*) – COMPACTED TO A DENSITY OF 95% STANDARD PROCTOR. THE THICKNESS SHALL BE THE GREATER OF EIGHT INCHES (8") OR THE EXISTING DEPTH OF BASE MATERIAL.
- ③ MINERAL AGGREGATE BASE, TYPE A, GRADING D (33-P\*) – COMPACTED TO A DENSITY OF 95% STANDARD PROCTOR. THE THICKNESS SHALL BE THE GREATER OF FOUR INCHES (4") OR THE EXISTING DEPTH OF BASE MATERIAL.
- ④ MINERAL AGGREGATE BACKFILL, TYPE A, GRADING D (33-P\*) – COMPACTED TO EIGHT INCH (8") LIFTS AND TO A DENSITY OF 95% STANDARD PROCTOR.
- ⑤ COLD MIX ASPHALT – WHEN A TEMPORARY ASPHALT PATCH IS USED, IT SHALL BE PLACED IMMEDIATELY AFTER THE CRUSHED STONE BACKFILL IS PLACED.
- ⑥ BEDDING MATERIAL – SEE SD-307.01.

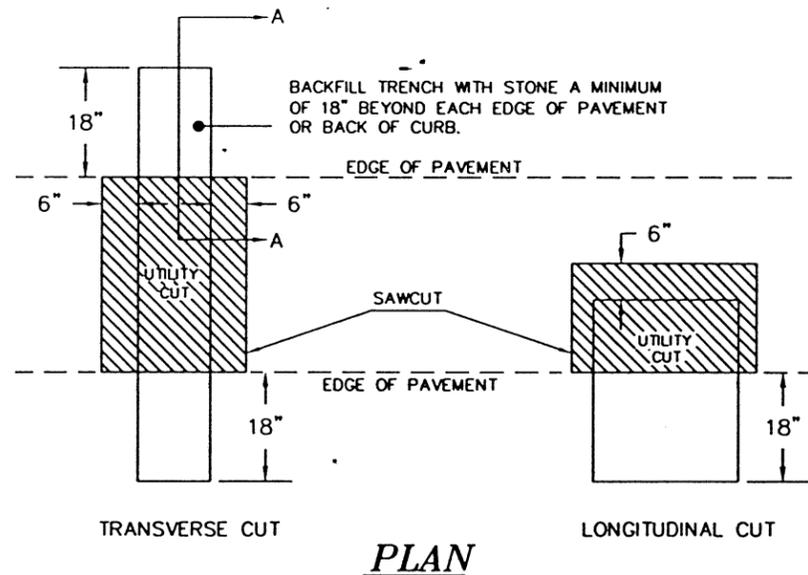
**GENERAL REQUIREMENTS**

1. ALL STREET CUTS MUST BE REPAIRED IMMEDIATELY AFTER BACK-FILLING AND ACCORDING TO THIS STANDARD.
2. A RIGHT-OF-WAY PERMIT AND AN APPROVED TRAFFIC CONTROL PLAN ARE REQUIRED FOR ALL CUTS IN CITY STREETS.
3. WHERE LONGITUDINAL CUTS ARE MADE, THE OWNER RESERVES THE RIGHT TO REQUIRE ADDITIONAL RESURFACING BEYOND THE LIMITS OF THE REPAIR TO ENSURE THE PROPER RIDING CHARACTERISTICS AND THE STABILITY OF THE PAVEMENT.
4. ALL REFERENCES TO MATERIALS ARE DESCRIBED IN DETAIL IN THE CITY OF CHATTANOOGA'S STANDARD SPECIFICATIONS. THESE SPECIFICATIONS MUST BE USED AS A REFERENCE WHEN ORDERING MATERIALS.
5. EXISTING CONCRETE STREETS THAT HAVE BEEN OVERLAID WITH ASPHALT SHALL BE REPAIRED WITH CONCRETE HAVING A DEPTH EQUAL TO THE EXISTING CONCRETE PLUS THE ADJACENT EXISTING ASPHALT OVERLAY.
6. WHERE EXISTING CONSTRUCTION AND EXPANSION JOINTS ARE ENCOUNTERED IN CONCRETE PAVEMENT CUTS, THE ENGINEER SHALL DESIGNATE LOCATION, SIZE, AND MATERIALS TO CONSTRUCT JOINTS IN THE NEW CONCRETE SURFACE.

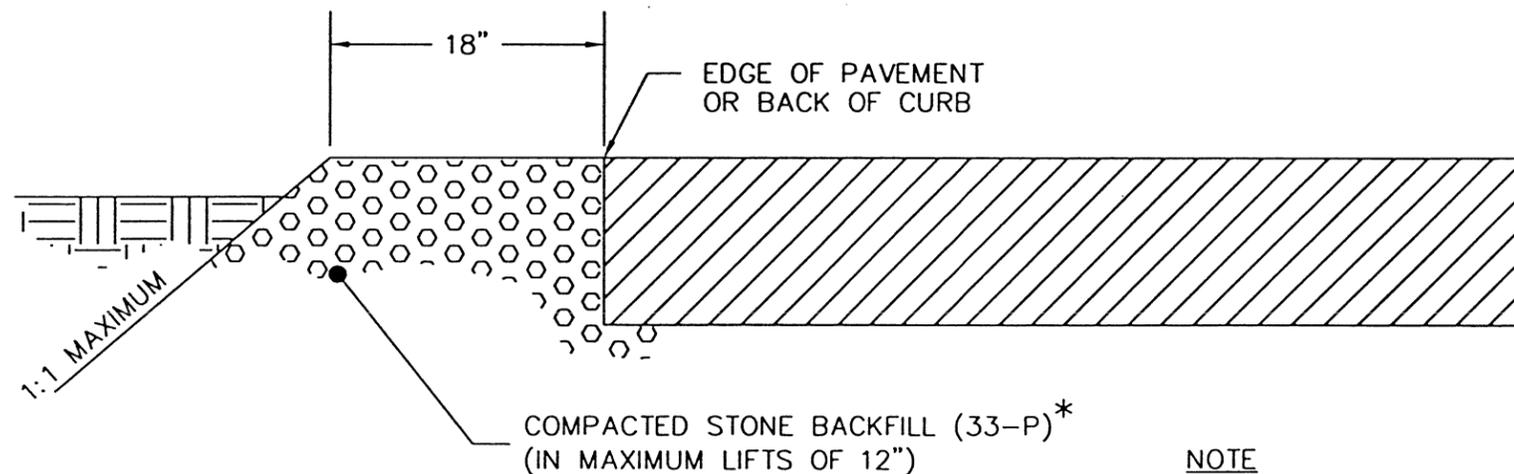
\* "33-P (PUG)" – 303-01, TYPE A, GRADING D ("33-P"), TENNESSEE D.O.T. SPECIFICATIONS



			<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
			<b>REPAIR DETAILS (ROADWAY)</b>	
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NO.	REVISION	DATE		



**NOTE**  
WHERE PRACTICAL, TRANSVERSE CUTS SHALL BE PERPENDICULAR TO THE PAVEMENT CENTERLINE, AND LONGITUDINAL CUTS SHALL BE PARALLEL TO IT.



**NOTE**  
ALL EXCAVATED, GRASS-COVERED SHOULDERS MUST BE LEVELED, AND THEN HAVE TOP SOIL AND SEED ADDED. ALL AREAS ON SHOULDERS USED FOR PARKING MUST BE BACKFILLED TO THE TOP WITH CRUSHED STONE (33-P). \*

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

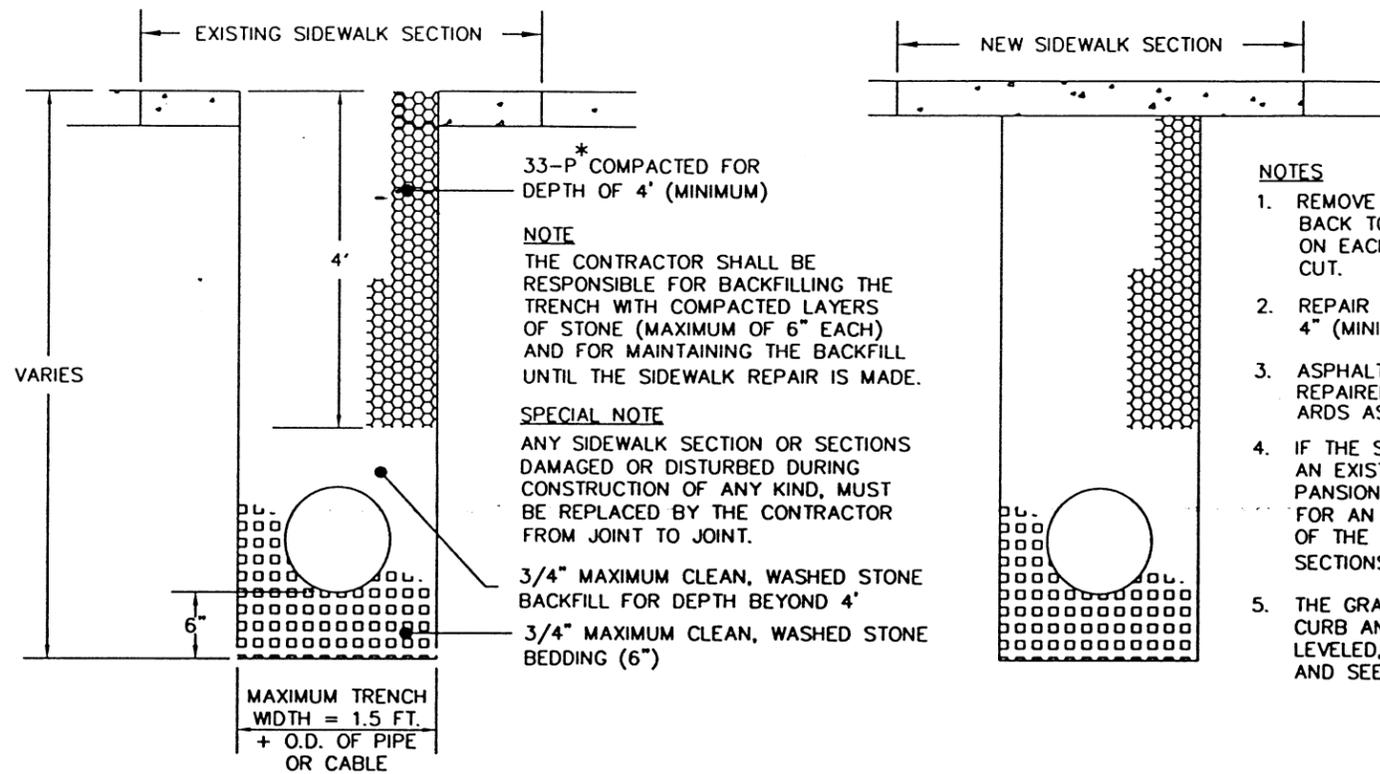
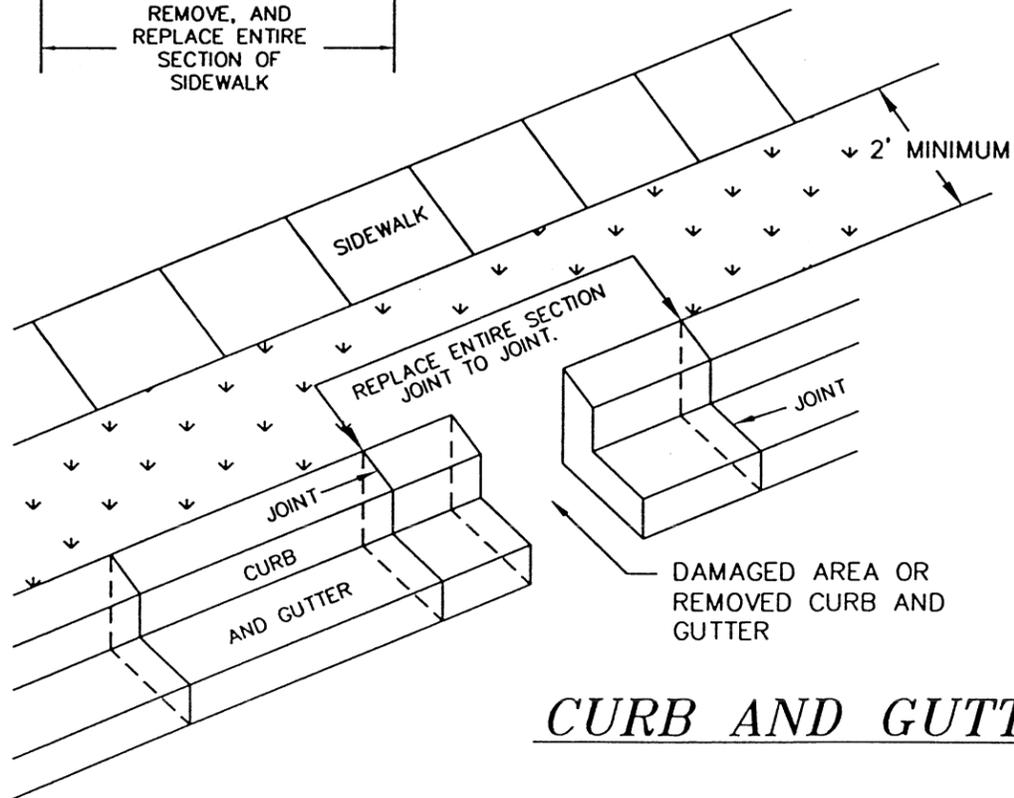
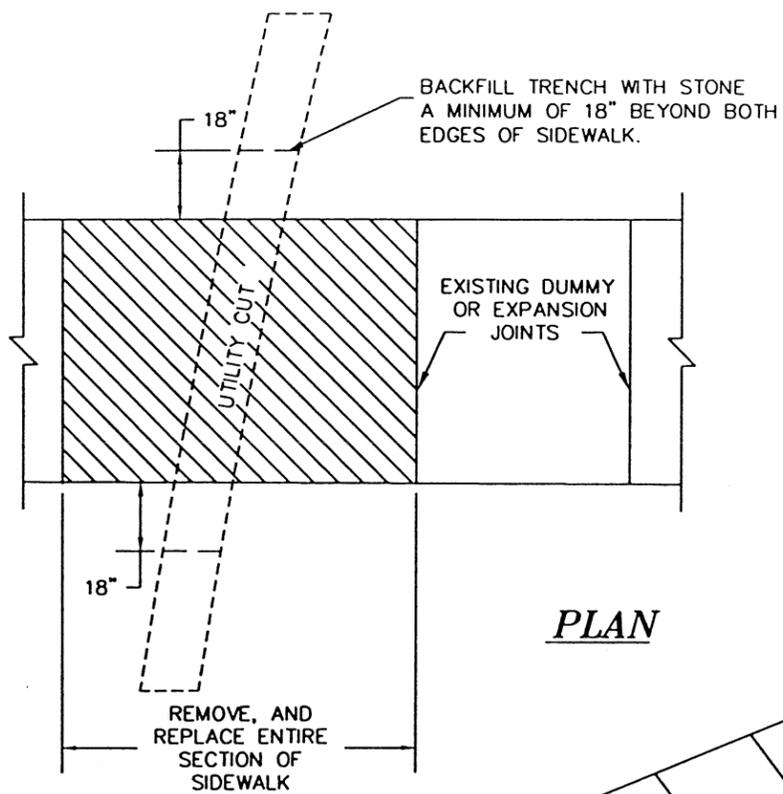
**CITY OF CHATTANOOGA AND HAMILTON COUNTY**  
**REPAIR DETAILS (ROADWAY)**

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

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

STANDARD NUMBER: **SD-700.02**





**BACKFILL DETAIL**

**REPAIR DETAIL**

**SIDEWALK**

**NOTES**

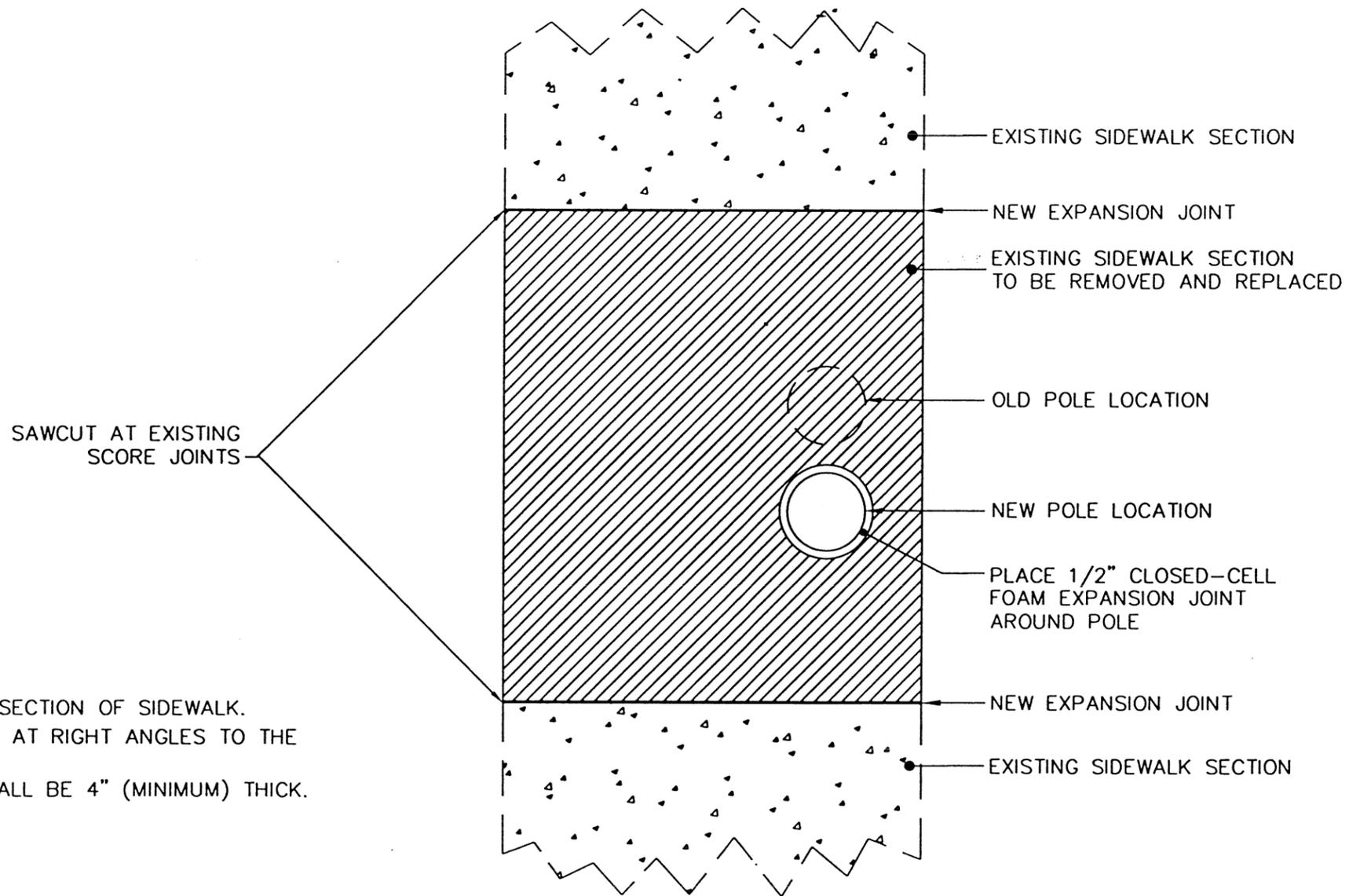
1. ANY CURB AND GUTTER SECTION THAT IS CUT, DAMAGED, OR DISTURBED DURING CONSTRUCTION OF ANY KIND, MUST BE REPLACED BY THE CONTRACTOR FROM JOINT TO JOINT USING PROPER FORMS AND CONCRETE.
2. ANY EXCAVATED OR DISTURBED GRASS AREA MUST BE LEVELED, AND THEN HAVE TOPSOIL AND SEED ADDED.

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



			<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>	
			<b>REPAIR DETAILS (CURB AND GUTTER/SIDEWALK)</b>	
0	INITIAL ISSUE	12/10/99	DATE OF ORIGINAL ISSUE	STANDARD NUMBER: <b>SD-701.01</b>
NO.	REVISION	DATE	<b>DECEMBER 10, 1999</b>	

## SIDEWALK REPAIR AFTER POLE REPLACEMENT



**NOTES**

1. REPLACE THE ENTIRE AFFECTED SECTION OF SIDEWALK.
2. ALL CUTS ARE TO BE NEAT AND AT RIGHT ANGLES TO THE SIDEWALK EDGES.
3. THE NEW CONCRETE SECTION SHALL BE 4" (MINIMUM) THICK.



<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>		
<b>REPAIR DETAIL (SIDEWALK)-POLE REPLACEMENT</b>		
0	INITIAL ISSUE	DATE OF ORIGINAL ISSUE
NO.	REVISION	DATE
		<b>DECEMBER 10, 1999</b>
		<b>STANDARD NUMBER: SD-702.01</b>

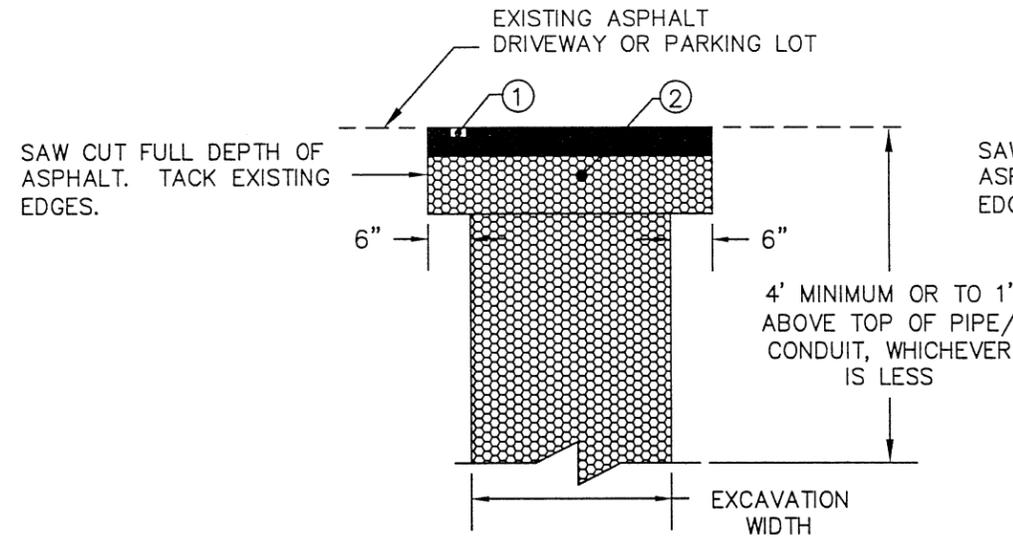
DRAWING NOTES

- ① 2" TYPE "E" ASPHALTIC SURFACE MIX
- ② 6" STONE BASE (33-P\*), 95% STANDARD PROCTOR
- ③ 1 1/2" TYPE "E" ASPHALTIC SURFACE MIX
- ④ 2 1/2" MODIFIED "B" ASPHALTIC BINDER
- ⑤ 10" STONE BASE (33-P\*), 95% STANDARD PROCTOR
- ⑥ 6" CLASS "A" CONCRETE, 4,000 P.S.I. MINIMUM
- ⑦ 4" STONE BASE (33-P\*), 95% STANDARD PROCTOR
- ⑧ 8" CLASS "A" CONCRETE, 4,000 P.S.I. MINIMUM
- ⑨ TACK COAT - 0.05 GAL./S.Y., AC 20

GENERAL REQUIREMENTS

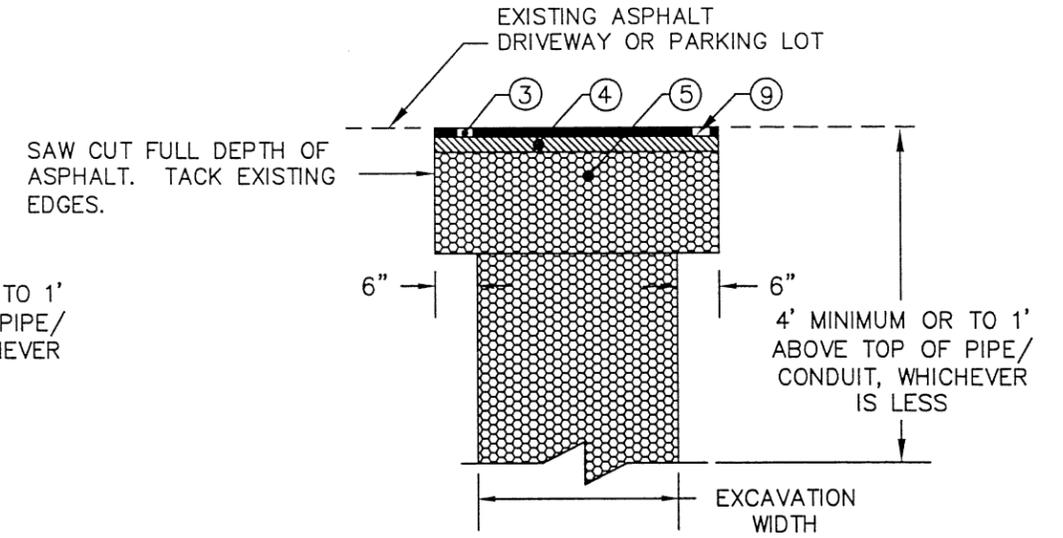
- 1. SEE SD-307.01, SD-308.01, AND SD-308.02 FOR BACKFILL REQUIREMENTS FOR THE TRENCH BELOW THE SURFACE.
- 2. SURFACE REPAIR SHALL BE DONE TO A SAWCUT EDGE 6" BEYOND THE TRENCH ON ALL SIDES OF THE REPAIR.
- 3. ALL REPAIRS SHALL MEET THE MINIMUM REQUIREMENTS AS SHOWN ON THIS DRAWING OR THOSE REQUIREMENTS OF PRESENT CONDITIONS, WHICHEVER IS GREATER.

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



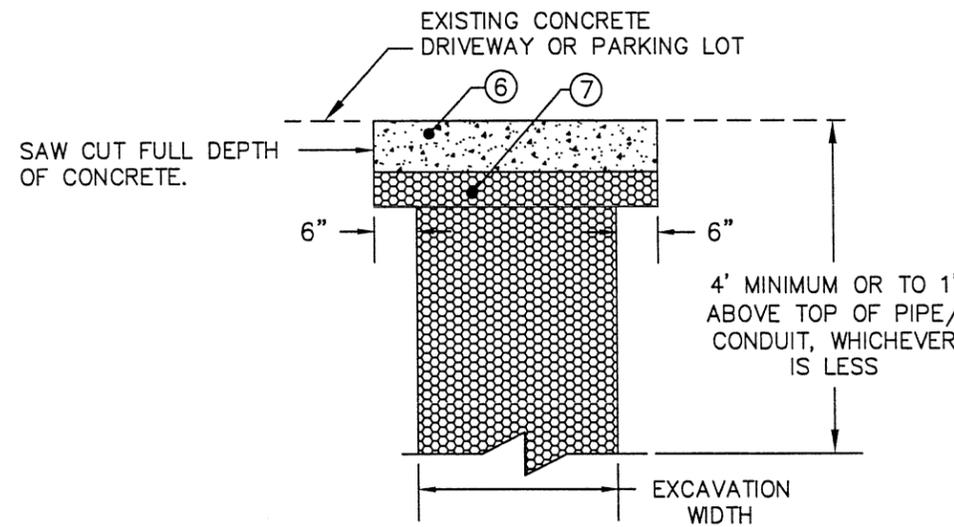
ASPHALT REPAIR

RESIDENTIAL DRIVEWAY AND LIGHT DUTY PARKING LOT



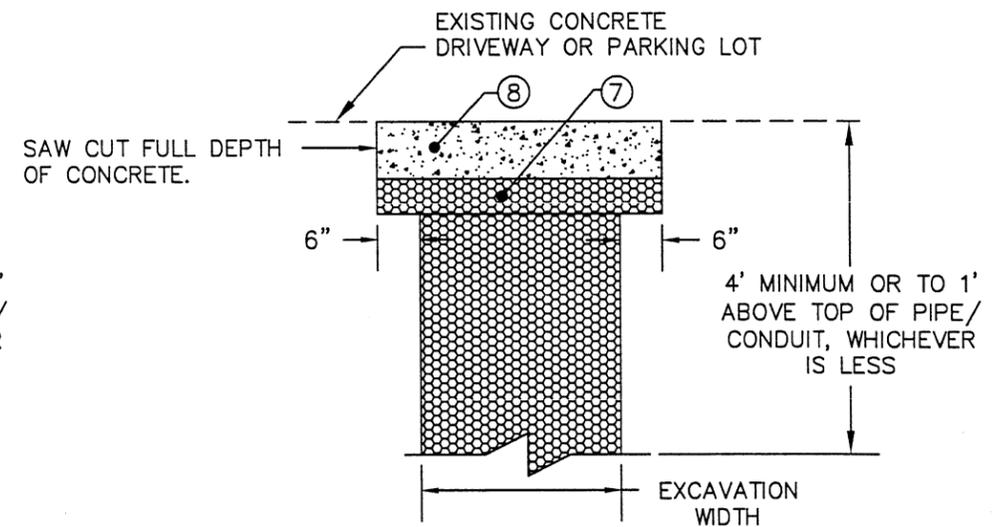
ASPHALT REPAIR

COMMERCIAL DRIVEWAY AND HEAVY DUTY PARKING LOT



CONCRETE REPAIR

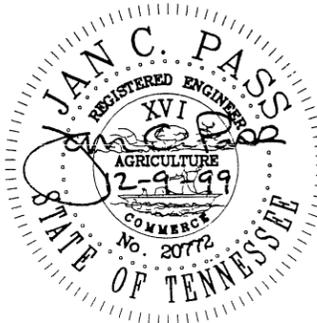
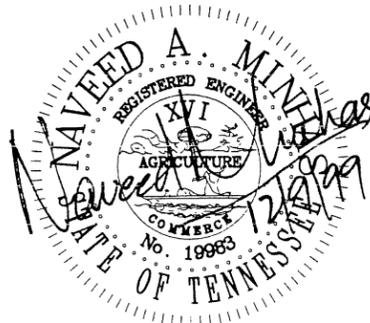
RESIDENTIAL DRIVEWAY AND LIGHT DUTY PARKING LOT



CONCRETE REPAIR

COMMERCIAL DRIVEWAY AND HEAVY DUTY PARKING LOT

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<b>CITY OF CHATTANOOGA AND HAMILTON COUNTY</b>		
<i>REPAIR DETAILS (DRIVEWAY/PARKING LOT)</i>		
	DATE OF ORIGINAL ISSUE	
0	INITIAL ISSUE	12/10/99
NO.	REVISION	DATE
	<b>DECEMBER 10, 1999</b>	STANDARD NUMBER: <b>SD-703.01</b>