

410 MUNI CONSTRUCTION SPECIFICATION FOR PIPE SEWER INSTALLATION IN OPEN CUT

410.02 References

ADD in the following:

OPSS 435 Sonar Inspections of Gravity Pipe Sewers and Culverts
OPSS 438 Mandrel Deflection Inspections

410.05 Materials

410.05.01 Pipe Materials

410.05.01.01 General

ADD in the following:

Storm sewer ditch inlet and outlet pipes shall be corrugated steel pipe (CSP), concrete pipe or smooth inside corrugated Polyethylene.

When extending catch basin leads, the extension shall be made with the same material as the existing lead.

Pipe material types shall not change between maintenance holes. Materials shall remain consistent throughout full length of run.

410.05.01.02 Concrete Pipe

ADD in the following:

Non-reinforced concrete sewer pipe (CSA 257.1 Class III) may be used in sizes less than 450 millimetres in diameter.

Reinforced concrete sewer pipe shall be CSA 257.2 65-D and used in sizes greater than 375 millimetres in diameter at depth as per OPSD 807.01 and 807.03.

410.05.01.03 Corrugated Steel Pipe Products

ADD in the following:

Corrugated steel pipe, couplings and fittings having a galvanized metal thickness of 2.0 mm shall be used only for storm sewer ditch inlet and outlet pipes.

410.05.01.04 Polyethylene Pipe Products

ADD in the following:

Polyethylene pipe is not acceptable as a gravity sanitary sewer pipe.

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Only smooth inside corrugated polyethylene pipe may be used for storm sewers. Polyethylene pipe shall be according to CSA B-182.8.

All other types may be used only with the written approval of the General Manager.

410.05.01.05 Polyvinyl Chloride Plastic Pipe Products

ADD in the following:

Polyvinyl Chloride (PVC) sewer pipe shall be S.D.R. 28 for all service connections and S.D.R. 35 for all sewer mains.

PVC pipe may only be used up to a depth of 6 m.

For storm sewer applications, the Contractor may use concentrically ribbed PVC pipe.

410.07 Construction

410.07.12 Pipe Installation

410.07.12.01 General

ADD in the following:

Installation of service laterals by the method of washing is prohibited.

410.07.12.04 Corrugated Steel Pipe Products

DELETE entire subsection.

410.07.12.05 Polyethylene Pipe

DELETE fourth and fifth paragraphs involving:

- d) Screw-on Coupler
- e) Split Coupler

410.07.13 Service Connections

ADD in the following:

Crowle Cast Iron Mortar - on saddles (c/w bolts) may be used for large concrete pipe (450 mm or larger).

410.07.15 Breaking into Maintenance Holes, Catch Basins, Ditch Inlets, Pipe Culverts and Pipe Sewers

ADD IN THE FOLLOWING:

Where a pipeline is to be connected into an existing maintenance hole, neat openings of the size necessary to accommodate the pipeline shall be made in the walls of the maintenance holes and the pipeline shall be securely and neatly grouted in place with non-shrink grout/mortar. When breaking into an existing sanitary maintenance hole, the exterior of the new connection shall be wrapped with a waterproof membrane that extends at least 300mm onto the exterior wall of the maintenance hole and at least 30mm onto the exterior wall on the new pipe connection to create an external gasket.

Where connection to existing services requires the abandonment of existing piping, all abandoned pipes shall be bulkheaded with watertight concrete seal as part of the work of constructing the new sewer.

Connections to sewer mains only shall be made with a stainless steel shear ring. Pipe diameter differences shall be made up using appropriate sized rubber bushings. Any service laterals encountered during sewer main repairs shall be reconnected.

Connections to service shall be made with a stainless steel shear ring.

410.07.16 Field Testing

410.07.16.05 Deflection Testing of Pipe Sewers

ADD in the following:

Laser profiling shall be an acceptable test for pipe deflection performed in accordance with OPSS.MUNI 434.

DELETE paragraph 3 and REPLACE with:

A suitably designed device as defined below shall be pulled through the pipe sewer to demonstrate that the pipe deflection does not exceed the allowable deflected pipe diameter. The device shall be pulled manually through the pipe a minimum of 30 days after the completion of backfilling and installation of services and prior to placement of asphalt, unless approved by the General Manager.

410.07.16.06 Closed Circuit Television (CCTV) Inspection

DELETE in it's entirety and ADD in the following:

Prior to the placement of the final lift of asphalt, the following camera work shall be performed by the Contractor and the video report provided to the General Manager.

- i) All newly installed sewer mains and laterals shall be at the Contractor's expense.
- ii) All sewer mains and lateral repairs as indicated in the contract documents and plans at the Contractor's expense.
- iii) Where blasting occurs, all existing sewer mains and laterals within the limits of construction. The Contractor shall be paid for the camera work.
- iv) All existing sewer mains and laterals which were crossed either above or below by the installation of new sewer and/or watermain. The Contractor shall be paid for the camera work.

All sewers mentioned above found to be deficient shall be repaired and camera inspected at the Contractor's expense until acceptable to the General Manager.

ADD in the following subsection:

410.07.22 Connection to Existing Openings in Maintenance Holes, Catch Basins, Ditch Inlets

Where a new pipeline is to be connected into an existing opening of a Maintenance Hole, Catch Basin or Ditch Inlet with the same inside diameter as an existing opening, the pipeline shall be sealed in accordance with OPSS 407.

410.09 Measurement for Payment

ADD in the following:

410.09.01.06 Sewer Pipe/Service Spot Repairs

Measurement for existing sewer pipe/service repairs shall be in metres along the centreline of repair or replacement for a minimum of 3.0 metres or actual whichever is greater.

410.10 Basis of Payment

ADD in the following:

Full compensation for all labour, Equipment, and Material to do the work of connecting to Existing Openings in Maintenance Holes, Catch Basins, Ditch Inlets shall be deemed to be inclusive of the Contract price of the pipe.

410.10.02 Closed - Circuit Television (CCTV) Inspection

DELETE the first paragraph.

ADD in the following:

See GSSS 410.07.16.06.