

STANDARD SANITARY SEWER DETAILS

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**SANITARY SEWER
DETAILS**

DATE:
MARCH 2004

DRAWING NAME:
SS-0

DRAWN BY:
JMC/DKB

CHECKED: APPROVED:

REVISIONS

REV	DATE	BY	COMMENTS



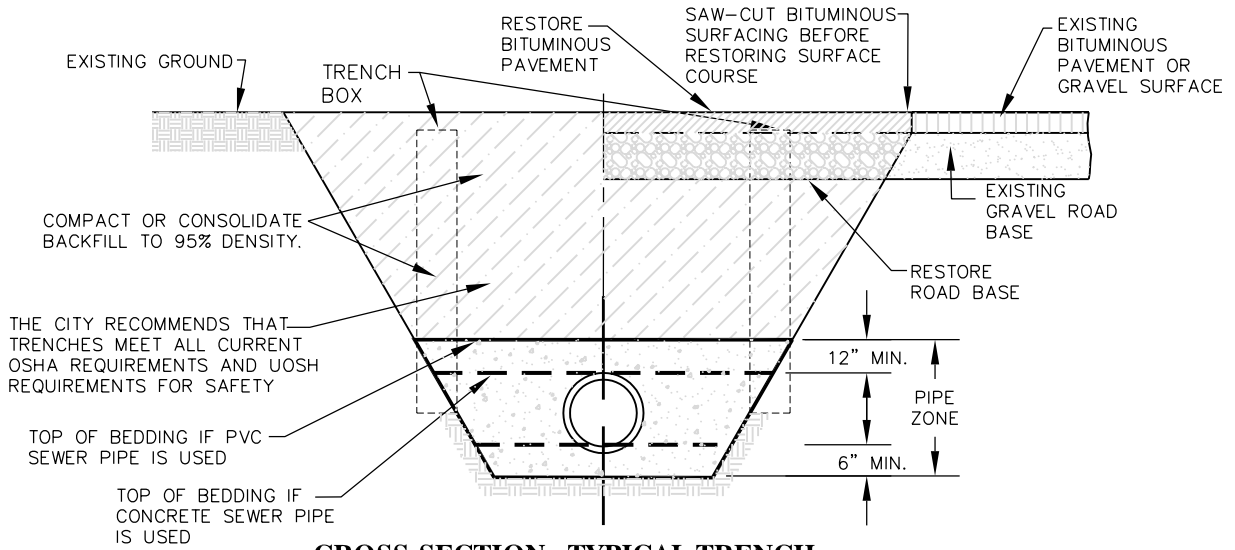
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REV. A
STANDARD DETAILS

SARATOGA CITY

SS-0



CROSS-SECTION: TYPICAL TRENCH

RECOMMENDED TRENCH QUANTITIES

PIPE DIAMETER (INCHES)		RECOMMENDED MAXIMUM TRENCH WIDTH FOR FILL IN PIPE ZONE		RECOMMENDED MAXIMUM WIDTH FOR FILL & SURFACING ABOVE PIPE ZONE MEASURED AT TOP OF TRENCH CENTERED ON PIPE	
inches	mm	inches	mm	inches	mm
4	101.6	72	1828.8	96	2438.4
6	152.4	72	1828.8	96	2438.4
8	203.2	72	1828.8	96	2438.4
10	254.0	72	1828.8	96	2438.4
12	304.8	72	1828.8	96	2438.4
15	381.0	72	1828.8	96	2438.4
18	457.2	72	1828.8	96	2438.4
21	533.4	72	1828.8	96	2438.4
24	609.6	72	1828.8	96	2438.4
30	762.0	84	2133.6	108	2743.2
36	914.4	84	2133.6	108	2743.2
42	1066.8	96	2438.4	120	3048.0
48	1219.2	96	2438.4	120	3048.0
54	1371.6	108	2743.2	132	3352.8
60	1524.0	120	3048.0	144	3657.6

NOTES:

1. THE CITY RECOMMENDS CONTRACTOR MEET ALL OF THE REQUIREMENTS ESTABLISHED FOR SAFE TRENCHING. (SEE OSHA AND UOSH REQUIREMENTS, LATEST EDITIONS).
2. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES BEFORE LAYING PIPE WITHIN 50' OF SAID UTILITIES WHICH MAY BE EXPOSED, DAMAGED OR CROSSED AS SHOWN ON THE DRAWINGS OR AS "BLUE STAKED". THE CONTRACTOR WILL MAKE ARRANGEMENTS WITH THE UTILITY COMPANY TO MOVE THE UTILITY IF NECESSARY OR OBTAIN PERMISSION FROM THE CITY ENGINEER TO MODIFY GRADE OF PIPELINE IN ORDER TO GO AROUND UTILITIES.
3. TESTING: ALL NEW SANITARY SEWERS TO BE "TELEVISED" AND NECESSARY REPAIRS MADE BEFORE ACCEPTANCE. ALL LINES SHALL BE PRESSURE TESTED TO 3.5 psi MIN. FOR 5 MINUTES. A MANDRAL OR BALL CAN BE USED TO VERIFY DEFORMATION OF A PIPE AS DETERMINED FROM THE VIDEO UNLESS SPECIFIED OTHERWISE. MANHOLES SHALL BE TESTED AS DESCRIBED IN SECTION 02535.
4. ALL SEWER LINES TO BE INSTALLED IN PUBLIC RIGHT-OF-WAY OR RECORDED SEWER EASEMENT UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. WHERE COLLAPSIBLE SOILS ARE ENCOUNTERED, FURNISH, PLACE AND COMPACT IMPORTED BACKFILL MATERIALS AS REQUIRED AND AS DIRECTED. PROBLEM.
6. MIN. DEPTH SHALL BE 4' TO TOP OF PIPE. A 2' SPACING MUST BE MAINTAINED BETWEEN ALL WATER LINE PIPE CROSSINGS AND THE TOP OF THE SEWER PIPE.
7. IN AREAS WHERE SEWER LATERALS ARE NEED TO SERVICE A BASEMENT 11' MIN. IS RECOMMENDED. IF THE SEWER LINE IS NOT 11' DEEP A NOTE MUST BE PLACED ON THE PLAT "BEFORE EXCAVATING BASEMENTS, CONTRACTOR MUST VERIFY SEWER DEPTH"
8. MAX. DEPTH SHALL BE 20' TO THE TOP OF PIPE UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.

STANDARD SEWER TRENCH

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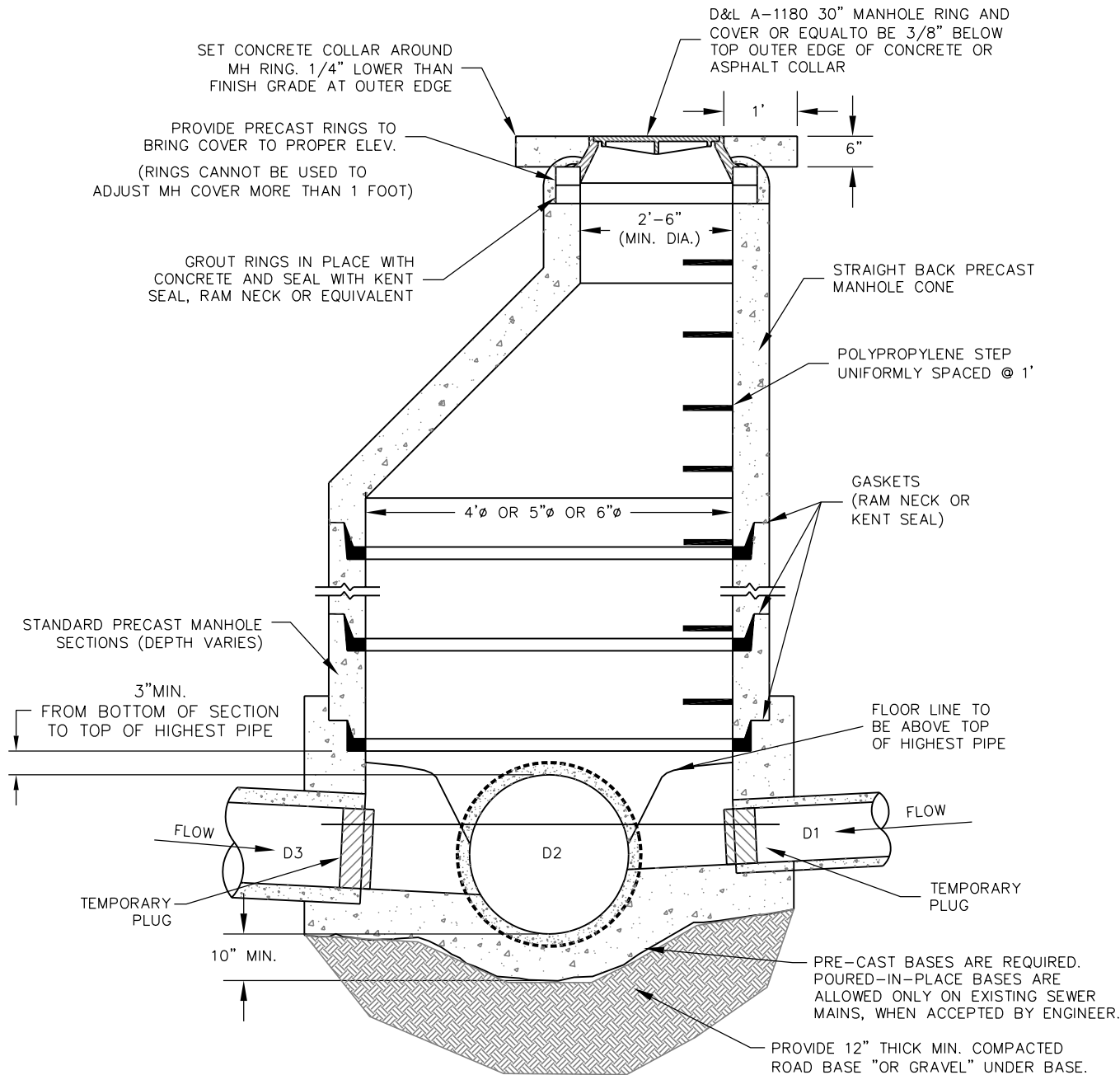
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NOTES:

1. IF GRADE ALLOWS. INVERTS OF D1 & D3 SHALL BE REQUIRED TO MATCH TOP OF D2.
2. AFTER ALL GRADING AROUND MANHOLE HAS BEEN COMPLETED AND FINAL SURFACING IS IN PLACE. REMOVE DEBRIS AND TEMPORARY PLUGS OR PLYWOOD FROM INSIDE OF MANHOLES.
3. IF MANHOLE IS TO BE POURED IN PLACE, FOLLOW SAME PATTERN AS SHOWN EXCEPT USE 10" MIN WALL THICKNESS.
4. MANHOLES DEEPER THAN 20 FEET SHALL HAVE AN 18" THICK CONCRETE BASE.
5. CONE AND WALL SECTIONS SHALL CONFORM WITH ASTM C-478 STANDARD
6. ALL MANHOLE TO BE H-20 RATED

**SANITARY SEWER
MANHOLE**

DATE: MARCH 2004
DRAWING NAME: SS-2
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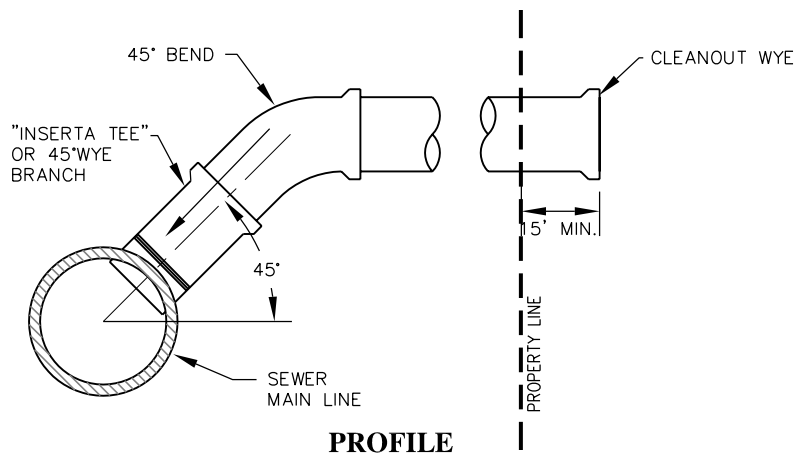
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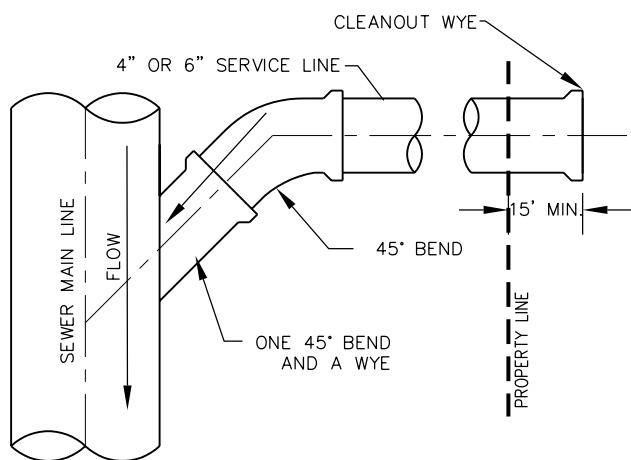
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SARATOGA CITY

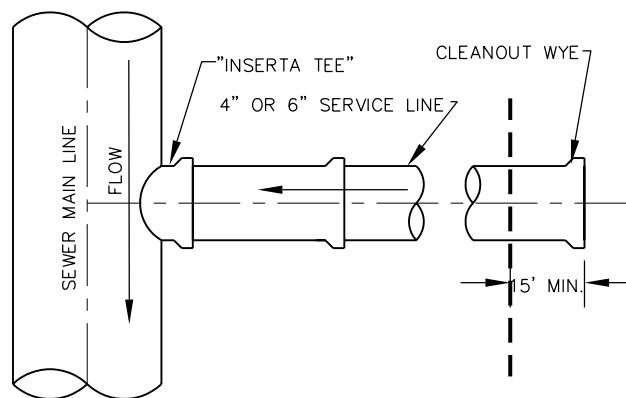
SS-2



PROFILE



PLAN VIEW- 45° WYE BRANCH




PLAN VIEW- "INSERTA TEE"

NOTES:

1. ALL HOUSE SERVICES SHALL BE 4" DIAMETER. COMMERCIAL AND PUBLIC SERVICES SHALL BE 6" DIAMETER UNLESS DIRECTED OTHERWISE AND SHALL BE EXTENDED FROM MAIN LINES TO PROPERTY LINES.
2. RECOMMENDED MINIMUM GRADE SHALL BE 1% FOR 6" SERVICE LINE AND 2% FOR 4" SERVICE LINE.
3. ALL 90° BENDS AT CONNECTION TO MAIN MUST BE CONSTRUCTED WITH ONE 45° BEND AND A WYE.
4. DIRECT NOSE ON IS ALLOWED WHEN CONNECTING TO EXISTING MAIN LINE. USE RUBBER BOOT AS PER CITY WITH STAINLESS STEEL STRAPS, IF REQUIRED. CORE CUT EXISTING PIPE, DO NOT BREAK OUT WITH A HAMMER.
5. NOTIFY CITY 24 HOURS IN ADVANCE OF ANY CONNECTION. EVERY CONNECTION TO BE INSPECTED BY CITY.
6. CONNECTION TO USERS TO BE DONE BY OTHERS.

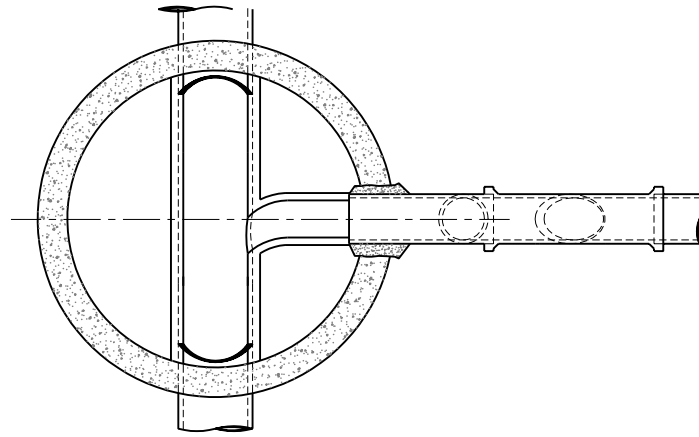
SEWER SERVICE CONNECTION

DATE: MARCH 2004	
DRAWING NAME: SS-3	
DRAWN BY: JMC/DKB	
CHECKED:	APPROVED:

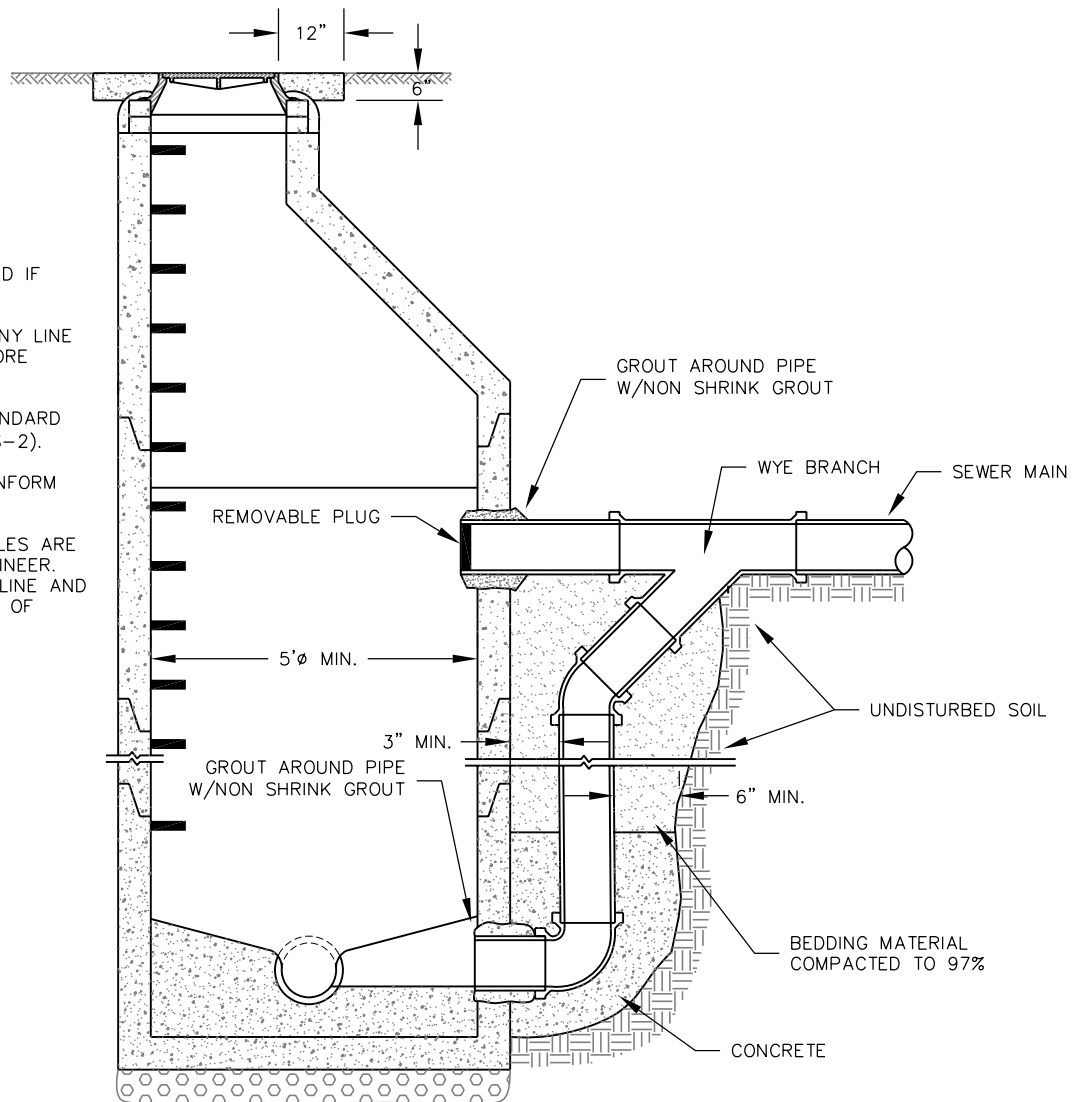
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REV. B STANDARD DETAILS
SARATOGA CITY
SS-3



PLAN VIEW



SECTION VIEW

NOTES:

1. DROP MANHOLE MAY ONLY BE USED IF APPROVED BY THE CITY ENGINEER.
2. DROP MANHOLES REQUIRED FOR ANY LINE ENTERING MANHOLE TWO FOOT OR MORE ABOVE FLOWLINE OF MAIN LINE.
3. MANHOLES TO CONFORM WITH STANDARD MANHOLE DETAILS (STANDARD No. SS-2).
4. ALL PIPE AND FITTINGS SHALL CONFORM TO ASTM3034 SDR35
5. LATERAL CONNECTIONS TO MANHOLES ARE ALLOWED AS APPROVED BY CITY ENGINEER. FLOW TO DROP DIRECTLY INTO FLOW LINE AND LATERAL TO NOT EXTEND BELOW TOP OF MAINLINE PIPE

**OUTSIDE DROP
MANHOLE**

DATE: MARCH 2004	
DRAWING NAME: SS-4	
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