NOTE:
1. CONCRETE ENCASE ENTIRE WYE SECTION AND 45° BEND IF CONCRETE PIPE.
2. STAND PIPE TO BE SAME SIZE AS MAINLINE UP TO AND INCLUDING 8” PIPE. MAINLINE GREATER THAN 8” SHALL HAVE A 8” STANDPIPE.
NOTES

1. ¼" ALLEN HEAD BOLTS
   1" LONG RECESSED.
2. ALL PERMANENT CLEANOUTS
   TO HAVE BOLT DOWN COVERS.
3. MATERIAL SHALL BE GRAY
   CAST-IRON, ASTM A-48,
   CLASS 30.

DETAIL

CLEANOUT FRAME
AND COVER

DRAWING NO. 510

REVISED 12-16
1. All storm and sanitary service laterals shall be marked on the top face of curb as follows:
   - Storm drain laterals “D”
   - Sanitary sewer laterals “S”

2. Letters shall have 1/4” max. width and a max height of 4”

3. Letter shall be centered on top face of curb.

Curb Stamp Detail

Plan

Notes:
1. For new construction all side sewer and side storm pipeline connections to 8” and 10” mains shall be with factory fabricated “TEE” fittings unless otherwise approved.

2. Pipe material shall be one of the following:
   A. PVC ASTM-D3034, ASTM-D900
   B. Ductile Iron Class 50
   (Storm only)
   C. A-2000 PVC ASTM 949
   D. PVC Rib Meeting ASTM D 1784
   E. CPP Meeting AASHTO M252

3. Secure 2x4 in place against plug w/backfill to prevent plug blowoff

Height:
- Total length of 2x4
- Lot #: As shown on approved set of plans
- Markings to face street

Color code surface:
- Green: Sanitary
- White: Storm

Elevation

Minimum slope for:
- 6” pipe = 0.010
- 4” pipe = 0.020

3/4”-0 pipe zone material as specified

Sidewalk:

CAP/PLUG

CleanWater Services

Drawing No. 520
Revised 12-16
1. PVC HUB SHALL CONFORM TO ASTM 3034, SDR 35 DRIVE INTO CENTER OF RUBBER SLEEVE AFTER SLEEVE IS PLACED IN HOLE.

2. STAINLESS STEEL BAND SECURES UPPER HALF OF RUBBER SLEEVE TO THE PVC HUB. STAINLESS STEEL BAND SHALL BE 300 SERIES, %" BAND WIDTH, CADMIUM PLATED CARBON STEEL, AND ATTACHED WITH HEX HEAD SLOTTED SCREW.

3. COMPLETE RUBBER SLEEVE INCLUDES A MOLDED SEGMENT THAT HOLDS IT IN PLACE.

NOTES:
1. ALL INSERTA-TEE HOLES SHALL BE MACHINE DRILLED AND CORED.
2. INSERTA-TEES ARE NOT ALLOWED IN NEWLY CONSTRUCTED SEWER MAINS WITH AN INSIDE DIAMETER (I.D.) OF 10 INCHES OR SMALLER.
3. SEWER MAIN SHALL BE TWO SIZES (NOMINAL I.D.) LARGER THAN THE INSERTA-TEE.
NOTE: CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI AND 2" TO 4" SLUMP.

CONCRETE CAP

DRAWING NO. 550
REVISED 01-13
NOTE:
1. CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI AND, 2" TO 4" SLUMP.

2. PRIOR TO INSTALLING THE CONCRETE ENSURE THE JOINT IS SEAL IN A MANNER AS NOT TO ALLOW CONCRETE TO ENTER INTO THE INTERIOR OF PIPE.
<table>
<thead>
<tr>
<th>SLOPE</th>
<th>MIN. ANCHOR SPACING CENTER TO CENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>20% - 34%</td>
<td>35'</td>
</tr>
<tr>
<td>35% - 50%</td>
<td>25'</td>
</tr>
<tr>
<td>51% +</td>
<td>15' OR CONC. ENCASEMENT</td>
</tr>
</tbody>
</table>

**NOTE:**
1. CONCRETE ANCHORS TO BE INSTALLED IMMEDIATELY DOWNHILL OF PIPE BELL.
2. CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI, AND 2" TO 4" SLUMP.
3. ODOT "METAL PIPE SLOPE ANCHORS" ARE AN ACCEPTABLE ALTERNATIVE, SEE DETAIL #580.

**CONCRETE ANCHOR WALL**

DRAWING NO. 570

REVISED 01-13
1. ALL PIPE STAKES AND HARDWARE TO BE GALVANIZED AFTER FABRICATION.

2. EITHER ALTERNATE "A" OR ALTERNATE "B" ANCHOR ASSEMBLY MAY BE USED AT CONTRACTOR'S OPTION FOR ANNULARLY CORRUGATED PIPE. ALTERNATE "A" TO BE USED WITH HELICALLY CORRUGATED PIPE.

3. EITHER TYPE 1 OR TYPE 2 PIPE STAKES MAY BE USED WITH EITHER ANCHOR ASSEMBLY ALTERNATE AT THE CONTRACTOR'S OPTION.

4. PLACE SLOPE ANCHOR ASSEMBLIES ON 6 M MAX. CENTERS. ON SLOPES 20% OR GREATER.

5. PLATE MATERIAL TO BE ASTM A36M 6.3 MM GALVANIZE AFTER FABRICATION.
TRENCH BACKFILL DETAILS

NOTE:
1. ALL COMPACTION REQUIREMENTS PER AASHTO T-99 AND ODOT/APWA SPEC 00405.
2. THE TRENCH WIDTH AT THE SURFACE OF THE GROUND SHALL BE KEPT TO A MINIMUM NECESSARY TO INSTALL THE PIPE IN A SAFE MANNER.
3. THE MINIMUM TRENCH WIDTH IN THE PIPE ZONE SHALL PROVIDE A CLEAR WORKING SPACE OF SIX INCHES OUTSIDE THE MAXIMUM OUTSIDE DIAMETER OF THE PIPE BEING INSTALLED.
4. IN ALL CASES, TRENCHES SHALL BE OF SUFFICIENT WIDTH TO ALLOW FOR SHORING, PROPER JOINING OF PIPE, AND BACKFILLING OF MATERIAL ALONG THE SIDES OF THE PIPE.
TACK ALL EXPOSED MATERIAL PATCH AC TO GREATER OF 3" THICKNESS OR EXISTING.

EXISTING BASE ROCK

SAWCUT

W + 24" MIN.

12" MIN.

EXISTING AC

3/4" = 0 CRUSHED ROCK

PIPE ZONE

BEDDING

NOTE:
1. **TEE** CUT TO BE DONE AFTER EXCAVATION AND BACKFILL OF TRENCH.
2. SEE STD. DRAWING NO. 590 FOR BEDDING, PIPE ZONE, AND TRENCH BACKFILL.

T-CUT
ASPHALT DETAILS

DRAWING NO. 600

REVISED 12–16
SEAL THE AREA BETWEEN THE END OF THE CASING AND PIPE BY FORCING GROUT INTO THE SPACE AROUND THE PIPE AT THE DIMENSIONS SHOWN.

FILL THE ANNULAR SPACE WITH SPECIFIED MATERIAL, LEAN GROUT, PEA GRAVEL, OR SAND AS APPROVED.

BEGIN AT THE FAR END AND FILL BACK TOWARDS THE INSERTION HOLE.

AIR VENT AND FILLING POINTS SHALL BE REMOVED PRIOR TO GROUT PLUGS BEING INSTALLED.

NOTES:
1. PROVIDE PIPE NIPPLE AT TOP OF CASING, AT EACH END OF CASING OR AS SPECIFIED, FOR FILLING AND VERIFYING FILLING OPERATION. (MIN DIAMETER SIZE 4")
2. GROUT SHALL BE PUMPED TO FILL VOIDS AROUND THE CASING DURING THE INSTALLATION. ENGINEER DESIGN REQUIRED.

CASING PIPE:
6'-12" DIA. - 1/4" MIN. THICKNESS.
15'-24" DIA. - 5/16" MIN. THICKNESS.
OR AS SPECIFIED

SEWER PIPE AS SPECIFIED

STRAP PRESSURE TREATED WOOD OR PREFABRICATED SKIDS WITH BANDS, THREE PER PIPE MIN. SPACED TO SUPPORT PIPE TO ENSURE NO DEFLECTION. PREFABRICATED SKIDS SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS OR APPROVED EQUAL.

BORE DETAIL

DRAWING NO. 610

REVISED 12-16