



Sealed Tenders will be received in envelopes clearly marked as to contents by the Town Clerk at her office in the Town Hall, 77 Beckwith Street North, Smiths Falls, Ontario, until 11:00 am local time on 4th day of February, 2021 for the

**TRENCHLESS CURE IN PLACE PIPE PROGRAM
2021 CONTRACT # 21-PW-001**

Tenders will be opened in Public at 11:05 am local time on February 4th, 2021, in the Council Chambers at the Town Hall, 77 Beckwith Street North, Smiths Falls, Ontario. Details of the public opening will also be made available in live stream format.

Questions regarding specifications may be directed to Vanessa Bernicky, Engineering Technologist, of Public Works and Utilities at vbernicky@smithsfalls.ca (tel: 613-283-4124 ext. 1147).

If you wish to obtain tender documents, please contact Kim Mulrooney at 613-283-4124 Ext. 3302 or by emailing kmulrooney@smithsfalls.ca.

The lowest or any tender will not necessarily be accepted.

AMENDMENTS TO BIDS SHALL NOT
BE CONSIDERED OR ACCEPTED

TRENCHLESS CURE IN PLACE PIPE PROGRAM
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SECTION A - INFORMATION FOR BIDDERS

1. Tender Requirements:

The Tender submission must be fully completed and in the possession of the Clerk on or before the Tender Closing date and time. Tenders received after the closing time shall not be considered, but shall be returned unopened to the bidder.

The Tender submission must be signed by a duly authorized official of the organization bidding.

Please submit three (3) copies of this tender document for review.

The tender must be legible, written in ink or typewritten, and all items must be bid unless otherwise specified. Erasures, overwriting or strike-outs must be initialled by the official signing on behalf of the organization.

Alternative proposals shall not be considered unless requested in the tender documents.

Any correspondence by mail or telephone, pertaining to adjustments or corrections to a Tender already submitted, shall not be considered. A bidder wishing to make adjustments to a tender must first withdraw the original tender and re-submit the alternative bid in accordance with the provisions contained herein prior to the closing.

Tenders received after the closing time shall not be considered, but shall be returned to the supplier unopened and the supplier shall be advised that the quotation was received late.

All suppliers requested to submit tenders shall be advised, by the Corporation of the Town of Smiths Falls (the "Corporation"), of all revisions, deletions, substitutions and additions to the specifications or of any extension to the closing time or of cancellation of the request for quotations (via an addendum). Suppliers who have submitted tenders prior to notification of any change shall be given the opportunity to withdraw and resubmit their tenders.

Tenders received on or before the date and time of closing shall become the property of the Corporation and shall be kept in safekeeping by the Clerk. Tenders received subsequent to the date and time of closing shall be returned unopened to the bidder.

2. Addendum to Contract Documents

All revisions, deletions, substitutions, and additions to the tendering material shall be prepared in writing by the Director of Public Works and Utilities of the Corporation and consideration shall be given to the extension of the closing date.

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An advertisement setting out the new closing date shall be inserted in the publications originally used to advertise the tender. A copy of each addendum, including extension information, shall be mailed to each person who obtained tender documents **and acknowledgement of the addendum(s) must be included in the submitted bid.** In addition it is desirable to give prior notice of the mailing by telephone. A copy of each addendum shall also be stapled to each set of tender documents not yet distributed. Bidders who have submitted tenders prior to the release of an addendum shall be given the opportunity to withdraw and resubmit their tenders.

It is the Bidders responsibility to confirm that all addendums have been received. The Corporation will endeavour to provide all addendums by mail, fax or appropriate means however the responsibility ultimately lies with the Bidder to confirm that all addendums have been received.

When in the opinion of the Corporation it is advisable to cancel a tender call, an advertisement shall be inserted in the same publications originally used stating that the tender has been cancelled, the reason for such cancellation, and whether or not the tender will be recalled. Each person who obtained tender documents shall be mailed written notice of cancellation of the contract and all tenders received shall be returned unopened to the bidder.

3. Withdrawal Procedures

Any person who has submitted a bid on a tender may request that their tender be withdrawn. A withdrawal request shall be made in writing to the Clerk and the withdrawal shall be permitted if the request is made prior to the closing time. Withdrawn tenders shall be returned unopened to the bidder. The withdrawal of a tender shall not disqualify a bidder from submitting another tender for the same contract. Withdrawal requests received after the tender has closed shall not be permitted. The bidder shall be informed, during or after the opening, that the withdrawal request was received subsequent to the closing time.

4. Receiving Tenders

Tenders must be sealed and clearly marked as to the contents, and shall be submitted to the Town of Smiths Falls, Office of the Clerk, 77 Beckwith Street North, PO Box 695, Smiths Falls, Ontario, K7A 4T6.

The tender shall be time and date stamped on the exterior of the unopened envelope. Tenders received on or before the date and time for closing of the tender shall become the property of the Corporation and shall be kept in safekeeping by the Clerk. Tenders received subsequent to the date and time for closing of the tender shall be returned unopened to the bidder.

The number of bids received and the names of bidders shall not be divulged prior to the tender opening.

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5. Tender Opening and Review

The Corporation shall endeavour to open all tenders promptly after the date and time of closing. Tender openings shall be open to the public and be attended by the Clerk, the Director of Public Works and Utilities or their designate and two members of Council. Should the above attendees be unavailable, a new date and time for the opening shall be established immediately and all bidders shall be advised.

All tenders submitted shall be opened by the Clerk and the envelope and the submission for each individual shall be clipped together. The Clerk shall announce the name of the bidder, the general specifications, the total amount of each bid and the total number of bids received. All persons present at the Tender Opening shall be advised that the tenders will be referred to the Director of Public Works and Utilities for review and that all persons submitting an improper bid will be notified as to the nature of the defect and whether the bid has been rejected. The Clerk shall promptly file all certified cheques or other security with the Treasurer for safekeeping and prepare a Summary of Tenders containing the name of each bidder, the general specifications, and the total amount of each bid. The Summary of Tenders shall be made available to the public.

The Clerk and the Director of Public Works and Utilities will check the tenders to ensure that all tender requirements and conditions have been met. If a defect in the tender is discovered and if the CAO or Director deems it necessary, the tender will be rejected.

The Director of Public Works and Utilities and the Committee shall consider price, delivery, availability, compatibility, product specifications, Canadian content and supplier's experience in making its selection. If all matters are deemed equal, preference shall be given to a local bidder.

6. Evaluation of Tenders

The Corporation will assess all bids, including alternative proposals, to determine which bid offers the best overall value to the Town. The lowest price may not necessarily be the best value for the Corporation. Pricing is only one of several criteria that will be considered in assessing each bid. The designated person and/or appropriate Director and Chief Administrative Officer/Treasurer shall consider price, delivery and availability, economic benefit to the local economy, compatibility with other Town goods, warranties, product specifications and supplier's experience and repair facilities in making the recommendation to Council.

7. Acceptance of Tender

The Corporation reserves the right to accept or reject any or all Tenders, to negotiate with the successful tenderer and to waive irregularities and omissions, if in so doing the best interests of the Corporation will be served. No liability shall accrue to the Corporation for its decision in this regard.

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Any tender or part of tender will not necessarily be accepted. **The lowest bid may not represent the best value to the Corporation and does not automatically qualify for acceptance.**

In the event that all tenders are outside of the Corporation's budget for this project, or a rejected on other valid grounds, the Corporation reserves the right to negotiate a contract with the lowest compliant bidder who is willing to enter into such negotiations, to determine whether agreement can be reached on a changed scope of work and price which would allow the Corporation to proceed with the project.

The Corporation is not obligated to award a contract to any bidder pursuant to this tender. In addition, the Corporation may elect to reject any or all tenders for the following reasons:

- All of the tenders are outside the Corporation's budget for this project
- Council does not approve the purchase

Acceptance of the tender shall be in accordance with the Procurement By-Law of the Town of Smiths Falls. The successful bidder shall be advised of the acceptance by the Clerk and where appropriate that contract documents shall be supplied for execution. Where contract documents are required or when the goods are to be delivered in the near future, the bidder shall be advised that documents must be signed or goods received by a specific date. Failure by the successful bidder to comply with the above shall be grounds enough to permit the Corporation to accept the second most appropriate tender or cancel the contract and the bidder's security deposit shall be forfeited to the Corporation.

All unsuccessful bidders shall be notified as to the name of the successful bidder, save and except the second most appropriate candidate, and the deposit cheques or securities shall be returned with such notice. The deposit cheque or security of the top two candidates shall be returned no later than the date of execution of the contract documents or delivery of the goods.

8. Approval to Proceed

Work shall not commence unless otherwise approved in writing by the Town until all necessary approvals are obtained.

9. Health and Safety

In order to protect the health and safety of all employees and to secure maximum benefit, services provided and goods obtained will comply with all standards, codes and regulations prescribed by law and by municipal requirements. Included in this requirement is the meeting of all details of appropriate safety requirements. e.g. of legislated requirements; Occupational Health and Safety Act, and regulations

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pertinent to industrial establishments, CSA standards, Underwriters laboratories, electrical codes etc.

Failure to meet any of the above conditions may result in work stoppage or immediate suspension of the contract.

10. General Specifications:

These specifications apply to the supply and installation of new cure in place pipe liners in sanitary sewers located on Condie Street between Greig Street and Grovenor Street in the Town of Smiths Falls. Specifications not clearly defined herein shall be in accordance with good commercial practice and best quality suitable for the intended use.

While these specifications are specific with respect to detailed requirements, it is recognized that product development activity may have led to the availability of innovations in certain areas which, if incorporated in the units would improve the operation. Bidders are encouraged to submit such changes as alternate bids separate from the bid complying with the original specifications and acceptance of such alternate bids shall be at the discretion of the Corporation.

These specifications list only the major significant details of the material required. It is the supplier's responsibility to provide the material as intended by the owner.

Where minimum or maximum requirements are specified, the materials offered must meet or exceed these requirements, unless what is offered as an alternative to the items specified is deemed by the Town to be acceptable and meets the intent of the specifications.

In the event the bidder's response to the item(s) specified is not clear as to the compliance with the specifications, or is unanswered or unspecified, clarification may be requested by the Corporation verbally or in writing. Changes that affect the intent of the specifications or the price bid will not be acceptable. This clause shall not require the Corporation to request clarification(s) and is not intended to limit the ability of the Corporation to reject any tender.

Agreement to bond (if the estimated cost of project warrants). The Director of the appropriate Department shall in consultation with the Chief Administrative Officer/Treasurer consider inclusion of an Agreement to Bond for all projects in excess of \$50,000.00. If an Agreement to Bond is required, the successful bidder shall be required to submit a Performance Bond issued by an approved Bonding company for 100% of the amount of the tender prior to the execution of a contract by the Corporation.

Tenders shall be accompanied by a tender deposit, in the form of a certified cheque or other security acceptable to the Corporation, in an amount no less than 10% of the tender price and made payable to the Corporation of the Town of Smiths Falls. Tender deposit cheques or other security shall not be cashed or deposited unless the successful bidder fails to enter into a formal contract with the Corporation or fails to supply the goods tendered within a specified period of time. The security of

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the successful bidder shall be forfeit to the Corporation if the bidder fails to meet the above requirements. The security of all unsuccessful bidders, except the security of the second most appropriate bidder, shall be returned promptly after a tender has been accepted. The second most appropriate bidder's security and the successful bidder's security shall be returned no later than the date on execution of the contract or delivery of the goods or services.

Prior to the commencement of work, the successful respondent shall obtain and maintain until the termination of the contract or otherwise stated, and provide the Town of Smiths Falls with evidence of:

Commercial General Liability Insurance

Commercial General Liability Insurance issued on an occurrence basis for an amount of not less than \$5,000,000 per occurrence / \$5,000,000 annual aggregate for any negligent acts or omissions by the Contractor relating to its obligations under this Agreement. Such insurance shall include, but is not limited to bodily injury and property damage including loss of use; personal injury; contractual liability; premises, property & operations; non-owned automobile; broad form property damage; broad form completed operations; owners & Contractors protective; occurrence property damage; products; employees as Additional Insured(s); contingent employers liability; tenants legal liability; cross liability and severability of interest clause.

Such insurance shall add the Corporation of the Town of Smiths Falls as Additional Insureds including a waiver of subrogation with respect to the operations of the Contractor. This insurance shall be non-contributing with and apply as primary and not as excess of any insurance available to the Town.

Automobile Liability Insurance

Automobile liability insurance with respect to owned or leased vehicles used directly or indirectly in the performance of the services covering liability for bodily injury, death and damage to property with a limit of not less than \$5,000,000 inclusive for each and every loss.

Environmental Liability

Environmental Impairment Liability with a limit of not less than \$2,000,000 Per Incident /Annual Aggregate. Coverage shall include Third Party Bodily Injury and Property Damage including on-site and off-site clean-up. If such insurance is issued on a claims made basis, coverage shall contain a 24 month extended reporting period or be maintained for a period of two years subsequent to conclusion of services provided under this Agreement.

The Policies shown above shall not be cancelled, permitted to lapse or materially changed unless the Insurer notifies the Corporation of the Town of Smiths Falls in writing at least thirty (30) days prior to the effective date of the cancellation, lapse or material change. The insurance policy will be in a form and with a company which are, in all respects, acceptable to the Corporation of the Town of Smiths Falls.

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The bidder shall be responsible for any deductible to the above noted policies. The bidder is also responsible to keep the physical damage of the equipment insured and the Town shall bear no responsibility for any damage to such equipment.

Indemnification:

The successful Contractor shall indemnify and hold the Corporation of the Town of Smiths Falls harmless from and against any liability, loss, claims, demands, costs and expenses, including reasonable legal fees, occasioned wholly or in part by any negligence acts or omissions whether wilful or otherwise by the Contractor, their officers, employees or other persons for whom the Contractor is legally responsible.

11. Warranty

The Contractor shall provide a written guarantee stating that any defect or deficiency in the works which appears within a 24 month period following issuance of a Notice of Substantial Completion shall be promptly rectified and at no cost to the Town of Smiths Falls.

12. Validity

The tendered bid shall be valid for a period of no less than 60 days following the date of the closing of bids.

SPECIFIC TENDER DETAILS PROVIDED BELOW:

1. Documents submitted with Tender Submission:

- Completed Section B - Form of Tender (see page 9)
- Completed Schedule of Items and Prices and associated documents (page 10 - 13)
- Valid WSIB Clearance Certificate
- Bid Bond or Certified Cheque (10%)
- Agreement to Bond (Performance Bond totaling 100% of the value of tender must be supplied prior to execution of contract agreement).

2. Documents submitted by successful bidder prior to execution of contract:

- Valid WSIB Clearance Certificate
- Performance Bond totaling 100% of the value of tender
- Insurance Certificate:
 - Commercial General Liability Insurance (\$5,000,000 min.)
 - Automobile Liability Insurance (\$5,000,000 min.)
 - *NOTE: The Corporation of the Town of Smiths Falls will be added as Additional Insured on all policies.*



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SECTION B - FORM OF TENDER

The Department of Public Works and Utilities wishes to obtain tender submissions for the Trenchless Cure in Place Pipe Program 2021:

SUBMITTED BY: _____

ADDRESS: _____

SIGNED BY: _____
(Authorized person must sign)

DATE: _____

For the Total Price of \$ _____ (Including HST)
(see Section B)

Acknowledgement of Addendum(s) # _____ of _____
****Please include a copy of the Addendums with your submission.**

Tender bids will be received in sealed envelopes clearly marked as to contents. This Tender must be received by the Office of the Clerk by

February 4, 2021, 11:00AM

Address: Town of Smiths Falls Tel. (613) 283-4124 ext 1102
77 Beckwith Street North Fax. (613)283-4764
Smiths Falls, ON, K7A 2B8 Email kcostello@smithsfalls.ca

The lowest or any tender will not necessarily be accepted.

Any Additional Comments:

Having informed ourselves fully of the conditions relating to the work to be performed and services provided, and having carefully examined the above-noted documentation submit the attached proposal and offer to perform the said work/services in strict accordance with the said documents and such further details, plans and instructions as may be supplied from time to time and to furnish to the Town of Smiths Falls, all professional services necessary to carry out properly to complete the said work for the following fee of lawful money of Canada.

Date

Signature
(I have authority to bind the Corporation)

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SECTION B (continued) – SCHEDULE OF ITEMS AND PRICES

For the prescribed works within Contract # 21-PW-001

SP Item #	Description	Estimated Quantity	Unit	Unit Price Bid	Total Bid
A1	Site Preparation -	1	LS		
B2.i	Preliminary CCTV / Reports - (V1)	364	M		
B2.ii	Cleaning and Televising Sewers (V2)	364	M		
B2.iii	Post CIPP Video / Final Report - (V3)	364	M		
B3.i	Preparation of Pipe for Rehabilitation (200mm)	113	M		
B3.ii	Preparation of Pipe for Rehabilitation (225m)	172	M		
B3.iii	Preparation of Pipe for Rehabilitation (254mm)	79	M		
B4.i	Supply and Install CIPP Liner (203mm)	113	M		
B4.ii	Supply and Install CIPP Liner (225mm)	172	M		
B4.iii	Supply and Install CIPP Liner (254mm)	79	M		
B5	Bypass Pumping	1	LS		
B6	Reconnection of Existing Laterals	27	EA.		
SUBTOTAL					
HST (13%)					
TOTAL TENDERED PRICE					\$

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LIST OF SUBCONTRACTORS

It is our intention that the following work will, subject to the Director of Public Works and Utilities approval, be subcontracted to the firms indicated below. All other work will be performed by our own forces, except as authorized in writing by the Director of Public Works and Utilities.

SUB-TRADE	NAME AND ADDRESS OF SUBCONTRACTOR

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INCLUDE IN SUBMISSION WITH TENDER.

I/We hereby agree that the work specified in this Contract will be performed in strict accordance with the following provisions, plans, specifications and conditions:

A GENERAL CONDITIONS OF THIS CONTRACT

Ontario Provincial Standards for Roads and Public Works
(OPSS.MUNI 100) – November 2019

B SPECIAL PROVISIONS – GENERAL

Special Provisions – General
Special Provisions – Items

C PLANS

Location Plans and CCTV Hard Copy Reports
See Attachment "A"

D REPORTS

Video Files available on request.

E ONTARIO PROVINCIAL STANDARD DRAWINGS AND SPECIFICATIONS

- Municipal and Provincial Common General and Construction Specifications (Volume 1 Index as amended)
- Municipal and Provincial Common Material Specifications (Volume 2 Index as amended,)
- Municipal and Provincial Common Drawings for Roads, Barriers, Drainage, Sanitary Sewers, Watermains, and Structures (Volume 3 Index as amended,)

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NOTE: It will be the Contractor's responsibility to obtain the current copies of the Ontario Provincial Standard Specifications and General Conditions listed above, which form part of the Contract.

SIGNATURES

This Tender Form is executed at the Town of _____

this _____ day of _____, 2021.

Print Name

Witness and Position Held

Signature of Authorized Person
Signing for Contract
(Company Seal)

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SECTION C – AGREEMENT BETWEEN OWNER AND CONTRACTOR

This Agreement made on the _____ day of _____ in the year 2021,

by and between

The Corporation of the Town of Smiths Falls

hereinafter called the "Owner",

AND

_____ hereinafter called the "Contractor".

The Owner and the Contractor agree as follows:

ARTICLE A-1 THE WORK

The Contractor shall:

1.1 Perform the work contained in the Contract Documents which are:

Contract No. 21-PW-001 – Trenchless Cure In Place Pipe Program

Located at:

Condie Street between Greig Street and Grovenor Street (Town of Smiths Falls).

1.2 Do and fulfill everything indicated by the Agreement.

1.3 Complete the Work by June 15, 2021, subject to adjustment in Contract Time as provided for in the Contract Documents AND agree to pay Liquidated Damages for each and every day delayed beyond the aforementioned time limit in the amount(s) pursuant to GC8.02.09 of the General Conditions of Contract.

ARTICLE A-2 AGREEMENTS AND AMENDMENTS

2.1 The Contract supersedes all prior negotiations, representations, or agreements, either written or oral, relating in any manner to the work, including the bidding documents that are not expressly listed in Article A-3 of the Agreement — CONTRACT DOCUMENTS.

2.2 The Contract may be amended only as provided in the Contract Documents.

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ARTICLE A-3 CONTRACT DOCUMENTS

3.1 The following are the Contract Documents referred to in Article A-1 of the Agreement – THE WORK:

- Agreement Between Owner and Contractor
- The General Conditions of Contract
- Information for Tenderers
- Form of Tender
- Special Provisions for Items
- Ontario Provincial Standard Specifications
- Addenda
- Contract drawings

ARTICLE A-4 CONTRACT PRICE

4.1 The quantities shown in the Schedule of Contract Unit Prices are estimated. The Contract Price shall be the final sum of the products of the actual quantities that are incorporated in, OR made necessary by the Work, as confirmed by count and measurement, AND the appropriate Contract Unit Prices, together with any adjustments that are made in accordance with the provisions of the Contract Documents.

4.2 The Estimated Contract Price shall be the sum of the products of the estimated quantities and the appropriate Contract Unit Prices in the Schedule.

4.3 Schedule of Contract Unit Prices are in the Form of Tender.

4.4 Estimated Contract Price, excluding Harmonized Sales Tax is:

\$ _____ dollars and _____ cents. (\$ _____).

4.5 Contingency including such additional amounts or sums for such extra or additional Work at the unit rates or the amounts, as the case may be stipulated in written orders of the Contract Administrator/Town Representative or Owner, authorizing the extra or additional Work.

4.6 Harmonized Sales Tax (13%) payable by the Owner to the Contractor is:

\$ _____ dollars and _____ cents. (\$ _____).

4.7 Total amount payable by the Owner to the Contractor for the construction of the Work is:

\$ _____ dollars and _____ cents. (\$ _____).

4.8 All amounts are in Canadian Funds.

4.9 These amounts shall be subject to adjustments as provided in the Contract Documents.

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ARTICLE A-5 PAYMENT

- 5.1 The Owner shall pay the Contractor in Canadian funds for the performance of the Contract, the amount being determined by actual measured quantities of the individual Work items contained in the Schedule of Contract Unit Prices in the Form of Tender of this Agreement, and measured in accordance with the methods of measurement given in the Specifications.
- 5.2 Subject to the provisions of the Contract Documents, and in accordance with legislation and statutory regulations respecting holdback of Ten percent (10%), the Owner shall, in Canadian funds:
1. Make progress payments to the Contractor on account of the Work performed when due in the amount certified by the Owner including Harmonized Sales Tax, and
 2. Upon Substantial Performance of the Work, pay to the Contractor the unpaid balance of the holdback amount when due, including Harmonized Sales Tax, and
 3. Upon the issuance of the final certificate for payment, pay to the Contractor the unpaid balance when due, including Harmonized Sales Tax.
- 5.3 In the event of loss or damage occurring where payment becomes due under the property and boiler insurance policies, payments shall be made to the Contractor in accordance with the provisions of GC 6.03.
- 5.4 Interest
- 5.4.1 Should either party fail to make payments as they become due under the terms of the Contract or in an award by arbitration or court, interest at one percent (1 %) per annum above the bank rate on such unpaid amounts shall also become due and payable until payment. Such interest shall be compounded on a monthly basis. The bank rate shall be the rate established by the Bank of Canada as the minimum rate at which the Bank of Canada makes short term advances to the chartered banks.
- 5.4.2 Interest shall apply at the rate and in the manner prescribed by GC 8.02.03.09 for late payments or GC 8.02.03.10 on the amount of any claim settled pursuant to GC 3.14.

ARTICLE A-6 RIGHTS AND REMEDIES

- 6.1 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.
- 6.2 No action or failure to act by the Owner or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such actions or failure to act constitute an approval of or acquiescence in any breach there under, except as may be specifically agreed in writing.

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ARTICLE A-7 LAW OF THE CONTRACT

7.1 The law of the place of Work shall govern the interpretation of the Contract.

ARTICLE A-8 RECEIPT OF AND ADDRESSES FOR NOTICES

8.1 Notices in writing between the parties or between them and the Town Representative shall be considered to have been received by the addressee on the date of delivery if delivered to the individual, or to a member of the firm, or to an officer of the corporation for whom they are intended by hand or by registered post; or if sent by regular post, to have been delivered within five (5) Working Days of the date of mailing when addressed as follows:

The Owner at: **Town of Smiths Falls, 77 Beckwith Street, N., Box 695**
Name of Owner, Street, Postal Box Number (if applicable).

Smiths Falls, ON, K7A 4T6
City, Province, Postal Code.

The Contractor at: _____

Name of Contractor, Street, Postal Box Number (if applicable).

City, Province, Postal Code.

ARTICLE A-9 LANGUAGE OF THE CONTRACT

9.1 When the Contract Documents are prepared in both the English and French languages, it is agreed that in the event of any apparent discrepancy between the English and French versions, the English language shall prevail.

9.2 This Agreement is drawn in English at the request of the parties hereto. (La convention présente est rédigée en Anglais à la demande des parties.)

ARTICLE A-10 SUCCESSION

10.1 The Contract Documents are to be read into and form part of this Agreement and the whole shall constitute the Contract between the parties, and subject to the law and the provisions of the Contract Documents shall inure to the benefit of and be binding upon the parties hereto, their respective heirs, legal representative, successors, and assigns.

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In witness whereof the parties hereto have executed this Agreement and by the hands of their duly authorized representatives.

SIGNED AND DELIVERED

In the presence of:

OWNER

Town of Smiths Falls

Name of owner

Signature

Shawn Pankow, Mayor

Signature

Kerry Costello, Clerk

Signature

CONTRACTOR

Name of Contractor

Signature

Name and title of person signing

Signature

Name and title of person signing

Signature

N.B. (a) If the Contractor is a corporation, an authorized officer of the corporation shall sign the Agreement and shall affix the corporate seal.

(b) If the Contractor is a partnership, a minimum of two partners shall sign the Agreement and the signatures shall be witnessed.

(c) If the Contractor is a sole proprietorship; the sole proprietorship shall sign the Agreement and the signature shall be witnessed.

SECTION D – GENERAL CONDITIONS OF CONTRACT

1.0 DESCRIPTION

The work described within these documents includes the construction of the following:

Proposed works within the contract scope will include the construction of approximately 364m of new trenchless cure in place pipe liners ranging in size from 203mm to 254mm on Condie Street between Grieg Street and Grovenor Street, in the Town of Smiths Falls.

2.0 CLARIFICATION

It will be the Contractor's responsibility to clarify with the Director of Public Works and Utilities, any questions or concerns relating to details contained within the contract documents, plans and accompanying reports before advancing with construction of the works. All questions raised will be promptly investigated by the Contract Administrator and reported back to the Contractor prior to advancement of the work.

3.0 DEFINITION OF OWNER AND ENGINEER

Wherever the words "Town" or "Corporation" appear in this contract, it may be interpreted as meaning the "Corporation of the Town of Smiths Falls".

Wherever the word "Engineer" or "Contract Administrator" or "Director" appear in this contract, it shall be interpreted as meaning the "Director of Public Works and Utilities", or his designate.

4.0 GENERAL CONDITIONS OF THE CONTRACT

The requirements of Ontario Provincial Standards for Roads and Public Works - General Conditions of Contract (OPSS.MUNI 100 – November 2019) shall apply to this contract.

5.0 PROGRESS AND TIME FOR COMPLETION

5.1.1 TIME

Time shall be of the essence of this agreement.

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5.1.2 PROGRESS AND TIME FOR COMPLETION

It is a requirement of this contract that all works be completed according to the following schedule:

All works to be completed by June 15, 2021. All schedules are based on the assumption that a Notice of Award will be issued by February 23, 2021.

If this completion date is not sufficient to permit completion of the work by the Contractor working a normal number of hours each day or week on a single daylight shift basis, it is expected that additional and/or augmented daylight shifts will be required throughout the life of the contract to the extent deemed necessary by the Contractor to ensure that the work will be completed within the limit specified. No additional compensation will be therefore be allowed.

The Contractor shall prepare a work schedule and supply the required labour and equipment to complete the contract substantially on or before the dates outlined above.

5.1.3 TIME EXTENSIONS

If the Contractor is delayed in completion of the work,

- a) by reason of changes or alterations made under section GC 3.10 of the General Conditions;
- b) by reason or any breach of contract or prevention by the Corporation or other Contractors of the Corporation to carry out work;
- c) by reason of delay by the Corporation in issuing instructions or information in delivering materials;
- d) by any other act of neglect of the Corporation or any other Contractor of the Corporation or any employee of any one of them;
- e) for any cause beyond reasonable control of the Contractor; or
- f) by Acts of God, or of the Public Enemy, Acts of the Province or any Foreign State, Fire, Flood, Epidemics, Quarantine, Restrictions, Embargoes, or delays of Sub-Contractors due to such cause.

The time of completion may be extended in writing at any such time of such terms and for such period as shall be determined by the Contract Administrator, and notwithstanding such extensions, time shall continue to be deemed of the essence for this contract.

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An application by the Contractor for any extension of time as herein provided shall be made to the Corporation in writing at least fifteen days prior to the date of completion fixed by the Contract. All Bonds or other Surety furnished to the Corporation by the Contractor shall be amended where necessary at the expense of the Contractor to provide coverage beyond the date of any extensions of time granted, and the Contractor shall furnish the Corporation with evidence of such amendment of the Bonds or other Surety

5.1.4 LIQUIDATED DAMAGES

It is agreed by the parties in the contract that in case all work called for under the Contract is not finished or completed within the date as set forth in the Special Provisions, damage will be sustained by the Corporation and that it is said will be impracticable and extremely difficult to ascertain and determine the actual damage which the Corporation will sustain in the event of and by any reason of such delay and the parties hereto agree that the Contractor will pay to the "Corporation" the sum of Five Hundred Dollars (**\$500.00**) for liquidated damages for each and every calendar days delay in finishing the work beyond the noted completion date, except Saturdays, Sundays and Statutory holidays, and it is agreed that this amount is an estimate of the actual damage to the Corporation which will accrue during the period in excess of the prescribed completion date.

The Corporation may deduct any amount due under this paragraph from any monies that may be due or payable to the Contractor on any account whatsoever. The liquidated damages payable under this paragraph are in addition to and without prejudice to any other remedy, action or other alternative that may be available to the Corporation. The Contractor shall not be assessed with liquidated damages for any delay caused by Acts of God, or of the Public Enemy, Acts of Province or any Foreign State, Fire, Flood, Epidemics, Quarantine Restrictions, Embargoes or any delays of Sub-Contractor's due to such causes.

6.0 THE "CONTRACTOR'S SCHEDULE OF WORK"

Forthwith upon award of this Contract, the Contractor shall prepare a "Contractor's Schedule of Work". The "Contractor's Schedule of Work" will be completed by the Contractor and remitted to the Corporation with his signed contract documents for execution by the Corporation.

7.0 MATERIALS – SUPPLY OF MATERIALS

The Contractor shall be responsible for supplying materials required to complete the work in accordance with the specifications. The source of supply and quality of all materials supplied by the Contractor must be approved by the Municipality prior to their use in the contract.

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8.0 ONTARIO PROVINCIAL STANDARDS

Ontario Provincial Standard Specifications (OPS) and Ontario Provincial Standard Drawings (OPSD) form part of this contract.

9.0 CONTRACTOR'S RESPONSIBILITY FOR DAMAGES

Section G.C. 7.04 of the Ontario Provincial Standards

10.0 LIMITATIONS OF OPERATIONS

Subsection G.C. 7. 7.14 of the OPSS General Conditions is amended by the addition of the following:

The Contractor shall co-operate with other Contractor's, utility companies and the Corporation and they shall be allowed free access to their work at all times. The Municipality reserves the right to alter the method of operations on this Contract to avoid interference with other work.

Prior to submission of a work schedule, the successful Contractor shall receive a Schedule of Proposed Works being undertaken by the Municipality and all other Authorities within and adjacent to this project.

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11.0 CONTRACTOR'S NOTICE TO RESIDENTS

The Contractor must provide each household and/or business on every street covered by the Contract with a copy of a letter as shown below. This letter, complete in every detail and written on letterhead paper, shall be delivered by the Contractor to each home and/or business prior to commencement of work and the Municipality must be informed by letter when such notification has been served.

(Example Letter)

Name of Contractor

Date:

Attention: Resident/Occupant

The firm of _____ Construction Company has been engaged by the Town of Smiths Falls to construct _____ (list of works) on your street. It is proposed that this construction will commence on or after _____ (estimated start date).

Should you require any information or assistance because of our construction, please call our office at _____. As part of our contract, our company is assuming all responsibility for the construction work until it is completed in entirety. It would be appreciated if you can direct any calls or concerns to our office in order that we can address the concern as quickly as possible.

Yours truly.

Signed by Contractor

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12.0 MAINTENANCE OF TRAFFIC

The Contractor shall provide the appropriate traffic control signage and/or appropriately attired flag persons, as required during the course of construction to comply with the safety requirements of latest edition of the M.T.O. publication "Book 7 – Ontario Traffic Manual Temporary Conditions".

The Contractor must provide access for emergency services and local traffic at all times unless exempted by the Corporation. If during the course of the work, significant excavations necessitate lane closures, the Town of Smiths Falls will authorize the closure, provided that 48 hours notice, is provided to enable the appropriate notices to be released to emergency services.

When in accordance with Section G. C. 7.0.6 of the OPSS General Conditions, it is the Contractor's responsibility to maintain a road throughout the work, the Contractor shall supply at his expense, all labour, equipment and material to maintain the road in a satisfactory condition except that when required for normal maintenance purposes the supply and placing of Granular A and bituminous patching materials, will be paid for at the appropriate Tender unit prices. Where a Contractor has constructed detours which are not called for in the Contract and where labour, equipment and material are required to effect repairs to such detours due to failure of the roadbed, such work will not be considered as normal maintenance but as part of the cost of construction, and all such work will be at the Contractor's expense.

13.0 SAFETY

The Contractor shall submit a WSIB Certificate of Clearance prior to commencing work. Additional certificates of clearance may be requested before the release of any holdback.

The Contractor assumes full responsibility for conforming with all legislation regarding the safety of his employees and the public on this contract, and all notices required to comply with the legislation. The Contractor will be deemed to be the "Constructor" for the duration of this contract.

14.0 WORK HOURS

The Contractor shall not work on Saturdays, Sundays or any statutory holidays on this contract without permission from the Municipality, unless working on these days is stipulated elsewhere in this contract.

Where the Contractor decides to work with the Town's approval, on a Saturday, Sunday or a statutory holiday, the Contractor shall pay to the Municipality any costs incurred by the Municipality for providing the supervisory staff deemed necessary by the Municipality.

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15.0 GARBAGE COLLECTION

If the occupation of a street by the Contractor prevents, in the opinion of the Town, the Town's waste collection contractor from carrying out the collection of garbage and/or recyclables on his regular route, the Contractor shall remove the garbage from the area to the garbage disposal site at his expense or make arrangements with the Town's waste collection contractor to have garbage, green bin and/or recyclables set out in designated areas with containers returned to the correct property owner.

16.0 UNIT OF MEASUREMENT

All items are estimated in metric units as are specifications and standards.

17.0 PAYMENTS

Except as herein provided, payments under this contract will be made in accordance with Section G.C.8.0.2 of the OPSS General Conditions.

18.0 LOCATION AND STORAGE OF MATERIALS AND EQUIPMENT

Materials and/or equipment shall not be stored within 4m of the travelled portion of any roadway.

Notwithstanding the foregoing, the Contractor shall, at his own expense, remove any equipment or materials which, in the Contract Administrators opinion, constitutes a traffic hazard.

19.0 CLEAN UP

The Contractor shall thoroughly remove all asphaltic and other discarded materials which may have been placed along the roadway during the performance of the work. Clean up will be done to the satisfaction of the Works Inspector.

20.0 PREVENTION OF DAMAGE

The failure of the Municipality to order necessary precautionary measures, protective works or any other requirements shall not relieve the Contractor of the responsibility for the prevention of damage to the project, buildings, or other surface or sub-surface structures, or for accidents to persons, whether employed on the project or not, which might result from such failure to install, place or use such precautionary measures, protective works or other precautionary measures, protective requirements shall not relieve the

Contractor from any of his responsibilities under this Contract.

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21.0 INSURANCE

Prior to the commencement of work, the successful respondent shall obtain and maintain until the termination of the contract or otherwise stated, and provide the Town of Smiths Falls with evidence of:

Commercial General Liability Insurance

Commercial General Liability Insurance issued on an occurrence basis for an amount of not less than \$5,000,000 per occurrence / \$5,000,000 annual aggregate for any negligent acts or omissions by the Contractor relating to its obligations under this Agreement. Such insurance shall include, but is not limited to bodily injury and property damage including loss of use; personal injury; contractual liability; premises, property & operations; non-owned automobile; broad form property damage; broad form completed operations; owners & Contractors protective; occurrence property damage; products; employees as Additional Insured(s); contingent employers liability; tenants legal liability; cross liability and severability of interest clause.

Such insurance shall add the Corporation of the Town of Smiths Falls as Additional Insureds including a waiver of subrogation with respect to the operations of the Contractor. This insurance shall be non-contributing with and apply as primary and not as excess of any insurance available to the Town.

Automobile Liability Insurance

Automobile liability insurance with respect to owned or leased vehicles used directly or indirectly in the performance of the services covering liability for bodily injury, death and damage to property with a limit of not less than \$5,000,000 inclusive for each and every loss.

Environmental Liability (Where applicable)

Environmental Impairment Liability with a limit of not less than \$2,000,000 Per Incident /Annual Aggregate. Coverage shall include Third Party Bodily Injury and Property Damage including on-site and off-site clean-up. If such insurance is issued on a claims made basis, coverage shall contain a 24 month extended reporting period or be maintained for a period of two years subsequent to conclusion of services provided under this Agreement.

The Policies shown above shall not be cancelled, permitted to lapse or materially changed unless the Insurer notifies the Corporation of the Town of

Smiths Falls in writing at least thirty (30) days prior to the effective date of the cancellation, lapse or material change. The insurance policy will be in a form and with a company which are, in all respects, acceptable to the Corporation of the Town of Smiths Falls.

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The bidder shall be responsible for any deductible to the above noted policies. The bidder is also responsible to keep the physical damage of the equipment insured and the Town shall bear no responsibility for any damage to such equipment.

Indemnification:

The successful Contractor shall indemnify and hold Corporation of the Town of Smiths Falls harmless from and against any liability, loss, claims, demands, costs and expenses, including reasonable legal fees, occasioned wholly or in part by any negligence acts or omissions whether wilful or otherwise by the Contractor, their officers, employees or other persons for whom the Contractor is legally responsible.

22.0 EMERGENCY AND MAINTENANCE MEASURES

Whenever the construction site is unattended by the general superintendent, the name, address, and phone number of a responsible official of the contracting firm, shall be given to the Contract Administrator.

The official shall be available at all times and have the necessary authority to mobilize workmen and machinery to take any action as directed by the Contract Administrator in case emergency or maintenance measures are required; regardless whether the emergency or requirement for maintenance was caused by the Contractor's negligence, act of God, or any cause whatsoever.

Should the Contractor be unable to carry out immediate remedial measures required, the Town will carry out the necessary repairs, the cost of which shall be charged to the Contractor.

23.0 SAMPLING AND TESTING

All sampling of Liner materials required on this project will be the responsibility of the Contractor and all results will be forwarded to the Town of Smiths Falls. Independent testing laboratories will be the contractor's choice but must be a Certified Member of the Canadian Council of Independent Laboratories. Refer to the Special Provisions – Items for scope of quality assurance work.

24.0 GOVERNMENT REQUIREMENTS

The Contractor shall obey all Federal, Provincial and Municipal Laws, Acts, Ordinances, Regulations, Orders-In-Council and By-Laws which could in any way pertain to the work outlined in the Contract or the Employees of the Contractor, or Sub-Contractor.

SECTION E – SPECIAL PROVISIONS - ITEMS

ITEM A1 - SITE PREPARATION

The Contract price in the Tender Form of this Item shall be compensation for the following:

- a) Cost of the Performance Bond and Liability Insurance as outlined in the Instruction to Tenderers and General Conditions;
- b) Supply and erect all signs, barricades, flashers, delineators, and such other protection as may be required by the municipality to protect the workers and the public during the course of the Contract;
- c) Supplying properly trained and properly attired flag personnel as required;
- d) Preparing a Traffic Protection Plan, to comply with the Ministry of Transportation Temporary Conditions Manual – Book 7;
- e) Supply of the field office (if required) in accordance with the Special Provisions – General;
- f) Supply of qualified personnel to complete all required survey and field layout for construction purposes;
- g) Supplying a foreman or a qualified representative on the job at all times;
- h) Security protection of the Contractor's office, plant and stored materials during the course of the Contract;
- i) All measures required to ensure dust control and prevent mud from tracking onto adjacent roads and streets during the course of the Contract;

Payment will be made as follows:

- j) 60% of the Lump Sum stated in the Tender Form for this item will be paid on the first payment certificate; and
- k) Remaining 40% balance will be paid on the issuance of the Completion Certificate.

ITEM B1 - SEQUENCE OF WORKS FOR RELINING PROCEDURE

1.0 General

The work specified in this contract shall be performed in the sequence identified below or as directed in the field by the municipality's Contract Administrator. Acceptance of the work identified in a previous step is required before work identified in the next step shall be performed:

2.0 Work Sequence

1. Perform preliminary CCTV inspection (V1) excluding pre-cleaning and submit records to the Contract Administrator for review. No other works shall be prior to the completion of this stage;
2. The Contractor shall resubmit design calculations for the CIPP liner a minimum of 14 days prior to commencement of the lining work. The Contract Administrator shall notify the Contractor of the municipality's acceptance or rejection of the design calculations;
3. The Contractor shall perform Pipe Preparation Work (including cleaning) as specified in Special Provision Item B3.
4. Perform secondary CCTV inspection work (V2) and submit records to the Contract Administrator for review. The secondary CCTV work must be received a minimum of 5 days prior to the date to perform the CIPP lining work. The Contract Administrator reviews the submitted information and notifies the Contractor of Town's acceptance and/or deficiencies.
5. The Contractor shall perform CIPP lining work as specified in the Contract Documents, perform re-opening of existing sewer laterals (if applicable) and perform final CCTV work (V3), including submittals of final documents and multi-media files. The Contract Administrator will review the final CCTV records and will notify the Contractor of the municipality's acceptance or rejection of the final works.

3.0 Measurement for Payment

There shall be no measurement for payment for compliance with this special provision.

4.0 Basis of Payment

Compensation for all materials, equipment or labour under this item shall be deemed to be included in the contract price for the items listed in the Schedule of Prices.

ITEM B2 – CLEANING AND TELEVISIONING SEWERS

1.0 Scope

All new and existing maintenance holes and sewer pipes are to be cleaned, flushed and pumped, and all existing sewer pipes are to be televised within the limits of this contract including the first section of existing sewer pipes downstream of the contract limits.

The Contractor shall provide the Contract Administrator with video tapes of the sewers using pan and tilt camera accompanied with a printout describing location of all new and existing connection, water levels in sewers, and any defect such as open joints, offset joints, longitudinal cracks, circular cracks, punctures, missing pipe sections, broken joints, deformation, infiltration, exposed gaskets, roots, calcite build-up, grease, obstructions or debris.

2.0 Construction

Section 409.07.01 of OPSS.PROV 409 is amended by the addition of the following:

The sewer sections shall be cleaned between consecutive manholes with the cleaning nozzle traveling completely from the downstream manhole to the upstream manhole and then working in a downstream direction. The cover of the upstream manhole shall be removed by the cleaning crew to observe that this point has been reached. The equipment shall be capable of removing dirt, grease, rocks, sand and other materials and minor obstructions. Attempts shall be made to clean from both directions to clear an obstruction up to a maximum of three passes in total. Should further cleaning be required, the hourly rate quoted in this contract shall apply providing municipal approval has been obtained.

Satisfactory precautions shall be taken to protect the sewer lines from damage that might be inflicted by the improper use of cleaning equipment. Particular care shall be taken in the cleaning of vitrified clay (VCT) pipe. Water supply for use under this contract can be accessed at the Towns Water Plant, 58 Abbott Street with prior approval. Fees for water use will be covered by the town for this contract.

All sludge, dirt, sand, rocks, grease and other solid or semi-solid materials resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. This material shall be disposed of offsite, at the Contractor's expense.

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2.1 SEWER CLEANING EQUIPMENT

(i) Combination High Velocity JET (Hydro-Cleaning Equipment) Vacuum Equipment

All high velocity sewer cleaning equipment shall be truck mounted for ease of operation. The equipment shall have a minimum of 150m of 25mm I.D. high pressure hose, with a selection of two or more high velocity nozzles. The nozzles shall have a capacity of 300l/minute (65gpm) at a working pressure of 13790 kpa (2000 psi). The nozzles shall be capable of producing a scouring action from 15 degrees to 45 degrees in all size lines designated to be cleaned.

Equipment shall carry its own 6800l (1500 imperial gallons) water tank (minimum) capable of holding corrosive or caustic cleaning or sanitizing chemicals if required by the Town, auxiliary engine, pump, and hydraulic hose reel. All controls shall be located so that the equipment can be operated above ground. Suction hose shall be minimum 200mm (8 inch) diameter, capable of minimum 5080mm (20 inches) of negative water pressure and up to 227m³ /min (8,000 cfm) of air movement. The sludge tank shall have a minimum capacity of 7.5 cubic metres.

(ii) The vehicle and Contractor shall possess all applicable licenses and certificates which may be required by the Ministry of Environment and the Ministry of Transportation of Ontario, in order to collect and transport sewer cleaning residue.

(iii) The Contractor shall provide a full description of the equipment they propose to use on this contract prior to construction.

Section 409.07.05 of OPSS.PROV 409 is deleted in its entirety and replaced with the following:

Survey reports shall be submitted to the Contract Administrator in the following format within the timelines specified by the Contract:

A USB Device containing a Digital copy of the report in PDF format, the Digital Video Inspections, and the Digital Data Files. Similarly, each sewer on each street will have a separate submission of deliverables.

The sewer must be clear of debris for the CCTV inspection. Contractors must take care that the cleaning process does not damage the pipe.

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3.0 Measurement for Payment

Section 409.09.01 and 409.09.02 of OPSS PROV 409 are deleted in their entirety and replaced with the following:

Measurement for preliminary televising of sewers (V1) shall be measured in metres on the ground surface along the centreline of the pipe from the centre of the upstream manhole to centre of the downstream manhole.

Measurement for cleaning and televising sewers (V2) shall be measured in metres on the ground surface along the centreline of the pipe from the centre of the upstream manhole to centre of the downstream manhole.

Measurement for post CIPP televising of sewers (V3) shall be measured in metres on the ground surface along the centreline of the pipe from the centre of the upstream manhole to centre of the downstream manhole.

4.0 Basis of Payment

Section 409.10 of OPSS PROV 409 is deleted in its entirety and replaced with the following:

Payment for preliminary televising of sewers (V1) shall be full compensation for all labour, materials and equipment for televising the sewers and production of reports and digital files as described in the contract.

Payment for cleaning and televising sewers (V2) shall be full compensation for: the cleaning, flushing, off-site disposals, pumping of maintenance holes, sewer pipes, and for televising sewer pipes. Including the production of all reports and digital files and for all other labour, equipment and material required to complete the work.

Payment for post CIPP televising of sewers (V3) shall be full compensation for all labour, materials and equipment for televising the sewers and production of reports and digital files as described in the contract.

Payment for post CIPP televising of sewers (V4) shall be full compensation for all labour, materials and equipment for televising the sewers and production of reports and digital files as described in the contract.

ITEM B3 - PREPARATION OF EXISTING PIPE FOR TRENCHLESS REHABILITATION

1.0 Scope

This Special Provision covers the specification requirements for preparation of an existing sewer pipe for trenchless sewer rehabilitation by the installation of either a Cured-In-Place-Pipe.

2.0 Safety

The Contractor shall carry out his operations in strict accordance with all applicable standards. Particular attention is drawn to those safety requirements involving working with scaffolding and/or entering into confined spaces. All rehabilitation work must be carried out in accordance with the current rules and regulations of the "Occupational Health and Safety Act and Regulations for Construction Projects".

3.0 Pipe Preparation

The limit of pipe preparation shall be defined as the entire length of the existing sewer pipe (i.e. maintenance hole to maintenance hole) for any and all pipe sections identified for trenchless sewer rehabilitation. No preparation or cleaning whatsoever shall be undertaken for any given section of sewer pipe until such time as the preliminary CCTV Inspection for that section of sewer pipe is completed and submitted to the Contract Administrator for review.

The Contractor is to provide the Contract Administrator a Sewer Cleaning Schedule prior to undertaking any pipe preparation. This schedule will include the location of the sewer to be cleaned, date and time cleaning will be done and equipment that will be used. The Contractor shall keep the Contract Administrator fully informed of what scope of pipe preparation and cleaning works will be undertaken as part of this contract.

The Contractor must demonstrate to the Contract Administrator, that cleaning and preparation of the existing sewer pipes will be undertaken by experienced personnel properly trained in the correct use of the Contractor's equipment. The municipality reserves the right to require the Contractor to modify their cleaning and preparation method and/or change personnel or equipment if it is deemed that the Contractor is damaging the existing sewer pipe and/or cannot satisfactorily clean or prepare the existing sewer.

Existing sewer pipes shall be cleaned with hydraulically powered equipment, high-velocity jet cleaners and vacuum pumper, or mechanically powered equipment. All internal debris must be removed from the existing pipeline in which trenchless sewer rehabilitation is to occur. The Contractor must be able to demonstrate to the Contract Administrator that this debris is successfully removed from the public sewer and not allowed to migrate outside the limits of

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the section of sewer pipe being rehabilitated.

4.0 Pipe Inspection

Inspection of sewer pipe should be performed by experienced personnel trained in locating breaks, obstacles, voids and service lateral connections by closed circuit television or personal entry. The interior of the pipeline should be carefully inspected to determine the location of any conditions that may prevent proper installation of the impregnated tube, such as protruding service connections, collapsed or crushed pipe, voids and reduction in the cross sectional area of more than 40%. The original pipe shall be cleared of any /all obstructions such as tree roots, solids, dropped joints, calcium deposits, and protruding service connections at no additional cost to the Owner.

The Contractor is advised to review the existing CCTV records for the sewer to be rehabilitated to determine the extent of preparation and/or cleaning that would be required to fulfil this specification.

5.0 Measurement for Payment.

The preparation of the existing pipe for trenchless sewer rehabilitation will be measured in metres over the centreline of the pipe from manhole to manhole in which the CIPP or structural spot repair is to be installed.

6.0 Basis of Payment

Payment at the contract price for the above tender item shall be full compensation for all labour, materials and equipment to clean, ream and prepare existing sewer pipe as required for preparation of the CIPP liner installation.

ITEM B4 - CURED-IN-PLACE PIPE LINER

1.0 Scope

This Special Provision covers the general design and engineering requirements for trenchless (no dig) sewer rehabilitation by the installation of a Cured-In-Place-Pipe (CIPP) liner. The CIPP installation work is to include: design and engineering of CIPP; insertion of CIPP, traffic control, bypass pumping, testing and commissioning of CIPP and other works incidental to the installation of the CIPP.

2.0 References

ASTM F1216-03 – Standard Practice for: Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin Impregnated Tube.

3.0 CCTV Inspection Records

Representative CCTV inspection records have been undertaken by the municipality for the sewer(s) to be relined under this contract. A copy of the multi-media files and text reports have been appended to the contract for reference to Tender Holders. This video record shall serve as the baseline for bidding purposes for all necessary preparation work for the host pipe.

The successful Contractor will be required to undertake a new CCTV pre-inspection of the pipe(s) within the contract limits and shall furnish copies with the Environmental Services Department for review.

If any new conditions or defects are found in the CCTV pre-inspection that vary significantly from the original CCTV inspections then they shall be reported to the Contract Administrator. Any new and significant change (i.e. new root intrusions or calcite deposits) in the preparation of the host pipe will be assessed and paid for as "Extra Work".

4.0 Information to be submitted by the Contractor

The Contractor must provide with the tender document a current Manufacturer's Recommended Installation Procedure and Technical Specifications. The submission is to include design process, wet-out plan (noting location of wet-out) and curing cycle summary (noting appropriate temperatures, pressures and durations). If the Contractor intends to deviate, in any way, from the Manufacturer's Installation Procedure, a clear and precise description of the proposed deviations and effects on the work and benefit to the municipality must be submitted for approval by the Contract Administrator.

Design

The Contractor is requested to submit the following design calculation information for each within 14 days prior to the installation of the CIPP liner. A certified engineering design report sealed by an engineer in good standing with the Professional Engineers of Ontario will be required.

Pipe Parameters:

Design Condition	Fully Deteriorated Pipe
Depth to Invert	Assume 3.0m (minimum)
Water Table	Assume 1.2m from grade
Ovality	5%
Soil Modulus	4.83 MPa
Inside Diameter	Refer to contract drawings

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Live Load	HS-20
Safety Factor	2.0
Long Term Reduction	50%
Minimum Thickness	6mm

The Contractor shall verify the actual condition and depth of the existing pipe through field investigation and shall adjust the design calculations appropriately. The design for any installations that require a pipe strength greater than that determined by these conditions shall be submitted by the Contractor to the Contract Administrator for acceptance prior to construction.

In the case of a thicker liner because of design depth the Contract Administrator will compensate the contractor by a percentage calculation of the original design and price submitted with this contract.

5.0 Material Properties of CIPP

a) Tube - Contractor to confirm size of all existing pipes to be rehabilitated, prior to undertaking any manufacturing of any tubes. The tube shall consist of one or more layers of flexible needled felt or an equivalent non-woven material capable of: carrying resin, withstanding installation pressures and curing temperatures, and shall be compatible with the resin system used. The material shall be able to stretch to fit irregular pipe sections and negotiate minor bends. The outside layer of the tube shall be plastic coated with a material that is compatible with the resin system used. This inner liner, the finished pipe surface, shall have an impermeable plastic coating which is required for enhancement of corrosion, flow and abrasion properties of the liner. The tube shall be fabricated to a size that, when installed, will tightly fit the internal circumference and the length of the original conduit. Allowance shall be made for circumferential stretching during inversion.

b) Resin - A general purpose, unsaturated, styrene based, thermosetting resin and catalyst system or an epoxy resin and hardener system that is compatible with the inversion process shall be used. The resin must be able to cure in the presence of water and the initiation temperature for cure shall be less than 180 degrees F (82.2 degrees C).

c) Finished Pipe - The finished pipe or CIPP shall be fabricated from materials that when cured will be chemically resistant to withstand internal exposure to domestic sewage at continuous temperatures below 60 degrees C and be resistant to abrasion due to solids, grit and sand. Ensure bond between CIPP layers is strong and uniform and that layers, after curing are completely saturated with resin to create one (1) homogenous layer.

6.0 Construction of CIPP

a) Resin Impregnation – The tube should be vacuum-impregnated with resin (wet-out) under controlled conditions. The volume of resin should be sufficient to fill all air voids in the tube material and layers at nominal thickness and diameter. Additional allowances for the volume of resin should be made due to the change in resin volume as a result of polymerization shrinkage and migration of resin into the cracks and joints in the original pipe wall. A roller system shall be used to uniformly distribute the resin throughout the tube.

The Contractor shall designate a location where the CIPP will be vacuum impregnated prior to installation. The Contractor shall allow the Owner's representative to inspect the materials and procedures used to vacuum impregnate the tube.

b) Bypass Pumping – If bypass pumping of the flow is required around sections of pipe designated for rehabilitation, the bypass should be made by plugging the line at a point upstream of the existing pipe to be rehabilitated and pumping the flow to a point downstream of the existing pipe. The pump and bypass lines should be of adequate capacity and size to handle the flow. Service lateral connections within this reach will be temporarily out of service. Public advisory notices will need to be provided by the Contractor to all properties where service connections will be out of commission. Such notice shall also advise against water usage during the period and shall offer specific details for the length and duration of the outage. It will ultimately be the responsibility of the Contractor to review field conditions and determine the level of effort required for successful bypass pumping in order to perform the works required by this contract.

c) Installation of CIPP – The wetted-out tube shall be inserted into the existing pipe through an existing manhole by means of an inversion process and the application of a hydrostatic head sufficient to extend it to the next designated manhole or termination point. Alternatively, the tube can be pulled into place and expanded by water pressure with an inflation bladder.

The inversion pressures necessary for proper installation shall be provided by the manufacturer prior to installation. Tube installation forces or pressures shall be limited so as to not stretch the tube longitudinally by more than 5% of the original length. Before the installation begins, the tube manufacturer shall provide the minimum pressure required to hold the tube tight against the existing pipes and the maximum allowable pressure so as not to damage the existing pipe. Once the installation has started, the pressure shall be maintained between the minimum and maximum pressures until the installation has been completed. The existing pipes shall be dewatered for any CIPP installation that does not use an inversion method to expand the tube against the pipe wall.

For pull in methods, if requested by the Contract Administrator, a proofing section shall be pulled through the existing pipe prior to installation. The

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proofing section shall consist of the tube and resin materials proposed for rehabilitation. The minimum length of the proofing section shall be 5% of the total line length and shall be of like diameter and thickness. If proofing section is damaged after being pulled through the pipe, point repairs shall be made to the existing conduit. The proofing process shall be repeated using new proofing section to verify effective point repairs. The process shall be repeated until proofing results in no damage to the proofing section. Installation of CIPP using pull-in methods can begin after successfully proofing the existing conduit. The use of lubricant during inversion is recommended to reduce friction. This lubricant should be poured into the water in the down tube or applied directly to the tube or inflation bladder. The lubricant used should be non-toxic oil based product that has no detrimental effects on the tube or boiler and pump system, will not support the growth of bacteria, and will not adversely affect the fluid to be transported. Lubricant shall not be used in processes with permeable coatings.

d) Curing – After installation is complete, a suitable heat source and/or water recirculation equipment are required to circulate heated water through the pipe. The equipment should be capable of delivering hot water throughout the section to uniformly raise the water temperature above the temperature required to affect a cure of the resin. Water temperature in the line during the curing period and its duration should be as recommended by the resin manufacturer and as previously submitted to the Contract Administrator.

The heat source should be fitted with suitable monitors to gauge the temperature of the incoming and outgoing water supply. Two temperature gauges shall be placed between the tube and host pipe in the upstream and downstream manholes and any intermediate manholes. Each of these gauges shall be monitored to determine the temperature during curing. The water temperature in the line during the curing period shall be maintained as per the resin/catalyst manufacturer's recommendation. Contractor to submit a summary of all readings to the Contract Administrator for review.

Initial cure will occur during temperature heat-up and is completed when exposed portions of the new pipe appear to be hard and sound and the remote temperature sensor indicates that the temperature is of a magnitude to realize an isotherm or cure in the resin. After initial cure is reached, the temperature should be raised to the post-cure temperature recommended by the resin manufacturer. Post-cure temperature should be held for the period as recommended by the resin manufacturer, during which time the recirculation of water and cycling of the boiler to maintain the temperature continues. The curing of the CIPP must take into account the existing pipe material, the resin system and ground conditions (temperature, moisture level, and thermal conductivity of soil).

e) Cool Down – The CIPP shall be cooled to a temperature below 100 degrees F (38 degrees C) before relieving the hydrostatic head. Cool-down may be accomplished by the introduction of cool water into the CIPP to replace water being drained from a small hole made in the downstream end. Care should be taken in the release of the static head so that a vacuum will not be

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developed that could damage the newly installed pipe.

f) Inflation Bladder Removal – For pulled-in-place installation techniques where the inflation bladder is designed not to bond to the CIPP, all portions of the bladder material must be removed from the CIPP.

g) Workmanship – The finished pipe should be continuous over the entire length of an installation run and be free of dry spots, lifts and delamination. If these conditions are present, remove and replace the CIPP in these areas. If the CIPP does not fit tightly against the original pipe at its termination point(s), the space between the pipes should be sealed. Method of sealing shall be approved by the Contract Administrator. The liner terminations at manholes shall be neat and free of obstruction. If the liner fails to make a tight seal at the maintenance hole, a seal shall be applied at this point. Sealing process shall use a resin compatible with the pipe.

h) Final Inspection and Clean Up – Inspect installation using closed circuit television. Variations from true line and grade may be inherent because of the conditions of the original piping. No infiltration of ground water should be observed. All service lateral connections should be accounted for and be unobstructed. The Contractor shall reinstate, to original conditions, the project area affected by the operations.

7.0 Quality Assurance

The Contractor must provide all CIPP samples to an independent Third Party Test Lab approved by the Contract Administrator for analysis. Final test results and associated reports shall be forwarded to the Contract Administrator for review and approval prior to issuance of final payment.

For each length of sewer (between manholes), one CIPP sample shall be cut from a section of cured CIPP at an intermediate manhole or at the termination point that has been inverted through a like diameter pipe which has been held in place by a suitable heat sink, such as sandbags.

The sample should be large enough to provide a minimum of three specimens and a recommended five specimens for flexural testing. The full CIPP sample wall thickness shall be tested, whenever possible. If the sample is irregular, distorted or of such thickness that proper testing is inhibited, then the wall thickness shall be machined away from the inside pipe face of the sample only. Thus, the test specimen shall be cut from the outside pipe face of the CIPP sample. For specimens greater than ½" (12.7mm) in depth the width-to-depth ratio of the specimen shall be increased to a minimum of 1:1 and shall not exceed 4:1.

Test Procedures

- **Short Term Flexural (Bending) Properties** – The initial tangent flexural modulus of elasticity and flexural stress should be measured for gravity in accordance with ASTM D790, Test Method 1, Procedure A, and

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should meet design requirements.

- **Gravity Pipe Leakage Test** – Gravity Pipe Leakage Testing of the CIPP in accordance with ASTM-1417 shall be conducted during cure of liner while under hydrostatic pressure. For CIPP products in which the pipe wall is cured while not in direct contact with the pressurizing fluid (e.g., a removable inflation bladder is used) the CIPP must be leakage tested in accordance with ASTM-F1417 after the bladder has been removed.
- **Delamination Test** – For pulled-in-place CIPP products wherein the inflation bladder remains a permanent part of the finished CIPP product, a delamination test should be performed on each installation length. The sample shall be fabricated from material taken from the tube and the resin/catalyst system used and cured in a clamped mould placed in the down tube.

A portion of the inflation bladder in the sample should be dry and isolated from the resin in order to separate tube layers for testing. Delamination testing shall be in accordance with ASTM D903, with the following exceptions: a) the rate of travel of the power actuated grip shall be 1" (25mm) per minute; b) five test specimens shall be tested for each inversion specified; c) the thickness of the test specimen shall be minimized, but should be sufficient to adequately test delamination of non-homogeneous CIPP layers; and d) the peel or stripping strength between any non-homogeneous layers of the CIPP laminate should be a minimum of 178.6g/mm (10lb/in) of width for typical CIPP applications.

8.0 Measurement for Payment

a) Supply and Install CIPP Liner - The supply and installation of CIPP Liner will be measured in meters over the centreline of the pipe in which the actual CIPP was installed.

b) Bypass Pumping – Measurement for payment for all bypass pumping work will be by lump sum for each of the contract items.

9.0 Basis of Payment

a) Supply and Install CIPP Liner – Payment at the contract price for the above tender item shall be full compensation for all labour, material, equipment required to install the new CIPP liners required by this contract inclusive of quality assurance testing.

b) Bypass Pumping – Payment at the contract price for the above tender item shall be full compensation for all labour, material, and equipment necessary to do the work described in contract.

ITEM B5 – RECONNECTION OF EXISTING SEWER LATERALS

1.0 Scope

This Specification covers the general and specific requirements for identifying and opening live service laterals in an existing sewer pipe in which trenchless sewer rehabilitation is proposed by installation of Cured-In-Place-Pipe (CIPP).

2.0 Service Disruption

Residents that are affected by the Trenchless Sewer Rehabilitation process shall be advised in writing on the Contractor’s Letterhead concerning the nature and duration of any interruption in sewer or drain service 48 hours in advance of the interruption. No service disruption will be allowed without such notification. When interruption has ended, residents are advised either verbally, or in writing immediately.

During the course of the rehabilitation and any associated service interruption, the residents shall be kept regularly informed regarding any matters that may affect them.

Where service lateral flow has been interrupted, reinstatement of the service lateral connection shall proceed urgently and with all possible speed to restore lateral flow. The connection may be reinstated initially by opening 75% of its capacity followed by full reinstatement later. Maximum out of service time for any service between initial opening and full reinstatement shall not exceed time noted below:

	Maximum Out of Service Time (Hours)	Time for Full Reinstatement (Hours)
CIPP Construction	10	24
Structural Spot Repair	4	6

The interface between the new liner/repair and the existing service lateral shall be leak tight. Opening of the service lateral connection shall be made internally with appropriate remotely operated equipment. Restored lateral openings are to be cut neatly to full size without over-cutting. Cuts shall be smooth and without residual material left around the lateral or its opening. No ragged edges or attached material shall be allowed. If service lateral connection reinstatement has been mis-cut, or is otherwise unsatisfactory to the Contract Administrator, such openings shall be repaired to eliminate defects without compromising the structural or hydraulic integrity of the CIPP/spot repair, existing service lateral and existing sewer. The repair process must meet with the approval of the Contract Administrator. If lengthy delays are encountered, it will be the Contractor’s responsibility to provide alternate sanitary facility at their cost.

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3.0 Measurement for Payment

Measurement for payment for this item will be made per each live lateral connection reconnected.

4.0 Basis of Payment

Payment at the contract price for this tender item shall be full compensation for all labour, material, equipment to complete the works described herein. Quantity noted in tender item is an approximate value.

Refer to Appendix "A" for Location Map and CCTV Reports.