

APPENDIX B – SUPPLEMENTARY SPECIFICATIONS

Supplementary Specifications

The following Supplementary Specifications included in this section are modifications or additions to the Specifications in the Master Municipal Construction Document 2019 Edition:

SS 01 00 00 General Clarifications

Add Measurement and Payment clause as follows:

1.1 Measurement and Payment

The MMCD specifications and supplemental specifications for the purpose for this Manual are referred to for construction specifications only. All measurement and payment clauses do not apply with respect to this Bylaw.

SS 01 55 00 Traffic Control, Vehicle Access and Parking

1.4 Traffic Management

Add sections 1.4.15 and 1.4.16 as follows:

- .15 Maintain access for emergency vehicles through or around the Site.
- .16 Maintain garbage pick-up service on the scheduled dates (dates will be provided by the Approving Officer), to all affected residents or businesses during the construction period.

SS 03 30 20 Concrete Walks, Curbs and Gutters

2.1 Materials

Delete section 2.1.5 and replace with the following:

- .5 Concrete mixes and materials: to Section 03 30 53 – Cast-in-Place Concrete. Concrete to exposure class C-2 with minimum compressive strength of 32 MPa at 28 days.

3.5 Concrete Placement

Add section 3.5.12 as follows:

- .12 Where asphalt paving is adjacent to concrete formwork, concrete placement must occur prior to asphalt paving.

SS 03 30 53 Cast-In-Place Concrete

2.1 Materials

Delete section 2.1.1 and replace with the following:

- .1 Proportion concrete in accordance with CSA-A23.1, Table 5, Alternative 1 and to specific design criteria specified on Contract Drawings.

SS 03 40 01 Precast Concrete

2.1 Materials

Add section 2.1.2 as follows:

- .2 Type 50 (High Sulphate Resistant) concrete to be used for the manufacture of all concrete products incorporated into this project.

SS 31 22 01 Site Grading

3.3 Tolerances

Delete Table 2 and replace with the following:

TABLE 2: TOLERANCES FOR SUBGRADES WHERE GROWING MEDIUM (TOPSOIL) TO BE PLACED OVER SUBGRADE		
Conditions	Intended Growing Medium Depth	Tolerance
Within 3 m from fixed elevations (e.g., paving edges, curbs, etc.)	0 – 150 mm	± 25 mm
	151 – 300 mm	± 25 mm
	301 – 600 mm	± 50 mm
Other areas	0 – 150 mm	± 25 mm
	151 – 300 mm	± 50 mm
	301 – 600 mm	± 50 mm

SS 31 23 01 Excavating Trenching and Backfilling

3.5 Backfill and Compaction

Delete section 3.5.4 and replace with the following:

- .4 Compaction: place backfill and compact to following Standard Proctor Maximum Dry densities (SPMDD) in compliance with ASTM D698. (All following references to density imply compliance with ASTM D698).
 - .1 Boulevards and easements to minimum 98%, or as specified by the Owner's professional engineer.

- .2 Roads, driveways, shoulders, re-shaped ditches and sidewalks to minimum 98% or as specified by the Owner's professional engineer.
- .3 Use caution in pipe zone to ensure no damage to pipe.

3.6 Surface Restoration

Delete section 3.6.2 (2) and replace with the following:

- .2 Restore unimproved and grassed surfaces with approved topsoil and hydraulic seeding as required by the Approving Officer.

SS 31 23 23 Controlled Density Fill

3.4 Placing

Add section 3.4.9 as follows:

- .9 Do not encase pipe or existing utilities in Controlled Density Fill. Pipes are to be bedded with granular pipe bedding and surround material.

SS 31 24 13 Roadway Excavation, Embankment and Compaction

3.3 Inspection of Native Surface

Delete section 3.3.1 and replace with the following:

- .1 Prior to placing embankment fill, proof roll graded native surface using fully loaded single or dual axle dump truck. Approving Officer may authorize use of other acceptable proof rolling equipment. Remove soft or other unstable material. Replace with approved embankment fill and compact replacement fill to minimum 98% Standard Proctor Maximum Dry Density in compliance with ASTM D698. (All following references to density imply compliance with ASTM D698).

3.5 Compaction

Delete section 3.5.2 and replace with the following:

- .2 Compact to a density of not less than 98% Standard Proctor Maximum Dry Density.

SS 32 11 16.1 Granular Subbase

3.3 Compaction

Delete section 3.3.2 and replace with the following:

- .2 Compact to a density of not less than 98% Standard Proctor Maximum Dry Density.

SS 32 11 23 Granular Base

3.1 Inspection of Underlying Subbase

Delete section 3.1.1 and replace with the following:

- .1 Ensure underlying subbase surface true to the cross section and grade, and of the specified material compacted to 98% Standard Proctor Maximum Dry Density, in compliance with ASTM D698. Do not place granular base until finished subbase surface is inspected and approved by the Approving Officer.

3.3 Compaction

Delete section 3.3.2 and replace with the following:

- .2 Compact to a density of not less than 100% Standard Proctor Maximum Dry Density.

SS 32 31 13 Chain Link Fences and Gates

Add section 3.5 as follows:

- .5 Touch up
 - .1 Clean damaged surfaces with wire brush removing loose and cracked coatings. Apply two coats of organic zinc-rich paint to damaged areas. Pre-treat damaged surfaces according to manufacturer's instructions for zinc-rich paint.

SS 33 01 30.1 CCTV Inspection of Pipelines

3.1 CCTV Inspection

Delete section 3.1.2 and replace with the following:

- .2 Submit sample of inspection report, digital video on USB or via other accepted format as approved by the Approving Officer. Submission to satisfy all of the specifications contained herein and the accepted report submission will be used as a benchmark for subsequent inspection report submissions.

SS 33 11 01 Waterworks

Mainline Pipe, Joints and Fittings

Delete section 2.2.2.2 and replace with the following:

- .2 Joints: Push-on bell and spigot type conforming to ASTM D3139 with single elastomeric gasket to ASTM F477.

3.5 Granular Bedding

Delete section 3.5.5 and replace with the following:

- .5 Compact each layer full width of bed to minimum 95% Standard Proctor Maximum Dry Density (SPMDD) in compliance with ASTM D698. (All following references to density imply compliance with ASTM D698).

3.15 Pipe Surround

Delete section 3.15.3 and replace with the following:

- .3 Compact each layer from pipe invert to underside of backfill to minimum 95% Standard Proctor Maximum Dry Density.

3.17 General Procedure Flushing, Testing, and Disinfection

Delete section 3.17.2 and replace with the following:

- .2 Perform all tests in presence of Approving Officer between 08:00 and 17:00 h, Monday to Friday unless otherwise authorized. Notify Approving Officer 72 h in advance of proposed test.

3.19 Testing Procedures

Delete 3.19.2 and replace with the following:

- .2 Before pipe is filled with water, pipe bedding, concreting of all valves and fittings and backfilling to be completed as required in this specification. Fill each section of pipe and allow to remain full of water for a period of at least 24 hours prior to commencement of any pressure tests. Submit pipeline to a test of 1.5 x working pressure applied at highest elevation in each section, with a minimum of 1034 kPa applied at lowest point of test section. Ensure that test pressure does not exceed pipe or thrust restraint design pressures. Minimum duration of test period to be 2 hours. Maximum test pressures should not exceed those specified in CSA B137.3 – Table 9.

Add new section 3.19.7 as follows:

- .7 Fire Hydrants to be included in all watermain testing.

3.20 Disinfection, General

Add new section 3.20.3 as follows:

- .3 Piping intended for potable water service (including but not limited to raw water piping in a drinking water system) shall be flushed, disinfected and bacteriologically tested in accordance with AWWA C651. Unless otherwise approved by the Approving Officer, the continuous feed method shall be used. Submit outline of proposed disinfection procedure accompanied by schematic drawings to Approving Officer for review 48 hours in advance of commencement of disinfection.

Bacteriological testing to be completed in accordance with Standard Methods for the Examination of Water and Wastewater. Testing shall include total coliforms, E.Coli and heterotrophic plate count (HPC).

If satisfactory bacteriological test results are not achieved, refer to section 5.2 of AWWA C651. The following constitutes satisfactory bacteriological test results:

(1) Non-detect for total coliforms and E.coli; and

(2) HPC results less than 500 colony forming units per mL (CFU/mL);

Bacteriological samples to be collected by the Owner. Bacteriological samples can only be collected Monday to Thursday.

3.23 Connection to Existing Mains

Delete section 3.23.1 and replace with the following:

- .1 Connections to existing waterworks systems will be made by the Contractor. The Contractor shall make all the necessary arrangements with the Approving Officer and must provide a minimum of 72 h notice of connection to the Approving Officer, and shall notify the public if so directed by the Approving Officer. The connection cannot be scheduled until all flushing, testing and disinfection of the Work has been approved by the Approving Officer.

SS 33 30 01 Sanitary Sewers

3.12 Leakage Testing General

Delete section 3.12.3 and replace with the following:

- .3 Leakage testing to include the low pressure air test. Perform all tests in presence of Approving Officer and Owner between 08:00 and 17:00 h, Monday to Friday unless otherwise authorized. Notify Approving Officer 72 hours in advance of proposed test.

3.20 Connections to Existing Mains

Delete section 3.20.2 and replace with the following:

- .2 Make connections to existing sanitary sewer systems unless shown otherwise on Contract Drawings. Notify Approving Officer minimum 72 h in advance of scheduled connection.

SS 33 44 01 Manholes and Catchbasins

2.1 Materials

Add section 2.1.24 as follows:

- .24 All manholes to have precast bases. No field constructed bases unless otherwise noted on the Contract Drawings. Precast bases to have integral bell fittings matching pipe size and grade cast into the base for all mains.