



NEW WESTMINSTER

CORPORATION OF THE CITY OF NEW WESTMINSTER

CONTRACT No. NWIT-23-21

2023 Sewer Rehabilitation Program – Service Connection Replacement & Spot Repair

Updated Supplementary General Conditions

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INVITATION TO TENDER

**CORPORATION OF THE CITY OF NEW WESTMINSTER
(THE OWNER)**

Contract: 2023 Sewer Rehabilitation Program – Service Connection Replacement & Spot Repair

Reference No: NWIT-23-21

The Owner invites tenders for:

Sewer main open cut spot repairs at various locations. Sewer service connection replacement/rehabilitation and inspection chamber installations at various locations.

Copies of the Contract Documents are available for download from the City of New Westminister Purchasing site at:

<https://www.newwestcity.ca/business-and-economy/doing-business-with-the-city/request-for-bids-and-proposals-open>

Tenderers are responsible to check for all subsequent addendums/amendments on the City's Purchasing web page and/or BC Bid and respond according to the Invitation to Tender documents.

Tenders are scheduled to close at:

Tender Closing Date: Thursday, November 9, 2023

Tender Closing Time: 3:00 pm (Local Time)

Tenders to be submitted by email to nwpurchasing@newwestcity.ca with Subject "NWIT-23-21 2023 Sewer Rehabilitation Program – Service Connection Replacement & Spot Repair". The City reserves the right to ask any Tenderer to forward a hard copy of the tender and bond after Tender Closing.

A tender shall be accompanied by Bid Security in the amount of ten percent (10%) of the Tender Price payable to the Corporation of the City of New Westminister. The successful tenderer will be required to provide a Performance and Labour and Material Payment Bond each in the amount of fifty percent (50%) of the Tender Price. An Agreement of Surety to bond shall accompany the tender submitted.

Enquiries regarding this tender may be directed to:

Heather Rossi, Procurement Specialist

City of New Westminister

email: nwpurchasing@newwestcity.ca

The lowest or any Tender may not necessarily be accepted and the City will not be responsible for any cost incurred by the Tenderer in preparing the Tender. Tender award will be contingent on budget approval from the City of New Westminister Council.

INSTRUCTIONS TO TENDERERS

Instructions to Tenderers, Part I

INSTRUCTIONS TO TENDERERS – PART 1

(TO BE READ WITH “INSTRUCTIONS TO TENDERERS - PART II” CONTAINED IN THE EDITION OF THE PUBLICATION “MASTER MUNICIPAL CONSTRUCTION DOCUMENTS” SPECIFIED IN ARTICLE 2.2 BELOW)

CORPORATION OF THE CITY OF NEW WESTMINSTER

(THE OWNER)

Contract: **2023 Sewer Rehabilitation Program – Service Connection Replacement & Spot Repair**

Reference No: **NWIT-23-21**

- 1.0 Introduction**
- 1.1 These Instructions apply to and govern the preparation of tenders for this *Contract*. The *Contract* is generally for the following work:
- Sewer main open cut spot repairs at various locations
 - Sewer service connection replacement/rehabilitation and inspection chamber installations at various locations
- 1.2 Direct all inquiries regarding the *Contract*, to:
- Heather Rossi, Procurement Specialist
City of New Westminster
511 Royal Ave, New Westminster, BC, V3L 1H9
email: nwpurchasing@newwestcity.ca
- 2.0 Tender Documents**
- 2.1 The tender documents, which a tenderer should review to prepare a tender, consist of all of the *Contract Documents* listed in Schedule 1 entitled “Schedule of Contract Documents”. Schedule 1 is attached to the Agreement which is included as part of the tender package. The *Contract Documents* include the drawings listed in Schedule 2 to the Agreement, entitled “List of *Contract Drawings*”, and Schedule 3 “Prime Contractor Designation”.
- 2.2 Portions of the Contract Documents are included by reference. Copies of these documents have not been included with the tender package. These documents are the Instructions to Tenderers - Part II, General Conditions, Specifications, and Standard Detail Drawings. They are those contained in the publication entitled “Master Municipal Construction Documents - General Conditions, Specifications, and Standard Detail Drawings”. Refer to Schedule 1 to the Agreement or, if not specified in Schedule 1, then the applicable edition shall be the most recent edition as of the date of the *Tender Closing Date*. All sections of this publication are by reference included in the *Contract Documents*.

Copies of the Master Municipal Construction Document (Platinum Edition) can be obtained at:

Support Services Unlimited
 #102 – 211 Columbia Street
 Vancouver, BC, V6A 2R5
 604 681-0295

- 2.3 Any additional information made available to tenderers prior to the *Tender Closing Time* by the *Owner* or representative of the *Owner*, such as geotechnical reports or as-built plans, which is not expressly included in Schedule 1 or Schedule 2 to the Agreement, is not included in the *Contract Documents*. Such additional information is made available only for the assistance of tenderers who must make their own judgment about its reliability, accuracy, completeness and relevance to the *Contract*, and neither the *Owner* nor any representative of the *Owner* gives any guarantee or representation that the additional information is reliable, accurate, complete or relevant.
- Addenda
- 2.4 Should addenda to the tender documents be required for any reason, it is the City’s intention not to issue addenda during a period three (3) days prior to the Tender Closing date and time.
- 2.5 All Addenda become part of the Contract Documents.
- 2.6 Failure to acknowledge any Addendum may result in the disqualification of the Tenderer.
- 3.0 Submission of Tenders**
- 3.1 Tenders must be submitted in electronic format, to the email address below and must be received on or before:
- Tender Closing Time: 3:00 pm (Local Time)**
- Tender Closing Date: Thursday, November 9, 2023**
- Address: **Email to: nwpurchasing@newwestcity.ca** with Subject “**NWIT-23-21 2023 Sewer Rehabilitation Program – Service Connection Replacement & Spot Repair**”.
- Attention: **Purchasing Manager**
- 3.2 Late tenders will not be accepted or considered, and will be returned unopened.
- 3.3 The City will not open this Tender in public. The City will make the Tender results available to Tenderers within a reasonable period following the Tender Closing Date and Time.

- 4.0 Tender Requirements**
- 4.1 **IT 5.3.4 (amend clause 5.3.4 as follows)**
Add “The Comparable Work Experience listed in Appendix 4 must be comparable in scope and magnitude to the Work of this Tender.”
- 4.2 **IT 5.3 (amend clause 5.3 as follows)**
Add “5.3.6 Appendix 6 – Force Account Labour and Equipment Rates. Insert the hourly rates for Labour and Equipment including allowances for taxes, assessments, benefits, tools, overhead, and profit.”
- Add** “5.3.7 Appendix 7 – Declaration – Living Wage Employer”
- 5.0 Amendment of Tenders**
- 5.1 **IT 12.1 (amend clause 12.1 as follows)**
Delete “or fax,” from the first sentence.
- 6.0 Award**
- 6.1 **IT 15.1 (delete clause 15.1.1 and replace with):**
- 15.1.1 Reject any or all Tenders if the City determines, in its sole discretion and after appropriate investigation and evaluation, that:
- a) the comparable work references are, in the opinion of the City, unsatisfactory; **OR**
 - b) information becomes available after Closing Time which significantly changes the scope or extent of the project; **OR**
 - c) the Tender, or all of the Tenders, exceeds the available budget funds; **OR**
 - d) less than three (3) Tenders are received.
- 6.2 **IT 15.5 (add clause 15.5 as follows)**
In exercising its discretion, the *Owner* will have regard to the information provided by the Tenderer in the Appendices to the Form of Tender as described under IT 5, and may also have regard to any information obtained by the *Owner* in evaluating such tender information, as well as the *Owner’s* previous experience, if any, with the Tenderer. In exercising its discretion the *Owner* may consider, but is not limited to, the following criteria in addition to the Tender Price:
- a) the proven experience of the Tenderer, and any listed subcontractors to do the Work;
 - b) the Tenderer’s ability to complete the Work within the Preliminary Construction Schedule;
 - c) the Tenderer’s ability to work effectively with the *Owner*, its consultants and representatives;
 - d) the Tenderer’s ability to manage and do the work effectively using the named superintendent and submitted contractors and subcontractors;
 - e) the Tenderer’s history on other projects including with respect to quality of work, changes in the work, force account work, and the contract administration costs of the *Owner*;

- f) the nature of any legal proceedings undertaken the by Tenderer, or any officer or director of the Tenderer or affiliate of the Tenderer, directly (or indirectly through another corporation) against the Owner within the previous five years of the Invitation to Tenders;
- g) litigation and on-going unresolved claims;
 - a. in addition to any other provision of this tender document, and without limiting the City's discretion under any other provision of this tender document, the City may, in its absolute discretion, reject a tender if:
 - i. the Tenderer, or any officer or director of the Tenderer, is or has been engaged directly or indirectly in a legal action against the City in relation to any matter; or,
 - ii. the Tenderer has current unresolved extra work claims totalling in excess of \$100,000.00 beyond 90 days of contract substantial completion for any construction project with the City.
 - b. in determining whether or not to reject a tender under this section, the City will consider whether the litigation or unresolved extra work claim is likely to affect the Tenderer's ability to work with the City, its employees, consultants and representatives and whether the City's experience with the Tenderer indicates an unusual risk the City will incur increased staff and legal costs in the administration of the contract if awarded to the Tenderer.

The *Owner* will, following receipt of an acceptable tender, issue in writing a *Notice of Award* to the successful tenderer. This Notice will be given as soon as possible following the closing of tenders and, unless otherwise agreed to by the tenderer, not later than sixty (60) days following the Tender Closing Date.

6.3 **IT 15.6 (add clause 15.6 as follows)**

The *Owner* may, prior to and after Contract Award, negotiate changes to the scope of the Work, the type of materials, the specifications or any conditions with the low tenderer without having any duty or obligation to advise any other tenderer or to allow them to vary their Tender Prices as a result of such changes and the *Owner* shall have no liability to any other tenderer as a result of such negotiations or modifications.

The award of this *Contract* is subject to approval of the *Owner* and to the availability of sufficient funds to complete the Work. The City may delete certain portions of the Work if Tender Prices exceed the available budget.

- 7.0 Prime Contractor Designation**
- 7.1 IT 18.0 (add clause 18.0 as follows)**
Schedule 3 Prime Contractor Designation forms part of the Agreement.
- 8.0 Freedom of Information**
- 8.1 IT 19.0 (add clause 19.0 as follows)**
The City of New Westminster is subject to the Province of British Columbia *Freedom of Information and Protection of Privacy Act*. All documents will be received and held in confidence by the City of New Westminster and the information will not be disclosed, except to the extent necessary for carrying out the City's purposes or as required by law.
- 9.0 Living Wage Information**
- 9.1 IT 20.0 (add clause 20.0 as follows)**
Effective January 1, 2011, the City of New Westminster became a "Living Wage Employer" (see Form of Tender - Appendix 7). As such, the City has established a [Living Wage Policy](#) that requires all firms that are contracted by the City to provide services on City premises, to pay their employees, who perform said service on City property, a Living Wage as calculated by the Living Wage for Families Campaign. The current living wage rate for Metro Vancouver is \$24.08 per hour, assuming no benefits are provided by the employer.

In order to determine an employee's hourly rate with benefits the Living Wage for Families has created a Living Wage Calculator to assist with this determination. Please access the following website to determine your compatibility.

http://www.livingwageforfamilies.ca/living_wage_calculator

The City includes in all its competitive bid documents a Declaration referencing the City's expectations with regards to compliance of the Policy. **Completion and submission of the Declaration is required prior to Contract award** (see Form of Tender - Appendix 7).

In evaluating submissions, the City intends to rely on the Declaration provided by a Respondent and shall have no obligation or duty to investigate the truthfulness of the Declaration.

Please review the City's [Living Wage Page](#) for further information.

- 10.0 Good Neighbour Protocol**
- 10.1 IT 21.0 (add clause 21.0 as follows)**
 This policy is for City-led construction projects and works. The [Good Neighbour Protocol](#) (GNP) provides guidelines to minimize construction related impacts to residents and businesses.
- The successful contractor will be required to adhere to the Good Neighbour Protocol. Please review the City’s Good Neighbour Protocol for further information.
- 11.0 Non-Road Diesel Engine Emissions Regulation**
- 11.1 IT 22.0 (add clause 22.0 as follows)**
 All non-road diesel powered equipment that is 25 hp (19 kw) or greater must comply with Metro Vancouver’s Non-Road Diesel Engine Emission Regulation Bylaw No. 1329, 2021 (the Bylaw). The Bylaw requires owners or operators of Tier 0 and Tier 1 non-road diesel engines to register, label, and pay fees in order to operate within Metro Vancouver. Please advise what Engine Tier your proposed equipment meets and if it complies with Metro Vancouver’s Bylaw. Provide the engine registration number issued by Metro Vancouver if applicable. The City, at its discretion, may give preference to equipment that meets higher emission standards. To register your equipment call Metro Vancouver for assistance at 604-451-6655 or visit www.metrovancouver.org/nonroaddiesel
- 12.0 Tree Protection**
- 12.1 IT 23.0 (add clause 23.0 as follows)**
 The contractor must protect all trees in accordance with City policy. Requirements for tree protection are available on the City’s website. The contractor is required to make application and obtain a tree protection permit prior to the start of the work. Final location of the tree protection is to be reviewed with, and approved by the City Arborist.
- 13.0 Sanctuary City**
- 13.1 IT 24.0 (add clause 24.0 as follows)**
 The City is a Sanctuary City; the contractor shall comply with the Sanctuary City Policy, which can be found on the City’s website. <https://www.newwestcity.ca/sanctuary-city-policy>

FORM OF TENDER WITH APPENDICES

- Form of Tender
- Appendix 1: Schedule of Quantities and Prices
- Appendix 2: Preliminary Construction Schedule
- Appendix 3: Experience of Superintendent
- Appendix 4: Comparable Work Experience
- Appendix 5: List of Sub-Contractors
- Appendix 6: Force Account Labour and Equipment Rates
- Appendix 7: Declaration – Living Wage Employer

FORM OF TENDER

CORPORATION OF THE CITY OF NEW WESTMINSTER
(THE OWNER)

Contract: **2023 Sewer Rehabilitation Program – Service Connection Replacement & Spot Repair**

Reference No: **NWIT-23-21**

To Owner:

1 WE, THE UNDERSIGNED:

- 1.1 have received and carefully reviewed all of the *Contract Documents*, including the Instructions to Tenderers, the specified edition of the “Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings” and the following Addenda:

(Addenda, if any)

- 1.2 have full knowledge of the *Place of the Work*, and the *Work* required; and
- 1.3 have complied with the Instructions to Tenderers; and

2 ACCORDINGLY WE HEREBY OFFER

- 2.1 to perform and complete all of the *Work* and to provide all the labour, equipment and material all as set out in the *Contract Documents*, in strict compliance with the *Contract Documents*; and
- 2.2 to achieve Substantial Performance of the *Work* on or before ***twenty-eight (28) weeks*** from the *Notice to Proceed*; and
- 2.3 to do the *Work* for the price, which is the sum of the products of the actual quantities incorporated into the *Work* and the appropriate unit prices set out in Appendix 1, the “*Schedule of Quantities and Prices*”, plus any lump sums or specific prices and adjustment amounts as provided by the *Contract Documents*. For the purposes of tender comparison, our offer is to complete the *Work* for the “*Tender Price*” as set out on Appendix 1 of this Form of Tender. Our *Tender Price* is based on the estimated quantities listed in the *Schedule of Quantities and Prices*, and excludes *GST*.

3 WE CONFIRM:

- 3.1 that we understand and agree that the quantities as listed in the *Schedule of Quantities and Prices* are estimated, and that the actual quantities will vary.

4 WE CONFIRM:

- 4.1 that the following appendices are attached to and form a part of this tender:
- 4.1.1 the appendices as required by paragraph 5.3 of the Instructions to Tenderers – Part II; and

Tenderer’s Initials _____

4.1.2 the *Bid Security* as required by paragraph 5.2 of the Instructions to Tenderers – Part II.

5

WE AGREE:

5.1 that this tender will be irrevocable and open for acceptance by the *Owner* for a period of sixty (60) calendar days from the day following the *Tender Closing Date and Time*, even if the tender of another tenderer is accepted by the *Owner*. If within this period the *Owner* delivers a written notice (“*Notice of Award*”) by which the *Owner* accepts our tender we will:

5.1.1 within 15 *Days* of receipt of the written *Notice of Award* deliver to the *Owner*:

- a) a Performance Bond in the amount of 50% of the Contract Price, issued by a surety licensed to carry on the business of surety ship in the Province of British Columbia, and in a form acceptable to the *Owner*;
- b) a Labour and Material Payment Bond in the amount of 50% of the Contract price, the Labour and Material Payment Bond must be a **Broad Form bond**, protecting all companies with a direct contract with the Principal or any sub-contractor of the Principal;
- c) a *Baseline Construction Schedule*, as provided by GC 4.6.1;
- d) a “clearance letter” indicating that the tenderer is in WorkSafeBC compliance;
- e) a copy of the insurance policies as specified in GC 24 indicating that all such insurance coverage is in place; and,
- f) proof of a valid City of New Westminster or MetroWest Inter-Municipal Business License

5.1.2 sign the *Contract Documents* as required by GC 2.1.2.

5.1.3 within 2 *Days* of receipt of written “*Notice to Proceed*”, or such longer time as may be otherwise specified in the *Notice to Proceed*, commence the *Work*; and

6

WE AGREE:

6.1 that, if we receive written *Notice of Award* of this *Contract* and, contrary to paragraph 5 of this Form of Tender, we:

a) fail or refuse to deliver the documents as specified by paragraph 5.1.1 of this Form of Tender; or

b) fail or refuse to commence the *Work* as required by the *Notice to Proceed*,

then such failure or refusal will be deemed to be a refusal by us to enter into the *Contract* and the *Owner* upon written notice to us, may award the *Contract* to another party. We further agree that, as full compensation on account of damages suffered by the *Owner* because of such failure or refusal, the *Bid Security* shall be forfeited to the *Owner*, in an amount equal to the lesser of:

a) the face value of the *Bid Security*; and

Tenderer’s Initials _____

- b) the amount by which our *Tender Price* is less than the amount for which the *Owner* contracts with another party to perform the *Work*.

7

OUR ADDRESS is as follows:

Phone: _____

Fax: _____

E-mail:: _____

Attention: _____

This Tender is executed this

_____ day of _____, 2023

Contractor:

(full legal name of corporation, partnership or individual)

(Authorized Signatory)

(Authorized Signatory)

Tenderer's Initials _____

FORM OF TENDER – Appendix 1**SCHEDULE OF QUANTITIES AND PRICES**

(See paragraph 5.3.1 of the Instructions to Tenderers - Part II)

(All prices and *Quotations* including the *Contract Price* shall include all *Taxes*, but shall not include *GST*. *GST* shall be shown separately.)

Item	MMCD Ref.	Description	Unit	Quantity	Unit Price (\$)	Amount (\$)
Item 1: General Requirements						
	01 33 01	Project Record Documents				
1.1	1.8.1	Project Record Documents	Lump Sum	1	\$	\$
Item 1 Subtotal – to be carried over to summary page					\$	

Item 2: Open Cut Spot Repair						
	33 30 01	Sanitary Sewers				
2.1	1.6.8S	Open Cut Spot Repair of Pipe ID# 42354721 as Shown on Contract Drawing 2260-00-C-1104	Lump Sum	1	\$	\$
2.2	1.6.8S	Open Cut Spot Repair of Pipe ID# 43344336 as Shown on Contract Drawing 2260-00-C-1105	Lump Sum	1	\$	\$
2.3	1.6.8S	Open Cut Spot Repair of Pipe ID# 43354337 as Shown on Contract Drawing 2260-00-C-1105	Lump Sum	1	\$	\$
2.4	1.6.8S	Open Cut Spot Repair of Pipe ID# 45384283 as Shown on Contract Drawing 2260-00-C-1106	Lump Sum	1	\$	\$
2.5	1.6.8S	Open Cut Spot Repair of Pipe ID# 50135014 as Shown on Contract Drawing 2260-00-C-1107	Lump Sum	1	\$	\$
2.6	1.6.8S	Open Cut Spot Repair of Pipe ID# 62796280 as Shown on Contract Drawing 2260-00-C-1108	Lump Sum	1	\$	\$

Tenderer's Initials _____

Item	MMCD Ref.	Description	Unit	Quantity	Unit Price (\$)	Amount (\$)
2.7	1.6.8S	Open Cut Spot Repair of Pipe ID# N0076285 as Shown on Contract Drawing 2260-00-C-1109	Lump Sum	1	\$	\$
2.8	1.6.8S	Open Cut Spot Repair of Pipe ID# 63556357 as Shown on Contract Drawing 2260-00-C-1110	Lump Sum	1	\$	\$
Item 2 Subtotal – to be carried over to summary page					\$	

Item 3: Optional Work – Open Cut Spot Repair						
	33 30 01	Sanitary Sewers				
3.1	1.6.8S	Open Cut Spot Repair of Pipe ID# 43124317 as Shown on Contract Drawing 2260-00-C-1111	Lump Sum	1	\$	\$
3.2	1.6.8S	Open Cut Spot Repair of Pipe ID# 43174319 as Shown on Contract Drawing 2260-00-C-1111	Lump Sum	1	\$	\$
3.3	1.6.8S	Open Cut Spot Repair of Pipe ID# 64546453 as Shown on Contract Drawing 2260-00-C-1112	Lump Sum	1	\$	\$
3.4	1.6.8S	Open Cut Spot Repair of Pipe ID# 80788074 as Shown on Contract Drawing 2260-00-C-1113	Lump Sum	1	\$	\$
Item 3 Subtotal – to be carried over to summary page					\$	

Item 4: Service Connection Replacement/Rehabilitation						
	33 30 01	Sanitary Sewers				
4.1	1.6.3S	Service Connection Replacement as per Standard Drawing S7	Each	7	\$	\$

Tenderer's Initials _____

Item	MMCD Ref.	Description	Unit	Quantity	Unit Price (\$)	Amount (\$)
	33 05 23S 33 05 24S	Trenchless Sewer Pipe Bursting CIPP Gravity Pipe				
4.2	33 05 23S 1.6.1 33 05 24S 1.3.1	Trenchless (Pipe Bursting or CIPP) Rehabilitation of Service Connection	Each	7	\$	\$
	33 44 01	Manholes and Catchbasins				
4.3	1.5.2	Inspection Chamber as per MMCD Standard Drawing S9	Each	12	\$	\$
Item 4 Subtotal – to be carried over to summary page						

Tenderer's Initials _____

FORM OF TENDER – Appendix 1**SCHEDULE OF QUANTITIES AND PRICES**

(See paragraph 5.3.1 of the Instructions to Tenderers - Part II)

(All prices and *Quotations* including the *Contract Price* shall include all *Taxes*, but shall not include *GST*. *GST* shall be shown separately.)

TENDER SUMMARY

ITEM	DESCRIPTION	TOTAL AMOUNT
1	General Requirements	\$
2	Open Cut Spot Repair	\$
3	Optional Work – Open Cut Spot Repair	\$
4	Service Connection Replacement/Rehabilitation	\$
TENDERED PRICE		\$
5% GST		\$
TOTAL TENDERED PRICE		\$

Tenderer's Initials _____

FORM OF TENDER – Appendix 2

PRELIMINARY CONSTRUCTION SCHEDULE

(See paragraph 5.3.2 of the Instructions to Tenderers - Part II)

Indicate schedule with bar chart with major item descriptions and time

ACTIVITY	CONSTRUCTION SCHEDULE (WEEKS)											

Tenderer's Initials _____

FORM OF TENDER – Appendix 3

EXPERIENCE OF SUPERINTENDENT

(See paragraph 5.3.3 of the Instructions to Tenderers - Part II)
Include name and contact information for references

Name: _____ Years' Experience: _____

Experience:

Date: _____

Project Name: _____

Responsibilities: _____

References: _____

Date: _____

Project Name: _____

Responsibilities: _____

References: _____

Date: _____

Project Name: _____

Responsibilities: _____

References: _____

Tenderer's Initials _____

FORM OF TENDER – Appendix 4

COMPARABLE WORK EXPERIENCE

(See paragraph 5.3.4 of the Instructions to Tenderers - Part II and paragraph 4.1 of the Instructions to Tenderer – Part I – add additional pages as necessary)

Company / Owner's Name: _____

Contact Person: _____ Phone: _____

Email Address _____

Description of Work: _____

Project Date: _____ Approximate Value: _____

Company / Owner's Name: _____

Contact Person: _____ Phone: _____

Email Address _____

Description of Work: _____

Project Date: _____ Approximate Value: _____

Company / Owner's Name: _____

Contact Person: _____ Phone: _____

Email Address _____

Description of Work: _____

Project Date: _____ Approximate Value: _____

Tenderer's Initials _____

FORM OF TENDER – Appendix 5

LIST OF SUBCONTRACTORS

(See paragraph 5.3.5 of the Instructions to Tenderers - Part II)

TENDER ITEM	TRADE	SUBCONTRACTOR NAME	PHONE NUMBER

Tenderer's Initials _____

FORM OF TENDER – Appendix 6

FORCE ACCOUNT LABOUR AND EQUIPMENT RATES

(See paragraph 4.2 – 5.3.6 of the Instructions to Tenderers - Part I)

Labour and Equipment Classification	Hourly Rate	Overtime Rate
Superintendent	\$ /hour	\$ /hour
Construction Safety Officer	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour
	\$ /hour	\$ /hour

Tenderer's Initials _____

FORM OF TENDER – Appendix 7

DECLARATION – LIVING WAGE EMPLOYER

(See paragraph 4.2 - 5.3.7 and paragraph 9.1 of the Instructions to Tenderers – Part I)



I, _____ as a duly authorized signing officer of

Company: _____

Address _____

_____, confirm that all employees and sub-contractors under our contract with the City as outlined below, are paid not less than the “Living Wage” as calculated by the Living Wage for Families Campaign.

I understand that this requirement extends only to those employees and sub-contractors’ employees that perform work while on City premises and property for durations in excess of one continuous hour per occasion.

I understand that the City will conduct audits if and when notification of breach of this compliance is received by the City. I understand that in the event any breach of this declaration is found to be true, the City reserves the right to cancel its contract without penalty at any time once said authentication of the breach is made.

Contract Name: _____

Authorized Signatory:

Dated:

Tenderer’s Initials _____

AGREEMENT

- Agreement
 - Schedule 1 – Schedule of Contract Documents
 - Schedule 2 – List of Drawings
 - Schedule 3 – Prime Contractor Designation

AGREEMENT

BETWEEN OWNER AND CONTRACTOR

(FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT - TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.)

BETWEEN *OWNER* AND *CONTRACTOR*

This agreement made in duplicate this

_____ day of _____ 2023

Contract: **2023 Sewer Rehabilitation Program – Service Connection Replacement & Spot Repair**

Reference No. **NWIT-23-21**

BETWEEN:

The Corporation of the City of New Westminster
 511 Royal Avenue
 New Westminster, BC, V3L 1H9
 (the “*Owner*”)

AND:

(NAME AND OFFICE ADDRESS OF CONTRACTOR)

(the “*Contractor*”)

The *Owner* and the *Contractor* agree as follows:

- | | |
|--|---|
| Article 1
The Work Start /
Completion Dates | <p>1.1 The <i>Contractor</i> will perform all <i>Work</i>, provide all labour, equipment, and material, and do all things strictly as required by the <i>Contract Documents</i>.</p> <p>1.2 The <i>Contractor</i> will commence the <i>Work</i> in accordance with the <i>Notice to Proceed</i>. The <i>Contractor</i> will proceed with the <i>Work</i> diligently, will perform the <i>Work</i> generally in accordance with the construction schedules as required by the <i>Contract Documents</i> and will achieve <i>Substantial Performance</i> of the <i>Work</i> on or before <i>twenty-eight (28) weeks</i> from the <i>Notice to Proceed</i>, subject to the provisions of the <i>Contract Documents</i> for adjustments to the <i>Contract Time</i>.</p> <p>1.3 Time shall be of the essence of the <i>Contract</i>.</p> |
|--|---|

**Article 2
Contract Documents**

- 2.1 The “*Contract Documents*” consist of the documents listed or referred to in Schedule 1, entitled “Schedule of Contract Documents”, which is attached and forms a part of this Agreement, and includes any and all additional and amending documents issued in accordance with the provisions of the *Contract Documents*. All of the *Contract Documents* shall constitute the entire *Contract* between the *Owner* and the *Contractor*.
- 2.2 The *Contract* supersedes all prior negotiations, representations, or agreements, whether written or oral, and the *Contract* may be amended only in strict accordance with the provisions of the *Contract Documents*.

**Article 3
Contract Price**

- 3.1 The price for the *Work* (“*Contract Price*”) shall be the sum in Canadian dollars of the following
- 3.1.1 the product of the actual quantities of the items of *Work* listed in the *Schedule of Quantities and Prices* which are incorporated into or made necessary by the *Work* and the unit prices listed in the *Schedule of Quantities and Prices*; plus
- 3.1.2 all lump sums, if any, as listed in the *Schedule of Quantities and Prices*, for items relating to or incorporated into the *Work*; plus
- 3.1.3 any adjustments, including any payments owing on account of *Changes* and agreed to *Extra Work*, approved in accordance with the provisions of the *Contract Documents*
- 3.2 The *Contract Price* shall be the entire compensation owing to the *Contractor* for the *Work* and this compensation shall cover and include all profit and all costs of supervision, labour, material, equipment, overhead, financing, and all other costs and expenses whatsoever incurred in performing the *Work*.

**Article 4
Payment**

- 4.1 Subject to applicable legislation and the provisions of the *Contract Documents*, the *Owner* shall make payments to the *Contractor*.
- 4.2 If the *Owner* fails to make payments to the *Contractor* as they become due in accordance with the terms of the *Contract Documents* then interest calculated at 0% per annum over the prime commercial lending rate of the Royal Bank of Canada on such unpaid amounts shall also become due and payable until payment. Such interest shall be calculated and added to any unpaid amounts monthly.

**Article 5
Rights and Remedies**

- 5.1 The duties and obligations imposed by the *Contract Documents* and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.
- 5.2 Except as specifically set out in the *Contract Documents*, no action or failure to act by the *Owner*, *Contract Administrator* or *Contractor* shall constitute a waiver of any of the parties' rights or duties afforded under the *Contract*, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach under the *Contract*.

**Article 6
Notices**

- 6.1 Communications among the *Owner*, the *Contract Administrator* and the *Contractor*, including all written notices required by the *Contract Documents*, may be delivered by hand, or by fax, or by pre-paid registered mail to the addresses as set out below:

The *Owner*:

**Corporation of the City of New Westminster
511 Royal Avenue
New Westminster, BC V3L 1H9**

Email:
Attention:

The *Contractor*:

Email:
Attention:

The *Contract Administrator*:

**Associated Engineering (B.C.) Ltd.
#500, 2889 East 12th Avenue
Vancouver, BC V5M 4T5**

Email:
Attention

- 6.2 A communication or notice that is addressed as above shall be considered to have been received
 - 6.2.1 immediately upon delivery, if delivered by hand; or
 - 6.2.2 immediately upon transmission if sent by any form of electronic communication, provided that if such day is not a Working Day or if it is received after the end of normal business hours on the date of its transmission at the place of receipt, then it will be deemed to have been received at the opening of business at the place of receipt on the first Working Day following the transmission; or
 - 6.2.3 after five (5) *Days* from date of posting if sent by registered mail.

- 6.3 The *Owner* or the *Contractor*, at any time, may change its address for notice by giving written notice to the other at the address then applicable. Similarly, if the *Contract Administrator* changes its address for notice then the *Owner* will give or cause to be given written notice to the *Contractor*.
- 6.4 The sender of a notice by fax assumes all risk that the fax is received in hard copy.

**Article 7
General**

- 7.1 This *Contract* shall be construed according to the laws of British Columbia.
- 7.2 The *Contractor*, without the express written consent of the *Owner*, shall not, assign this *Contract*, or any portion of this *Contract*.
- 7.3 The headings included in the *Contract Documents* are for convenience only and do not form part of this *Contract* and will not be used to interpret, define, or limit the scope or intent of this *Contract* or any of the provisions of the *Contract Documents*.
- 7.4 A word in the *Contract Documents* in the singular includes the plural and, in each case, vice versa.
- 7.5 This agreement shall enure to the benefit of and be binding upon the parties and their successors, executors, administrators and assigns.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first written above.

Contractor:

Contractor Name

(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

(AUTHORIZED SIGNATORY)

(WITNESSED BY SIGNATURE)

(AUTHORIZED SIGNATORY NAME)

(WITNESS NAME)

Owner:

Corporation of the City of New Westminster

(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

(AUTHORIZED SIGNATORY)

(WITNESSED BY SIGNATURE)

Patrick Shannon, SCMP
Purchasing Manager

(AUTHORIZED SIGNATORY NAME)

(WITNESS NAME)

**Schedule 1
Schedule of Contract
Documents**

The following is an exact and complete list of the *Contract Documents*, as referred to in Article 2.1 of the Agreement.

NOTE: The documents noted with “*” are contained in the “Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings” edition dated 2009 Platinum, including all Platinum Supplemental Updates published by MMCD up to and including 2022-04-07. All sections of this publication are included in the *Contract Documents*.

Agreement, including all Schedules;

Schedule 3 – Prime Contractor Designation;

Supplementary General Conditions (included in this document);

General Conditions*;

Supplementary Specifications (included in this document);

Specifications*;

Supplementary Standard Detail Drawings (included in this document);

Standard Detail Drawings*;

Executed Form of Tender, including all Appendices;

Contract Drawings listed in Schedule 2 to the Agreement – “List of *Contract Drawings*”;

Instructions to Tenderers - Part I;

Instructions to Tenderers - Part II*;

The following Addenda:

The following Enquiries and Responses:

**Schedule 2
List of Contract
Drawings**

TITLE	DRAWING NO.	REVISION NO.	REVISION DATE
COVER	2260-00-C-1101	0	2023OCT17
LEGEND	2260-00-C-1102	0	2023OCT17
GENERAL NOTES AND KEY PLAN	2260-00-C-1103	0	2023OCT17
OPEN CUT SPOT REPAIR: CUNNINGHAM ST – SW OF WINDSOR ST	2260-00-C-1104	0	2023OCT17
OPEN CUT SPOT REPAIR: FIRST ST – EMORY ST AND THIRD AVE	2260-00-C-1105	0	2023OCT17
OPEN CUT SPOT REPAIR: CARNARVON ST AND ELLIOT ST	2260-00-C-1106	0	2023OCT17
OPEN CUT SPOT REPAIR: AUCKLAND ST AND STEWARDSON WAY	2260-00-C-1107	0	2023OCT17
OPEN CUT SPOT REPAIR: FIRST ST – SE OF OVENS AVE	2260-00-C-1108	0	2023OCT17
OPEN CUT SPOT REPAIR: FIRST ST AND SINCLAIR AVE	2260-00-C-1109	0	2023OCT17
OPEN CUT SPOT REPAIR: COLBORNE ST – NW OF SEVENTH AVE	2260-00-C-1110	0	2023OCT17
OPEN CUT SPOT REPAIR: FIRST ST – OAKLAND ST AND FOURTH AVE	2260-00-C-1111	0	2023OCT17

OPEN CUT SPOT REPAIR: OVENS AVE – SW OF COLBORNE ST	2260-00-C-1112	0	2023OCT17
OPEN CUT SPOT REPAIR: SRW BTWN MARINE DR AND FENWICK AVE	2260-00-C-1113	0	2023OCT17
SERVICE CONNECTION REPLACEMENT: LOCATION 1 TO 6	2260-00-C-1114	0	2023OCT17
SERVICE CONNECTION REPLACEMENT: LOCATION 7 TO 12	2260-00-C-1115	0	2023OCT17
SERVICE CONNECTION REPLACEMENT: TYPICAL DETAILS	2260-00-C-1116	0	2023OCT17

Schedule 3
Prime Contractor Designation

Prime Contractor Designation

This Schedule forms part of the agreement between the Corporation of the City of New Westminster (the “City”) and _____ (the “Contractor”) respecting **NWIT-23-21 2023 Sewer Rehabilitation Program – Service Connection Replacement & Spot Repair** (the “Agreement”).

1. DEFINITIONS

1.1 In this Prime Contractor Designation schedule:

- (a) “**Agreement**” means the agreement entered into between the City and the Contractor on [date] in relation to sewer main open cut spot repairs, service connection replacement/rehabilitation, and inspection chamber installations at various locations for the Project;
- (b) “**Hazardous Materials Report**” means a report prepared by a qualified person in accordance with s. 20.112 of the *OH&S Regulation*;
- (c) “**Owner**” means the City, which is the owner of the Project;
- (d) “**Project**” means NWIT-23-21 2023 Sewer Rehabilitation Program – Service Connection Replacement & Spot Repair;
- (e) “**Project Manager**” means the City’s designate with responsibility to liaise with the Contractor for the purpose of managing, overseeing, coordinating or in any other way administering the Project

2. PRIME CONTRACTOR DESIGNATION

2.1 The Contractor agrees to assume the responsibilities of Prime Contractor for the Project, as set out in the *Workers Compensation Act* and the *OH&S Regulation*.

3. CONTRACTOR RESPONSIBILITIES AS PRIME CONTRACTOR

3.1 As Prime Contractor for the Project, the Contractor will:

- (a) ensure that the activities of employers, workers and other persons at the Project relating to occupational health and safety are coordinated; and
- (b) do everything that is reasonably practicable to establish and maintain a system or process that will ensure compliance at the Project with the *Workers Compensation Act* and the *OH&S Regulation*.

3.2 Without limiting the generality of the foregoing, the Contractor will:

- (a) prior to beginning demolition or construction work on the Project, meet with the Project Manager to review and complete the Pre-Job Meeting Form, to review and discuss the information in the City’s Known Hazards Form and the Contractor’s pre-work hazard identification documents, and to review and discuss the Hazardous Materials Report (if any);

- (b) conduct all necessary and appropriate inquiries of all relevant City staff and City records to ensure the Contractor is not missing any information from the City that is relevant to safety at the Project;
- (c) review, plan to address, and address all hazards identified in the City's Known Hazards Form, the Contractor's pre-work hazard identification documents, any Hazardous Materials Report, and any hazards or risk identified in the *Workers Compensation Act* or the *OH&S Regulation*;
- (d) maintain and make available the documents listed on the Pre-Job Meeting Form, as appropriate;
- (e) inform all other employers working on the Project that the Contractor is designated as the Prime Contractor for the Project;
- (f) establish and maintain a system or process that will ensure compliance with the *OH&S Regulation* when visitors (i.e. couriers, inspectors, suppliers, etc.) enter the Project, which shall include site orientation and hazard communication to such visitors by the Contractor or the Contractor's designate;
- (g) maintain a current list of persons that each employer at the Project has designated to be responsible for that employer's health and safety activities at the Project;
- (h) ensure appropriate first aid resources are available for workers at the Project at all times work is being performed, in accordance with and as required by the *OH&S Regulation*;
- (i) if required by the *OH&S Regulation*, submit a Notice of Project to WorkSafeBC in accordance with the *OH&S Regulation*, and comply with all requirements of the *OH&S Regulation* concerning the Notice of Project;
- (j) if required by the *OH&S Regulation*, the Contractor will appoint a Qualified Coordinator for the purpose of ensuring the coordination of health and safety activities for the Project, and the Contractor shall ensure that any Qualified Coordinator so appointed is qualified to perform the responsibilities of his or her position and carries out the roles and responsibilities of a Qualified Coordinator as set out in the *OH&S Regulation*;
- (k) provide the following information, in an always updated form, in a readily available location at the Project;
 - (i) the name of any Qualified Coordinator appointed to the Project;
 - (ii) a site drawing, which must be posted, showing project layout, first aid location, emergency transportation provisions, and the evacuation marshalling station; and
 - (iii) a set of construction procedures designed to protect the health and safety of workers at the Project, developed in accordance with the requirements of the *OH&S Regulation*;
- (l) immediately notify the City of the identity of any Qualified Coordinator appointed by the Contractor at the Project, from time to time.

4. HAZARDOUS MATERIALS

- 4.1 If during demolition or construction work on the Project the Contractor discovers or has reason to believe that there are hazardous materials at the Project that were not set out in any Hazardous Materials Report, the Contractor will;
 - (a) immediately notify the Project Manager;
 - (b) take all reasonably appropriate measures to ensure the safety of workers at the Project; and
 - (c) take all reasonably appropriate measures to ensure the safety of the general public.

- 4.2 Upon notification by the Contractor of additional hazardous materials or suspected hazardous materials at the Project not set out in any Hazardous Materials Report, the City, in accordance with the *OH&S Regulation*, will obtain an updated Hazardous Materials Report, and will share such updated report with the Contractor. If the scope of work of the Project is changed as a result of the updated Hazardous Materials Report, the Project Manager will meet with the Contractor to discuss how the Project may be completed in a safe and cost effective manner.

5. GENERAL

- 5.1 In the event of a conflict between the Agreement and the *Workers Compensation Act* or the *OH&S Regulation*, the legislative requirement(s) will apply.
- 5.2 If any part of this schedule is held to be unenforceable by a court or tribunal of competent jurisdiction, that part shall be severed and the remaining parts of this schedule shall remain in full force and effect.
- 5.3 If the Contractor violates any of the requirements of this schedule or of the *Workers Compensation Act* or the *OH&S Regulation*, the City may treat such violation as a breach of the Agreement resulting in possible termination or suspension of the Agreement and/or any other actions deemed appropriate at the discretion of the City.
- 5.4 No failure or delay by either party to this schedule in exercising any power, right or privilege provided in this schedule will operate as a waiver, nor will any single or partial exercise of such rights, powers or privileges preclude any further exercise of them or the exercise of any other right, power or privilege provided in this schedule.
- 5.5 This schedule may be terminated in accordance with the terms of the Agreement.

SUPPLEMENTARY GENERAL CONDITIONS

- Supplementary General Conditions

SUPPLEMENTARY GENERAL CONDITIONS

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SUPPLEMENTARY GENERAL CONDITIONS

(TO BE READ WITH "GENERAL CONDITIONS" CONTAINED IN THE PLATINUM EDITION OF THE PUBLICATION "MASTER MUNICIPAL CONSTRUCTION DOCUMENTS" SPECIFIED IN "INSTRUCTIONS TO TENDERERS" IT - 2.2)

DEFINITIONS

1

- 1.79 ***"(amend clause X.XX as follows)"*** preceding a supplementary clause means this clause modifies or provides additional information or restrictions to the referenced clause in the Master Municipal Construction Documents Platinum Edition, Volume II.
- 1.80 ***"(add new clause X.XX as follows)"*** preceding a supplementary clause means this clause provides additional requirements or information not found in the Master Municipal Construction Documents Platinum Edition, Volume II.
- 1.81 ***"(delete clause X.XX and replace as follows)"*** preceding a supplementary clause means this clause replaces the referenced clause in the Master Municipal Construction Documents Platinum Edition, Volume II in its entirety.

CONTRACTOR Control of Work

4

- 4.1 ***4.1.3 (add clause 4.1.3 as follows)***
The *Contractor* shall take precautions to reduce nuisance caused from mud or dust by clean-up, sweeping, sprinkling with water or other means as necessary to accomplish results satisfactory to the *Contract Administrator*. If the *Contractor* fails to maintain the site tidy or refuses to remove waste and debris as directed by the *Contract Administrator*, the *Owner*, at its own discretion, may proceed to clean the site, remove waste and debris from site, and deduct from any payment due the *Contractor* the cost of such cleaning or removing materials.

Protection of Work, Property and the Public

4.3

- 4.3.1 ***(Delete the following from the last sentence of G.C.4.3.1 as follows)***
... except for damage, which, in the Performance of the Work, the *Contractor* could not reasonably avoid.
- 4.3.4 ***(amend clause 4.3.4 as follows)***
(1) expose and determine conclusively the location in the field all underground utilities and structures whether or not indicated on the *Contract Documents* as being at the *Place of the Work*. The *Contractor* shall also be responsible to consult with all utility corporations that provide electricity, communication, gas or other utility services in the area of the *Place of the Work*, to locate in three dimensions all underground utilities for which they have records. The *Contractor* shall also locate in three dimensions any other utilities or underground structures that are reasonably apparent in an inspection

of the *Place of the Work*. The *Contractor* shall provide Fortis BC with three weeks' notice for relocation of any gas mains or services if it is required when crossing the gas lines.

- (2) The *Contractor* shall contact BC One Call at least forty eight (48) hours prior to excavating to advise of the *Work*.

4.3.6 (*Delete 4.3.6 entirely*)

4.3.7 (*add new clause 4.3.7 as follows*)

The *Contractor* shall locate, mark, and protect from damage or disturbance, any and all stakes, survey pins, monuments and markers at the *Place of the Work*. All survey stakes, survey pins, monuments, or markers that are damaged or disturbed shall be made good following construction by a registered B.C. Land Surveyor. Such repairs shall become part of the *Work* and shall be at the *Contractor's* expense.

4.3.8 (*add new clause 4.3.8 as follows*)

Contractor to submit, fourteen (14) calendar days prior to the start of construction, a Traffic Management Plan (TMP) provided by a qualified traffic management company, and prepared in accordance with the "Traffic Control Manual for Work in Roadways". Road closures will not be allowed without prior approval from the City of New Westminster. The cost of the TMP will be incidental to payment of work described in other sections.

The *Contractor* shall ensure that single lane traffic movement is available in each direction at all times and shall minimize impact to on-street parking and pedestrian access to commercial and residential properties during working hours.

The *Contractor* shall carry out the work such that access to commercial and residential properties is maintained at all times. The *Contractor* shall provide a minimum one week advance written notice to all property owners prior to construction, and shall also provide a minimum two (2) working days' notice to individual property owners prior to commencing work affecting individual property access.

The *Contractor* shall give due notice to local police and fire department prior to beginning construction and shall comply in all respects with their requirements.

The *Contractor* shall comply with the requirements of the appropriate authority concerned with closure of streets or

highways and shall post proper notices and/or signals, and provide necessary barriers, guards, lights, flagmen or watchmen as may be necessary for proper maintenance of traffic and protection of persons and property from injury or damage. All costs involved in respect of the above requirements will be deemed to be included in the *Contract Price*.

Where existing streets or roads are not available as detours, all traffic shall be permitted to pass through the *Work* with as little inconvenience and delay as possible unless otherwise provided or authorized. If half the street only is under improvement, the other half shall be conditioned and maintained as detour.

Where construction is to be carried out on highways or properties other than those of the *Owner* it shall be the responsibility of the *Contractor* to familiarize himself with the requirements of the owners or controllers of these properties which pertain to traffic safety or control of the construction operation and to carry out his work in accordance with these requirements.

Construction Schedule

4.6

4.6.8 *(add new clause 4.6.8 as follows)*

The *Contractor* may carry out the *Work* as per the applicable Bylaws of the *Owner*, or as instructed by the *Owner* in the *Contract Documents*.

4.6.9 *(add new clause 4.6.9 as follows)*

The *Contractor* shall not schedule work that will require inspection beyond an eight-hour day without the *Contract Administrator's* prior approval. Any extra cost incurred by the *Owner* for work done outside of normal office hours may be deducted from the *Contractor's* monthly payments.

4.6.10 *(add new clause 4.6.10 as follows)*

On the infrequent occasion that the *Contractor* finds it necessary to work on Saturday, Sunday or Statutory Holiday, the *Contractor* shall obtain the *Contract Administrator's* approval forty-eight (48) hours in advance. Work on Sundays or Statutory Holidays will also require the City's approval, with a minimum two weeks' notice. The *Contractor* shall also be charged a working day and may be charged the overtime inspection costs incurred by the *Owner*. Such costs shall be deducted from monthly progress payments.

Survey Layout and As-Constructed Information	4.17	<p>4.17.1 (<i>add new clause 4.17.1 as follows</i>) The <i>Contractor</i> is responsible for all survey required for construction layout and for record drawings associated with this contract. The <i>Contractor</i> shall be responsible for recording of all field survey information pertaining to the as-constructed drawings. The <i>Contractor</i> shall provide, at no charge, a completed set of legible, marked-up as-constructed prints to the <i>Contract Administrator</i> on completion of the <i>Work</i>. The <i>Contractor</i> shall provide any additional information as requested to enable the <i>Contract Administrator</i> to prepare and submit as-constructed record drawings to the Municipality or the <i>Owner</i> for their records.</p>
City Industrial Health and Safety Program	4.18	<p>4.18.1 (<i>add new clause 4.18.1 as follows</i>) 4.18.1 All <i>Contractors</i> working for the City of New Westminster are required to be aware of the City's Industrial Health and Safety Program. It is the <i>Contractor's</i> responsibility to perform the job in compliance with the City's safety standards. The <i>Contractor</i> is responsible for the compliance of all employees for whom he is primarily responsible, with all WorkSafeBC Industrial Health and Safety Regulations, as well as all other applicable Regulations.</p>
VALUATION OF CHANGES AND EXTRA WORK	9	
Valuation Method	9.2.1	<p>9.2.1.1 (<i>add to clause</i>) ; subject to final approval of available funding by the <i>Owner</i>.</p>
Quantity Variations	9.4	<p>9.4.1 (<i>delete clause 9.4.1 and replace as follows</i>) The <i>Contractor</i> shall hold firm all unit prices submitted in the <i>Schedule of Quantities and Prices</i> regardless of the increase or decrease in quantities.</p>
DELAYS	13	
Delay by Owner or Contract Administrator	13.1	<p>13.1.2 (<i>add clause 13.1.2 as follows</i>) The <i>Owner</i> or <i>Contract Administrator</i> will not be liable for claims of delay caused by BC Hydro, TELUS, Fortis BC, Metro Vancouver, telecommunication companies, <i>Owner's</i> forces, or other utility corporations arising out of or connected to the <i>Work</i>.</p>
Unavoidable Delay	13.3.1	<p>13.3.1 (<i>add to clause</i>) After <i>Abnormal Weather</i> add "Global Pandemic,"</p>
Unforeseeable Market Conditions	13.4.1	<p><i>Delete 13.4.1 entirely</i></p>

PAYMENT	18	
Supporting Documentation	18.2.2	18.2.2 (<i>amend clause 18.2.2 as follows</i>) If requested in writing by the <i>Owner</i> , the <i>Contractor</i> shall, as a precondition to the issuance of the <i>Payment Certificate</i> , provide a sworn declaration in the form of a signed and properly sealed CCDC 9A-2001 Statutory Declaration to the <i>Contract Administrator</i> that all amounts relating to the <i>Work</i> , due and owing as of the end of the month covered by the <i>Payment Certificate</i> to third parties including all subcontractors and suppliers, have been paid.
	18.2.3	18.2.3 (<i>add clause 18.2.3 as follows</i>) The <i>Owner</i> retains the right to obtain proof of payment, in the form of a signed and properly sealed CCDC 9A-2001 Statutory Declaration, of all sub-trades and material suppliers from the <i>Contractor</i> prior to making final payment.
WORKERS COMPENSATION REGULATIONS	21	
Contractor is “Prime Contractor”	21.2.1	Delete “Substantial Performance” and Replace with “Total Performance”
INSURANCE	24	
Required Insurance	24.1	24.1 (<i>amend 24.1 as follows</i>) 24.1.1 (1) Limits: \$5,000,000 inclusive per occurrence for bodily injury, death, and damage to property. 24.1.1(2) (<i>add to 24.1.1(2) as follows</i>) The following shall be named as additional insured on the Contract: <ul style="list-style-type: none"> • Corporation of the City of New Westminster • Associated Engineering (B.C.) Ltd. 24.1.7 (<i>add new 24.1.7 as follows</i>) If the <i>Contractor</i> fails to provide or maintain insurance as required by the <i>Contract Documents</i> , then the <i>Owner</i> shall have the right to provide and maintain such insurance and give evidence to the <i>Contractor</i> and the <i>Contract Administrator</i> . The <i>Contractor</i> shall pay the cost thereof to the <i>Owner</i> on demand or the <i>Owner</i> may deduct the cost from the amount which is or may become due to the <i>Contractor</i> .

MAINTENANCE PERIOD 25**Correction of Defects 25.1****25.1.4 (add clause 25.1.4 as follows)**

The *Owner* is authorized to make repairs to defects or deficiencies if, ten days after giving written notice, the *Contractor* has failed to make or undertake with due diligence the required repairs. However, in the case of emergency where, in the opinion of the *Owner*, delay is not reasonable, repairs may be made without notice being sent to the *Contractor*. All expenses incurred by the *Owner* in connection with repairs made pursuant to GC 25 shall be paid by the *Contractor* and may be deducted from the Maintenance Security, or other holdbacks. The *Contractor* shall promptly pay any shortfall.

**Commencement of
Maintenance Period 25.2****25.2.2 (amend clause 25.2.2 as follows)**

All warranties under this *Contract* commence from the date of *Substantial Performance* of the *Contract*, regardless of whether any *Subcontractor* achieves *Substantial Performance* of its Subcontract prior to *Substantial Performance* of the *Contract*.

SUPPLEMENTARY SPECIFICATIONS

- Supplementary Specifications

SUPPLEMENTARY SPECIFICATIONS

City of New Westminster Supplementary Specifications and Detail Drawings can be obtained [here](#).

The Supplementary Specifications herein contains additions, amendments, and deletions to the Master Municipal Construction Documents – Platinum Edition (2009).

SUPPLEMENTARY SPECIFICATIONS TO MMCD

Section	Sub-Section	Title	Supplementary Specification
01 33 01 – Project Record Documents	1.8.1	Payment	Add at the end of 1.8.1; <i>“Payment will be by lump sum and shall only be paid at the end of the project when all as-built drawings, certifications, field test records, and all other project record documents identified in this Specification have been submitted to the Contract Administrator.”</i>
01 52 01 – Temporary Structures	1.3.1	Site Offices	Amend clause as follows: <i>“A Contract Administrator’s temporary office will not be required.”</i>
33 05 23 – Trenchless Sewer Pipe Bursting			Delete entire Section 33 05 23 – Trenchless Sewer Pipe Bursting
33 05 23S – Trenchless Sewer Pipe Bursting			Add new Section 33 05 23S – Trenchless Sewer Pipe Bursting. Refer to attached Specification
33 05 24 – Cured In Place Pipe Liners			Delete entire Section 33 05 24 – Cured In Place Pipe Liners
33 05 24S – CIPP Gravity Pipe			Add new Section 33 05 24S – CIPP Gravity Pipe. Refer to attached Specification

Section	Sub-Section	Title	Supplementary Specification
33 30 01 – Sanitary Sewers	1.6	Measurement for Payment	<p>Delete and replace Measurement and Payment Clause 1.6.3 with the following:</p> <p><i>“Payment for service connections includes wye to the main line and all related fittings and components specified and/or shown on the Contract Drawings and on Standard Detail Drawing S7. Payment includes all labour, material, and equipment needed for traffic control; environmental protection; saw cut of pavement and concrete; trench excavation; disposal of surplus excavated material; dewatering, bracing, and sheeting; protection of existing utilities; tree protection, root pruning, vacuum excavation, and clearance pruning as per arborist report; removal and disposal of existing service connections and fittings; supply and installation of pipe, fittings, and related material; connections to sewer mains; supply and placement of bedding; supply and placement of imported backfill; bypass and/or pumping to maintain sewer flow to cause the least amount of disruption to homeowners; compaction up to subgrade; rock and boulder removal and disposal; all surface restoration as specified under Section 31 23 01 (Excavating, Trenching and Backfilling) Clause 3.6, including permanent pavement restoration, sub-base, base, sidewalks, driveway crossings, ramps, curbs, gutters, pavement markings, landscaping, fencing, gates, retaining walls, and all other disturbed areas and features; and all other work incidental thereto.</i></p> <p><i>Measurement for service connections will be for each complete service installed as shown on the Contract Drawings, with no regard to length of</i></p>

Section	Sub-Section	Title	Supplementary Specification
			<i>service pipe installed, and excludes the inspection chamber which is covered under 1.6.4 of this Section.”</i>
33 30 01 – Sanitary Sewers	1.6	Measurement for Payment	Delete and replace Measurement and Payment Clause 1.6.4 with the following: <i>“Payment for inspection chambers includes all materials, works, and components specified and/or shown on the Contract Drawings and on Standard Detail Drawing S9. Payment includes all applicable work described in 1.6.3 of this Section and will be made under Section 33 44 01 (Manholes and Catchbasins) Clause 1.5.2.”</i>
33 30 01 – Sanitary Sewers	1.6	Measurement for Payment	Add Measurement and Payment Clause 1.6.8S as follows: <i>“Payment for Sanitary or Combined Sewer External Point Repairs will be made at the lump sum price per specified spot repair as shown on the Contract Drawings and stated in the Schedule of Quantities and Prices.</i> <i>Price includes all labour, material, and equipment needed for traffic control; environmental protection; saw cut of pavement and concrete; trench excavation; disposal of surplus excavated material; dewatering, bracing, and sheeting; protection of existing utilities; tree protection, root pruning, vacuum excavation, and clearance pruning as per arborist report; removal and disposal of existing sewer pipes and fittings; supply and installation of pipe, fittings, and related material; connections of sewer services and catchbasin leads to sewer mains; supply and placement of bedding; supply and placement of imported backfill; bypass and/or</i>

Section	Sub-Section	Title	Supplementary Specification
			<p><i>pumping to maintain sewer flow to cause the least amount of disruption to home owners; compaction up to subgrade; rock and boulder removal and disposal; CCTV inspection as per Section 33 01 30.1 (CCTV Inspection of Pipelines) following pipework; all surface restoration as specified under Section 31 23 01 (Excavating, Trenching and Backfilling) Clause 3.6, including permanent pavement restoration, sub-base, base, sidewalks, driveway crossings, ramps, curbs, gutters, pavement markings, landscaping, fencing, gates, retaining walls, and all other disturbed areas and features; and all other work incidental thereto.”</i></p>

- 1.0 GENERAL** .1 Section 33 05 23 refers to those portions of the work that are unique to the supply and installation of gravity sewer service connections by pipe bursting. This section must be referenced to and interpreted simultaneously with all other sections pertinent to the works described herein.
- 1.1 Related Work**
- .1 Traffic Control, Vehicle Access and Parking. Section 01 55 00
 - .2 Environmental Protection Section 01 57 01
 - .3 Excavating, Trenching, and Backfilling Section 31 23 01
 - .4 Sanitary Sewers Section 33 30 01
 - .5 Manholes and Catchbasins Section 33 44 01
 - .6 CCTV Inspection of Pipelines Section 33 01 30.1
 - .7 Cleaning of Sewers Section 33 01 30.2
 - .8 Hot-Mix Asphalt Concrete Paving Section 32 12 16
- 1.2 References** .1 The abbreviated standard specifications for testing, materials, fabrication, and supply, referred to herein, are fully described in Section 01 42 00 – Reference Specifications – Site and Infrastructure.
- 1.3 Material Certification**
- .1 All materials are to conform to this specification, to the latest edition of the appropriate specifications of the American Society for Testing and Materials (ASTM) or other standards expressly specified. All provisions in ASTM and the Plastic Pipe Institute Handbook or other specified standards pertaining to materials, workmanship, finish, inspection and rejection form part of these specifications as far as they are applicable and providing that they are not inconsistent with this specification. This specification takes precedence over the ASTM specifications in case of a discrepancy or conflict. Materials incorporated into the Work but not specifically covered in the specifications are to be obtained from the Contract Administrator prior to installation.
 - .2 Material delivery and storage is to meet the requirements of the manufacturer. Materials damaged through transportation or handling are to be removed from the job site and replaced with new materials at the Contractor’s expense.

- 1.4 Submissions** .1 The Contractor shall submit for approval the following information to the Contract Administrator for each service connection at least seven (7) days prior to the commencement of any site work:
- .1 Proposed sequence of construction.
 - .2 Location of dimensions of entry and exit pits including staging areas and pipe storage area.
 - .3 Method of dewatering including disposal.
 - .4 Bypass pumping arrangement.
 - .5 Method of bursting (pneumatic or static) and description of equipment.
 - .6 Traffic management plan.
 - .7 Schedule of expected interruptions and reconnect time.
 - .8 Method of connecting to the main line and the inspection chamber.

- 1.5 Scheduling** .1 Observe service interruption bylaws.
.2 Observe noise restriction bylaws.

- 1.6 Measurement for Payment** .1 Payment for service connections includes wye to the main line and all related fittings and components specified and/or shown on the Contract Drawings and on Standard Detail Drawing S7. Payment includes all labour, material, and equipment needed for traffic control; environmental protection; entry and exit pit excavation; shoring, drainage and dewatering; protection of existing utilities; tree protection, root pruning, vacuum excavation, and clearance pruning as per arborist report; removal and disposal of existing inspection chamber as per Contract Drawings; disposal of water and surplus excavated material; bypass and/or pumping to maintain sewer flow to cause the least amount of disruption to homeowners; installation; post-installation testing; backfilling of excavations; all surface restoration as specified under Section 31 23 01 (Excavating, Trenching, and Backfilling) Clause 3.6, including permanent pavement restoration, sub-base, base, sidewalks, driveway crossings, ramps, curbs, gutters, pavement markings, landscaping, fencing, gates, retaining walls, and all other disturbed areas and features; and all other work incidental thereto.

Payment will be at the unit price per each service rehabilitated as per the Contract Drawings, with no regard to the length of service pipe. Payment excludes the inspection chamber

			installation, which is covered under 33 30 01 (Sanitary Sewers) Clause 1.6.4.
1.7	Inspection and Testing	.1	Refer to General Conditions, Clause 4.12, Inspections.
2.0	PRODUCTS		
2.1	Polyvinyl Chloride Pipe	.1	Polyvinyl chloride pipe meet ASTM D3034 and CSA B182.2.
		.2	Joints: pipe to include integral bell and spigot ends with stiffened wall section and formed groove for a rubber gasket, gasket to ASTM F477, joints to conform to all requirements of ASTM D3212, elastomeric gaskets to conform to ASTM F477.
		.3	Normal pipe length joint to joint to be 4.0 m.
		.4	Maximum installed deflection not to exceed 7.5% of the base inside diameter.
2.2	Miscellaneous	.1	Gaskets to be of suitable neoprene compound cut to fit the joint.
		.2	Sewer couplings and transition couplings to be as specified in the Contract Drawings.
2.3	Granular Pipe Bedding and Surround Material	.1	Refer to Section 31 05 17 – Aggregates and Granular Materials for material specifications.
2.4	Backfill Material	.1	Refer to Section 31 05 17 – Aggregates and Granular Materials for materials specifications.
3.0	EXECUTION		
3.1	Excavation, Trenching, and Backfilling	.1	Do excavating, trenching, and backfilling work to Section 31 23 01 – Excavating, Trenching, and Backfilling.
3.2	Pipe Bursting Tools	.1	Pipe bursting shall use a pneumatic or static system capable of generating sufficient force to burst and compact the existing pipe sections into the surrounding soil as it progresses. All bursting tool selections shall be in strict compliance with the manufacturer's recommendations.
3.3	Winching and Hydraulic Systems	.1	Pneumatic and static bursting tools shall be operated in accordance with the manufacturer's specified pipe size and upsizing force requirements. Any winch or hydraulic system shall provide a constant tensile force throughout the

operation but in no case are the forces to exceed the limits of the pipe tensile strength.

- 3.4 Pre-Construction CCTV Inspection** .1 Conduct pre-installation CCTV inspection in accordance with Section 33 01 30.1 – CCTV Inspection of Pipelines, to confirm that pipe bursting is viable. Any service connections not suitable for pipe bursting must be brought to the attention of the Contract Administrator.
- 3.5 Bypass Pumping** .1 Install temporary bypass pumping system around the designated sewer sections in accordance with plan approved by Contract Administrator.
.2 Pumps and bypass lines shall be of adequate capacity to accommodate pre-determined flows.
.3 Prevent spills to the environment or back-up of sewerage onto private property. In the event of a spill the Contractor shall undertake immediate clean-up and remediation.
.4 The Contractor shall report any spills and back-ups to the Contract Administrator upon occurrence.
- 3.6 Pit Excavations** .1 Excavate in accordance with Section 31 23 01 – Excavating, Trenching, and Backfilling – 3.6.
.2 Restrict the excavation footprint to the minimum area possible in order to meet insertion requirement and complete the bursting work.
- 3.7 Pipe Installation** .1 Install pipe as per diameter and DR indicated on the Contract Drawings.
.2 Provide sufficient guides and rollers at entry pits to minimize frictional forces during the insertion process.
.3 Fuse replacement pipe continuously over the entire length.
.4 Confirm the existing grade of the sewer and identify associated misalignments and inconsistencies.
.5 Report anticipated alignment problems to the Contract Administrator. Record any alignment deviations upon discovery.
.6 Avoid potential conflicts with other buried underground utilities and where necessary expose conflicting utility to relieve adverse effects of soil pressure during bursting operation.
.7 Make good any damage incurred to the other utilities and reinstate any paved surfaces.
- 3.8 Connections** .1 Connect pipe to the main line and to the inspection chamber in

accordance with the Contract Drawings and Standard Detail Drawing S7.

3.9 Pipe Surrounding

- .1 Upon completion of the bursting process and after the Contract Administrator has inspected all work in place, surround and cover exposed pipe in excavations in accordance with Section 31 23 01 – Excavating, Trenching, and Backfilling.
- .2 Hand place bedding and initial backfill around pipe as Backfill requirements, including type of material and compaction requirements, as shown on Standard Detail Drawing G4.

END OF SECTION 33 05 23S

1 GENERAL

- 1.1 Scope of Work**
- .1 Installation of a new Cured-In-Place Pipe (CIPP) liner within an existing host service connection pipe, designed for a partially deteriorated gravity pipe condition.
 - .2 Preparation of host pipe for accepting the liner system. This includes pipe cleaning in accordance with Section 33 01 30.2 – Cleaning of Sewers and inspection in accordance with Section 33 01 30.1 – CCTV Inspection of Pipelines.
 - .3 Post-installation inspection in accordance with Section 33 01 30.1 – CCTV Inspection of Pipelines.
- 1.2 Submittals**
- .1 The Contractor is required to submit the following, two (2) weeks prior to the scheduled commencement of all work associated with the relining operation, for the Contract Administrator’s approval:
 - .1 Installer qualifications as specified in Section 3.1.
 - .2 Complete details and specifications regarding the preparation, transportation, handling, installation, methodology, curing of liners, and data complying with ASTM Standards.
 - .3 Detailed specifications and design details of the liner for internal and external pressures relative to ASTM standards.
 - .4 Material Safety Data Sheets.
 - .5 Confined space entry procedure.
- 1.3 Measurement and Payment**
- .1 For each service connection rehabilitated using CIPP, the Contract Administrator will calculate payment based on the tendered unit price.
 - .2 Where a method of measurement for payment for a work item is not specified, payment for that item will be deemed to be included in another pay item or other pay items.
- 1.4 Payment Items**
- .1 Payment for sewer service rehabilitation will be made at the unit price per each service rehabilitated as shown on the Contract Drawings, with no regard to the length of service pipe.
 - .2 Payment will be full compensation for all labour, equipment, and materials required for:
 - .1 CCTV inspection of each service connection to ensure that CIPP is viable. Any service connections that cannot be lined must be brought to the attention of the Contract Administrator.

- .2 The sewer bypass, temporary services, cleaning, obstruction removal, environmental protection, design, supply and installation of the CIPP liner, submissions as required, inspection/testing report from testing agency, post-installation CCTV inspection, surface restoration, and all work incidental thereto.
- .3 Preparation and implementation of a vehicle and pedestrian traffic control plan to complete associated works.

2 Products

**2.1 Cured-In-Place
Pipe Liner**

- .1 Sewer rehabilitation products submitted for approval must provide independent test results supporting the long-term performance and structural strength of the product. Specifically, independent testing information that follows ASTM D2990 testing protocols or the Trenchless Technology Center (TTC) Technical Report #302, Long-Term Structural Behaviour of Pipeline Rehabilitation Systems, shall be considered acceptable in determining the long-term performance and structural strength of the product. Test samples shall be prepared so as to simulate installation methods and trauma of the product. No product will be approved without independent testing verification.
- .2 Contractors are to supply all material to fabricate a CIPP liner to a size, which when installed, will provide a close-fit with the host pipe with an annulus no greater than the maximum allowable diametric shrinkage due to curing permitted in ASTM D5813.
- .3 The CIPP liner shall be sized correctly to allow for circumferential stretching, fitting irregular pipe section, and ensuring that the existing pipe is completely filled during installation.
- .4 The CIPP liner shall consist of one or more layers of absorbent flexible needled non-woven or woven felt meeting requirements of ASTM F1216, ASTM F1743 or ASTM F2019. It shall be capable of carrying resin, withstanding installation pressures and curing temperature, be compatible with the resin system used and be able to cure in the presence or absence of water.
- .5 The wet-out tube, before wet-out, shall be coated with an impermeable, flexible membrane that will contain the resin and facilitate monitoring of resin saturation during the resin impregnation, (wet-out) procedures.
- .6 The tube shall be sewn to a size that when installed will tightly fit the internal circumference and length of the original pipe. Allowance shall be made for circumferential stretching during

installation. Overlapped layers of felt in longitudinal seams that cause lumps in the final product shall not be used.

- .7 The outside layer of the tube, before wet-out, shall be coated with an impermeable, flexible membrane that will contain the resin and facilitate monitoring or resin saturation during the resin impregnation, (wet-out) procedure.
- .8 The tube shall be homogeneous across the entire wall thickness, containing no intermediate or encapsulated elastomeric layers. No material shall be included in the tube that may cause delamination in the CIPP liner. No dry or unsaturated layers shall be evident.
- .9 The wall colour of the interior pipe surface of the CIPP liner after installation shall be a light reflective colour to facilitate a clear, detailed examination with CCTV inspection equipment.
- .10 Seams in the tube shall be stronger than the un-seamed felt.
- .11 The resin shall be either a corrosion resistant unsaturated polyester, epoxy vinyl ester or epoxy, that when properly cured within the tube composite, meets the requirements of ASTM F1216, ASTM F1743 and ASTM F2019. The liner material shall be resistant to the following stances at the concentrations stated:

Minimum Chemical Resistance Requirements for Domestic Sanitary Sewer Applications	
Chemical Resistance	Concentration, %
Tap Water (pH 6-9)	100
Nitric Acid	5
Phosphoric Acid	10
Sulfuric Acid	10
Gasoline	100
Vegetable Oil	100
Detergent	0.1
Soap	0.1

- .12 Furnish certified data that demonstrates the ability of the liner material to resist chemical attack as per ASTM D543 testing.

2.2 Liner Design

- .13 Materials that are defective, damaged, or otherwise deemed unacceptable for use prior to installation shall be rejected and replaced at Contractor's expense. Liner materials damaged during installation shall be repaired or replaced as recommended by the Contractor and approved by the Contract Administrator.
- .1 The Contractor shall submit a design, stamped by a Professional Engineer licensed to practice in the Province of British Columbia.
- .2 The liner shall be designed by the Contractor in accordance with ASTM F1216 as a gravity pipe in a partially deteriorated pipe condition, for the services specified and as shown on the drawings.
- .3 Liner thickness shall have a maximum dimensional ratio of 50.
- .4 The liner design shall be as detailed in ASTM F1216 and follow minimum design assumptions. The Appendices X1 Design Considerations and X2 in ASTM F1216 are mandatory.
 - .1 The minimum soil density utilized in computation of the dead load shall be 1920 kg/m³.
 - .2 The groundwater load shall be calculated based on the assumption that the ground is saturated.
 - .3 The ovality reduction factor shall be based on a minimum value of 3%.
 - .4 The creep retention factor (10,000-hour test) should not exceed 50% based upon resin composite. Tests shall utilize resin composite samples and not virgin resin samples.
 - .5 The long-term value for the flexural modulus of elasticity shall be in the projected value at fifty (50) years of a continuous application of the design load based on the specific resin and felt composite approved for use.
 - .6 The modulus of soil reaction (E's) shall be assumed to be 6.9 MPa unless a higher or lower value is specified.
 - .7 The Poisson's ratio shall be assumed to be 0.30 unless a higher or lower value is specified.
 - .8 An enhancement factor (K) value not to exceed seven.
 - .9 The minimum factor of safety (N) to be utilized shall be two.

CIPP GRAVITY PIPE

.5 The liner shall meet or exceed the following structural properties:

Property	ASTM Test	Cured Composite* (per ASTM F1216)
Flexural Strength	D790	31 MPa
Flexural Modulus	D790 and D2990	1,725 MPa

*Values are for design conditions @ 75°F (25°C).

.6 In the case of a pipeline with invert “flats” the Contractor shall perform supplemental design checks to determine whether the wall thickness is governed by:

- .1 Buckling, by assuming the flat functions as a pin-ended strut.
- .2 Stress, by assuming the flat functions as a pinned member, subject to axial and transverse loads.
- .3 Deflection, by assuming that allowance deflection is limited to 5% of the length of the flat.

3 Execution

3.1 Installer Qualifications

- .1 To be Commercially Proven, an Installer must satisfy all insurance, financial, and bonding requirements of the City of New Westminister, and must have had at least five (5) years active experience and a minimum of 6,000 linear metres of commercial installation with the proposed CIPP products in gravity sewer applications. Acceptable documentation supporting the above must be submitted to the City of New Westminister.
- .2 Both the CIPP tube manufacturer and lining installer shall operate under a quality management system which is third-party certified to ISO 9001:2008 Standard or other internationally recognized organization standards. Additionally, if the lining installer is not the CIPP tube manufacturer, the lining installer must show their experience to install the CIPP tube manufacturer product. Proof of ISO certification and installation experience, as applicable, shall be required for approval.

3.2 Installation of CIPP Liner

- .1 Safety
 - .1 The Contractor shall strictly observe the Occupational Health and Safety Guidelines with special emphasis on its requirements for working with scaffolding and entering confined spaces.
 - .2 Contractors shall provide a copy of their confined space entry procedures prior to commencing work.

- .3 Prior to entering confined access areas such as manholes, evaluate the atmosphere to determine the presence of toxic or flammable vapours or lack of oxygen and take appropriate action.
- .4 Provide material safety data sheets for all chemicals to be used.
- .2 Processing
 - .1 Prior to resin impregnation, each liner material shall be inspected for defects.
 - .2 The Contractor shall allow the Contract Administrator to inspect the materials and resin impregnation process.
 - .3 Use a resin and catalyst compatible with the CIPP method.
- .3 Inspection and Cleaning of Host Pipe:
 - .1 Set up and maintain a bypass system for the entire lining process. The Contractor shall provide pumps and bypass lines adequate to handle peak flows, together with equal standby equipment. In the event of a contamination to basements, ditches, roadways, sidewalks, etc., the Contractor shall immediately close the source of the contamination, inform any necessary regulatory authorities, the Contract Administrator, and the City of the spill, and properly clean up the affected area. No work will commence until a review of the process has been carried out.
 - .2 Inspect the interior of the sewer carefully using CCTV or other means to determine the existence of any conditions that may prevent completion of the lining process.
 - .3 Obtain adequate information for designing and execution of the lining scheme.
 - .4 Clean the sewer to a degree that is required for the proper completion of the lining process.
 - .5 Remove any obstructions which are necessary to achieve proper installation of the liner, including but not limited to roots or collapsed pipes.
 - .6 Dispose of debris removed from the sewer by an approved method.
- .4 Installation:
 - .1 Prior to installation, inform affected property occupant in writing of the anticipated length of disruption to service,

- details of alternate service provided, any traffic related constraints, noise levels to be expected, hours of work, and safety concerns.
- .2 The Contractor is required to attend any meetings organized with property occupants to discuss the Work.
 - .3 Contractor must obtain a “Hydrant Use Permit” from the City prior to the use of any hydrant. The Contractor will ensure that water being used is conserved and not being used unnecessarily. Fire hydrants will remain unobstructed in case of a fire in the area served by the fire hydrant. At all times, backflow preventers shall be employed when drawing water from a hydrant and proper ramps must be put in place to accommodate vehicles and pedestrians. Water will be provided by the City subject to approved usage. The Contractor should provide backflow prevention devices for use on approved hydrants. The Contractor is responsible for the safe installation and operation of these devices.
 - .4 Contractor shall review the Environment Canada weather forecast prior to commencement of any CIPP installation. Where the anticipated forecast may exceed the Contractors bypass pumping capacity or may cause potential basement flooding due to the CIPP blocking the service pipe, construction shall be delayed until the weather is favourable.
 - .5 The liner strength shall be adequate to effectively span the distance to be lined. Verify lengths in the field prior installation.
 - .6 The saturated lining material shall be inserted through the inspection chamber or other approved access point by means of an inversion process, or other approved method. Sufficient force shall be applied to fully extend the lining material to the next designated manhole or termination point.
 - .7 Lubricants may be used to reduce friction during inversion or insertion. Lubricants shall be approved by the Contract Administrator.
- .5 Curing and Cool Down:
- .1 After the liner placement is completed, supply all equipment to cure the resin.
 - .2 The equipment shall be capable of uniformly raising the liner temperature above that required to effectively cure the resin. Temperature shall be maintained during the curing period

- recommended by the resin manufacturer.
 - .3 Supply a temperature gauge to monitor the incoming and outgoing temperatures of the water, air, or steam.
 - .4 Maintain curing temperature until the CIPP liner becomes hard and sound.
 - .5 After the curing, a cool down period shall be provided prior to returning normal flow back to the system.
 - .6 The CIPP liner shall be cooled to a suitable temperature before relieving the pressure on the liner.
 - .7 Release the pressure gradually to prevent development of a vacuum in the newly installed CIPP liner.
- 3.3 Sealing CIPP Liner at Ends**
- .1 At the pipe ends, the interface between the exterior surface of the liner and the host pipe end shall be made watertight. The ends of the liner shall be neatly trimmed so the liner fits flush with the pipe end.
 - .2 If the CIPP liner fails to make a tight seal at the pipe end, the Contractor shall apply a compatible resin mixture seal in accordance with ASTM F1216.
- 3.4 Liner Finish and Project Completion**
- .1 Ensure that the CIPP liner is continuous over the entire length of installation and is free from visual defects such as foreign inclusions, dry spots, pinholes, lifts, wrinkles, and delamination. If any of these conditions are present, remove and replace the CIPP liner in these areas.
 - .2 Provide one set of colour CCTV videos on USB drives and a written report showing the lined sewer. The format of the report shall be approved by the Contract Administrator.
 - .3 During the warranty period, repair at no cost to the Contract Administrator any defects that will affect the integrity or strength of the CIPP liner to the satisfaction of the Contract Administrator.
- 3.5 Clean-Up**
- .1 Upon acceptance of the liner, clean up and restore the affected surface areas to the condition that existed prior to commencement of the work.
 - .2 Remove and haul debris to an approved disposal site.