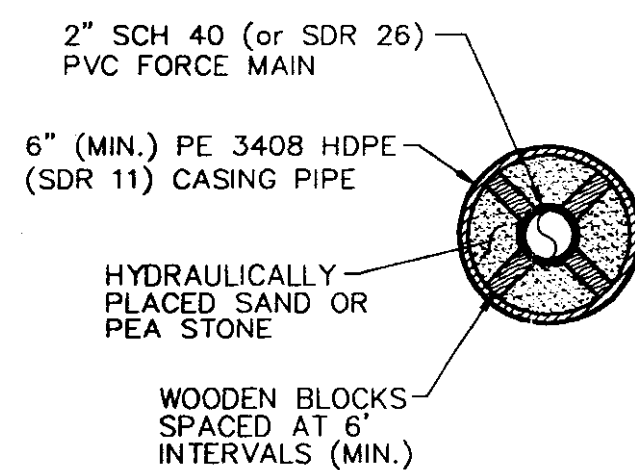


**TYPICAL TRENCH DETAIL**

N.T.S.

**NOTES:**

1. Typical trench for water, sewer, and drainage pipe.
2. Compaction of backfill and bedding shall be a minimum of 90% (95% under roadway surfaces) of maximum dry density determined in the standard proctor test (ASTM D698).
3. Bedding material shall not be placed on frozen subgrade.
4. Approved backfill shall not contain any stones more than 6" in largest dimension, 2" maximum diameter within 2' of the outside of the pipe, or any frozen, or organic material.
5. Trenches shall be completely dewatered prior to placing of pipe bedding material and kept dewatered during installation of pipe and backfill.
6. The sides of trenches 4' or more in depth entered by personnel shall be sheeted or sloped to the angle of repose as defined by O.S.H.A. standards.
7. Bedding material shall consist of crushed stone gravel or sand with a maximum size of 3/4".

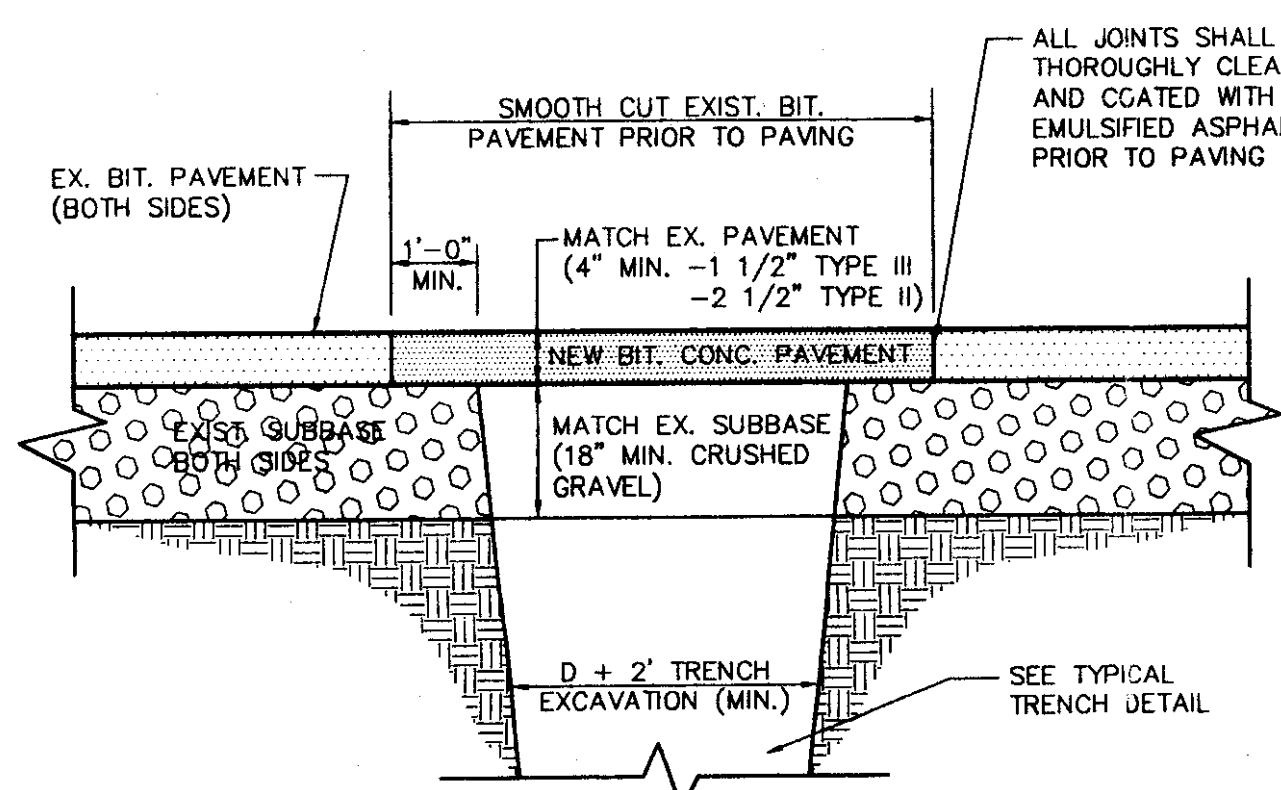


**SEWER SERVICE CASING AND CARRIER PIPE DETAIL**

N.T.S.

THE CARRIER PIPE SHALL BE PLACED THROUGH THE SLEEVE USING SKIDS SIZED SUCH THAT A UNIFORM SLOPE WILL BE ESTABLISHED. THE ANNULAR SPACE BETWEEN THE CARRIER AND SLEEVE SHALL BE FILLED WITH SAND. THE CARRIER SHALL BE SEALED AT EACH END OF THE SLEEVE BY USE OF A "LINK-SEAL" OR OTHER METHOD APPROVED BY THE ENGINEER.

THE CONTRACTOR MAY SUBSTITUTE STAINLESS STEEL CASING SPACERS BY CASCADE WATERWORKS CO. FOR THE WOODEN SKIDS (OR APPROVED EQUAL)

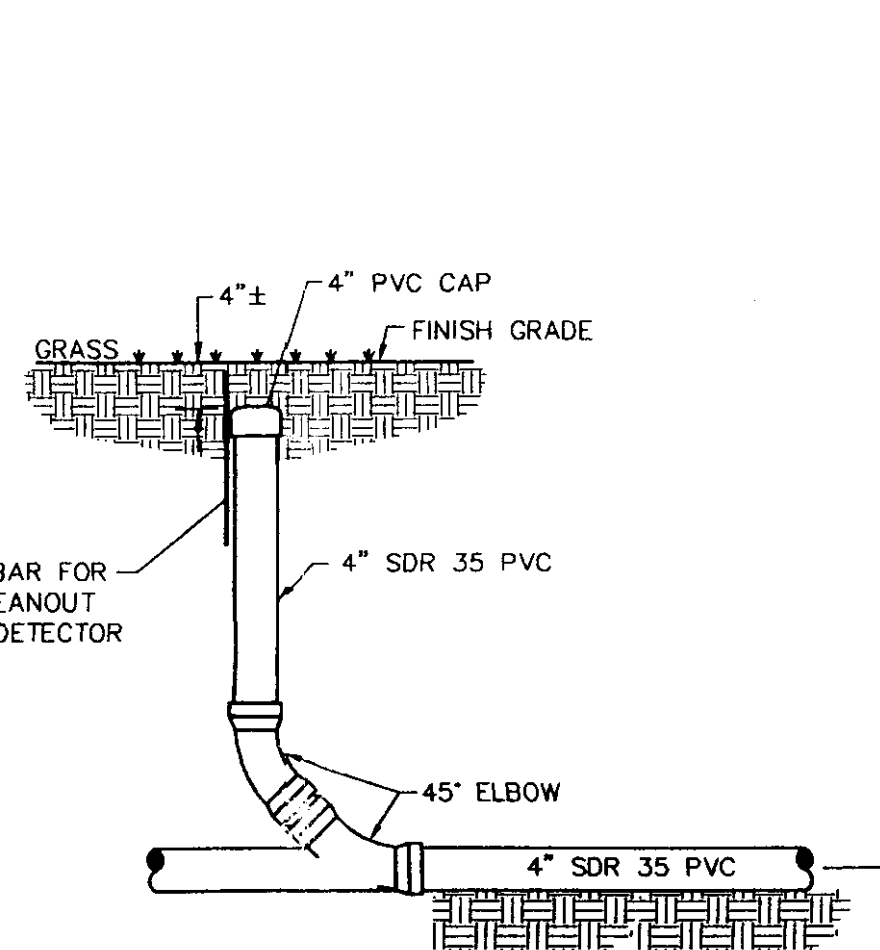


**REPLACEMENT OF EXIST. PAVEMENT**

N.T.S.

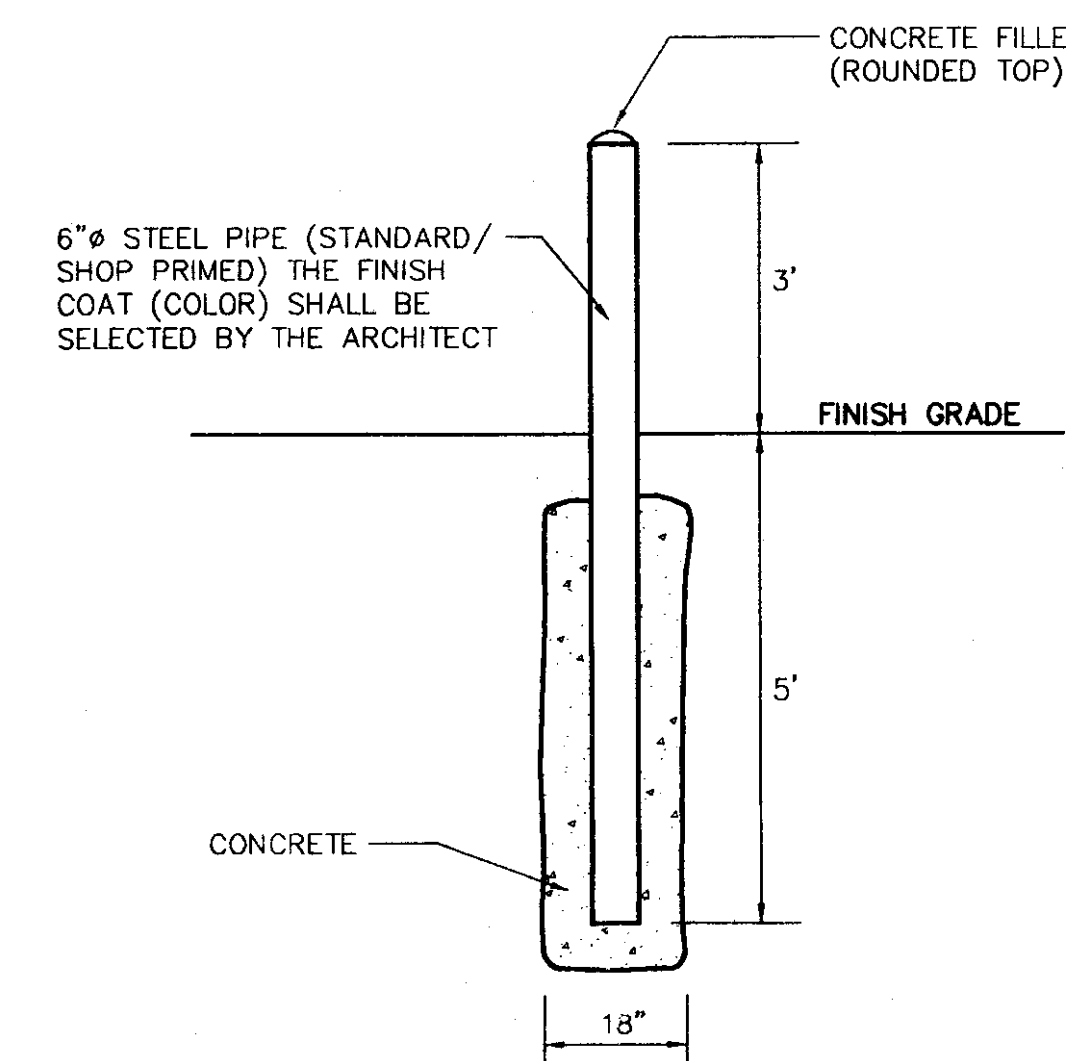
**NOTES:**

1. THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE-WAY TRAFFIC AT ALL TIMES DURING WORK WITHIN THE R.O.W.
2. MAINTENANCE AND PROTECTION OF TRAFFIC DURING WORK WITHIN THE HIGHWAY R.O.W. SHALL BE PROVIDED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL NOT WORK WITHIN THE R.O.W. WITHOUT APPROPRIATE CONSTRUCTION SIGNING IN PLACE.
3. ALL BACKFILL SHALL BE MADE IN SIX (6") LIFTS AND COMPACTED TO NOT LESS THAN 95% MAXIMUM DRY DENSITY ACCORDING TO ASTM D698.
4. REPLACE EXISTING ROAD STRIPING AS NECESSARY.



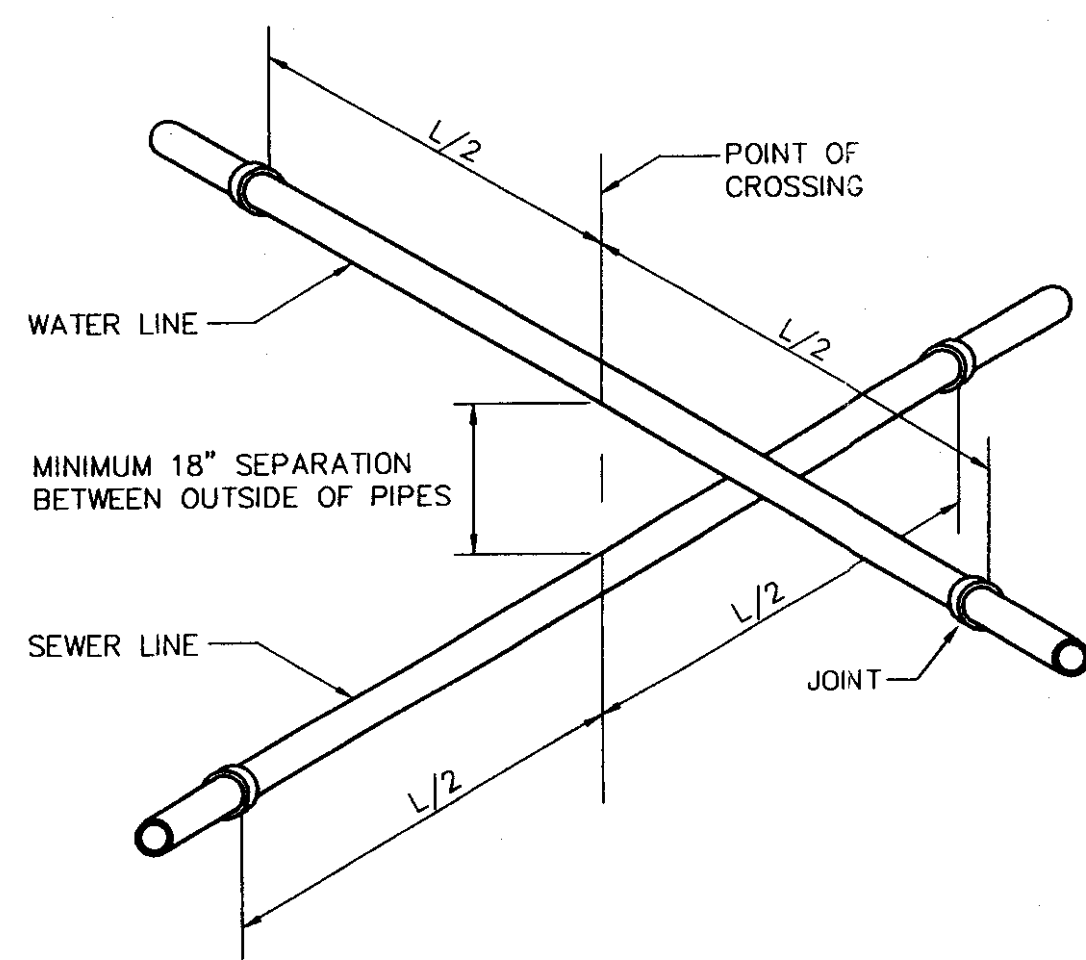
**TYPICAL CLEANOUT DETAIL**

N.T.S.



**BOLLARD DETAIL**

N.T.S.

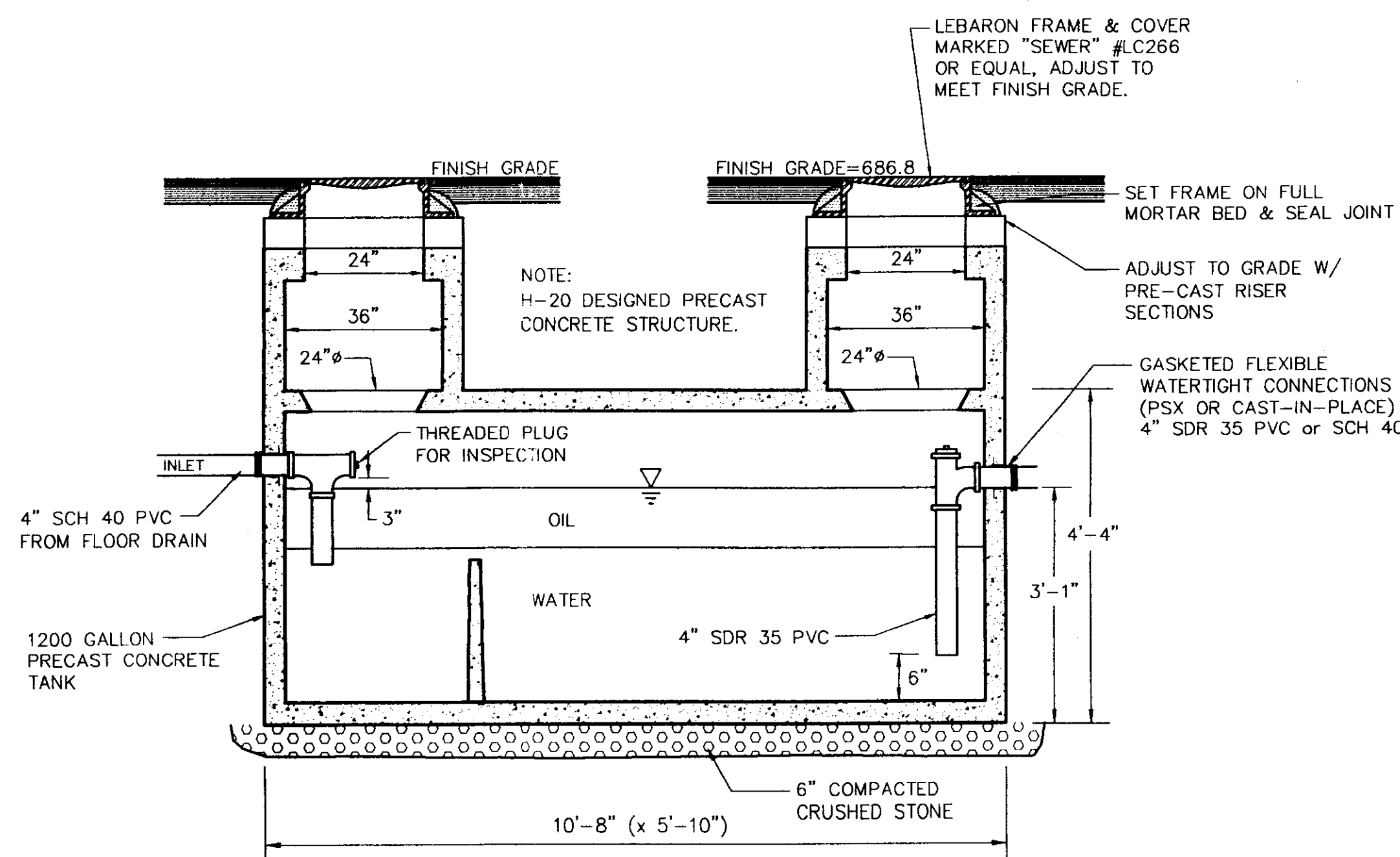


**NOTES:**

1. AT CROSSINGS, ONE FULL LENGTH OF WATER/SEWER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER/SEWER AS POSSIBLE.
2. IF THE SEWER MAIN IS OVER THE WATER MAIN, THE FIRST SEWER PIPE JOINTS ON EACH SIDE OF THE WATER MAIN MUST BE CONCRETE ENCASED OR SLEEVED. SPECIAL STRUCTURAL SUPPORT FOR THE WATER AND SEWER PIPES MAY BE REQUIRED.
3. WHERE IT IS IMPOSSIBLE TO MAINTAIN THE 18" SEPARATION, THE SEWER MATERIALS SHALL BE WATER MAIN PIPE OR EQUIVALENT FOR A MINIMUM DISTANCE OF 20 FEET EITHER SIDE OF THE CROSSING AND SHALL BE PRESSURE TESTED TO 50 psi FOR 15 MINUTES WITHOUT LEAKAGE PRIOR TO BACKFILLING BEYOND 1 FOOT ABOVE PIPE.
4. WATER MAINS AND SEWER LINES OR MANHOLES SHALL HAVE AT LEAST 10' HORIZONTAL SEPARATION. THIS DISTANCE SHALL BE MEASURED EDGE TO EDGE.

**WATER/SEWER CROSSING DETAIL**

N.T.S.



**1200 GALLON HEAVY DUTY OIL SEPARATOR**

N.T.S.

**SEPARATOR TESTING**

A. The separator shall be tested by the following procedure:

1. Infiltration Leakage Test: All pipes and other openings into the tank shall be suitably plugged and the plugs braced to prevent blowout.

The tank shall then be filled with water to the top of the riser section. A period of time may be permitted, if the Contractor so wishes, to allow for absorption. At the end of this period, the tank shall be refilled to the top of the riser, if necessary, and the measuring time of at least four hours begun. At the end of the test period, the tank shall be refilled to the top of the riser, measuring the volume of water added. This amount shall be converted to gallons per vertical foot depth for 24 hours. The leakage for each tank shall not exceed four gallon/vertical foot/day. If leakage exceeds the allowable rate, repairs shall be made as approved by the Engineer and the tank retested.

If the Contractor elects to backfill prior to testing, the testing shall be at his own risk, and it shall be incumbent upon the Contractor to determine the reason for any failure of the test. No adjustment in the leakage allowance will be made for unknown causes such as leaking plugs, absorption, etc. It will be assumed that all loss of water during the test is a result of leaks through the joints or through the concrete. Furthermore, the Contractor shall take any steps necessary to assure the Engineer that the water table is below the bottom of the tank throughout the test.

SITE ENGINEER:



**CIVIL ENGINEERING ASSOCIATES, INC.**  
P.O. BOX 486 SHELburnE, VT 05482  
802-266-3323 FAX: 802-266-2271 web: www.cae-vt.com

COPYRIGHT © 2004 - ALL RIGHTS RESERVED

DRAWN: ACL  
CHECKED: BCE  
APPROVED: BCE

OWNER:



**STATE OF VERMONT**

VERMONT AGENCY OF TRANSPORTATION  
MONTPELIER, VERMONT

PROJECT:

**DISTRICT 3 CASTLETON GARAGE**

**MUNICIPAL WASTEWATER CONNECTION**

ROUTE 30 CASTLETON, VERMONT

DATE	CHECKED	REVISION

**SITE DETAILS**

DATE: JAN., 2005  
SCALE: AS SHOWN  
PROJ. NO.: 04128.10

DRAWING NUMBER: **C2**  
003