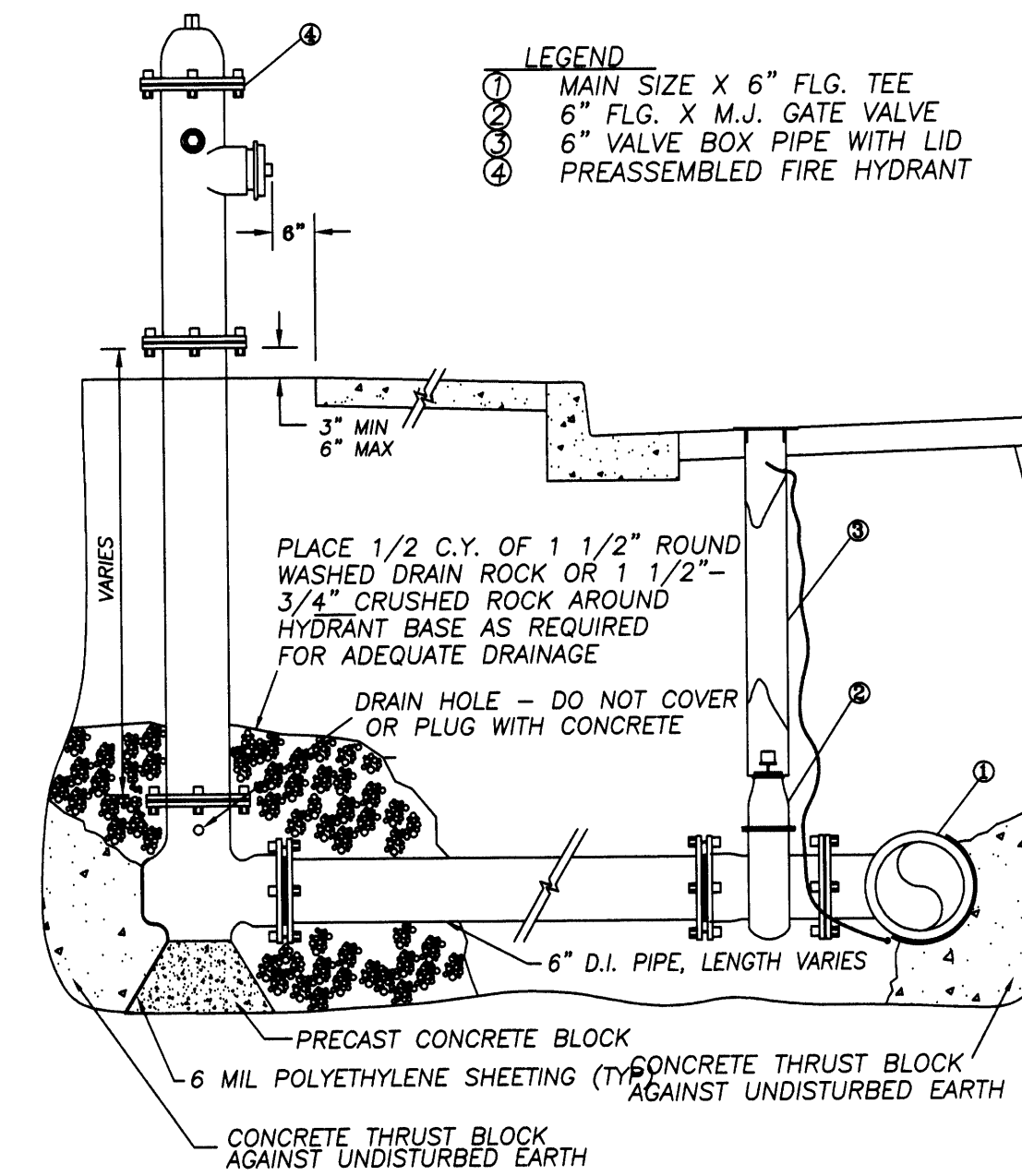
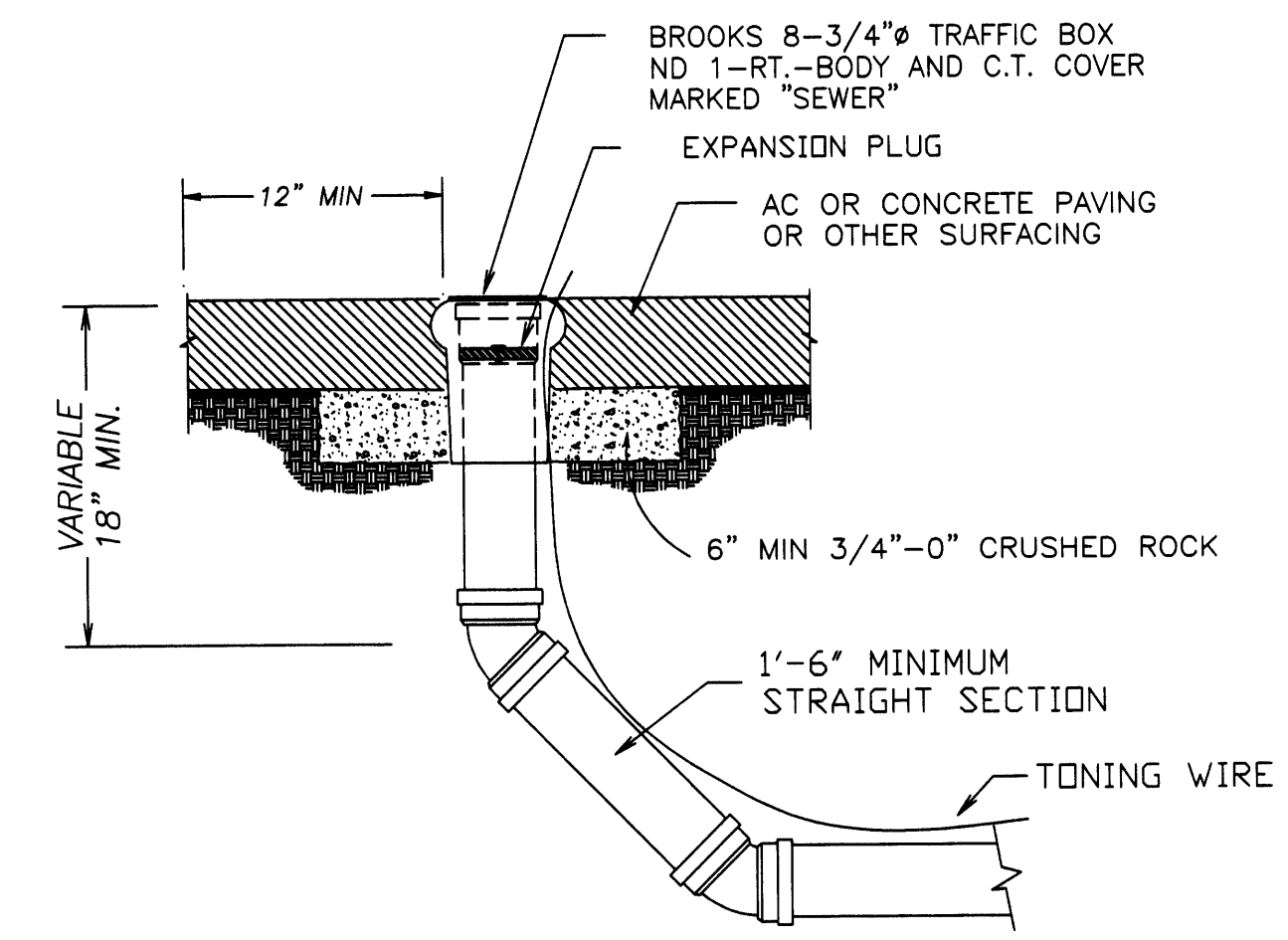


# WATERLINE CONSTRUCTION NOTES

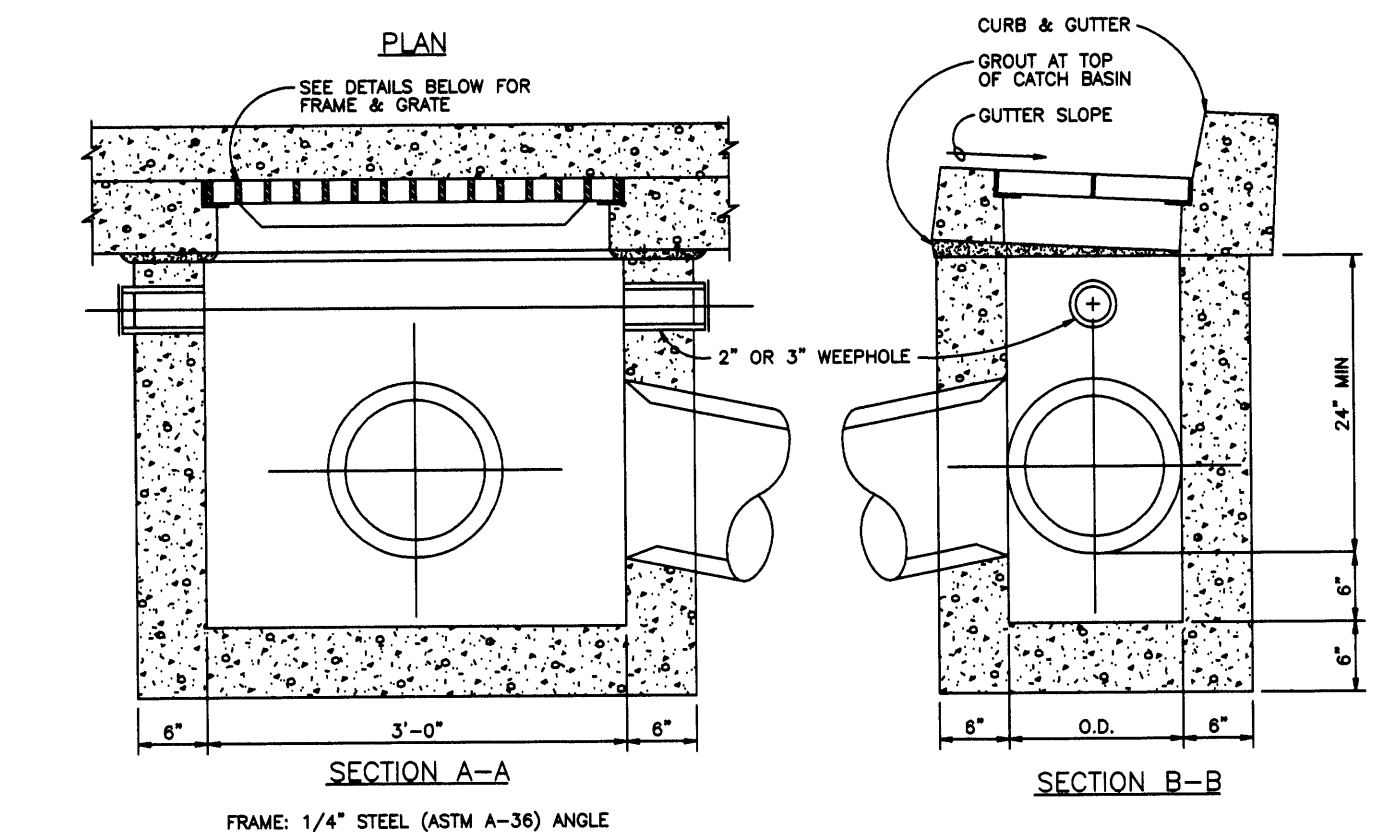
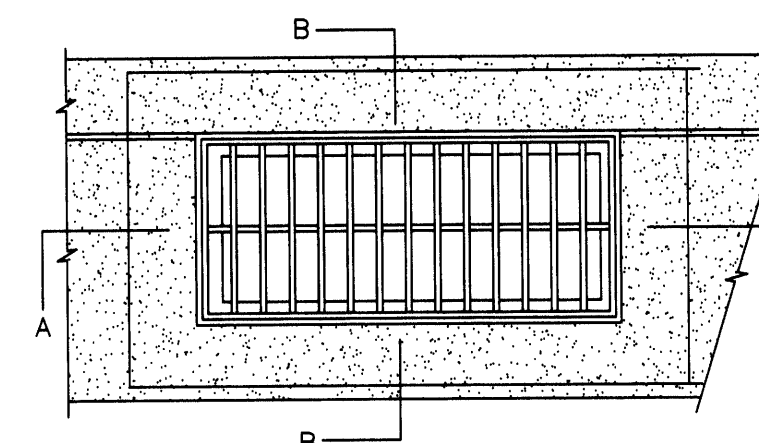
1. THE 1990 EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION PREPARED BY THE AMERICAN PUBLIC WORKS ASSOCIATION OREGON CHAPTER WILL BE CONSIDERED THE STANDARD SPECIFICATIONS WITH THE EXCEPTION OF DIVISION 1 SECTION 102, 103 AND 109. ALSO ANY AND ALL MEASUREMENT AND PAYMENT SECTIONS.
2. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES WHERE FACILITIES CROSS. CONTRACTOR SHALL POT HOLE EXISTING UTILITIES 200 FEET PRIOR TO LAYING PIPE AT ALL CROSSINGS. IF CONFLICTS ARISE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION.
3. EXISTING UTILITY LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY AND ADDITIONAL UTILITIES MAY EXIST. CONTRACTOR SHALL HAVE UTILITIES LOCATED IN ACCORDANCE WITH ORS 757.541 THROUGH 757.571 PRIOR TO CONSTRUCTION. ONE-CALL PHONE NO. IS 1 - 800 332-2344.
4. CONTRACTOR SHALL SUBMIT "AS-BUILT" INFORMATION TO THE ENGINEER UPON COMPLETION OF CONSTRUCTION.
5. CONTRACTOR SHALL INFORM OWNER AND ENGINEER 48 HOURS IN ADVANCE OF CONSTRUCTION.
6. ALL EXISTING UTILITIES DISTURBED BY WATERLINE CONSTRUCTION SHALL BE REPAIRED IMMEDIATELY AND THE RESPECTIVE UTILITY COMPANY NOTIFIED OF THE DISTURBANCE WITHOUT DELAY.
7. THE CONTRACTOR SHALL FLUSH, HYDROSTATICALLY TEST AND CHLORINATE ALL NEW WATER MAINLINES INSTALLED. THE ENGINEER SHALL WITNESS ALL TESTS MADE BY THE CONTRACTOR TO INSURE THEY ARE PERFORMED PROPERLY.
8. PRIOR TO TIE-IN, CONTRACTOR SHALL INSTALL TEMPORARY BLOW-OFF ASSEMBLY FOR PRESSURE TESTING AND CHLORINATION.
9. ALL VALVES SHALL INCLUDE VALVE BOXES AND LIDS AS REQUIRED BY THE OWNER.
10. EXISTING WATER MAINS AND SERVICES SHALL BE KEPT IN OPERATION UNTIL NEW WATER MAINS AND SERVICES CONNECTED AND IN SERVICE.
11. CONTRACTOR SHALL PLACE 5-MIL VISQUEEN BETWEEN THRUST BLOCKS AND PIPE FITTINGS.
12. TRENCH BACKFILL SHALL BE CLASS B (3/4"-0" CRUSHED ROCK) UNDER ALL STREETS AND BE PATCHED WITH A MIN OF 3", OR MATCH EXISTING THICKNESS WHICHEVER IS GREATER, ASPHALTIC CONCRETE. ALL TRENCHES WILL BE COMPACTED WITH HAND OPERATED PNEUMATIC COMPACTOR.
13. CONSTRUCTION STANDARDS AS REFERENCED IN THE OREGON ADMINISTRATIVE RULES CHAPTER 333-61-050 ARE HEREBY REFERENCED. THE CONTRACTOR SHALL OBSERVE THE REQUIREMENTS OF "CROSSING - SANITARY SEWERS AND WATERLINES" AS OUTLINED IN SECTION 10 OF THE ABOVE REFERENCED CHAPTER.
14. CONTRACTOR SHALL COORDINATE ALL STREET AND SIDEWALK CLOSURES WITH THE JURISDICTION CITY/COUNTY. CONTRACTOR SHALL SUPPLY ALL SIGNING AS REQUIRED TO ASSURE AUTOMOBILE AND PEDESTRIAN SAFETY.
15. THE CONTRACTOR SHALL REPLACE ANY AND ALL SURVEY MONUMENTS WHICH ARE AFFECTED BY THE CONSTRUCTION. ALL MONUMENTS SHALL BE RESET BY A LICENSED LAND SURVEYOR.



**FIRE HYDRANT DETAIL  
(THRUST BLOCKED)**



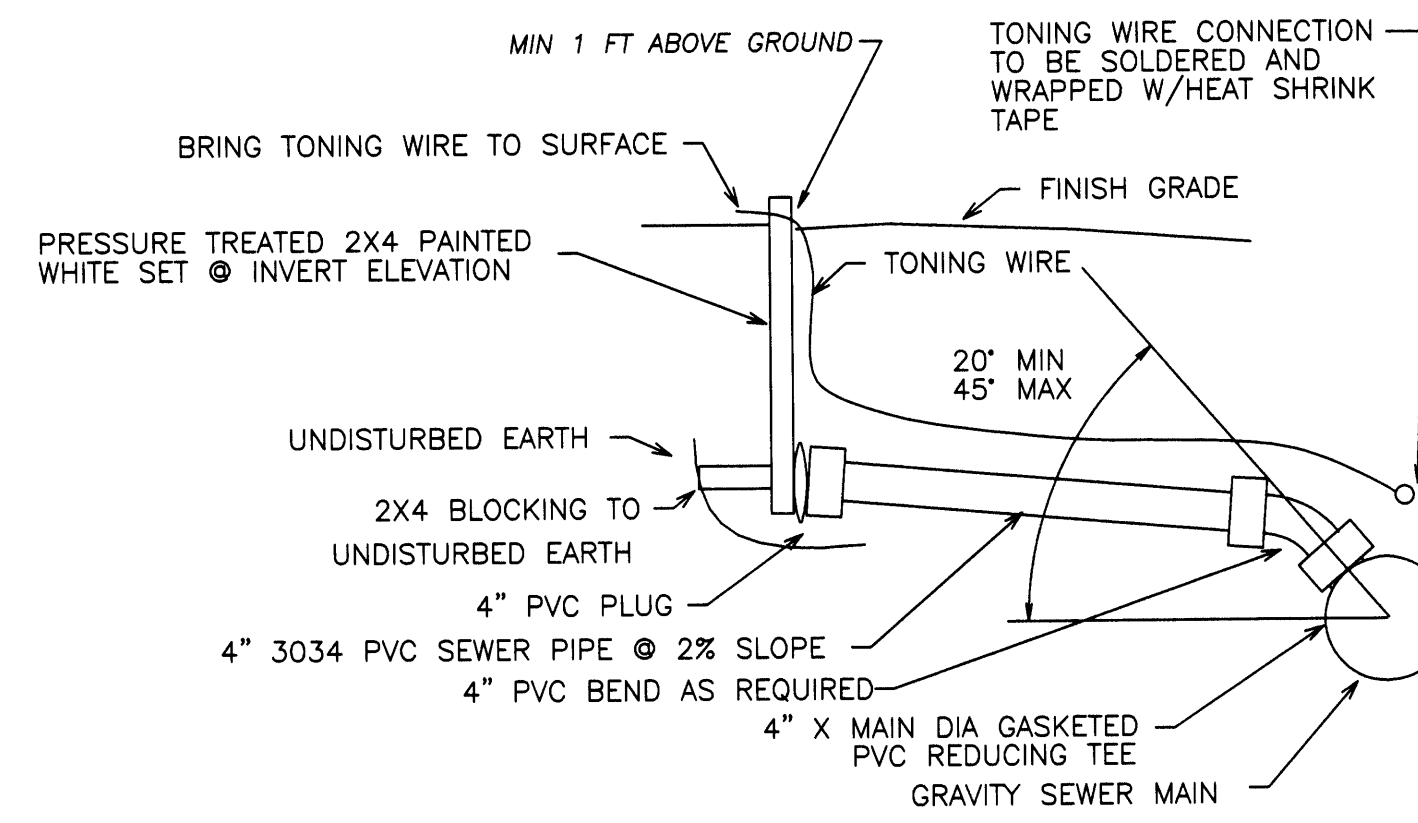
**CLEAN-OUT DETAIL**



**TYPICAL CATCH BASIN DETAIL**

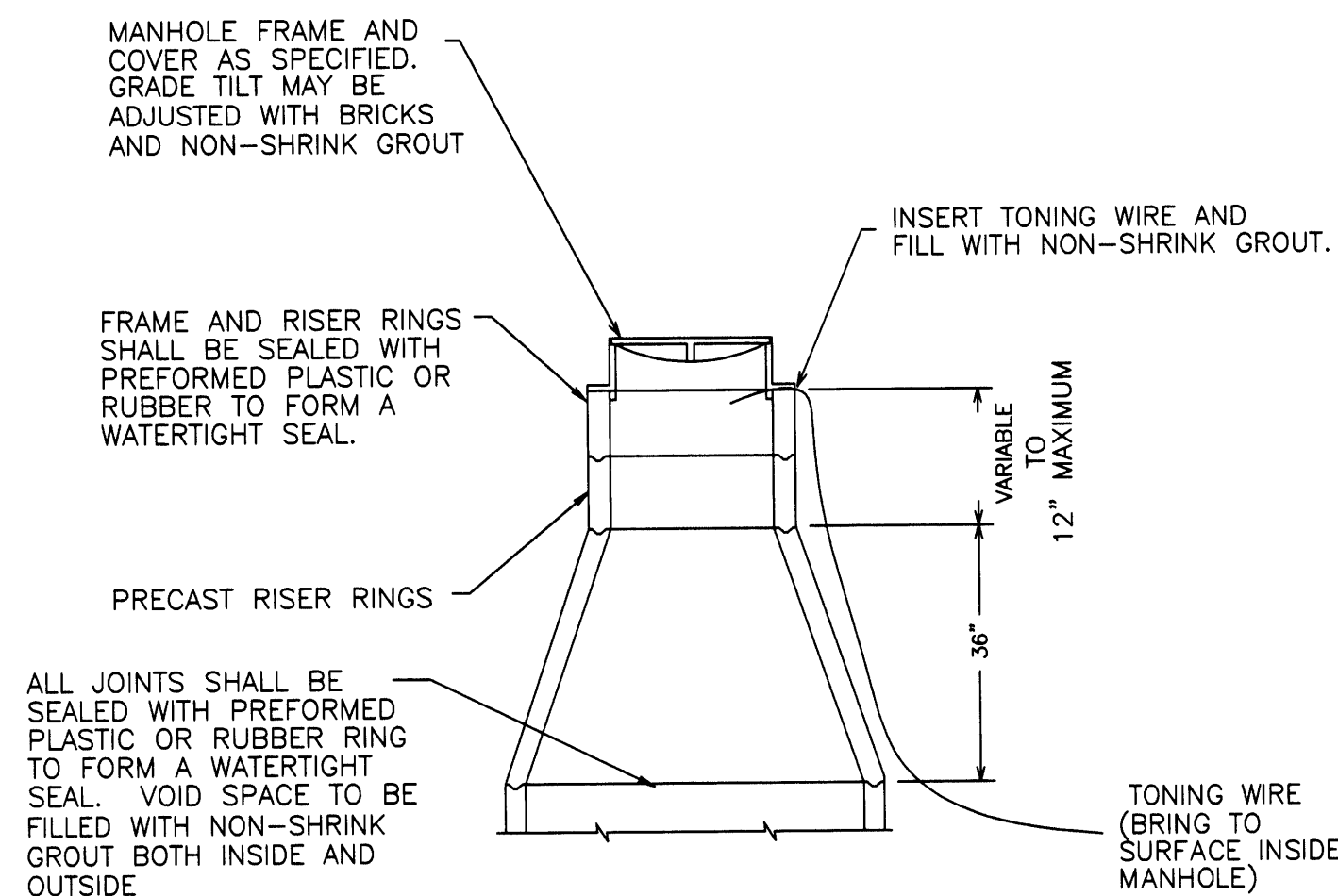
## GENERAL SANITARY SEWER NOTES

1. ALL SANITARY SEWER WORK SHALL BE IN CONFORMANCE WITH DOUGLAS COUNTY SPECIFICATIONS & ORDINANCES AND STANDARD SPECIFICATIONS FOR APWA PUBLIC WORKS CONSTRUCTION, 1990 W/1996 AMENDMENTS
2. SANITARY SEWER PIPE SHALL BE AS NOTED ON PLANS OR AS APPROVED BY ENGINEER. STANDARD GRAVITY SANITARY SEWER PIPE SHALL BE PVC PIPE CONFORMING TO ASTM D 3034 SDR 35 STANDARDS FOR 6 INCH TO 15 INCH MAINS.
3. ALL GRAVITY SANITARY SEWER MAINLINES AND LATERALS SHALL BE AIR TESTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, UNIBELL B-06.85 AFTER COMPACTION OF BACKFILL.
4. SANITARY SEWER LATERALS FROM THE BUILDING TO THE SEWER MAIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH OREGON STATE DEPARTMENT OF COMMERCE, BUILDING CODES DIVISION, THE LATEST EDITION OF THE UNIFORM PLUMBING CODE AND ITS AMENDMENTS, EXCEPT FOR 8" AND LARGER PUBLIC SEWERS WHICH SHALL BE CONSTRUCTED IN ACCORDANCE WITH DEQ STANDARDS FOR PUBLIC SEWERS AND TO THE LINES, GRADES & DETAILS SHOWN ON THE PLANS. 4" AND 6" LATERALS SHALL BE PVC ASTM 3034. ALL LINES SHALL HAVE TONING WIRE INSTALLED IN THE TRENCH FOR FUTURE LOCATING.
5. ALL MANHOLE CONNECTIONS TO BE FACTORY CONNECTORS WITH NON-SHRINK GROUT OR A CORED HOLE WITH FLEXIBLE BOOT, e.g. KOR-N-SEAL.
6. CONTRACTOR TO PROVIDE PREFORMED PLASTIC GASKETS IN ALL MANHOLE JOINTS.
7. GROUT FOR TOP MANHOLE FRAMES & BASES SHALL BE NON-SHRINK GROUT.
8. USE COMMERCIAL CONCRETE BONDING AGENT ON ALL CONCRETE TO BE GROUTED.
9. CONCRETE SHALL BE CLASS 5 (1-1/2" MAX. AGGREGATE SIZE) WITH SIX SACK OF CEMENT PER CUBIC YARD OF CONCRETE.
10. WHEREVER SEWER LATERALS CROSS WATER LINES WITH LESS THAN 18" VERTICAL CLEARANCE, THE SEWER LATERAL SHALL BE C900 PVC OR DUCTILE IRON PIPE EXTENDING 9 FEET EACH SIDE OF WATER LINE.
11. MANHOLES WILL BE TESTED ACCORDING TO 1990 APWA STANDARD SPECIFICATION 306.303. WATER TO BE FILLED TO THE RIM. CONTRACTOR MAY VACUUM TEST MANHOLES WITH ENGINEER'S APPROVAL.
12. ALL MANHOLES SHALL BE 48" DIAMETER WITH CONCENTRIC CONES.
13. ANY MANHOLE LESS THAN 5 FEET IN DEPTH SHALL HAVE A FLAT TOP MANHOLE COVER.
14. 14 GAGE SOLID COPPER TONING WIRE WITH GREEN THHN INSULATION SHALL BE PLACED IN ALL TRENCHES WHERE SEWER LINE HAS BEEN LAID. CONTRACTOR TO TEST ALL TONE WIRE WITH LOCATING EQUIPMENT PRIOR TO ACCEPTANCE.
15. DEFLECTION TESTING SHALL BE CONDUCTED ON ALL SEWERS CONSTRUCTED OF FLEXIBLE PIPE NOT LESS THAN 30 DAYS AFTER TRENCH BACKFILL AND COMPACTION. TESTING WILL CONFORM TO APWA SECTION 303.3.10.
16. LINE AND GRADE SHALL BE MAINTAINED AS SHOWN ON THE PLANS OR AS ESTABLISHED BY THE ENGINEER. VARIATIONS OF MORE THAN 1/2 INCH FOR LINE AND 1/4 INCH FOR GRADE WILL NOT BE PERMITTED.
17. ALL MANHOLES WILL NEED TO HAVE FLEXIBLE JOINTS WITHIN 1.5 FEET OF THE MANHOLE WALL.



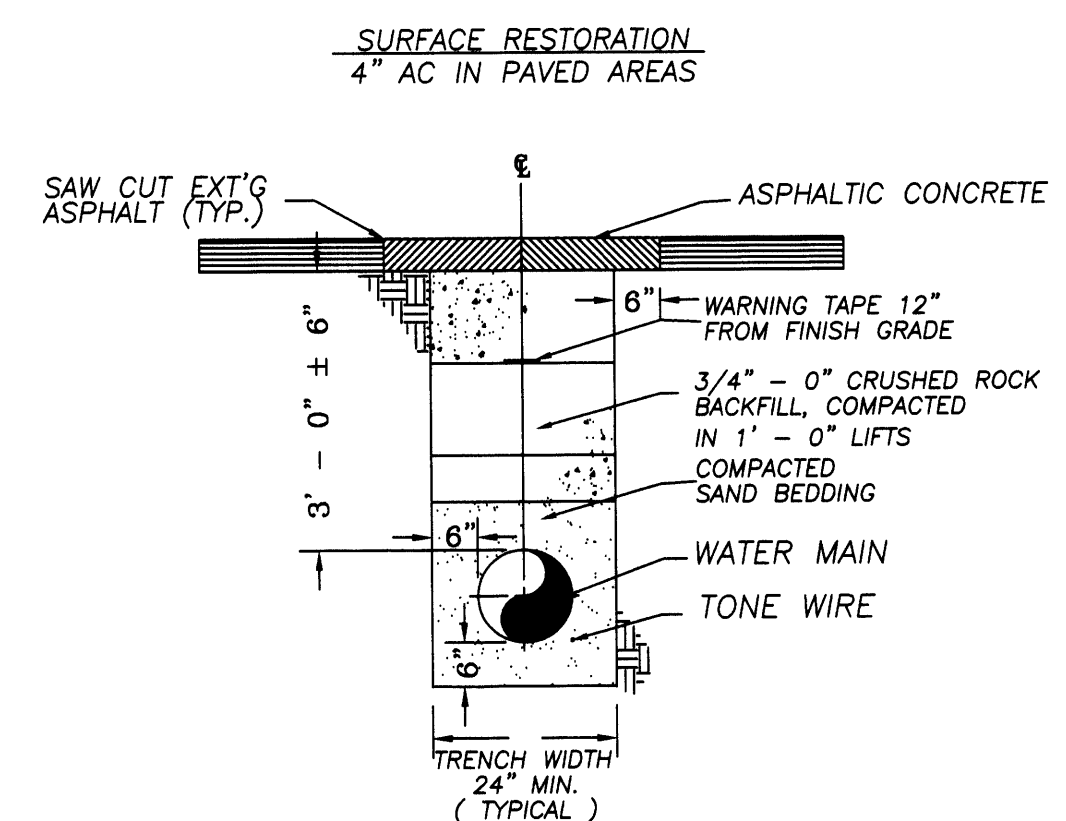
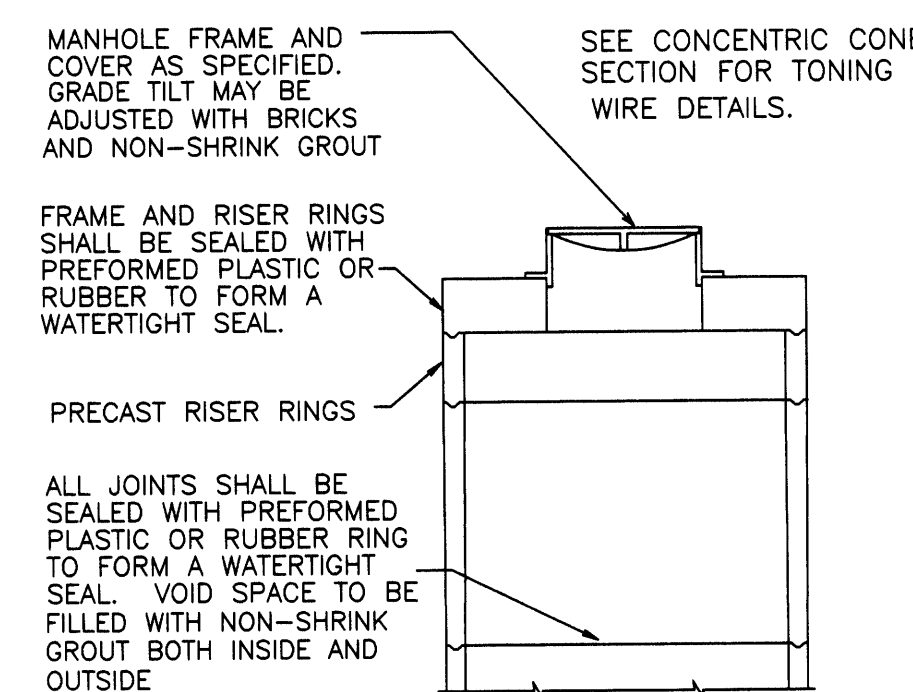
**TYPICAL 4" SEWER SERVICE CONNECTION**

## MAN HOLE CONCENTRIC CONE



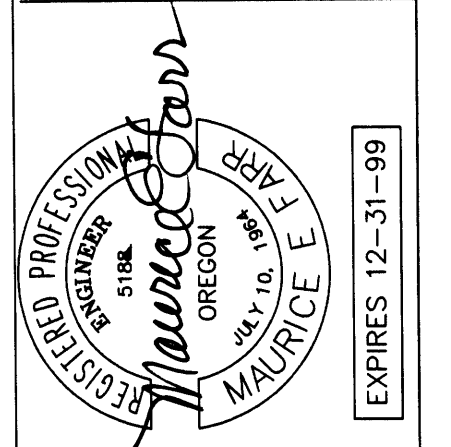
NOTE:  
STANDARD PRECAST MANHOLE SECTION  
DIAMETER SHALL BE 48".

## FLATTOP MANHOLE



**TYPICAL TRENCH SECTION**

FILED  
Date: 12/20/02 By: NW  
This survey consists of:  
Map: DS-149 thru DS-149  
Narrative:  
Corner Rpt:  
**DOUGLAS COUNTY  
SURVEYOR**



SPECIFICATIONS & TYPICAL DETAILS

**MATHEWS MANOR  
MOBILE HOME PARK**

FOR: **MATHEWS MANOR L.L.C.**  
832 NW GARDEN VALLEY BLVD  
ROSEBURG, OR 97470

DATE: 8-7-99  
JOB # 99-007  
FILE - DETAILS  
SHEET NO. 6 OF 6

**DAVID J. BEEDLE  
PROFESSIONAL  
LAND SURVEYING**  
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RIDGELAND, OREGON 97469