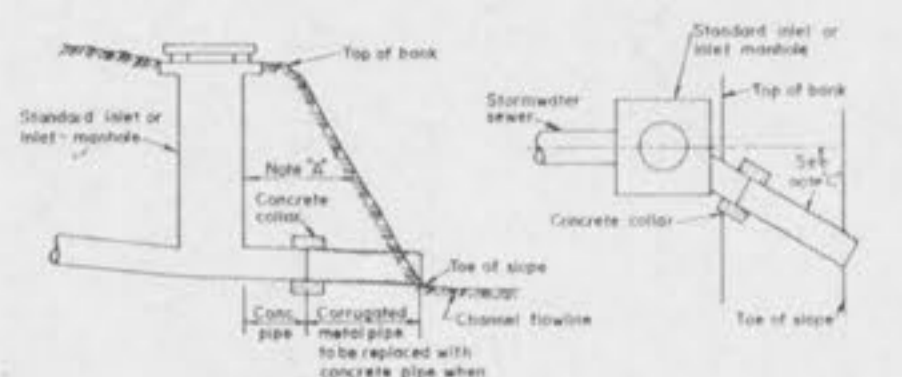
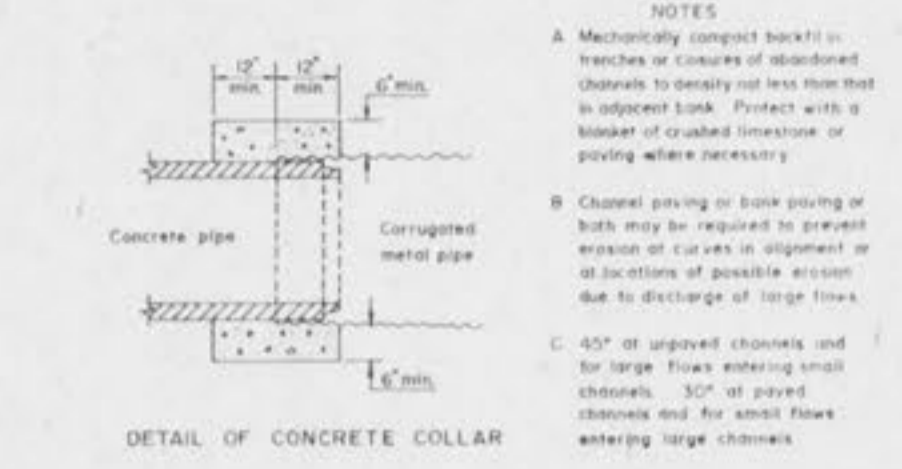


Payline for any other type channel excavation shall be the exact shape of the sub grade.

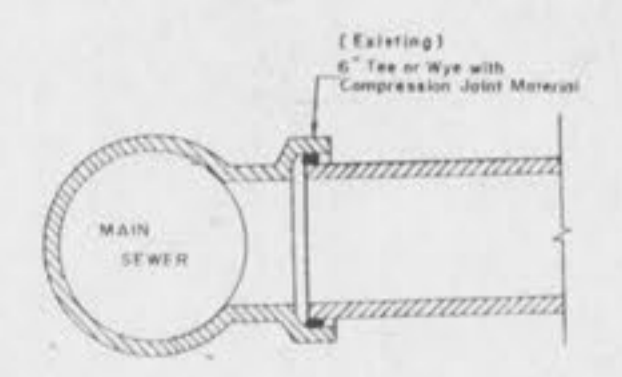
PAYLINE LIMITS FOR EXCAVATION



TYPICAL PLAN & SECTION AT SEWER LINE DISCHARGING INTO CHANNEL

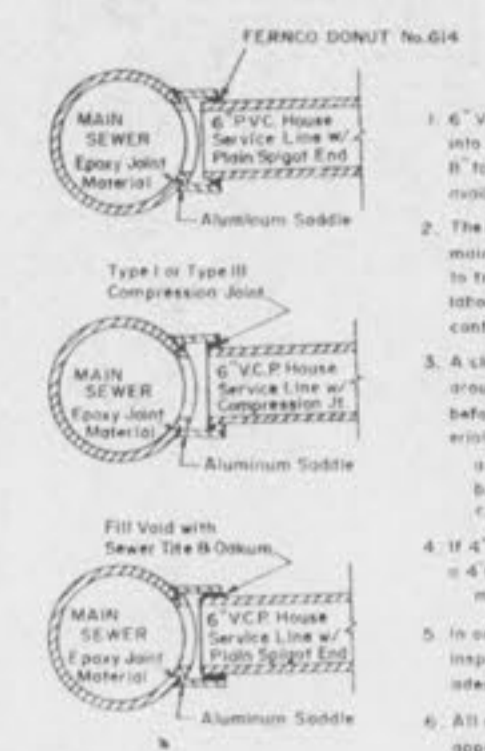


STORMWATER CHANNELS



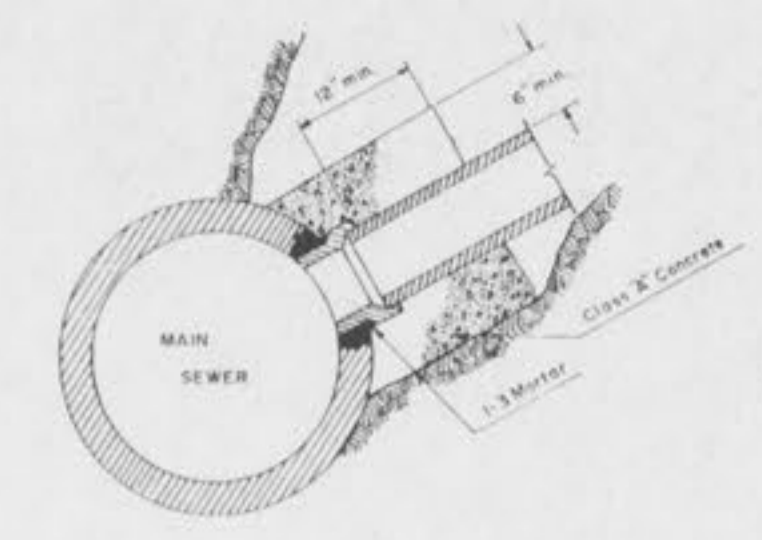
HOUSE SERVICE CONNECTION TO EXISTING TEE OR WYE

- HOUSE SERVICE
1. 4" V.C.P. with compression joint.
 2. 6" V.C.P. without compression joint. Use sewer tile and oakum.
 3. If 4" house connection is approved, a 4" to 6" increase is required.
 4. If 6" V.C.P. is used a Ferro Adapter or sewer tile and oakum may be used to make the joint.
 5. A clean, dry bedding material is required around the completed connection before back filling. The bedding material shall be one of the following:
 - A. M.S.D. No. 1 Bedding
 - B. 1 to 3 cement and sand
 - C. PNE. mix concrete



MACHINE TAP

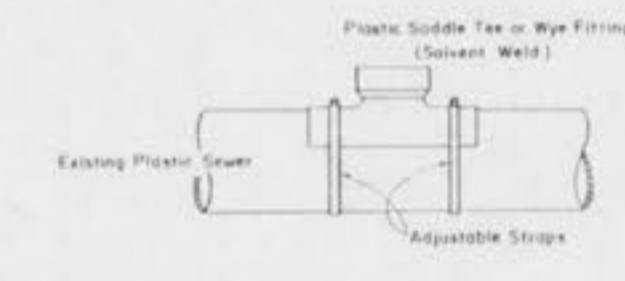
- General Notes:
1. 4" V.C.P. or 6" V.C.P. house connection into public V.C.P. or public PVC pipe 8" to 24" diameter and no wye or tee reducer, a machine tap is required.
 2. The Director will cut the hole in the main, provide and equip the saddle to the main. All other material and labor are the responsibility of the contractor.
 3. A clean dry bedding material is required around the completed connection before back filling. The bedding material shall be one of the following:
 - a. M.S.D. No. 1 Bedding
 - b. 1 to 3 cement to sand
 - c. PNE. mix concrete
 4. If 4" house connection is approved, a 4 to 6" increase is required at machine tap.
 5. In order that the inspector make an inspection, all excavation must be adequately graded.
 6. All material required to make an approved connection must be on the connection site at the time of arrival of the tap truck. If the material is not available, the tap must be rescheduled.



Note: The opening shall be cut by the contractor to a sufficient size to permit inserting a tee saddle or short length of pipe of the required elevation and angle to allow at least two (2) inches space around the pipe. This space will be solidly filled with 1-3 cement sand mortar and the new pipe neatly trimmed and pointed up flush with the inside of the main sewer.

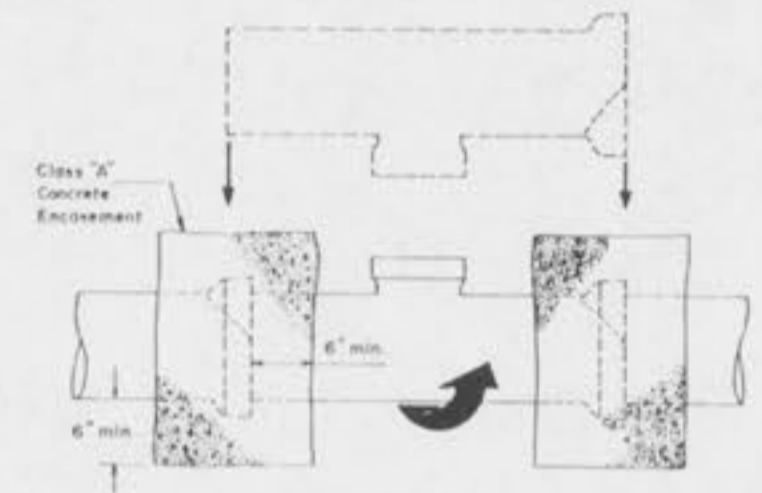
If there are reinforcing bars in the sewer wall, only those preventing insertion of the pipe may be cut. All others shall be bent into a Class 'X' concrete collar at the junction of the connection pipe and the main sewer.

HOUSE CONNECTIONS ALLOWED BY TEE SADDLE



- When a connection to a plastic pipe is allowed and the connection is larger than 6" in diameter, a solvent weld joint is required. (Example: 10" x 8")
- This is accomplished by carefully cutting a hole with a saw to the main at the required location. After cutting and cleaning the hole to the size of the fitting, the following steps should be taken:
1. Clean and dry both inside walls and outside and pipe surfaces to be solvent connected.
 2. (Optional) Apply a liberal, heavy coat of a 100-100 solvent cement to the inside surface of the saddle wye and to the outside surface of the pipe.
 3. Without delay, mate the surfaces and apply equal pressure. A correct seal will develop after another few hours or night time setting.
 4. Using a rag or paper towel, wipe away all any excess solvent cement off pipe and saddle.
 5. Allow 30 - 60 minutes for setting time before backfilling. Note time depends on size and fit of appropriate bedding material and surface conditions.
 6. Disposed and cleaned if it becomes solid or lumpy.
 7. A clean, dry bedding material is required around the completed connection before backfilling. The bedding material shall be one of the following:
 - A. M.S.D. No. 1 Bedding
 - B. 1 to 3 cement to sand mix
 - C. "Fer-Way" concrete

8" (8" LARGER) CONNECTION TO PLASTIC MAIN

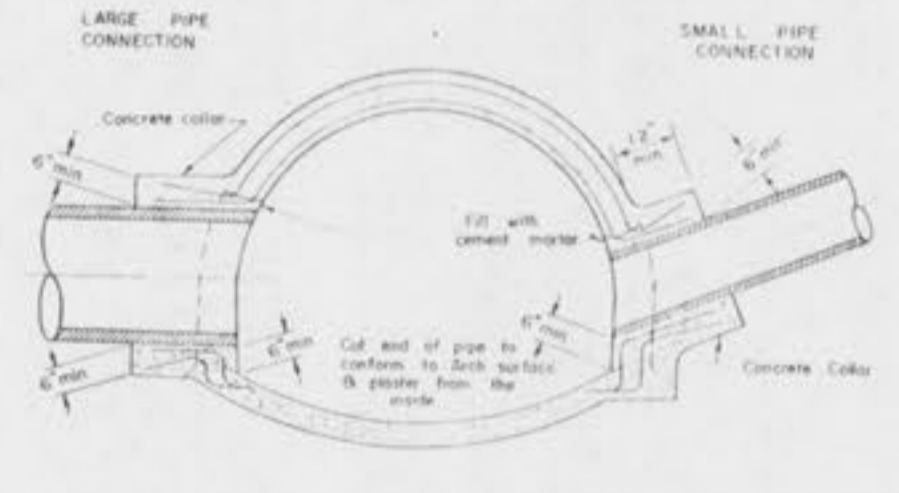


When a connection is allowed larger than 6" diameter a saddle may be used if the I.D. of the connection pipe is not greater than one-half (1/2) the I.D. of the main sewer. (Example: 24" x 18")

If the I.D. of the connection pipe is greater than one-half (1/2) the I.D. of the main sewer the wye or tee must be "rolled in". (Example: 15" x 8")

This is accomplished by breaking away and removing one section of pipe. The top half of the bell on the pipe lying adjacent to the gap is carefully broken off. The top half of the bell on the main replacement section (with a tee or wye fitting) is also broken off. The replacement pipe is then placed in the line gap with the hub pointed in the wrong direction. The broken bell on the replacement and the adjoining pipe make it possible for the replacement section to fit into the sewer line without disturbing the adjoining pipe sections. The replacement section is then raised to the desired position and the broken bell is encased with a 6" Class 'A' concrete encasement.

"ROLL-IN" FOR EXISTING CLAY OR CONCRETE PIPE



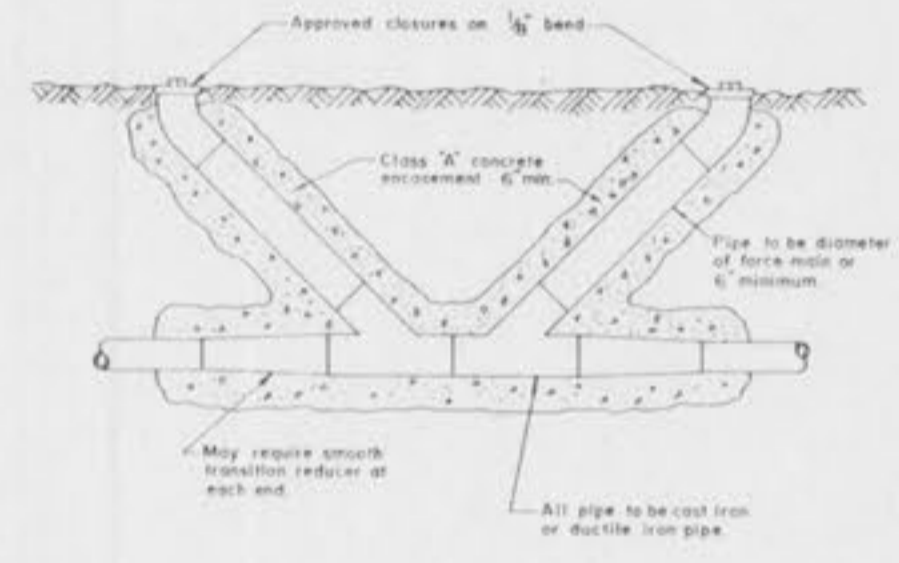
Note: Opening into existing sewer to be cut carefully to avoid damage to adjacent masonry.

Hole to be cut to proper grade and elevation and to be of such size as to permit a two-inch space all around the outside of the pipe.

The space shall be carefully filled with one part cement and three parts sand mortar compacted into place after the pipe has been inserted and properly supported to top and grade.

Existing reinforcing bars are to be bent back into the concrete collar around the pipe to provide reinforcement equally on all sides.

CONNECTIONS TO LARGE SEWERS



Approved closures on 3/4" bend.

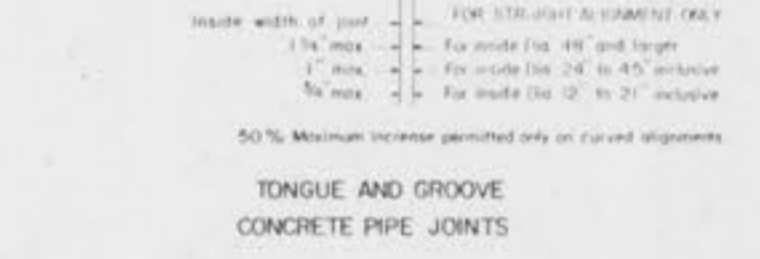
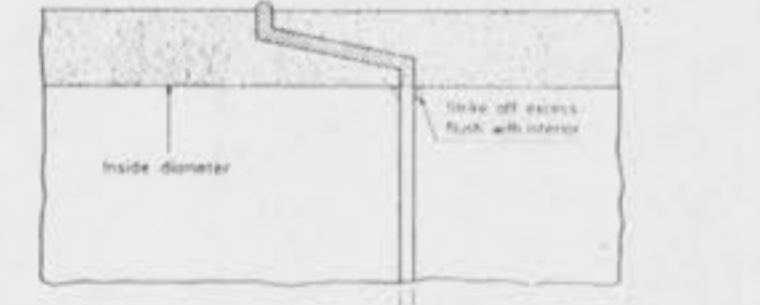
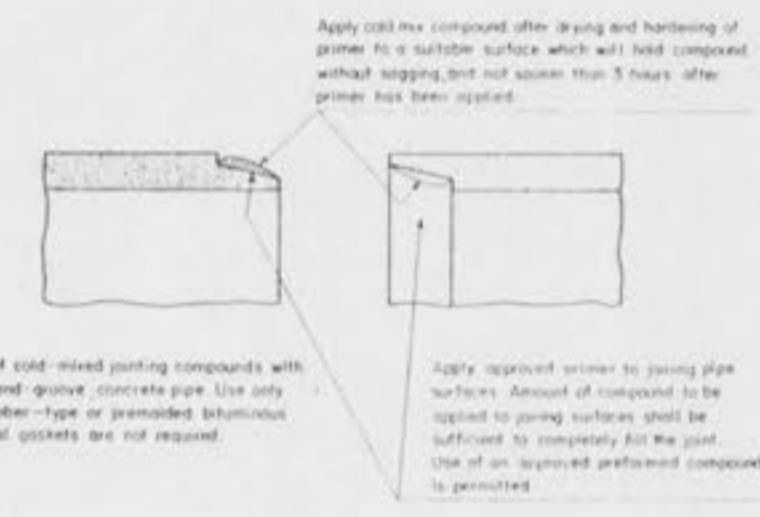
Class 'X' concrete encasement 6" min.

Pipe to be diameter of force main or 6" minimum.

May require smooth transition reducer at each end.

All pipe to be cast iron or ductile iron pipe.

700' MAXIMUM SPACING FORCE MAIN ENCASEMENT



50% Maximum increase permitted only on curved alignments.

Inside width of joint - FOR STRAIGHT ALIGNMENT ONLY

- 1 1/2" max. - For under 12" dia. and height
- 1" max. - For under 12" dia. or 45° incline
- 3/4" max. - For under 12" dia. or 21° incline