



**CITY OF
SWIFT CURRENT**
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SECTION 08003
LOT SERVICE CONNECTIONS

MARCH 2019

1	GENERAL	2
1.1	DESCRIPTION	2
1.2	RELATED SECTIONS	2
1.3	INSPECTION AND TESTING	2
2	PRODUCTS	3
2.1	WATER SERVICE PIPE, FITTINGS	3
2.2	SEWER SERVICE PIPE	3
2.3	SEWER SADDLES	3
2.4	RIGID FOAMED URETHANE INSULATION	3
3	EXECUTION	4
3.1	WATER SERVICES	4
3.2	SEWER SERVICES	4
3.3	MARKERS	5
4	MEASUREMENT AND PAYMENT	5
4.1	MEASUREMENT	5
4.2	PAYMENT	5

1 GENERAL

1.1 DESCRIPTION

- 1.1.1 This section includes the supply and installation of lot service connections within areas required by the City.
- 1.1.2 The Contractor shall provide all labour, products and equipment required for the lot service connections, including but not limited to:
- water service piping
 - sewer service piping
 - corporation cocks, connection to main
 - curb stops, service boxes, service markers

1.2 RELATED SECTIONS

- 08000 Trenching and Backfilling
- 08001 Watermains
- 08002 Sanitary Sewer Mains
- 08010 Storm Sewer Mains

1.3 INSPECTION AND TESTING

- 1.3.1 Products and workmanship shall conform to applicable municipal and provincial standards and to specifications.
- 1.3.2 All products and workmanship will be subject to inspection by the City.
- 1.3.3 Perform all tests required by authorities having jurisdiction. Test water and disinfect services with mains.
- 1.3.4 Notify the City and authorities in ample time before testing to permit inspection and to allow tests to be witnessed.
- 1.3.5 Do not cover work before inspection and testing unless authorized by the City in writing.
- 1.3.6 Remove or repair defective products or work which fails to meet specified requirements as directed by The City, at Contractor's expense.
- 1.3.7 Transverse or longitudinal underground service trenches that have not thoroughly settled shall be excavated and backfilled with gravel and compacted to a minimum density of 98% SPD. All granular backfill shall contain adequate fines as permit compaction to form a solid mass and shall be compacted in layers not exceeding 150mm by a mechanical vibrator.

2 PRODUCTS

2.1 WATER SERVICE PIPE, FITTINGS

- 2.1.1 Underground service pipe – Municipex, Type K copper, or HDPE for pipe diameters up to 50 mm. Pipes must be copper tubing size (C.T.S).
- 2.1.2 Main or corporation cocks – Compression type AWWA thread.
- 2.1.3 Curb stops – 1/4 turn ball valve with a drain. Curb stops 38 mm or larger shall be ball bearing type.
- 2.1.4 Couplings – Standard Brass Compression type.
- 2.1.5 Service Boxes – For services up to 25 mm, service boxes shall be epoxy coated extension type for a maximum extension of 3.5 m, complete with stainless steel operating rod and clevis with brass key. Service box to be galvanized with cast top and bottom and supported on a concrete block. For services larger than 25 mm, use a large PVC casing with cast iron lid and no rod.
- 2.1.6 Service Clamps – Bronze double strap conforming to Smith-Blair 323 or approved stainless steel tapping clamp.
- 2.1.7 Service boxes to be adjustable from 2.4 m to 3.0 m bury, unless otherwise noted on drawings.
- 2.1.8 The casing shall be standard black iron pipe with an OD of 33.5 mm. The rod should be T-304 stainless steel, 12.5 mm diameter by 2.2 m long, complete with standard pig tail for 35 mm ID pipe and welded bottom bracket with an 8 mm cored hole. Rod to be complete with a 6 mm diameter cotter pin of sufficient length.
- 2.1.9 Box bottom boot to be cast or ductile iron, factory coated, with a clear opening to allow curb stop access. The boot is to attach to the casing by means of a threaded joint.

2.2 SEWER SERVICE PIPE

- 2.2.1 Service pipe shall be PVC SDR 35 building service pipe. For service pipe with a depth of cover greater than 2.8 m use PVC SDR 28.
- 2.2.2 Service fittings shall be either in-line tees or service saddle, complete with gasket and stainless steel straps and nuts.
- 2.2.3 Box bottom boot to be cast or ductile iron, factory coated, with a clear opening to allow curb stop access. The boot is to attach to the casing by means of a threaded joint.

2.3 SEWER SADDLES

- 2.3.1 Manufactured tee saddles, gasketed joints secured with double steel clamps.

2.4 RIGID FOAMED URETHANE INSULATION

- 2.4.1 Density (ASTM D1622) not less than 28.8 kg/cubic meter. (Nominal 32.0 kg).

- 2.4.2 Closed cell content (ASTM D2856) not less than 90%.
- 2.4.3 Water absorption (ASTM D2842) not greater than 0.34 kg/square meter.
- 2.4.4 Initial thermal conductivity (ASTM D2326) (K Factor) not greater than watts/meter degree Celsius.
- 2.4.5 Dimensional stability (ASTM D2126)
- 2.4.6 Compressive strength (ASTM D1621) not less than 206.8 kPa at 10% deflection. Catch Basin Lead Pipes

3 EXECUTION

3.1 WATER SERVICES

- 3.1.1 Use tapping machine to drill, tap and thread corporation main stop into main. Use special care to prevent cuttings falling into main. Wherever possible, tap main under pressure and obtain written approval from the City to do otherwise.
- 3.1.2 Lay service pipe to designated location and connect to existing service lines. Service connections shall be tapped into the upper portion of the watermain at an angle of at least 45 degrees from the horizontal. Tappings shall have a minimum spacing of at least 600 mm. Attach curb stop and set service box to grade where required.
- 3.1.3 Service box for residential service to have adjustable sliding top section, standard block iron pipe with threaded top. Top section to be 600 mm in length, with a minimum ID of 35 mm. The service box shall be adjustable from 2.5 to 3.0 m bury. The threaded steel cap shall have a slotted top with a 19 mm pentagon brass plug.
- 3.1.4 Brace boxes securely to keep plumb during backfilling. Test for operation both before and after pressure test.
- 3.1.5 Where curb stop is located under sidewalk, concrete slab or other structure, place in a PVC sleeve, set top of extension service box flush with surface, and fill hole around pipe neatly with concrete.
- 3.1.6 Use service tapping clamps on all services tapped into all types of mains 25 mm and above.
- 3.1.7 Place water service lines at least 2.6 m below final finished grade elevations, unless otherwise directed.
- 3.1.8 Lay water service lines in same trench with sewer service line. Install sanitary services on left side of water service as viewed from main towards property line. Make all connections to existing services using appropriate couplings.

3.2 SEWER SERVICES

- 3.2.1 Connect services to mains with manufactured tee or wye fittings placed in mains, or by cutting into mains and installing manufactured tee saddles or wye saddles and 45 degree bends. Take care to avoid cracking pipe and remove all cuttings from pipe. Secure joint between saddle and main with mortar or other means acceptable to the City.

- 3.2.2 Do not allow spigots or other obstructions to project into main. Lay service pipe to an even gradient as directed.
- 3.2.3 Install service lines as detailed, at locations and to grade designated by grade sheet provided in field. Install services at right angle to main, unless otherwise specified.
- 3.2.4 Bends permitted only at three (3) locations – 45 degree bend with wye or 22.5 degree bend with tee connection at main, 45 degree bend at top of riser and 22.5 degree bend maximum at property line for house service connection between these points.
- 3.2.5 Support service lines adequately to prevent dislocation, buckling or settlement. When water lines must be laid below sewer lines, ensure that backfill over water lines is adequately compacted to prevent settlement or dislocation of sewers.
- 3.2.6 When a connection cannot be made directly to a house service line, plug end of sewer service to prevent entry of water and dirt.
- 3.2.7 Install service risers only where noted on the lot grading plan. Ensure adequate support for the riser section utilizing sandbags or screened rock.

3.3 MARKERS

- 3.3.1 At the end of a sewer service a 90° angle and vertical 100 mm dia. pipe must be installed to 700 mm above ground. A plug must be inserted at the top of the pipe. This acts as a marker and allows for depth measurement to pipe invert.

4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- 4.1.1 Measurement for the lot service connections will be based on as-built drawings, or actual field measurements.

4.2 PAYMENT

- 4.2.1 Payment for the lot service connections will be made at the unit price specified for each lot service connected or reconnected. Price shall include the supply and installation of all necessary materials, equipment and labour required to complete the reconnection.

END OF SECTION