



**CITY OF MAPLE RIDGE**

**DESIGN AND CONSTRUCTION DOCUMENTS**

**PART 3**

**SUPPLEMENTARY SPECIFICATIONS**

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

	Page
<b>01 33 01 PROJECT RECORD DOCUMENTS .....</b>	<b>SS 1</b>
1.0 GENERAL .....	SS 1
1.8 Payment.....	SS 1
<b>01 55 00 TRAFFIC CONTROL, VEHICLE ACCESS AND PARKING.....</b>	<b>SS 2</b>
1.0 GENERAL .....	SS 2
1.4 Traffic Control.....	SS 2
<b>01 57 01 ENVIRONMENTAL PROTECTION.....</b>	<b>SS 4</b>
1.0 GENERAL .....	SS 4
1.2 Temporary Erosion and Sediment Controls .....	SS 4
1.9 Soil Removal and Deposit.....	SS 4
<b>01 58 01 PROJECT IDENTIFICATION.....</b>	<b>SS 5</b>
1.0 GENERAL .....	SS 5
1.2 Temporary Project Signage.....	SS 5
<b>03 30 20 CONCRETE WALKS, CURBS AND GUTTERS.....</b>	<b>SS 6</b>
3.0 EXECUTION .....	SS 6
3.12 Finishing .....	SS 6
<b>26 56 01 ROADWAY LIGHTING .....</b>	<b>SS 7</b>
2.0 PRODUCTS.....	SS 7
2.11 Fuses and Fuse Holders .....	SS 7
2.18 Powder Coat Materials.....	SS 7
<b>31 05 17 AGGREGATES AND GRANULAR MATERIALS.....</b>	<b>SS 8</b>
2.0 PRODUCTS.....	SS 8
2.3 Pit Run Gravel .....	SS 8
2.7 Granular Pipe Bedding and Surround Material .....	SS 8
<b>31 11 01 CLEARING AND GRUBBING.....</b>	<b>SS 9</b>
1.0 GENERAL .....	SS 9
1.2 Definitions .....	SS 9
<b>31 23 01 EXCAVATING, TRENCHING AND BACKFILLING .....</b>	<b>SS 10</b>
1.0 GENERAL .....	SS 10
1.8 Limitations of Open Trench .....	SS 10
3.0 Execution .....	SS 10
3.6 Surface Restoration.....	SS 10
<b>32 11 23 GRANULAR BASE.....</b>	<b>SS 11</b>
3.0 EXECUTION .....	SS 11
3.5 Approval of Base.....	SS 11
<b>32 12 16 HOT-MIX ASPHALT CONCRETE PAVING .....</b>	<b>SS 12</b>

3.0	EXECUTION .....	SS 12
3.8	Pavement Patching .....	SS 12
<b>32 31 13</b>	<b>CHAIN LINK FENCES AND GATES .....</b>	<b>SS 13</b>
2.0	PRODUCTS.....	SS 13
2.1	Materials.....	SS 13
<b>32 91 21</b>	<b>TOPSOIL AND FINISH GRADING.....</b>	<b>SS 14</b>
2.0	PRODUCTS.....	SS 14
2.1	Blended Horticultural Grade Soil .....	SS 14
<b>33 01 30.1</b>	<b>CCTV INSPECTION OF PIPELINES.....</b>	<b>SS 15</b>
3.0	EXECUTION .....	SS 15
3.8	Inspection Reporting Hard Copies & Digital Format .....	SS 15
<b>33 11 01</b>	<b>WATERWORKS.....</b>	<b>SS 16</b>
2.0	PRODUCTS.....	SS 16
2.1	General .....	SS 16
2.2	Mainline Pipe, Joints and Fittings .....	SS 16
2.5	Service Connections, Pipe, Joints and Fittings .....	SS 16
2.10	Casing Pipe.....	SS 16
<b>33 30 01</b>	<b>SANITARY SEWERS .....</b>	<b>SS 17</b>
2.0	PRODUCTS.....	SS 17
2.1	Concrete Pipe.....	SS 17
3.0	EXECUTION .....	SS 17
3.10	Service Connection Installation.....	SS 17
3.18	Video Inspection .....	SS 17
<b>33 40 01</b>	<b>STORM SEWERS.....</b>	<b>SS 18</b>
2.0	PRODUCTS.....	SS 18
2.1	Concrete Pipe.....	SS 18
2.6	Service Connection.....	SS 18
3.0	EXECUTION .....	SS 18
3.6	Pipe Installation .....	SS 18
3.10	Service Connection Installation.....	SS 18
3.12	Inspection and Testing.....	SS 18
<b>33 42 13</b>	<b>PIPE CULVERTS .....</b>	<b>SS 19</b>
2.0	PRODUCTS.....	SS 19
2.2	Concrete Pipe.....	SS 19
<b>33 44 01</b>	<b>MANHOLES AND CATCHBASINS .....</b>	<b>SS 20</b>
3.0	EXECUTION .....	SS 20
3.3	Manhole Installation.....	SS 20

1.0 GENERAL

1.8 Payment

~~1.8.1~~  
SS 1.8.1

(delete clause 1.8.1 and replace as follows)

Payment for all work performed under MMCD – Specifications, Section 01 33 01 will be paid after issuance of *Certificate of Substantial Performance* and after receipt of all record drawings and as constructed information, all to the satisfaction of the *Contract Administrator* which consists of but is not limited to the following:

- .1 The City of Maple Ridge will provide three sets of white prints for RECORD drawing purposes.
- .2 Maintain record drawings and record accurately significant changes from *Contract Documents* caused by site conditions and changes ordered by the *Owner*.
- .3 Mark all record drawing changes, on the white prints, in red ink.
- .4 Record the following information:
  - .1 Horizontal and vertical location of underground utilities or drainage structures and referenced to permanent surface improvement.
  - .2 Field changes of dimension and detail.
  - .3 Changes made by Change Order or Field Order.
- .5 At completion of the project and prior to final inspection submit completed "record" drawings (as per City of Maple Ridge Design Criteria Manual) to the City of Maple Ridge.
- .6 Additional Information required:
  - .1 Name, address and phone number of all sub-contractors and suppliers.

## 1.0 GENERAL

## 1.4 Traffic Control

~~1.4.2~~ (delete clause 1.4.2 and replace as follows)  
 SS1.4.2 Regulate traffic in general accordance with municipal requirements except where specified otherwise and in compliance with specific requirements stipulated herein.

*Contractor* to submit, 72 hours prior to start of construction, a Traffic Management Plan (TMP) prepared in accordance with the "Traffic Control Manual for Work on Roadways". Road closures will not be allowed without prior approval from the City of Maple Ridge. TMP preparation, traffic control personnel and all other items and work incidental to traffic management will be paid at the Lump Sum price bid in the *Schedule of Quantities and Prices*.

~~1.4.8~~ (delete clause 1.4.8 and replace as follows)  
 SS 1.4.8 Provide and maintain reasonable road access and egress to property fronting along or in the vicinity of the *Work* under contract unless approved otherwise by the *Contract Administrator*.

Provide full, proper and safe access to, from and past buildings and properties, both for vehicles and pedestrians, and for this purpose construct and maintain, in good order and serviceable condition, suitable and convenient platforms, approaches, structures, bridges, crossings or similar works.

## .9 Traffic Control Informational and Warning Devices

**New** (add new clause SS 1.4.9.6 as follows)  
 SS  
 1.4.9.6 *Contractor* to supply, install and maintain permanent notice of construction signs at all streets leading to the *Place of the Work*. Signs to indicate, at a minimum, the name and contact information of the *Contractor*, start and end dates, and streets affected by the *Works*.

The *Contractor* shall ensure that closed sidewalks are:

- .1 closed by signs and barricades at the first acceptable intervening street or avenue, and at the location where the sidewalk is discontinuous, and
- .2 provided with an alternative temporary walkway approved by the *Contract Administrator*.

~~1.4.12~~ (delete clause 1.4.12 and replace as follows)  
 SS  
 1.4.12 *Contractor* to provide and maintain suitable detours or temporary access routes for pedestrian and equestrian traffic, complete with suitable warning and advisory signs.

**New** (add new clause SS 1.4.14 as follows)  
 SS  
 1.4.14 Where temporary road closures are permitted by the *Owner*, advise the *Contract Administrator*:  
 .1 at least five (5) *Days* prior to the date of any desired partial closure, and

.2 at least ten (10) Days prior to the date of any desired full closure.

**New** (add new clause SS 1.4.15)  
SS Single lane alternating traffic must be maintained at all times  
1.4.15 during construction on existing roads and flag persons shall be in attendance during working hours. Two-lane traffic must be maintained after working hours.

**New** (add new clause SS 1.4.16)  
SS The *Contractor* shall comply fully with the following:  
1.4.16 .1 one lane of traffic must be maintained and kept open at all times for buses and emergency vehicles,  
.2 local traffic must be accommodated through the construction zone without hazard and with the least possible delay.

1.0 GENERAL

1.2 Temporary Erosion  
and Sediment  
Controls

1.2.1 Drainage

**New** (add new clause SS 1.2.1.4 as follows)

SS All heavy equipment shall have a spill kit on-site at all times.

1.2.1.4

1.2.2 Work Adjacent to Watercourses

**New** (add new clause SS 1.2.2.9 as follows)

SS The *Contractor* is responsible for all necessary measures required to prevent silt or other deleterious material from entering into any fish bearing watercourses or their tributaries or as directed by the City's Environmental Monitor. All requirements of the Minister of Environment, Lands and Parks, Fish and Wildlife Branch and Fisheries and Oceans Canada, with respect to air, earth, and water pollution, must be strictly adhered to.

1.2.2.9

The *Contractor* shall provide a copy of their Sedimentation Control Plan to the *Contract Administrator* prior to the commencement of the *Work*.

1.9 Soil Removal and  
Deposit

**New** (add new clause SS 1.9.1 as follows)

SS 1.9.1 The *Contractor* shall ensure soil removal and deposit is done in accordance with the current "Soil Deposit Regulation Bylaw" and the current "Maple Ridge Soil Removal Bylaw". Acquiring all permits and approvals regarding soil deposit and removal shall be the *Contractor's* responsibility.



1.0 GENERAL

1.2 Temporary Project  
Signage

1.2.2 Public Notice

~~1.2.2.1~~ (delete clause SS 1.2.2.1 and replace as follows)

SS  
1.2.2.1 The *Contractor* shall, at its own expense, deliver letters advising residents and/or other parties within the affected area of planned construction activities, no sooner than ten (10) *Days* and no later than five (5) *Days* before the start of construction. Coordinate with and obtain the *Contract Administrator's* approval before delivery or mailing of public notices.

**New** (add new clause SS 1.2.2.2 as follows)

SS  
1.2.2.2 Prior to commencement of the *Work*, prepare and deliver a list of all existing signs, such as traffic control signs, school signs and playground signs. Maintain these signs at all times during construction. When existing permanent signs are removed during construction, the *Contractor* shall keep and maintain temporary signs of equal quality in place at all times until permanent replacement signs are reinstated.

3.0 EXECUTION

3.12 Finishing

**New** (add new clause SS 3.12.9 as follows)  
**SS** Stamp on the finished curb the letters 'ST' for storm, 'S' for  
3.12.9 sanitary and 'W' for water, for service location connections  
encountered or installed and record as required under section  
01 33 01 clause 1.7.

**2.0 PRODUCTS**

- 2.11 Fuses and Fuse Holders**        ~~2.11.2~~ (delete clause 2.11.2 and replace as follows)  
   SS        Fuse Holder – 30A-600V screw type wire connectors and “I” type  
   2.11.2        rubber insulating boots
- 2.18 Powder Coat Materials**        ~~2.18.4~~ (delete clause 2.18.4 and replace as follows)  
   SS        Pole Finish: Hot dip galvanized and powder black  
   2.18.4        Pole Finish: Hot dip galvanized and powder black

2.0 PRODUCTS

2.3 Pit Run Gravel

~~2.3.1~~ (delete clause 2.3.1 and replace as follows)  
SS 2.3.1

To be well graded granular material, substantially free from clay lumps, organic matter and other extraneous material, screened to remove all stones in excess of maximum diameter specified. Material to compact to specified density and conform to following gradations:

SIEVE DESIGNATION	PERCENTAGE PASSING
150mm	100
100mm	75-100
50mm	62-100
25mm	50-92
19mm	46-88
12.5mm	38-82
9.5mm	
4.75mm	20-70
2.36mm	17-59
1.18mm	13-49
0.600mm	10-39
0.300mm	7-29
0.150mm	4-19
0.075mm	0-8

2.7 Granular Pipe Bedding and Surround Material

Amend  
SS 2.7.1 (amend clause 2.7.1 as follows)

**Delete the following text:** “Recycled concrete free from contaminated and other extraneous material, conforming to the Type 1 gradations, may be used as pipe bedding and surround material.”

1.0 GENERAL

1.2 Definitions

- ~~1.2.1~~ (delete clause 1.2.1 and replace as follows)  
SS 1.2.1 Clearing consists of cutting of trees, brush and heavy vegetative growth to not more than a specified height above ground, trimming of trees with branches overhanging the right-of-way to a height of 5.5m above finished road grade, and disposing of felled trees, brush, vegetative growth, including all underbrush, deadwood and surface debris.

1.0 GENERAL

- 1.8 Limitations of Open Trench
- ~~1.8.1~~  
SS 1.8.1 (delete clause 1.8.1 and replace as follows)  
Excavate trenches only as far in advance of pipe laying operation as safety, traffic, and weather conditions permit and, in no case, to exceed 30m. Before stopping work **on each day of work and** before each weekend or holiday, completely backfill every trench. If circumstances do not permit complete backfilling of all trenches, adequately protect all open trenches or excavations with approved fencing or barricades and, where required, with flashing lights.

3.0 EXECUTION

3.6 Surface Restoration

3.6.7 Permanent Pavement Restoration

- ~~3.6.7.5~~  
SS (delete clause 3.6.7.5 and replace as follows)  
3.6.7.5 Restore pavement as detailed on Standard Detailed Drawing G5. If thickness of existing pavement permits, grind 50mm depth for all roads over 8.5m in width. Dry if necessary and paint clean, dry edge with asphalt emulsion (tack coat).

3.0 EXECUTION

3.5 ~~Proof Rolling~~  
Approval of Base

~~3.5~~  
SS 3.5

(delete clause 3.5 and replace as follows)

Prior to the placing of asphalt the base material shall conform to material compaction and alignment specifications. The base material shall be proven to be within the limit of the specified Benkelman Beam rebound value for that class of road, as defined in the table below.

Classification	Maximum Seasonally Adjusted Design Deflections (mean plus two standard deviations)
Urban Arterial	1.20
Urban Collector	1.90
Urban Local	2.50
Urban Limited Local	2.50

3.0 EXECUTION

3.8 Pavement Patching

**New**  
SS 3.8.3

(add new clause SS 3.8.3 as follows)

Repair of existing asphalt pavement surface where directed by *Contract Administrator* by neatly saw cutting the damaged area, compacting the existing base material to 95% modified proctor density.

Payment for repairs will be on the basis of area of the affected pavement and shall cover the asphalt materials used for repairs.

Should the base material not meet the compaction requirement, the removal and replacement of the base gravel will be required and will be paid for separately under section 32 11 23.

**New**  
SS 3.8.4

(add new clause SS 3.8.4 as follows)

For repairs the *Contractor* will cut the asphalt pavement in the area as demarcated by the *Contract Administrator* to a depth of existing pavement thickness, cut away and dispose of the materials. Price for this item shall cover all costs of incidental works necessary to complete the *Works*.



2.0 PRODUCTS

2.1 Materials

~~2.1.3~~ (delete clause 2.1.3 and replace as follows)  
SS 2.1.3 Chain-link fence fabric: 9 gauge (3.55mm diameter) 50mm  
mesh, plastic coated – black.

2.0 PRODUCTS

2.11 Blended  
Horticultural Grade  
Soil

New  
SS  
2.11.1

(add new clause SS 2.11.1 as follows)

The *Contractor* to supply and place Blended Horticultural Grade Soil in the designated areas as shown on drawings. The breakdown of the mix shall be approved by the City prior to placing.

3.0 EXECUTION

- 3.8 Inspection Reporting  
Hard Copies &  
Digital Format
- ~~3.8.2~~ (delete clause SS 3.8.2 and replace as follows)  
SS 3.8.2 Present machine printed (hard copy) and computer generated data base reports according to the MSCC format. All video reports to include text reports in a pdf format.

2.0 PRODUCTS

2.1 General

~~2.1.3~~  
SS2.1.3

(delete clause 2.1.3 and replace as follows)  
All mainline pipe shall be ductile iron of the diameter, class, type of coupling, and other characteristics as noted in the specifications.

2.2 Mainline Pipe, Joints and Fittings

~~2.2.1.1~~  
SS  
2.2.1.1

delete clause 2.2.1.1 and replace as follows)  
Pipe: to AWWA C151 to Pressure Class 350 or Special Thickness Class specified in Contract Documents and standard cement mortar lined to AWWA C104/A21.4

**New**  
SS  
2.2.1.3

(add new clause 2.2.1.3 as follows)  
Stainless steel bolts are required.

~~2.2.2.2.2~~  
SS  
2.2.2.2.2

(delete clause 2.2.2.2.2 and replace as follows)  
Lubricant used to assist in the installation of pipe sealing rings shall be of a type suitable for use in potable water supply lines. It shall be delivered and stored in sealed containers.

2.5 Service Connections, Pipe, Joints and Fittings

~~2.5.1~~  
SS 2.5.1

(delete clause 2.5.1 and replace as follows)  
Pipe diameter 20mm to 50mm to be Type K annealed copper, to ASTM B88M.

~~2.5.2~~  
SS 2.5.2

(delete clause 2.5.2 and replace as follows)  
Pipe diameter 51-100mm to be 100mm to property line and reduced thereafter. The 100mm pipe will be ductile iron.

2.10 Casing Pipe

**New**  
SS2.10

(add new clause 2.10 as follows)  
Casing pipe to have a minimum wall thickness of 6.35mm, to AWWA C201 and AWWA C202.

2.0 PRODUCTS

- 2.1 Concrete Pipe      ~~2.2.1.1~~ (delete clause 2.1.2 and replace as follows)  
SS 2.1.2      Reinforced circular concrete pipe and fittings: to ASTM C76M for all pipe, strength class as shown on Contract Drawings, designed for flexible rubber gasket joints to ASTM C443M.

3.0 EXECUTION

- 3.10 Service Connection Installation      ~~3.10.4~~ (delete clause 3.10.4 and replace as follows)  
SS      The curb face directly above the sanitary sewer connection shall be stamped with an "S".  
3.10.4
- New** (add new clause 3.10.5 as follows)  
   SS      Service connection trenches shall be excavated so that the  
3.10.5      trench line is at right angles to road right-of-way and the wye shall be installed at the sewer main to suit.
- 3.18 Video Inspection      ~~3.18.1~~ (delete clause 3.18.1 and replace as follows)  
SS      The Contractor shall video inspect service connections and  
3.18.1      completed sanitary sewers following completion of installation. The video inspection report shall be in the form specified by the Contract Administrator. Copies of the video tapes and written report shall be forwarded to Contract Administrator when available.

2.0 PRODUCTS

2.1 Concrete Pipe      ~~2.2.1.1~~ (delete clause 2.1.2 and replace as follows)  
SS 2.1.2      Reinforced circular concrete pipe and fittings: to ASTM C76M for all pipe, strength class as shown on Contract Drawings, designed for flexible rubber gasket joints to ASTM C443M.

2.6 Service Connection      ~~2.6.1~~ (delete clause 2.6.1 and replace as follows)  
SS 2.6.1      Storm sewer service connections to be 150mm minimum diameter; maximum diameter as specified on Contract Drawings.

~~2.6.2~~ (delete clause 2.6.2 and replace as follows)  
SS 2.6.2      Storm sewer service connections 150mm diameter to be PVC type PSM DR 28 sewer pipe

~~2.6.3~~ (delete clause 2.6.3 and replace as follows)  
SS 2.6.3      150mm DR 28 PVC storm sewer service connection pipe to have a minimum pipe stiffness of 65 kPa. Pipe to be manufactured to ASTM D3034 and certified by Canadian Standards Association to CSA B182.2.

3.0 EXECUTION

3.6 Pipe Installation      ~~3.6.6.1~~ (delete clause 3.6.6.1 and replace as follows)  
SS      For Concrete, PVC, profile PVC and open profile HDPE pipe do not exceed one-half of the permissible joint deflection recommended by pipe manufacturer.  
3.6.6.1

3.10 Service Connection Installation      ~~3.10.4~~ (delete clause 3.10.4 and replace as follows)  
SS      The curb face directly above the storm sewer connection shall be stamped with an "ST".  
3.10.4

**New** (add new clause 3.10.5 as follows)  
SS      Service connection trenches shall be excavated so that the trench line is at right angles to road right-of-way and the wye shall be installed at the sewer main to suit.  
3.10.5

3.12 Inspection and Testing      ~~3.12.1~~ (delete clause 3.12.1 and replace as follows)  
SS      Video inspection of service connections and completed storm sewers following completion of installation per Section 33 01 30.1 – CCTV Inspection of Pipelines.  
3.12.1

2.0 PRODUCTS

2.2 Concrete Pipe

~~2.2.2~~  
SS 2.2.2

(delete clause 2.2.2 and replace as follows)

Reinforced circular concrete pipe and fittings: to ASTM C76M for all, strength class as shown on Contract Drawings, designed for flexible rubber gasket joints to ASTM C443M.

2.0 PRODUCTS

2.1 Materials

**New** (add new clause 2.1.7.4 as follows)  
SS  
2.1.7.4 Lettering for lids shall be 25mm flattened face Gothic with the face of letters raised to the same level as the top of the ribs and include the words "Maple Ridge" along with the appropriate utility - "Storm Sewer", "Water", or "Sanitary Sewer".

~~2.1.9~~ (delete clause 2.1.9)

~~2.1.11~~ (delete clause 2.1.11 and replace as follows)  
SS  
2.1.11 Catchbasin leads to be 200mm diameter and of PVC DR35. Supplementary Standard Detail Drawing S101. Lawn basin leads to be 150mm diameter PVC DR28.

~~2.1.19~~ (delete clause 2.1.19 and replace as follows)  
SS  
2.1.19 Lawn basin leads to be 150mm to 200mm diameter and of PVC DR28. CMR Supplementary Standard Detail Drawing S12.

3.0 EXECUTION

3.3 Manhole Installation

~~3.3.3~~ (delete clause 3.3.3 and replace as follows)  
SS 3.3.3 Place minimum 200mm of 19mm clear crushed rock for bedding.

~~3.3.9~~ (delete clause 3.3.9 and replace as follows)  
SS 3.3.9 Set remaining precast riser sections plumb with joints consisting of cement mortar or gaskets to ASTM C443M. Top section to be 300mm.

3.12 Rock Pits

**New** (add new clause 3.12 as follows)  
SS 3.12 Construct as shown in CMR Supplementary Standard Detail Drawing S103. A positive drainage outlet must be used in conjunction with rock pits.