

**407 MUNI CONSTRUCTION SPECIFICATION FOR MAINTENANCE HOLE, CATCH
BASIN, DITCH INLET, AND VALVE CHAMBER INSTALLATION****407.05.01 Concrete****DELETE and REPLACE with the following:**

Concrete for cast-in-place structures shall be according to OPSS 1350 with a nominal minimum 28-Day compressive strength of 32 MPa.

**407.05.03 Precast, Concrete Components for Maintenance Holes, Catch Basins,
Ditch Inlets, and Valve Chambers****ADD in the following:**

Flat top transition slabs, within travelled portion of road, shall be used only with written permission of the General Manager.

407.05.04 Steps and Ladders**ADD in the following:**

Only circular hollow aluminum steps shall be permitted.

407.05.05 Adjustment Units

DELETE the second and third paragraphs.

ADD in the following:

Coning bricks for circular structures and bricks for rectangular structures shall only be hard burned clay with low absorption qualities suitable for exterior application, and shall conform to C.S.A. Specification A82.1.

407.05.06 Mortar and Grout**ADD in the following:**

Gradation requirements for mortar sand are outlined in GSSS 1010, Table 2A.

ADD in the following subsection:**407.05.12 Steel Strapping**

Steel strapping shall be required and conform to the requirements of OPSD 701.100.

ADD in the following subsection:

407-01

407.07 Construction

407.07.01 General

ADD in the following:

The work of installing new structures shall include the placement of the frame with grate or cover

407.07.02 Operational Constraints

DELETE paragraphs one and two.

407.07.06 Excavating Backfilling and Compacting

ADD in the following:

Suitable Native Backfill material shall be placed simultaneously on the sides of the structures in layers not exceeding 300 mm in thickness, loose measurement, and compacted to 95% of the maximum dry density before a subsequent layer is placed.

407.07.10 Precast Structures

ADD in the following:

Where precast units are used in construction, the precast structures shall be strapped according to the requirements of OPSD 701.100.

For replacements of existing sanitary systems with active service connections that cannot be plugged to complete leakage testing, the sanitary maintenance holes shall be externally wrapped with Waterproof membrane placed externally around all precast joints, including joints below the maintenance hole frame and cover, with a minimum 300mm wide strip.

407.07.11 Installation of Inlet and Outlet Pipes into Concrete Structures

DELETE paragraph 2 and REPLACE with the following:

Inlet and outlet pipes shall be securely set into the concrete structure's using grout or approved pipe connectors so that the structure is watertight. All openings are to be parged on the inside and outside of the structure. Inlet and outlet pipe shall also be wrapped with a waterproof membrane that extends a minimum of 300mm onto the exterior wall of the maintenance hole and onto the exterior wall on the new pipe connection to create an external gasket.

407.07.12 Benching and Channelling

ADD in the following:

In all maintenance holes, channelling shall be provided utilizing the pipe wall as channel lining as shown in GSSD 1004.020. Service connections for dead end maintenance holes shall extend into the maintenance hole to drop into the lined channel as per GSSD 1004.020.

407.07.14 Installation of Frames with Grates or Covers

DELETE paragraphs two and three.

ADD in the following:

Auto-Stable Self-Level Frame and Covers shall be installed prior to binder asphalt placement and shall be raised to match each asphalt course during paving operations.

407.07.18 Installation of Frost Straps

DELETE and REPLACE with the following:

Frost straps shall be installed on all pre-cast structures in accordance with OPSD 701.100 to a minimum depth of 3.0m. Bottom anchor to be a minimum of 600mm from a joint, or in the base.

407.07.22 Leakage Test

DELETE the first paragraph and REPLACE with the following:

Sanitary sewer maintenance holes shall be tested for leakage. Storm sewer maintenance holes shall be tested for leakage when specified. Leakage shall not exceed a rate of 3 litres per hour per metre of head above the lowest pipe Invert In the maintenance hole.

407.09.01.01 Maintenance Holes, Catch Basins, Apron, Ditch Inlets and Valve Chambers

DELETE in its entirety.

ADD in the following:

Measurement of maintenance holes, catch basins, ditch inlet and valve chambers is by the vertical height measured from top of base slab to the finished grade.

ADD in the following subsection:

407.09.01.03 Drop Structures For Maintenance Holes

Measurement of drop structures will be by each.

ADD in the following subsection:

407.09.01.04 Maintenance Hole Access Entrance at Ditches

Measurement for construction of maintenance hole access entrances will be by each, according to culvert size.

407.10.01 Basis of Payment

ADD in the following items:

Drop Structures - Item

Maintenance Hole Access Entrance at Ditches – Item

ADD in the following:

Payment at the Contract Price for the above tender items shall also include the supply of frame with grate or cover.